Labelling of mental disorders and help-seeking in young people

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Submitted in total fulfilment of the requirements of the degree of Doctor of Philosophy

June 2012

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Abstract

Background
Mental disorders are the most common health problem affecting young people, yet their rates of help-seeking are amongst the lowest. Improving help-seeking rates amongst young people is vital. The labels used to describe emerging physical health problems have been found to influence the effectiveness of help-seeking choices. In regard to mental health, accurate psychiatric labelling of mental disorders is promoted in community awareness campaigns designed to increase help-seeking rates. However, research examining the association between labelling of mental disorders and help-seeking is scarce, particularly with young people. Indeed, it has been contended that the use of psychiatric labels to describe mental disorders may be coupled with stigmatizing beliefs and thus inhibit help-seeking, in which case lay mental health or non-specific labels may be less harmful. Motivated by these factors, the aim of this thesis was to examine the range of labels young people use to describe mental disorders, the association between label use and help-seeking intentions and beliefs, and the association between label use and stigmatising beliefs.

Method
A national telephone survey was conducted with 2802 Australian young people aged 12-25 years and 1528 co-resident parents from June to August 2006. Respondents were randomly assigned a vignette describing a young person experiencing symptoms of depression, psychosis or social phobia. This was followed by a series of questions relating to the vignette that examined the label used to describe the problem, help-seeking intentions and beliefs, and stigmatizing beliefs. The range of labels used was examined using percent frequencies. Factors associated with label use and the association between label use and help-seeking choices and label use and stigma were examined using binary logistic regression analyses.
Results

Depression was accurately labelled twice as frequently as was psychosis, whereas social phobia was rarely accurately labelled and was most commonly labelled using lay terms. Use of accurate labels increased with age and females were more likely to use them. For all vignettes, likelihood of using an accurate label was associated with exposure to mental health community awareness campaigns and accuracy of label used by a parent. Accurate labelling was associated with a preference for professionally recommended sources of help with greater consistency than any other labels commonly used. Stigma was not commonly associated with label use. Most mental health labels were associated with seeing the person as “sick” rather than “weak”, and accurate psychiatric labels had the strongest effect sizes. However, for the psychosis vignette, the “dangerous/unpredictable” component of stigma was associated with mental health labels, and the accurate psychiatric label showed the strongest association.

Discussion

It can be broadly concluded that accurate psychiatric labels are linked to mental health specific sources of help while generic lay labels are linked to more general sources of help. Using an accurate label may act as a schematic hub for conceptualizing an emerging mental disorder that enables effective selection of recommended sources of help. Stigma is not commonly associated with use of an accurate label and is therefore unlikely to be a barrier to help-seeking in most instances. These findings can help to inform and improve the effectiveness of community awareness strategies designed to increase help-seeking rates for mental disorders in young people.
Declaration

This is to certify that:

i. The thesis comprises only my original work towards the PhD (except where indicated in the Preface),

ii. Due acknowledgment has been made in the text to all other material used,

iii. The thesis is less than 100,000 words in length, exclusive of tables, maps, bibliographies and appendices.

.................................................................

Annamarie Wright
June 2012
Preface

This thesis comprises the original work of the author. In all research studies the author was a Principal Investigator, however, there were other contributors who must be acknowledged and who have been credited as co-authors where work has been published.

The data examined in this thesis were from the Australian National Survey of Youth Mental Health Literacy, a computer-assisted telephone interview (CATI) survey of 3746 Australians aged 12-25 years, conducted in 2006. The Chief Investigators for this survey were the thesis author and Prof. Anthony Jorm, the principal thesis supervisor. The survey questionnaire was based on a questionnaire originally developed by Jorm and colleagues (1997) for use in a face-to-face national survey of adults. This questionnaire was modified slightly by the thesis author for CATI surveys of young people aged 12 to 25 years for regional studies conducted in 2001 and 2002 (Wright et al., 2005; Wright, Jorm, Harris, & McGorry, 2007; Wright, McGorry, Harris, Jorm, & Pennell, 2006). The original adult survey was also adapted by Kelly and colleagues (2006) for use with adolescent respondents.

The design of the questionnaire for the Australian National Survey of Youth Mental Health Literacy was partially based on the earlier work of the thesis author in relation to adaptation of the questionnaire for CATI use, and youth mental health literacy survey research regarding labelling, help-seeking and early detection of mental health problems in young people (Wright, et al., 2005; Wright, et al., 2007; Wright, et al., 2006). The author was involved in the design and development of the questionnaire, attainment of ethics committee approval, briefing of interviewers from the telephone survey company, and analysis and interpretation of the data. The thesis author has been a co-author on a number of other papers based on the results from the Australian National Survey of Youth Mental Health Literacy (e.g. Jorm & Wright, 2008; Jorm, Wright, & Morgan, 2007a, 2007b)), although none of these examined label use. The questionnaire and
survey design were developed with the intent that the aspects of the survey related to labelling would be suitable principally for use in the author’s PhD thesis.


In regard to these three publications, the thesis author played a major role in the design and implementation of the surveys (as described earlier), and was responsible for the initial conception of the study designs, analysis and interpretation of the data, and writing and revision of the papers. These publications also acknowledge the work of Professors Anthony Jorm and Andrew Mackinnon, who supervised the thesis and assisted in preparation of the papers by suggesting improvements in the analysis and the writing.
Acknowledgments

I would first like to thank my supervisors Professor Tony Jorm and Professor Andrew Mackinnon for the advice and expertise they have generously shared during my PhD studies. Tony has been a wise, skilful and incredibly supportive mentor for over ten years. These attributes have been vital in enabling me to undertake this PhD whilst juggling the demands of young children. Andrew has helped me see the broader value of my studies and encouraged me to consider things more deeply, whilst helping to keep things calm with his humour.

I would like to gratefully acknowledge the survey respondents who contributed their time, knowledge and experience in completing the survey questions. Their many contributions have been essential to informing the shape of this study. I would also like to acknowledge the staff at the Social Research Centre who conducted the survey in such a considered and professional manner.

I am very grateful for the scholarships provided to me for my PhD from the National Health and Medical Research Council and the Sidney Myer Foundation.

I would also like to acknowledge staff at Orygen Research Centre and the University of Melbourne. In particular I would like to thank Dr. Amy Morgan for the thoroughness and consistency of her work as a research assistant on the Australian National Youth Mental Health Literacy Survey. Thank you also to Professor Nick Allen for his support early on in my PhD studies regarding the development of concepts and suggestions regarding data analysis, and Anna Kingston for her assistance with testing the reliability of the coding of the labels. Thank you also to my fellow PhD students for their support during my studies.

Finally I would like to thank my family and friends. In particular, thanks to my children for their love that has inspired and encouraged me, and special thanks to my husband Tim Rolfe for his love and support, and for believing in me.
Mental disorders are the most common health problem amongst youth, yet many young people who suffer from them do not seek help. Increasing rates of help-seeking has the potential to improve mental health outcomes and to reduce disease burden. The label used to describe an emerging health problem may play an important role in the selection of help-seeking choices, however the research examining the association between labelling and help-seeking is scarce. This thesis examines the labels young people use to describe mental disorders, the role of labelling in help-seeking for these disorders, and the extent to which labelling may also be coupled with stigma and hence potentially prevent help-seeking.

Chapters 1 to 4, provide an overview of the epidemiology of mental disorders in relation to young people, the benefits of treatment, and the importance of improving help-seeking rates. Factors associated with help-seeking are examined, with a particular focus on the role of labelling of mental disorders as a factor that influences help-seeking choices. The literature in regard to labelling of mental disorders is examined in detail. Chapter 5 describes the research design for this thesis, which is based on a national mental health literacy survey of young people in Australia using a cross-sectional study design. Specifically, it examines the labels the young people used to describe mental disorders portrayed in vignettes of a young person, and their help-seeking preferences and stigmatizing beliefs in relation to the person portrayed in the vignette. Chapters 6 to 8 provide results of the study. Chapter 6 examines the labels young people used to describe the problem in the vignette, Chapter 7 focuses on the association between label use and help-seeking choices, and Chapter 8 focuses on the association between label use and stigmatizing beliefs. Chapter 9 summarises and synthesises the findings reported in the results chapters, and explores the implications of these findings. This final chapter also proposes areas for further research, and discusses how the findings can be applied to improve help-seeking in young people.
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1 Mental disorders in young people: epidemiology, benefits of treatment and rates of health service use

In order to understand the role of labelling in help-seeking for mental disorders, it is important to first consider the nature of these disorders and particularly how they present in young people. This chapter examines the developmental stage of youth and the epidemiology of mental disorders in young people, with a focus on depression, psychosis and social phobia as examples. It highlights that mental disorders are most common and tend to first emerge in this age group, and that effective treatments are available. However, rates of health service use by young people are amongst the lowest of all age groups. The purpose of this chapter is to demonstrate the need to improve rates of help-seeking for mental disorders amongst young people. Subsequent chapters explore how this might be achieved, with a particular focus on the role of labelling of mental disorders in help-seeking.

1.1 Epidemiology of mental disorders in youth

Youth as a developmental period is a time of transition from childhood to adulthood that is variably defined across societies and cultures (V. Patel, Flisher, Hetrick, & McGorry, 2007). For this thesis, the term “youth” or “young people” includes those aged 12 to 25 years of age, an age range widely used in research and clinical settings (e.g. McGorry, Purcell, Hickie, & Jorm, 2007). This phase of life is characterised by key developmental tasks that indicate that a young person is an emerging adult (Graham, 2004). It includes sexual, biological and cognitive maturation, and key developmental undertakings such as moving toward the final stages of education or entering into employment, increasing reliance on peer relationships more than family relationships, the development
of romantic relationships, beginning to live independently from the family, and in many cultures, legal access to alcohol and tobacco (V. Patel, et al., 2007; Rickwood, Deane, Wilson, & Ciarrochi, 2005).

This period of developmental maturation is also a high-risk period for the onset of mental disorders. Throughout the world, the median age of first onset (incidence) for all mental disorders ranges from the late teens through to the early 20s (Kessler, Amminger, et al., 2007). Mental disorders are also common in this age group (prevalence). Studies from a wide range of countries suggest that at least one in every four or five young people in this age group will experience a mental disorder in any year (V. Patel, et al., 2007), and it is also the time of life when the 12-month prevalence of mental disorders is at its peak (Slade, Johnston, Oakley Browne, Andrews, & Whiteford, 2009). This includes both the high prevalence disorders such as anxiety disorders, depression and substance abuse, and low prevalence disorders such as psychosis or schizophrenia. Unlike other age groups, for whom physical illnesses are the major health issue (World Health Organization, 2008), mental disorders are the greatest contributor to disease burden in this age group (Rutter & Smith, 1995) and those that have their initial onset during youth are most likely to persist into adult life (Costello, Foley, & Angold, 2006). Consequently, mental disorders are the major health issue faced by young people.

There is clearly an intersection between the onset of mental disorders and disruption in the achievement of key social, academic and vocational milestones that are hallmarks of this developmental phase. Young people who experience mental disorders are at risk of not transitioning effectively through these tasks and therefore not realizing their potential as independently functioning adults, resulting in negative effects on economic and social outcomes (V. Patel, et al., 2007). Indeed, there are mounting arguments in the literature that more emphasis and effort needs to be directed toward treatment of mental disorders at this time of life when disorders first occur (Beddington et al., 2008; McGorry, Purcell, Goldstone, & Amminger, 2011; V. Patel, et al., 2007). It is suggested that this will help to curtail the progress of the primary illness and prevent the
development of comorbid mental disorders (Slade, et al., 2009). This in turn can
minimise the effect on a young person’s developmental trajectory and their
social, economic and health outcomes.

### 1.2 Epidemiology of depression, psychosis and social phobia - an overview

Many mental disorders tend to first occur in youth (Kessler, Amminger, et al.,
2007). To facilitate a more targeted discussion and analysis of the epidemiology,
treatment and health service use for mental disorders amongst young people,
three disorders will be examined in detail in this thesis, as they typify different
aspects of mental disorder presentations. This approach will later carry over into
the disorders that are the focus of the research design of the thesis (see chapters
5-8). The disorders considered are depression, psychosis (including
schizophrenia) and social phobia (also known as social anxiety). These disorders
were selected because their initial onset tends to be in youth (Kessler, Amminger,
et al., 2007). They are treated by generalist and specialist health professionals,
and are not specifically linked to a precipitating event (e.g. Post-Traumatic Stress
Disorder) or agent (e.g. Substance Abuse Disorder), that could potentially
complicate comparisons. However, they vary in regard to their prevalence and
severity (Mathers, Vos, & Stevenson, 1999), as well as in public awareness
regarding their presentation and treatment. Depression is a high prevalence
disorder with moderate severity that is better known by the public, especially in
western countries, largely due to community education interventions (Hegerl,
Althaus, & Stefanek, 2003; Jorm, Christensen, & Griffiths, 2005; Regier,
Hirschfeld, Goodwin, Burke, & et al., 1988). In contrast, psychosis (non-affective)
is a low prevalence disorder with a high degree of severity and there is some
knowledge in the community about it, although it is also often misunderstood
(Angermeyer, Holzinger, & Matschinger, 2009; Jorm et al., 2005; Wright, et al.,
2005). In contrast, social phobia is a form of anxiety disorder and these are the
most prevalent of all the mental disorders in this age group (Australian Bureau
of Statistics, 2010). Social phobia has been selected as the anxiety disorder for
targeted analysis because it is amongst the most prevalent of all the anxiety disorders in this age group, second only to Post-Traumatic Stress Disorder (Australian Bureau of Statistics, 2007a). It is considered to be a moderately severe disorder, however its presentation and seriousness is not well understood by the public (Jorm, et al., 2007b). The following sections provide a more detailed description of the epidemiology of these disorders, treatments available and health service use.

It is important to note that data regarding the epidemiology of these disorders is drawn from population samples using a variety of measurement techniques, focusing on varied age groups. While it is not possible to build a succinct epidemiological picture for youth and compare the disorders on the same basis, it is nevertheless possible to build an image of when and how likely it is a young person will experience depression, psychosis or social phobia. Data presented primarily draw upon Australian sources, given that the focus of this thesis is young Australians, however international data are also described as a comparison wherever possible.

1.2.1 Age of onset

Social phobia, depression and psychosis have overlapping periods of emergence in adolescence and young adulthood. Recent Australian figures indicate that the median age of onset for social phobia is 13 years of age and for major depressive disorder, 25 years of age (Australian Bureau of Statistics, 2007a). At an international level, the World Health Organization’s (WHO) World Mental Health Survey (Kessler, Angermeyer, et al., 2007) indicates that age of onset of mental disorders has been found to be quite consistent across countries, with the onset of phobia disorders occurring between 7 to 14 years of age. Whilst the median age of onset of mood disorders is somewhat later, between the late 20's and early 40's, the World Mental Health Survey (Kessler, Angermeyer, et al., 2007) found that the prevalence of mood disorders is low until the early teens when a linear increase begins and continues through to late middle age.
For psychosis, age at treatment onset is used as a measure of age of onset, as there are problems inherent in case identification of psychosis in population surveys due to the limited reliability and validity of instruments used and low prevalence (see Section 1.2.2). In the EPPIC Catchment Area Study (Amminger et al., 2006), the mean age at first treatment was 21.9 years (SD 3.6). A more recent national Australian survey has reported an average age of onset of 23 years (V. A. Morgan, Waterreus, Jablensky, Mackinnon, & McGrath, 2011). These are similar to the median treated age of onset for the North Finland Birth Cohort, which was 23 years of age (Lauronen, Miettunen, & Veijola, 2007), and the British Birth Cohort, which was 22 years of age (Jones, Rodgers, Murray, & Marmot, 1994).

### 1.2.2 Prevalence and incidence

In Australia, non-psychotic mental disorders are most prevalent in those aged 16-24 compared to all other age groups (Australian Bureau of Statistics, 2007b). Based on ICD-10 criteria (World Health Organization, 1993), the highest 12-month prevalence rates were for the anxiety disorders (15.4%), with social phobia (5.4%) being second only to post-traumatic stress disorder (7.7%) for this age group (Australian Bureau of Statistics, 2007a). The 12-month prevalence rate for affective disorders in this age group was 6.3%, with bipolar affective disorder being the most common (3.4%) followed by depressive episode (2.8%) (Australian Bureau of Statistics, 2007a). These results are within the range reported in the World Health Organisation World Mental Health Surveys, which reported 12-month prevalence rates for anxiety disorders ranging from 2.4% to 18.1%, and for mood disorders rates ranged from 0.8% to 9.6% (Demyttenaere et al., 2004).

In contrast, the 12-month prevalence rate for psychosis is quite low. In Australia, the 12-month prevalence for those age 18 to 64 years is estimated to be 4.5 cases per 1000, and specifically for those aged 18 to 24 years it was 3.1 per 1000 (V. A. Morgan, et al., 2011). A systematic review of schizophrenia epidemiology studies by McGrath and colleagues (McGrath, Saha, Chant, & Welham, 2008) covered 188 prevalence studies and reported that the period prevalence, which was defined
as 1-12 months, was 3.3 per 1000 persons, although point prevalence was 4.6 per 1000 persons and lifetime prevalence was 4.0 per 1000 persons. However, it has been argued that schizophrenia spectrum disorder cases may have been underrepresented in population studies due to problems with reliability and validity of the WHO Composite International Diagnostic Interview (CIDI) that is often used in these studies (Kessler, Amminger, et al., 2007). Kessler and colleagues argue that measures of treated incidence in a well-defined catchment area are a better estimate of rates of disorder in a population, as the nature of the disorder is such that most people with psychosis eventually come to the attention of clinical services (Kessler, Amminger, et al., 2007).

### 1.2.3 Burden of disease

A study of the burden of disease in Australia in 2003 (Begg et al., 2007), reporting on all diseases in those aged 15 to 44 years of age, examined the relative contribution of anxiety and depression combined and found that they were the leading single cause of disease burden for this age group. In males they contributed to 13% of Disability Adjusted Life Years (DALYs) and in females 27.4% of DALYs. Psychotic disorders were examined separately and, although they are less common in youth compared to depression and anxiety disorders, they make a disproportionately high contribution to disease burden. Schizophrenia was the fourth leading cause of disease burden in males accounting for 4.4% of DALYs and fifth for females where it accounted for 3.6% of DALYs.

The disease burden associated with depression and anxiety disorders was examined separately in an earlier study of disease burden conducted in the State of Victoria, Australia in 2001 (Public Health Group, 2005). Amongst young people aged 15 to 34 years, depression was the leading single cause of DALYs in females (13.1%) and males (9.6%). Social phobia was the fifth highest contributor of DALYs for females (4.6%), but was not ranked in the top ten of DALYs for males.
The WHO report on the global burden of disease (World Health Organization, 2008) does not provide data regarding burden of disease for young people, but it highlights that unipolar depression is ranked third in the world for its contribution to disease burden, accounting for 4.3% of DALYs, whilst schizophrenia accounts for 1.1% of DALYs.

### 1.2.4 Summary of epidemiology

Mental disorders, including depression, psychosis and social phobia, tend to first present in adolescence and young adulthood. Although their prevalence varies, all three are major contributors to disease burden in this age group. Fortunately, treatments are available to address these major health problems, although the evidence for their effectiveness is still emerging.

### 1.3 Benefits of treatment

Clear and solid evidence regarding the effectiveness of treatments of mental disorders for young people has only begun to emerge in the past ten years. For anxiety disorders such as social phobia, there is evidence from meta-analyses of individual trials that Cognitive Behavioural Therapy (CBT) in childhood and adolescence is effective, although only slightly more than half those treated improved with treatment (James, Soler, & Weatherall, 2005). For depression in children and adolescents, CBT and Interpersonal Psychotherapy were the most effective of the psychotherapies in a systematic review of randomized-controlled trials (RCTs), benefits were not sustained at six-month follow-up (Watanabe, Hunot, Omori, Churchill, & Furukawa, 2007). Subsequent to these reviews, a large RCT found that medication and CBT combined were more effective than either treatment alone for adolescents (TADS, 2008). More recently, a systematic review of effective treatments for depression in young people suggested that CBT or Interpersonal Psychotherapy (IPT) should be the first line of treatment for major depression and that the selective serotonin reuptake inhibitor (SSRI) fluoxetine should be considered for short-term treatment of
moderate-to-severe depression where psychological treatments have been ineffective (McDermott et al., 2010). Although these treatment studies regarding anxiety and depression relate to effectiveness of treatments for adolescents only, it has been argued that the concept of adolescence as a unique developmental phase extends into young adulthood (Rakoff, 2003). Therefore, data from adolescent studies could also apply to those aged up to 25 years of age. In contrast, evidence regarding the effective treatment of psychosis does not delineate between adolescents and adults to the same degree. It includes a range of psychological and pharmacological treatments that have been found to be effective in achieving remission. Anti-psychotic medications are considered to be the cornerstone of treatment (McGorry, Killackey, Lanbert, & Lambert, 2005).

Not only are many treatments considered to be effective in achieving remission, but there has been an argument that treatment as early as possible in the course of illness can improve long-term outcome. For example, there is some evidence that early intervention for depression is beneficial, although the evidence remains very limited (Allen, Hetrick, Simmons, & Hickie, 2007). For psychosis, there is evidence from RCTs that integrated treatment in the early stages of illness has better outcomes than standard treatment (Craig et al., 2004; Garety et al., 2008; Petersen et al., 2005) and that shorter duration of duration of illness is associated with better outcome (Marshall et al., 2005). However, the value of early intervention for psychosis has recently been questioned (Morrison et al., 2012).

It is apparent that the evidence regarding the benefits of early intervention is still evolving. However, there are other compelling arguments for the commencement of treatment at the earliest opportunity. Treatment commencement can avert the risk of suicide (Meltzer et al., 2003; TADS, 2008), and, if rates of optimal treatment were increased, it could considerably reduce disease burden, especially for depression and anxiety disorders (Andrews, Issakidis, Sanderson, Corry, & Lapsley, 2004). Furthermore, aside from these public health imperatives, early treatment must also be considered “for societal and humanitarian needs” (Andrews, et al., 2004, p. 532), as it can effectively
reduce the distress and suffering associated with the experience of mental disorder.

1.4 Health service use and treatment delay

1.4.1 Rates of health service use

Even though many mental disorders generally first present in adolescence and young adulthood and there are treatments that can ameliorate symptoms and reduce overall disease burden, young Australians with mental disorders have amongst the lowest rates of health service use. Indeed, compared to all other age groups, young men with a mental disorder had the lowest rate of health service use over a 12-month period (13.2%) (Slade, et al., 2009). This may be partly attributable to the relatively low rate of health service use by those with substance use disorder, as the rate of health services use of young people with an anxiety disorder was 31.5% and for affective disorder 49.1% (Australian Bureau of Statistics, 2007a). Comparable international data on health service use are not available. However, it is noteworthy that lack of health service use for mental disorders is common throughout the world. Findings from the World Health Organisation World Mental Health Surveys (WHO World Mental Health Survey Consortium, 2004) reveal that 35.5% to 50.3% of serious cases in developed countries received no treatment in the 12 months prior to the survey, and 76.3% to 85.4% in less developed countries.

1.4.2 Treatment delay

Whilst treatment close to time of onset may be preferable for these disorders, treatment delays are common and even more likely for disorders that commence at an early age (Christiana et al., 2000; Schimmelmann, Conus, Cotton, McGorry, & Lambert, 2007; Thompson, Issakidis, & Hunt, 2008; P. S. Wang et al., 2007; P. S. Wang et al., 2005). Delays are typically very long for anxiety and mood disorders. In the only Australian study of delays for seeking treatment for anxiety and
mood disorders (Thompson, et al., 2008), the time between onset of symptoms and entry into treatment averaged 10.6 years for mood disorder and 9.1 years for social phobia. It must be noted that this was a small sample (mood disorder, n=61; social phobia, n=78). Also, the sample was drawn from a specialist anxiety treatment clinic and the authors argue that it is therefore likely to represent the more severe end of the spectrum for these disorders. However, this pattern of long delays prior to help seeking for mood and anxiety disorders has also been found in large international population surveys. In the United States, delays of 16 years for social phobia and 8 years for major depressive episode have been reported (P. S. Wang, et al., 2005) and a large international study conducted on behalf of the World Health Organisation reported median delays in treatment for anxiety disorders of between 3 and 30 years, and for mood disorders medians ranging from 1 year to 14 years (P. S. Wang, et al., 2007).

In contrast, length of treatment delay is relatively short for psychosis. An Australian study of 15 to 29 year olds (n=636) reported a median of 8.7 weeks (Schimmelmann, et al., 2007), although the authors note that this was in the context of a highly developed community and clinic detection program. International studies report longer median delays ranging from 4 months (Chong, Mythily, & Verma, 2005) to 6 months (Johannessen et al., 2001), even in the context of similar detection programs.

1.5 Chapter conclusion

Overall, the typical onset of mental disorders during the developmental stage of youth presents a threat to successful transition into adulthood. The mental disorders of depression, psychosis and social phobia exemplify the disorders of particular concern at this stage. They tend to first occur in adolescence and young adulthood and are amongst the most prevalent and burdensome of all mental disorders. Fortunately, effective treatments are available. Furthermore, evidence suggests there is an opportunity to improve mental health outcomes and reduce disease burden if treatment rates could be increased and the delay to
treatment reduced. Factors that contribute to treatment delays in relation to mental disorders can be considered as falling into two main categories: help-seeking delays and treatment system delays (Norman, Malla, Verdi, Hassall, & Fazekas, 2004; O'Callaghan et al., 2010). The following chapter will focus on the help-seeking category. In particular, the focus will be on help-seeking in young people and factors that may influence it as a means of identifying how help-seeking rates could be improved.
It has been demonstrated that increasing the rates of help-seeking by young people is important, given the low rates of current health service use for mental disorders in this age group (Slade, et al., 2009). Accordingly, this chapter explores help-seeking in more detail, including how it is defined and how help-seeking behaviour is influenced by beliefs and intentions. This distinction between the behaviour of help-seeking and beliefs and intentions informs the structure of a review of the literature. This review examines replicated findings regarding factors found to be associated with help-seeking for mental health problems in young people. A range of socio-demographic, illness, psychological, life experience and behaviour problem factors are identified that are likely to influence help-seeking and need to be considered if help-seeking is to be improved.

A major contention of this thesis is that labelling of mental disorders influences help-seeking for mental disorders, however there was inadequate published research about this pertaining to young people. Therefore, labelling as a factor associated with help-seeking is examined in more detail in Chapters 3 and 4 by looking at a broader age range. The exploration in the present chapter provides an essential and robust context for considering labelling and help-seeking, by specifically focusing on replicated findings regarding other factors associated with help-seeking in young people.
2.1 Help-seeking – a definition

“Help-seeking” has been defined as: “... any communication about a problem or troublesome event which is directed toward obtaining support, advice, or assistance in times of distress. Help-seeking thus includes both general discussions about problems and specific appeals for aid. In addition, it encompasses requests for assistance from friends, relatives, and neighbours as well as professional helping agents.” (Gourash, 1978, p. 414).

Help-seeking may be improved by targeting factors known to be associated with “the communication of a problem” or “request for assistance”. These can be identified through a review of empirical studies that have examined help-seeking amongst young people.

2.2 Structure of literature review regarding help-seeking in young people

Although a review has been conducted regarding factors associated with help-seeking in adults (Jackson et al., 2007), no reviews have comprehensively examined these factors for young people. Different factors may be associated with help-seeking in youth compared to adulthood, as help-seeking is likely to evolve and change during this time. Young people are in social, emotional, physical, cognitive, vocational and economic transition, and move from relying on their parents during adolescence to external sources of help as they progress into young adulthood (Jorm, et al., 2007b; Rickwood, et al., 2005).

2.2.1 Help-seeking categories for the review

Literature presenting empirical data in the field of help-seeking in young people can be divided into two categories – studies examining factors associated with actual help-seeking behaviour or receipt of help, described here as “actual help”,
and studies examining help-seeking beliefs, attitudes and intentions, grouped together here as “pre-help” factors.

There are methodological limitations to both approaches. In regard to actual help-seeking behaviour, the receipt of help or treatment is dependent on help-provider or treatment system factors that are beyond the influence of the individual seeking help. Also, self-reported receipt of help may be subject to recall bias or reporting inaccuracies. Ultimately, the best indicator of actual help-seeking behaviour is likely to be through prospective monitoring of individuals and collection of data just before seeking or receiving help. However, this has not been undertaken to date, as it is rarely practicable. Hence, self-reported or service-provider-recorded help-seeking will be used as an indicator of help-seeking behaviour.

Likewise, pre-help factors may not indicate what a person would actually do when confronted with a mental health problem. However, the value of these factors as an indicator of future behaviour has been examined and supported in studies applying the Theory of Reasoned Action (Fishbein & Ajzen, 1975) and the Theory of Planned Behaviour (Ajzen, 1991). This theory suggests that beliefs, attitudes and intentions help to shape behaviour. Indeed, the association between intentions and behaviour has been supported by results from a meta-analysis of 47 studies of intention-behaviour relations by Webb and Sheeran (Webb & Sheeran, 2006), which found that a medium-to-large change in intention leads to a small-to-medium change in behaviour.

For the purpose of this review, the two help-seeking study groupings of actual help and pre-help are further divided into sub-categories according to the source of help from which assistance is requested (Gourash, 1978), that is, informal and formal sources of help. As defined by Rickwood and colleagues (2005), the informal sources of help include family and friends, and for this review, books, the Internet and help lines are also included in this category. Formal or professional sources of help include mental health and generic health professionals, teachers, youth workers and clergy.
2.2.2 Search strategy and literature review inclusion criteria

A search of the PsychINFO publication database was conducted using the terms ((help seeking behaviour) or (seeking help)) and ((mental disorder*) or (mental health) or (mental illness*)) and (adolesc* or (young adulthood)) or (Adolescence (13-17 yrs)) for the period 1970 to 2010. The search was conducted on 2nd February 2011 to include all English language studies published in peer-reviewed journals up to December 31 2010.

Studies were included if they were published in a peer reviewed journal, were a primary study of factors associated with help-seeking (reviews excluded), and the mean age of the sample was within the range of 12 to 25 years. Help-seeking outcomes examined needed to include pre-help, that is, help-seeking beliefs, attitudes, intentions, willingness to seek help, and perceived need for help, or actual help, that is, an objective indicator of receipt of help or treatment or self-reported help-seeking behaviour. The help sought could be in relation to oneself or a peer, and the source of actual or intended help was clearly defined so that the study could be categorised as formal or informal help-seeking.

The criteria for type of study design included were based on the Australian Government’s National Health and Medical Research Council (NHMRC) criteria for research evidence. These are studies that “adequately answer a particular research question, based on the probability that its design has minimised the impact of bias on the results” (National Health and Medical Research Council, 2009, p. 4). Study designs included were those that met the levels of evidence criteria for aetiology research questions, such as prospective cohort studies, retrospective cohort studies, case control studies and cross-sectional studies. Other types of study designs included were those that met evidence criteria for intervention studies (designed to change help-seeking), including various levels of controlled trials ranging from RCTs to comparative studies with or without concurrent controls (National Health and Medical Research Council, 2009).
Different studies examining data from the same sample were only included if the factors associated with help-seeking examined were different in each study to avoid double counting. An example of this is where publications are based on the same survey (e.g. Jorm, et al., 2007b; Oh, Jorm, & Wright, 2009; Yap, Wright, & Jorm, 2010). If a study reported that a range of analyses were conducted regarding the same factors (e.g. chi square and multivariate binary logistic regression), only findings from the most sophisticated form of analysis for each study were included. Finally, given that so many one-off findings are present in the literature and to strengthen the rigor of the review, only studies with replicated findings were included, that is, at least two studies finding a statistically significant association in the same direction at p<0.05. It could be argued that this might bias the review against large individual studies, which could be more important than repeated small ones. However, the sample size of those studies included in the review was quite large with a mean of 2,111 for the 61 studies that met inclusion criteria (see Tables 2.1-2.4).

Although highly relevant to the aims of this review, a systematic review by Gulliver and colleagues (Gulliver, Griffiths, & Christensen, 2010) examining barriers to and facilitators of help-seeking in young people was excluded. This is because it was not a primary study, the source of help was not identified so findings could not be classified as relating to formal or informal help, and lower levels of evidence were used, most notably it included qualitative studies.

### 2.3 Factors associated with help-seeking by young people

The tables summarizing factors associated with help-seeking (Tables 2.1-2.4) are divided according to actual help and pre-help, which are then each subdivided into a table for formal or informal help-seeking. The factors associated with help-seeking were grouped according to help-seeking factor groupings described by Jackson and colleagues (2007) and include socio-demographic, illness-related factors, and psychological/attitudinal factors. Additional factors that did not fit
these groupings were factors of life experience or exposure and behaviour problems. Life experience or exposure factors include factors of influence external to the person such as community education campaigns, previous experience of help or treatment, and factors associated with significant others, such as the help-seeking attitude or beliefs of others, level of support they provide, or their experience with help-seeking. Behaviour problems include those behaviours objectively observed by others to be problematic such as aggressive behaviour. These are the column headings for each of the tables. The level of evidence regarding the relationship of each of the factors to the type of help-seeking is examined by grouping them in rows according to NHMRC level of evidence criteria described earlier (National Health and Medical Research Council, 2009). In descending order of strength of evidence, the type of research designs used by the studies that met inclusion criteria for this review were: prospective cohort studies, non-randomised experimental trials and cross-sectional studies.

2.3.1 The association between actual help and pre-help

Overall, there are repeated findings that support the validity of the pre-help-seeking measures as indicators of subsequent behaviour. The most robust type of research design used by studies in this review was the prospective cohort study design and this was for predictors of actual help-seeking from formal sources (Table 2.1). At this level of evidence, the pre-help factor, perceived need for help, was associated with actual help-seeking behaviour. Help-seeking intentions, attitudes and beliefs were also found to be consistently positively associated with actual help-seeking in the cross-sectional studies. Furthermore, in regard to pre-help (Table 2.3), attitudes and beliefs were found to be positively associated with intentions in several studies, although two found the association to be non-significant. Yet overall, these findings strengthen the argument that the pre-help outcomes, such as intentions, attitudes and beliefs, are important to focus on as a category of help-seeking, as they help to shape behaviour (Ajzen, 1991; Webb & Sheeran, 2006). Interestingly, these findings only relate to formal sources of help, which may be an artefact of the greater
effort needed for formal help-seeking compared to informal help-seeking, or lack of studies examining the relationship between pre-help factors and informal help-seeking. However, in general, these findings support the validity of the association between pre-help and actual help.
Table 2-1: Literature review of studies regarding factors associated with actual formal help-seeking for emotional or mental health problems amongst young people

<table>
<thead>
<tr>
<th>NHMRC Level of evidence</th>
<th>Socio-demographic factors</th>
<th>Illness factors</th>
<th>Psychological/ attitudinal /knowledge factors</th>
<th>Exposure/experience factors</th>
<th>Behaviour problem factors</th>
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<td><strong>Level II</strong></td>
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<tr>
<td>Prospective cohort studies</td>
<td>Parental education &gt; high school level</td>
<td>Severity of illness/problem +ve</td>
<td>Perceived need for help/treatment readiness +ve</td>
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<tr>
<td></td>
<td>+ve Ho 2007</td>
<td>Amone-P’Olak, 2010</td>
<td>Frojd 2007(for depression) Tanielian 2009</td>
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<tr>
<td></td>
<td>+ve Amone-P’Olak, 2010</td>
<td>Ho 2007</td>
<td>Tanielian 2009 n.s. Frojd 2007 (for other mental health problem)</td>
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<tr>
<td><strong>Level IV</strong></td>
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<tr>
<td>Cross-sectional studies</td>
<td>Gender</td>
<td>Depression/mood disorder +ve</td>
<td>Help-seeking intent/attitude/perceived need for care +ve</td>
<td>Past formal help-seeking/treatment +ve</td>
<td>Disruptive/delinquent/ aggressive behaviour +ve</td>
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<tr>
<td></td>
<td>Biddle 2004</td>
<td>Haarasilta 2003</td>
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<td></td>
<td>Gasquet 1997</td>
<td>Golbersten 2008</td>
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<td></td>
<td>Bergeron 2005</td>
<td>Chang 2008</td>
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<td></td>
<td>Cheung 2009</td>
<td>Sears 2004</td>
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<td></td>
<td>Alexandre 2008</td>
<td>Bergeron 2005</td>
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<td></td>
<td>Bean 2006</td>
<td>Wu 2010</td>
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<td>Vogel 2007</td>
<td>Cheung 2009</td>
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<td></td>
<td>Wu 2010</td>
<td>Cheung 2009</td>
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<td></td>
<td>n.s.</td>
<td>Chang 2008</td>
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<td></td>
<td>Zwaanswijk 2003</td>
<td>Sears 2004</td>
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<td></td>
<td>Vanheusden 2008</td>
<td>Sach 2004</td>
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<td></td>
<td>Chang 2008</td>
<td>Rickwood 1994</td>
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<td></td>
<td>Cheung 2009 (15-18)</td>
<td>Zwaanswijk 2003</td>
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<td></td>
<td>Golberstein 2008</td>
<td>Vanheusden 2008</td>
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<td></td>
<td>Rickwood 1994</td>
<td>Vanheusden 2008</td>
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<td></td>
<td>Sears 2004</td>
<td>Vanheusden 2008</td>
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<td></td>
<td>Haarasilta 2003</td>
<td>Vanheusden 2008</td>
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<tr>
<td></td>
<td>Age</td>
<td>Depression/mood disorder +ve</td>
<td>Help-seeking intent/attitude/perceived need for care +ve</td>
<td>Past informal help-seeking +ve</td>
<td>Disruptive/delinquent/ aggressive behaviour +ve</td>
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<tr>
<td></td>
<td>Gasquet 1997</td>
<td>Haarasilta 2003</td>
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<td></td>
<td>Vanheusden 2009</td>
<td>Chang 2008</td>
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<tr>
<td></td>
<td>+ve (younger age)</td>
<td>Sears 2004</td>
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<td></td>
<td>Alexandre 2008</td>
<td>Sach 2004</td>
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<td></td>
<td>Cheung 2009</td>
<td>Rickwood 1994</td>
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<td>Cheung 2009</td>
<td>Zwaanswijk 2003</td>
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<tr>
<td></td>
<td>+ve</td>
<td>Alexandre 2008</td>
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<td>Cheung 2009</td>
<td>Cheung 2009</td>
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<td>Cheung 2009</td>
<td>Cheung 2009</td>
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<tr>
<td>NHMRC Level of evidence</td>
<td>Socio-demographic factors</td>
<td>Illness factors</td>
<td>Psychological/attitudinal/knowledge factors</td>
<td>Exposure/experience factors</td>
<td>Behaviour problem factors</td>
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</tbody>
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Note: Studies indicated by first author, full citation in reference list.
2.3.2 Factors associated with actual help-seeking from formal sources

Replicated findings from prospective cohort study designs highlight the association between actual help-seeking and greater severity of illness or having a parent with post-secondary or university education. All other studies where replicated findings have been found have used a cross-sectional design (Table 2.1). The majority of repeated findings regarding actual formal help-seeking were in relation to socio-demographic factors. There is evidence of a positive association with female gender, although there have also been a similar number of non-significant findings regarding this association. However, it must be noted that the greatest number of studies have examined this factor, potentially increasing the likelihood of inconsistent findings. Associations with age are quite varied, with the majority of findings being non-significant, although in some instances this may be due to the narrow age range of the study, as many focused just on adolescence. Higher level of education and access to health insurance display a largely positive association with only one non-significant finding each. Separation, divorce, or death of a parent(s), show consistent positive findings across studies, whilst belonging to an ethnic minority group was negatively associated with actual help-seeking from formal sources.

In regard to illness factors associated with actual formal help-seeking, severity of illness and a history of mental disorder in the individual's lifetime have been consistently found to be associated with help-seeking behaviour, whereas findings have been mixed for presence of a mood disorder and poor physical health, with both positive and non-significant associations. The exposure factor of a history of formal and informal help-seeking was consistently positively associated with actual help-seeking. The most inconsistent findings have been in regard to disruptive or delinquent behaviour. This may be due to the grouping of diverse variables to form this factor, as well as the broad range of ways in which it can be measured.
Table 2-2: Literature review of studies regarding factors associated with actual informal help-seeking for mental health and emotional problems amongst young people

<table>
<thead>
<tr>
<th>NHMRC Level of evidence</th>
<th>Socio-demographic factors</th>
<th>Illness factors</th>
<th>Psychological/attitudinal/knowledge factors</th>
<th>Exposure/experience factors</th>
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<tbody>
<tr>
<td>Cross-sectional studies</td>
<td>Gender</td>
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<tr>
<td></td>
<td>+ve (female)</td>
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<tr>
<td></td>
<td>Biddle, 2004</td>
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<td></td>
<td>Chang 2008</td>
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<td></td>
<td>Schonert-Reichl 1996</td>
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<td></td>
<td>Gould 2002</td>
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</table>

Note: Studies indicated by first author, full citation in reference list.

2.3.3 Factors associated with actual help-seeking from informal sources

In regard to actual informal help-seeking, the only consistent association was with female gender (Table 2.2), although it must be noted that the number of studies examining informal help-seeking was relatively small.

2.3.4 Factors associated with pre-help-seeking from formal sources

In regard to help-seeking intentions, attitudes, beliefs and perceived need for help, the highest level of evidence comes from one pseudo-randomized controlled trial and two non-randomised trials (Table 2.3). These have reported that the pre-help elements of knowledge, belief, attitude and intention can be improved through the use of school- or college-based interventions focused on brief mental health and illness education sessions.
Table 2-3: Literature review of studies regarding factors associated with formal pre-help (beliefs, attitudes, intentions) for mental health and emotional problems amongst young people

<table>
<thead>
<tr>
<th>NHMRC Level of evidence</th>
<th>Socio-demographic factors</th>
<th>Illness factors</th>
<th>Psychological/ attitudinal /knowledge factors</th>
<th>Exposure/experience factors</th>
<th>Behaviour factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level II-1</strong></td>
<td></td>
<td></td>
<td></td>
<td>School/college based mental health education program</td>
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<tr>
<td>Pseudo-randomized</td>
<td></td>
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<td>+ve</td>
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<tr>
<td>controlled trial</td>
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<td>Rickwood 2004</td>
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<td>&amp;</td>
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<td>Sharp 2006</td>
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<tr>
<td><strong>Level III - 2</strong></td>
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<td>Han 2006</td>
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<tr>
<td>Non-randomised</td>
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<tr>
<td>experimental trial</td>
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<td><strong>Level IV</strong></td>
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<tr>
<td>Cross-sectional studies</td>
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<table>
<thead>
<tr>
<th>Gender</th>
<th>Depressive disorder/symptoms</th>
<th>Help-seeking attitude/belief associated with intention</th>
<th>Previous formal help-seeking</th>
<th>Disruptive/delinquent /aggressive behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ve (female)</td>
<td>+ve</td>
<td>+ve</td>
<td>+ve</td>
<td>+ve</td>
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<tr>
<td>Chang 2008</td>
<td></td>
<td>Logsdon 2009</td>
<td>Goh 2007</td>
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<td>Goh 2007</td>
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<td>Moran 2007</td>
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<td>Wright 2007</td>
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<td>Gould 2004</td>
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<td>Kleinberg 2011</td>
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<td>Zwaanswijk 2003</td>
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<td>Leong 1999</td>
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<tr>
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<td>Psychological/attitudinal/knowledge factors</td>
<td>Exposure/experience factors</td>
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| Level IV Cross-sectional studies | +ve (male) | Higher number of depressive symptoms  
+ve  
Boey 1999  
n.s.  
Bean 2006  
Chandra 2006  
Golberstein 2008  
Grinstein-Weiss 2005  
Raviv 2009  
Sears 2004  
Sheffield 2004  
Ting 2009  
Vogel 2006 | Perceived stigma  
-ve  
Chandra 2005  
Golberstein 2008  
Vogel 2007  
Vogel 2006  
n.s.  
Wilson 2007  
Loya 2010  
Yap 2010 | Exposure to mental health information or media  
+ve  
Oh 2009  
Wright 2007  
Jorm 2007b  
Goh 2007 | |
| Age  
+ve (older age) | | Anxiety disorder/symptoms  
+ve  
Grinstein-Weiss 2005  
Zwaanswijk 2003 | Personal stigma items  
+ve  
Leong 1999  
Yap 2010  
-ve  
Yap 2010 | Knowing someone who had sought help  
+ve  
Vogel 2007  
Jorm 2007b  
Wright 2007 | |
| +ve (younger age) | | Level of distress  
+ve  
Sheffield 2004  
Vogel 2006  
n.s.  
Ting 2009 | | Parent attitude toward therapy/treatment  
+ve  
Vogel 2009  
Oh 2009 | |
| | | Internalising problems  
+ve  
Zwaanswijk 2003  
Bean 2006 | | | |
| | | Suicidal ideation  
+ve  
Saunders 1994  
-ve  
Deane 2001  
Gould 2004  
Wilson 2010 | | | |
| | | | Self-stigma  
-ve  
Vogel 2009  
Vogel 2006  
Vogel 2007 | | | |
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<th>Behaviour factors</th>
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<td>+ve</td>
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<td>Loya 2010</td>
<td></td>
<td></td>
<td>+ve</td>
<td>Ciarrochi 2001</td>
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<td>Ciarrochi 2003</td>
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<td>Perceived social support</td>
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<td>Sherer 2007</td>
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<td></td>
<td>+ve</td>
<td>Miville 2006 (sig. other)</td>
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<td>-ve</td>
<td>Miville 2006 (family)</td>
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<td>Saunders 1994</td>
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<td>n.s.</td>
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<td>Miville 2006 (friend)</td>
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<td><strong>Ethnic minority</strong></td>
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<td>Gonzalez 2005</td>
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<td>+ve</td>
<td>Raviv 2009</td>
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<td>-ve</td>
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<td>Vogel 2009</td>
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<td>Loya 2010</td>
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<td>Perceived barriers</td>
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<td>Saunders 1994</td>
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<td>-ve</td>
<td>Raviv 2009</td>
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<td>Moran 2007</td>
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Note: Studies indicated by first author, full citation in reference list.
As with actual help-seeking, the majority of pre-help studies have used a cross-sectional design and the findings are consistent with the intervention trials just described. These include an association with exposure to mental health information or media, as well as other exposure factors such as knowing someone who had sought help and parents’ positive attitude to therapy. However, the studies examining the exposure factor of previous formal help-seeking have shown varied findings.

The socio-demographic factors again show inconsistent associations across studies. The majority of studies show a positive association between pre-help outcomes and the factors of female gender and older age. Associations with ethnicity are quite mixed, which may be due in part to the variation in country of origin of the studies and ethnic groups included. The illness factors most consistently associated were anxiety symptoms, internalizing problems, higher number of depressive symptoms and higher level of distress. These findings were generally positive associations, whereas studies examining the factors depressive disorders/symptoms and suicidal ideation have had inconsistent findings.

In regard to psychological factors, a large number of studies in this group have examined the association with various types of stigma. The nature of the different types of stigma is discussed in detail in Chapter 3. In brief, social distance is the degree to which an individual is willing to interact with someone who has a mental illness (Jorm & Oh, 2009); personal stigma is the stigmatizing beliefs a person has regarding others (Griffiths, Christensen, Jorm, Evans, & Groves, 2004); self-stigma is the stigmatizing views individuals have in regard to themselves (P. W. Corrigan & Watson, 2002); and perceived stigma is the beliefs regarding the stigmatizing views that others hold (Griffiths, et al., 2004). Social distance and perceived stigma have been found in the most part to have negative associations with help-seeking, although with some non-significant findings. Findings related to personal stigma have varied greatly, although this is likely to be due to variation in the stigma measures used. In contrast, self-stigma has been found to be consistently negatively associated, which may be in part due to the
Table 2-4: Literature review of studies regarding factors associated with informal pre-help (beliefs, attitudes, intentions) for mental health and emotional problems amongst young people

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<tr>
<th>NHMRC Level of evidence</th>
<th>Socio-demographic factors</th>
<th>Illness factors</th>
<th>Psychological/ attitudinal /knowledge factors</th>
<th>Exposure/experience factors</th>
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<tr>
<td>Level IV Cross-sectional studies</td>
<td>Gender</td>
<td>Depression/mood disorder symptoms</td>
<td>Emotional competence</td>
<td>Social support</td>
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<td></td>
<td>+ve (female)</td>
<td>+ve Tishby 2001 (peer)</td>
<td>+ve Ciarrochi 2002</td>
<td>+ve Ciarrochi 2002</td>
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<td></td>
<td>Kelly 2006</td>
<td>n.s. Sears 2009</td>
<td>n.s.</td>
<td>Exposure to mental health information or media</td>
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<td>Moran 2007</td>
<td>Suicidal ideation</td>
<td>-ve Gould 2004</td>
<td>+ve</td>
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<td>Tishby 2001</td>
<td>n.s. Deane 2001</td>
<td>n.s.</td>
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<td>Heath 2010</td>
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<td>Sheffield 2004</td>
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| Ethnic majority | | |
| +ve | | |
| Grinstein-Weiss 2005 | | |
| Sherer 2007 | | |
| Heath 2010 | | |
| Grinstein-Weiss 2005 | | |
| Moran 2007 | | |
| Jorm 2007b | | |

| Age | | |
| +ve (older age) | | |
| Grinstein-Weiss 2005 | | |
| Tishby 2001 (peer) | | |
| +ve (younger age) | | |
| Tishby 2001 (family) | | |
| Jorm 2007b | | |

Note: Studies indicated by first author, full citation in reference list.
consistency in method used. Other factors found to be consistently positively associated were emotional competence and perceived psychological benefit of professional help. Perceived barriers, as the term suggests, have been found to be consistently negatively associated, whilst the association with perceived social support has been quite varied, possibly due to variations in the type of social relationship examined. There is some indication of a positive association between disruptive or delinquent behaviour and help-seeking attitude or intent. However, as with actual help, this has not been consistent.

2.3.5 Factors associated with pre-help-seeking from informal sources

Overall, there are far fewer studies in this domain, although a similar degree of variation is evident in findings regarding informal help-seeking studies of pre-help factors (Table 2.4). Female gender has been mostly found to be positively associated and ethnic majority was mostly found to be non-significant, whereas both older age and younger age have found to be positively associated. Studies examining the factors of depressive disorders/ symptoms and suicidal ideation again have inconsistent findings, although most studies report negative associations with pre-help factors. In regard to psychological factors, emotional competence is the only psychological factor showing replicated associations across studies and these have been consistently positive. In regard to exposure factors, social support has been found to be consistently positively associated, whereas findings regarding associations with exposure to mental health information or media are mixed.

2.4 Chapter conclusion

Overall, the factors consistently positively associated with increased likelihood of actual help and pre-help were older age, female gender, belonging to an ethnic majority, past or present mental disorder, greater illness severity, help-seeking intent, attitude, belief or perceived need for care, a history of previous help-seeking (which may be linked to history of mental disorder), social support and
positive or negative associations with stigma, depending on the type of stigma examined.

Interestingly, these findings are consistent with the conclusions derived from a recent systematic review of help-seeking barriers and facilitators by Gulliver and colleagues (2010), referred to at the end of section 2.2.2. They found that the most frequently reported barriers to help-seeking were stigma and failure to perceive a need for help, and in regard to facilitators, they were positive past experiences with help-seeking and availability of social support.

The conclusion of this review is, therefore, that there is an array of factors associated with the decision to seek or not seek help for mental health problems that could be potentially targeted in order to improve help-seeking. An additional factor of labelling of the presenting mental health problem, which is central to this thesis, was not included in this review, as it has only been examined in one study of youth. However findings regarding its association with help-seeking have been replicated in adult studies. Because of its role within the current research program, the following chapter examines labelling of mental disorders as a possible factor that influences help-seeking. It examines its potential for modification to improve help-seeking compared to the factors found to be associated with help-seeking that have been identified as part of this chapter's literature review.
3 Concepts and evidence regarding the relationship between labelling and help-seeking

Although it has not been widely examined in the literature to date, labelling of mental disorders is an important factor to consider in relation to help-seeking. This chapter examines the emerging evidence concerning the association between labelling and help-seeking for mental disorders. It then explores, from a conceptual point of view, the role of labelling as an important factor in facilitating help-seeking. This includes the contribution of labelling to help-seeking for a range of health problems, as described in models of health behaviour and help-seeking; labelling as an indicator of good health literacy, which is the foundation of effective health behaviours; and labelling as a factor that is potentially modifiable and thus can potentially improve help-seeking. Debates in the literature regarding the link between labelling and stigma, and the risk this poses to help-seeking, will also be examined. The intention is to describe and delimit how labelling is defined in this thesis and to present an argument regarding the important role it plays in help-seeking for mental disorders.

3.1 Labelling as a factor associated with help-seeking for mental disorders – the emerging evidence

Not knowing that their problem was a mental disorder was a barrier frequently reported by individuals in Gulliver and colleagues’ (2010) systematic review of qualitative studies of perceived barriers to help-seeking for young people (referred to in section 2.2.2) This was reported in five of the thirteen studies reviewed. In the only quantitative study of labelling of mental disorders and help-seeking preferences in young people (Wright, et al., 2007), identification or, more specifically, accurate labelling of disorders, was found to be associated with
a preference for forms of help-seeking and treatment recommended by mental health professionals (to be examined in detail in Chapter 4). This factor was not included in the review of factors associated with help-seeking as there were an inadequate number of studies in relation to youth. However, these findings have been replicated in adult studies (Angermeyer, et al., 2009; Goldney, Dunn, Dal Grande, Crabb, & Taylor, 2009). These adult studies have reported an association between accurate labelling of disorder (depression and psychosis) and perceived helpfulness of a psychiatrist (Angermeyer, et al., 2009; Goldney, et al., 2009), psychotropic medication (Angermeyer, et al., 2009) and psychotherapy (Angermeyer, et al., 2009). Thus, there is emerging evidence that labelling of mental disorders may influence subsequent help-seeking and this warrants further examination.

3.2 Labelling – a definition for use in examination of the literature and implementation of the study

When the term ‘labelling’ is used in this thesis it refers to the lay use of unprompted terms or descriptors to characterize the symptoms of a mental disorder being experienced by a hypothetical or actual person. ‘Labelling’ is preferred to the commonly used term ‘recognition’, as it more clearly specifies the actual process involved, viz. applying a unifying term to symptoms described, observed or experienced, as opposed to more general acknowledgement that the symptoms are familiar or simply recognized as an unspecified problem.

3.3 Labelling and the Common Sense Model (CSM) of health regulation

3.3.1 Background

The notion that people intuitively seek labels for their symptoms as part of the process of help-seeking has been extensively examined in research focusing on the Common Sense Model (CSM) of health regulation (Leventhal, Meyer, &
Nerenz, 1980), also known by its earlier title, the Self-Regulatory Model of Health and Illness Behaviour in some publications (e.g. Cameron, Leventhal, & Leventhal, 1993; Elwy, Yeh, Worcester, & Eisen, 2011)). The title “Common Sense Model” is derived from the notion that people act as their own common-sense scientist when constructing illness representations and planning how to manage their illness (Leventhal, Brissette, & Leventhal, 2003). The model has been used to describe and study the development of lay beliefs about illness. It is built upon a range of theories of cognition and health behaviour and describes how representations of illness are integrated into existing schemata in order to make sense of those symptoms and guide actions taken to cope with them (Leventhal, Leventhal, & Breland, 2011). It has been used to examine and explain illness representations across a broad range of health problems and age groups (Hagger & Orbell, 2003). Specifically, in regard to young people, it has been used to examine their illness representations of diabetes, muscular skeletal injuries, epilepsy, common cold, oral surgery, and asthma (Hagger & Orbell, 2003) and, more recently, illness representations of mental health problems amongst young adults (Vanheusden et al., 2009). It has been applied to both existing conditions and to help-seeking for emerging illnesses (Hagger & Orbell, 2003).

### 3.3.2 Key components of the CSM

The CSM is made up of five key components of illness representation:

1. **Identity**: the application of a label to the symptoms experienced
2. **Causes**: what caused the problem
3. **Timeline**: how long will it last, that is, is it likely to be acute or chronic
4. **Consequences**: the consequences of the illness for the person’s life both physically and socially
5. **Controllability**: beliefs regarding what the individual can do to manage it themselves and whether treatment can effectively cure or control the illness.

A meta-analysis of 45 studies examining the model has found support for the construct and discriminant validity of these CSM dimensions (Hagger & Orbell, 2003).
3.3.3 Studies of labelling in the context of the CSM

In regard to the identity component, the importance of labelling in the context of the CSM has been studied using a range of methods. Using quantitative methodologies, studies conducted by Bishop and colleagues (1991) indicate that the application of a disease label occurs as people match the symptoms they experience against a prototype model or schema they hold of a particular disease. These prototypes are used to match and evaluate information about symptoms they experience. They have found that the higher number of prototypic symptoms a person has, the more likely they are to apply a disease-specific label. Furthermore, respondents were able to recall the label more accurately and apply it more quickly if the number of symptoms matching the prototype was high. In regard to help-seeking, Cameron and colleagues (1993) found that people who sought help from a general medical clinic for a range of health problems were significantly more likely to use a specific disease label to describe their problem compared to non-help-seeking controls matched for health status and socio-demographic criteria.

Studies based on the CSM using qualitative methodologies have also examined the role of label use in help-seeking. Label application has been found to play a significant role in the decision-making process about whether or not to seek help for depression (Elwy, et al., 2011). In a study examining help-seeking for heart disease, respondents who did not use a label to describe their congestive heart failure were subsequently unable to integrate or provide a reference point for understanding and integrating specific symptoms and experiences over time, and hence their help-seeking was delayed (Horowitz, Rein, & Leventhal, 2004).

3.3.4 How labelling occurs according to the CSM

Studies of a variety of illnesses, ranging from life-threatening to the everyday and mundane, have found that the “combination of symptoms and label lies at the heart of illness representations” (Leventhal, et al., 2003, p. 49). Leventhal and colleagues (2003, 2011) examine the mechanisms of labelling and related
aspects of illness representation using a range of neuroscience and cognitive science studies, as well as studies of labelling and help-seeking based on the CSM. They suggest that the experience of symptoms by an individual intuitively drives them to search their memory of word meanings for abstract information that links those symptom experiences with stored diagnoses or labels. This is based on studies of cognition examining the knowledge structures used in processing information about objects and events, which suggest that people don’t just react to stimuli but try to construct meaning by relating the stimuli to pre-existing schemata the person has relating to the events (Brewer & Nakamura, 1984). Once a label is selected, other symptoms not previously included under the rubric of the label may be considered that are known to be part of the illness prototype: “labels seek symptoms and symptoms seek labels” (Leventhal, et al., 2003, p. 51). This provides depth to the illness representation. The individual is then compelled to create a schematic representation of the illness, including known information about causes, consequences, timeline and controllability, that is linked with the abstract illness label. This provides breadth to the illness representation (Leventhal, et al., 2003). This breadth in turn informs the development of action plans about how to manage the problem, such as seeking help. Horowitz and colleagues (2004) suggest that the application of the label provides a reference point for understanding and integrating specific symptoms and experiences over time. To summarise, the label is like a schematic hub that links concepts in the representation of illness and this schema subsequently enables the formation of effective action plans.

3.4 Models of help-seeking for mental disorders and labelling

The importance of labelling for help-seeking is further illuminated in a range of models proffered to explain help-seeking specifically for mental health problems (see Table 3.1). Although their validity has not been tested and they are not reported as frequently in the literature as the CSM, they are all based on similar
Table 3.1: Models used to describe help-seeking for mental health problems

<table>
<thead>
<tr>
<th>Authors</th>
<th>Overview of help-seeking models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angel &amp; Thoits (1987)</td>
<td>The Model of Illness Labelling includes four stages of help-seeking, each of which is influenced by a range of cognitive processes and cultural influences. These include 1. Attending to physiological or affective change, 2. Labelling and evaluating symptoms, 3. Decision about course of action, 4. Re-labelling and re-evaluation.</td>
</tr>
<tr>
<td>Biddle et al. (2007)</td>
<td>Model developed to explain non-help-seeking amongst young adults. Process of help avoidance includes reluctance to arrive at a lay diagnosis of real distress/illness, normalization and coping, including application of non-illness explanations, continually raising the threshold for what qualifies as real distress and justifies help-seeking.</td>
</tr>
<tr>
<td>Goldberg &amp; Huxley (1980)</td>
<td>The Pathway to Psychiatric Care is made up of four filters that people pass through in obtaining help for mental disorders. These include: first filter - illness behaviour of the individual including illness recognition and help-seeking, second filter – detection of disorder by primary care physician, third filter – referral to psychiatrist by primary care physician, and fourth filter – admission to a psychiatric inpatient service.</td>
</tr>
<tr>
<td>Moller-Leimkuhler (2002)</td>
<td>Model includes four stages of a decision making process: 1. Symptom perception, considered a central point of the help-seeking process 2. Information relayed to significant others and perceptions reinterpreted, 3. Referral to lay system, 4. Referral to medical system</td>
</tr>
<tr>
<td>Saunders &amp; Bowersox (2007)</td>
<td>Model includes seven steps in the help-seeking process: 1. Problem recognition, 2. Decision that problem is related to mental health, 3. Decision that change is needed, 4. Efforts to effect change, 5. Decision that professional help is needed to effect change, 6. Decision to seek professional help, 7. Seeking professional help (making and keeping appointment)</td>
</tr>
<tr>
<td>Srebnik et al. (1996)</td>
<td>Model includes three stages: 1. Problem recognition, 2. Decision to seek help, 3. Use of support network and services. These stages are influenced by the individual’s illness profile, predisposing characteristics and barriers and facilitators to help-seeking</td>
</tr>
<tr>
<td>Vogel et al. (2006)</td>
<td>The Information-Processing and Professional Help-Seeking Model is comprised of four steps: 1. Encoding and interpreting internal and external cues, 2. Generating and evaluating behavioural options 3. Deciding on and enacting a selected response 4. Responding to personal and peer evaluations of selected behaviour</td>
</tr>
</tbody>
</table>

elements, and have come to similar conclusions regarding the importance of recognition and labelling to the help-seeking process. A common thread of these models is the role of three key components that drive the help-seeking process: 1. problem recognition, 2. decision making regarding how the problem will be resolved, and 3. help-seeking action. Like the CSM, they all include an initial process of defining the problem at hand, although a range of different terms have been used to describe this process. These include problem recognition (Cauce et
al., 2002; Goldberg & Huxley, 1980; S. Saunders & Bowersox, 2007; Srebnik, Cauce, & Baydar, 1996), symptom perception (Möller-Leimkühler, 2002), labelling (Angel & Thoits, 1987), lay diagnosis (Biddle, Donovan, Sharp, & Gunnell, 2007), and cue or symptom interpretation (Vogel, Wester, Larson, & Wade, 2006).

There appears to be some consensus that labelling plays an important role in the process of help-seeking. Leventhal and colleagues (1980) propose that the information that informs the process of labelling and illness representation comes from three basic sources: information from the general pool of lay information derived from general social communication and cultural knowledge of illness, information obtained from authority figures such as doctors or parents, and information based on current perceptions and previous experiences with the illness. This type of information is also known as health literacy.

3.5 Labelling as a component of health literacy

Health literacy is “The degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions” (Ratzan, 2001, p. 210). It is the health information and knowledge that guides health actions and therefore can be considered to be the raw material that informs illness representation as described in the CSM. Systematic reviews have reported the positive effects of health literacy on health knowledge, health behaviour and use of health services (Coulter & Ellins, 2007). The importance of health knowledge and the capacity to apply it has been identified by leading health institutions including the WHO (World Health Organization, 2007), and the Institute of Medicine (IOM) of the National Academies in the United States (Nielsen-Bohlman, Panzer, Hamlin, & Kindig, 2004). These bodies have made health literacy a priority target for research and intervention as a means of improving health outcomes.
The specific application of health literacy to mental health is a field that has developed over the past 15 years. Known as “mental health literacy” it has been defined as: “the knowledge and beliefs about mental disorders that aid their recognition, management or prevention” (Jorm et al., 1997, p. 182). Like health literacy, its importance to health outcomes is beginning to be more widely acknowledged. This is exemplified by its inclusion as a priority target by government health departments in Canada, Scotland and Australia (Jorm, 2012). By definition, recognition is considered to be central to mental health literacy, and includes labelling of disorders (Jorm, 2012). A range of population-based interventions have been shown to improve mental health literacy, including labelling, and to some extent help-seeking (Jorm, 2012). This suggests that the ability to effectively label mental disorders is considered to be an important component of the knowledge base that guides health actions and there is some indication that it can be modified. But how modifiable is labelling of emerging mental disorders relative to other factors known to influence help-seeking? It is worth considering the degree to which labelling of mental disorders warrants improvement as a means of increasing help-seeking relative to other factors known to be associated with help-seeking.

3.6 Labelling as a modifiable determinant of help-seeking

The previous chapter summarised findings regarding factors associated with help-seeking in young people. The degree to which each of these factors can be targeted to improve help-seeking varies. Some may allow for identification of particular risk groups who may experience difficulties with help-seeking, but essentially are non-modifiable, for example, age, gender and ethnicity. Some factors are also risk factors for disorder. This connection may confound the nature of their association with help-seeking, for example, disruptive or aggressive behaviour (Lewinsohn, Rohde, & Seeley, 1998), or a past history of mental disorder (Clark, Rodgers, Caldwell, Power, & Stansfeld, 2007) are also risk factors for mental disorder. Other factors are non-specific and have
potentially broad ranging effects. These include emotional competence and social support. In contrast, label use is modifiable (Jorm, 2012), and is not a risk factor for disorder. It is quite specific to the issue in consideration, that is, labelling of a mental disorder for which help is needed.

3.7 Possible risks in targeting labelling in relation to mental disorders

Whilst labelling a mental disorder may facilitate help-seeking, it may also be give rise to stigmatizing beliefs (Angermeyer & Matschinger, 2005; Penn & Nowlin-Drummond, 2001) and thus potentially reduce a person’s willingness to seek help. The importance of the potential link between labelling an emerging health problem and stigma in relation to help-seeking has been articulated in the CSM (Martin & Leventhal, 2004) and models of help-seeking for mental health problems. Although these models highlight the role of recognition and labelling in initiating help-seeking, they also describe the important role that stigma plays in the subsequent decision-making process (Biddle, et al., 2007; Cauce, et al., 2002; S. Saunders & Bowersox, 2007; Srebnik, et al., 1996; Vogel, Wester, et al., 2006). These theorists argue that stigma is essentially weighed up as a cost of seeking help. Furthermore, this risk has also been identified by researchers and service providers who argue that being labelled by others as “mentally ill” is a risk inherent in promoting early help-seeking and treatment for mental disorders (Bosanac, Patton, & Castle, 2009).

In order to consider the risk that labelling may increase concerns about stigma for those seeking help for a mental disorder, the connection between labelling and stigma requires further examination. Stigma can be defined as “a mark or flaw resulting from a personal or physical characteristic that is viewed as socially unacceptable” (Blaine, 2000). Specifically in relation to mental disorders, labelling is fundamental to the most researched models of mental illness stigma, as it is considered to be a key element of the process of stigmatisation (Link & Phelan, 2001) and is used to identify theories of stigmatisation. Studies
examining Labelling Theory (Scheff, 1966) and Modified Labelling Theory (Link, Cullen, Struening, Shrout, & et al., 1989) have been at the forefront of research examining the association between labelling and stigma related to mental disorders. They have reported on the negative and stigmatizing impact of a person being labelled as mentally ill or as a consumer of mental health services. Consistent with this view, there is other research showing that the use of psychiatric terms by the public to label mental health problems (as opposed to people) can also be stigmatizing (Angermeyer & Matschinger, 2005; Penn & Nowlin-Drummond, 2001), although recently this has been the subject of debate (Jorm & Griffiths, 2008; Read, Haslam, & Davies, 2009; Read, Haslam, Sayce, & Davies, 2006).

However, Link and Phelan (2010) have argued that labelling has both positive and negative aspects in relation to mental disorders and needs to be considered as a “package deal”. They suggest that although there is evidence that labelling a person who has received psychiatric treatment as “mentally ill” is stigmatizing, labelling the problem—the illness itself— can be beneficial, as it facilitates treatment and ultimately amelioration of symptoms. Therefore, a critical distinction needs to be made between labelling the person and labelling the problem. This is a distinction between a label that stems from being a person who has received psychiatric services (Rüsch, Angermeyer, & Corrigan, 2005) versus labelling a mental health problem as it emerges in the process of recognition and help-seeking. Hence the focus of this thesis is labelling the problem.

### 3.7.1 The nature of stigma

Not only does a distinction need to be made regarding how labelling is considered, but stigma also has different dimensions. Indeed, the association between stigma and labelling varies depending on the facet of stigma examined. Hence the nature of stigma needs to be further explicated. Various facets of stigma have been identified and examined from the perspective from which they are experienced. These include personal stigma - the stigmatizing beliefs a
person has regarding others (Griffiths, et al., 2004); self-stigma - the stigmatizing views individuals have in regard to themselves (Corrigan & Watson, 2002); perceived stigma - beliefs regarding the stigmatizing views that others hold (Griffiths, et al., 2004); interpersonal stigma - stigma that occurs within interpersonal communication and lived engagements (Yang et al., 2007); discriminatory behaviour (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003); the experience of being stigmatized (Wahl, 1999); and structural discrimination - the policies of private and governmental institutions that restrict the opportunities of people with mental illness (Corrigan, Markowitz, & Watson, 2004). Furthermore, these different facets of stigma are themselves multidimensional. For example, personal stigma has various components, including desire for social distance, that is the degree to which an individual is willing to interact with someone who has a mental illness, perception of mental disorders as due to weakness, belief that people with a mental illness are dangerous, reluctance to disclose a mental illness to others, desire for social control in relation to people with a mental illness and an attitude of goodwill toward people with a mental illness (Jorm & Oh, 2009).

### 3.7.2 The role of stigma in help-seeking

Given that labelling and stigma are being considered in this thesis in the context of help-seeking, the association between help-seeking and stigma also needs to be considered. Empirical studies of the association between stigma and help-seeking highlight that the nature of the association depends on the component of stigma considered. Stigma components found to be associated with a reduced willingness to seek help for a mental disorder amongst young people include personally believing that a person is weak not sick (Yap, et al., 2010), social distance (Loya, Reddy, & Hinshaw, 2010; Yap, et al., 2010), perceived stigma (Chandra & Minkovitz, 2006; Golberstein, Eisenberg, & Gollust, 2008; Vogel, Wade, & Haake, 2006; Vogel, Wade, & Hackler, 2007) and self-stigma (Vogel, Michaels, & Gruss, 2009; Vogel, Wade, et al., 2006; Vogel, Wade, & Hackler, 2007). On the other hand, personal belief in dangerousness (Perry, Pescosolido, Martin, McLeod, & Jensen, 2007; Yap, et al., 2010) and a benevolent view of the mentally
ill (Leong & Zachar, 1999) have been found to be associated with increased willingness to seek help. Both the positive and negative associations between stigma and help-seeking have been found to be stronger in young adults than adolescents (Yap, et al., 2010).

However, it may be argued that the overall impact of stigma on help-seeking is negative. This is supported by the systematic review of studies examining barriers to help-seeking amongst the young (Gulliver, et al., 2010) referred to in Section 2.4. Findings from this review suggested that stigma was the most common barrier reported in the studies reviewed, whereas it was not reported to be as facilitator of help-seeking. Hence, as there is a potential link between labelling and stigma, which could then have negative effects for help-seeking, the relationship between stigma and labelling of mental disorders requires further examination.

### 3.8 Chapter conclusion

There is emerging evidence that improving the accuracy of labelling of mental disorders can improve help-seeking. The CSM and the strength of its constructs and evidence base provide a compelling explanation of how this occurs. The importance of labelling in the help-seeking process is further supported by the inclusion of labelling in models of help-seeking for mental health problems. Furthermore, the field of mental health literacy identifies labelling as part of the body of knowledge essential to informing effective health management actions.

Labelling is a potential target for improving help-seeking, as it is modifiable and directly related to the health issue at hand, although some consideration needs to be given to a possible risk of labelling being coupled with stigma. The next chapter reviews studies of label use in relation to mental disorders, their association with help-seeking, and the association between label use and stigma.
4 Labelling of mental disorders – a review of the literature

It has been demonstrated that greater recognition and labelling of mental health problems is a factor that could potentially improve help-seeking. Consequently, this chapter reviews the literature on labelling in detail. It explores the role of labelling in help-seeking, as examined in retrospective studies of people’s accounts of help-seeking. However, most of the chapter focuses on how individuals from general populations label mental disorders when they are confronted with them for the first time. The focus will be on types of labels used to describe mental disorders, factors associated with label use and interventions that have changed it, as well as literature examining the association between labelling and help-seeking and labelling and stigma.

4.1 Labelling and actual help-seeking

4.1.1 Qualitative studies

Studies examining the experience of labelling a presenting mental health problem by those who have sought help highlight the importance of labelling in the help-seeking process. A number of qualitative studies, mostly focusing on youth, have examined the experience of those who have received treatment for mental disorders and their experience of arriving at a label for their problem. Findings suggest that participants started to label their problem using mental health labels when the number of symptoms they experienced increased and persisted (Webster & Harrison, 2008; Wisdom & Green, 2004), when these symptoms were considered to be outside the norm in comparison to their peers’ life experience (Wisdom & Green, 2004), when participants experienced increased difficulty coping with symptoms (Webster & Harrison, 2008), and
when family and friends were consulted in an attempt to define and label the problem with a view to making sense of the experience (Spoont et al., 2009; Wisdom & Green, 2004). A study of failure to seek help in young people found that similar considerations were made in the process of forming a label for a mental health problem, although the benchmark for labels such as “mental illness” or “depression” was continually redefined to involve more extreme symptoms in order to normalize worsening symptoms and forestall help-seeking (Biddle, et al., 2007).

These studies highlight that labelling an emerging mental health problem in the context of help-seeking requires a number of prompts and is a central feature of trying to make sense of the new and changing experiences that are part of the onset of mental disorder.

4.1.2 Quantitative studies

Studies in clinical settings using quantitative methodologies also highlight the importance of labelling in the help-seeking process. In a study of delay seeking help in a clinical sample of adults with mood and anxiety disorders, Thompson and colleagues (2008) found that the average time between onset of symptoms and help-seeking was 8.2 years, and that the time taken to label the problem as related to anxiety or depression accounted for the majority of the total delay to seek help, on average 6.9 years. Furthermore, time taken to label a problem was a significant predictor of delay in help-seeking, along with current age and age at onset. These factors remained significant even when a range of other factors were controlled for, such as type of disorder, gender, level of education, marital status, level of disability, locus of control and extraversion. In short, the sooner a person labelled the problem, the less delay there was before entry into treatment.

Other quantitative studies highlight that labelling may also assist diagnosis once professional help is sought. This is illustrated in a study of young people presenting to general practitioners (GPs) (Haller, Sanci, Sawyer, & Patton, 2009). In this study, the specific problem label used by participants is not reported,
rather responses were combined under the rubric of “self-perceived mental illness”. This self-perception of having a mental illness (i.e., having so labelled the problem) was the strongest predictor of GP identification of disorder amongst those with a score of greater than 20 on the K10 scale of emotional distress (Kessler et al., 2002). Young people who identified their problem as a mental illness of some kind at presentation (before the GP appointment) were six times more likely to have their mental health problem correctly identified by the GP compared to those who did not consider that they had a mental illness. Although other factors such as fear about current illness, consultations in past 6 months, number of days out of role and use of usual GP practice were also associated factors, their associations were weak in comparison. Studies of adult samples report similar findings (Bowers, Jorm, & Henderson, 1990; Jacob, Bhugra, & Lloyd, 1998). Whilst these studies do not help to extrapolate the potential role of labelling in finding help, they do highlight how labelling can facilitate receipt of effective diagnosis and associated treatment.

4.1.3 Limitations of studying labelling in the context of actual help-seeking

As indicated in these studies (and in studies of the CSM described in Chapter 3), labelling is an important part of the help-seeking process, and appropriate use of mental health labels can reduce delays into treatment and increase the likelihood of early detection by professionals. However, a confounding factor in most studies is their potential bias toward recruiting labellers, given the association between labelling and help-seeking (Angermeyer, et al., 2009; Goldney, et al., 2009; Wright, et al., 2007). An additional confounding factor is the retrospective nature of these studies (excluding the studies by Haller et al., 2009; Bowers et al., 1990; and Jacob et al., 1998), that is, it is possible that the labels elicited in the studies may not have been used by participants at the time of help-seeking but have been applied following clinical diagnosis. This may occur, as studies by Leventhal and colleagues have found that symptoms are ‘sought’ to match a label once it has been applied (Leventhal, et al., 2003). Furthermore, specific analysis of labelling was not a core aim of any of the studies, but rather highlighted
indirectly as an aspect of the analysis of the individuals’ experiences of the process of illness recognition or help-seeking. Hence the actual labels used by the participants are not specifically described. Where actual labels were analysed, as in the Haller and colleagues study (2009), the various labels used were combined under the rubric of one label, mental illness. So, again, the actual label in use remains unclear. Therefore, conclusions about which labels are most likely to lead to help-seeking help-seeking cannot be made.

4.2 The hypothetical vignette method – a rationale for its use in examining labelling in general populations

The previous group of studies examined labelling either in retrospect or in regard to how it impacts on illness detection by professionals. Another way to consider the role of labelling in help-seeking is in a general population to explore how people might hypothetically label mental disorders when confronted with them for the first time. This affords the opportunity to look at labels in natural use and how they might be associated with help-seeking choices or the pre-help outcomes, that is, help-seeking beliefs and intentions, as described in Chapter 2.

Studies of this kind have been predominantly in the field of mental health literacy (Jorm, 2012) described in Chapter 3. Studies examining labelling in this context have been conducted with the general population and have looked at types of labels used, factors associated with label use, and the association between label use and help-seeking choices. The most common method for assessment has been the use of a vignette of a person experiencing a mental health problem. This provides a stimulus following which a series of questions are asked, such as what the person thinks the nature of the problem is and what help they think would be effective.
4.2.1 A rationale for focusing on unprompted labelling

The structure of the questions related to the vignette and their analysis has varied between studies. Some have used a prompted labelling approach where the respondent is asked to identify whether the problem is a mental illness (D’Arcy & Brockman, 1976; Star, 1955; Wong, Lam, & Poon, 2010) or a list of possible problems is provided to the respondent to choose from (Coles & Coleman, 2010; Lauber, Nordt, Falcato, & Rossler, 2003). Another approach has been to elicit unprompted responses from respondents regarding the nature of the problem described in the vignette and then all labels used that relate to a mental illness or mental disorder are combined into one label, ‘mental illness’, and analysed and reported as such (Angermeyer & Matschinger, 2003, 2005; Klineberg, Biddle, Donovan, & Gunnell, 2010). However, all of these approaches present similar limitations to the studies based on retrospective accounts described previously, that is, they do not allow for analysis of the specific labels respondents use. A focus on the distinct labels elicited without prompting is important, because they are more likely to reflect the process of recognizing and labelling a mental disorder as it occurs in the real-life process of help-seeking. That is, they are more likely to reflect what is the respondent’s natural response repertoire (Pescosolido & Olafsdottir, 2010). The importance of unprompted responses is illustrated in a study by Pescosolido & Olafsdottir (2010), which found that unprompted responses regarding preferred help-seeking options were more consistent with rates of actual help-seeking behaviour than endorsements of prompted health care options.

For these reasons, and as outlined in the definition of labelling, the remainder of this chapter focuses on studies that have examined unprompted labelling and factors associated with different labels used, as well as studies that have examined the association between unprompted labelling and help-seeking. The association between unprompted labelling and stigma will also be explored, as stigma is a potential by-product of labelling that may inhibit help-seeking as outlined in the previous chapter.
4.3 Unprompted labelling of mental disorders – structure of the literature review

The literature on unprompted labelling is difficult to delimit because there are no clear key words or terms covering the whole domain. Therefore, a series of searches were carried out using different approaches in an effort to cast a broad net. The aim was not to miss relevant references, even if the price was a large number of false positives to sort through.

The academic literature was searched through PsycINFO, Medline and Web of Science to include publications that met the following criteria:

1. Studies that examined the unprompted labels and terms used to describe a hypothetical or real-life situation of someone experiencing the symptoms of a mental disorder.
2. Studies of young people aged between 12 and 25 years and of adults. The studies included adults in addition to young people, as the number of studies relating to young people was quite low. Studies of professional groups were excluded.

Searches were conducted from the 25th to 31st March 2009 and updated on the 15th August 2011. The search included all English language studies published in peer-reviewed journals from 1950 up to the 15th August 2011.

A keyword search in PsycINFO used: mental health literacy (n=729); health knowledge OR health education OR literacy OR mental illness (attitudes toward) AND psychosis OR schizophrenia OR depress* OR social phobia OR anxiety OR mental disorder* OR mental health OR mental illness (n=3010); labelling* AND psychosis OR schizophrenia OR depress* OR social phobia OR anxiety OR mental disorder* OR mental health OR mental illness (n=253). A key word search in Medline used mental health literacy (n=158); mental disorder* AND recognition (n=1521). A key word search in Web of Science used mental disorder* OR mental illness AND recognition (n=2100); mental disorder* OR mental illness AND label* (n=1073). These searches resulted in 8,844 publications for review and
additional publications were found via a search of reference lists and citations, of these, 34 met the inclusion criteria for this review.

The studies in this literature review are grouped according to study method – qualitative and quantitative. All studies included in this review have used the vignette method. This facilitates comparisons between studies.

### 4.4 Qualitative studies of unprompted labelling

Qualitative studies, although typically small in sample size, add depth to understanding of the process of recognition and labelling. Two studies have used the vignette method to examine recognition and labelling. A U.S. study (Karasz, 2005) examined whether European American women (n=37) labelled a depression vignette differently to South Asian immigrant women (n=36) in semi-structured interviews. Most European American women tended to label the vignette as a mental disorder, most commonly depression, whilst South Asian women tended to be more varied using terms such as “problem” or “tension” or identifying it in terms of its cause or social context. Only one third of South Asian women used the label “depression”. A limitation of this study is that the vignette was not based on DSM IV (American Psychiatric Association, 1994) or ICD-10 (World Health Organization, 1993) criteria.

In a study of Scottish high school students (Secker, Armstrong, & Hill, 1999) using a combination of focus groups (n=102) and interviews (n=18), a series of vignettes were discussed. They included an adult with chronic schizophrenia, an adolescent with early onset schizophrenia and an adult with depression. Young people commonly used the label “depression” to describe the person in the depression vignette, but also stated that this was not a mental illness but rather something normal and familiar in their own experience of the world and people they knew. All participants defined the two schizophrenia vignettes as mental illness and also used terms such “schizo”, “schizophrenic” and “paranoid”. They tended to base this not on their own experience of people with a mental illness,
but rather on observations of strangers who epitomized odd behaviour or on media representations of mental illness. A possible limitation of this study is that the high frequency of accurate labelling or mental illness labelling may have been due to a high level of symptomatology depicted in the vignettes, which were not based on DSM IV or ICD-10 criteria. However, the vignettes are not provided in the published report, hence a judgement regarding this cannot be unequivocally made.

4.5 Quantitative studies of unprompted labelling

Of the 29 quantitative studies reviewed here, 22 were based on the vignettes and, to varying extents, the associated survey questions from the seminal study of Jorm and colleagues (1997). These vignettes describe a person experiencing symptoms of either depression or schizophrenia, or derivatives thereof, and are designed to meet both DSM-IV and ICD-10 diagnostic criteria for the respective disorders. This is typically followed by the question “what if anything do you think is wrong with the person” to elicit a label or term for the problem described. Vignettes that are not directly derived from this study are generally based on DSM-III-R or DSM-IV diagnostic criteria, with the exception of three studies, which used the authors’ expertise or relied on psychiatric clinicians to develop the vignettes (Burns & Rapee, 2006; Lawlor et al., 2008; V. L. Patel, Branch, Mottur-Pilson, & Pinard, 2004). The use of different criteria for the development of the vignettes limits, to some extent, the comparability of these studies to the rest of the literature and makes it difficult to assess the extent to which an accurate label has been used.

Other variations that limit comparisons are the varying survey methodologies used, including face-to face interviews, telephone interviews and postal surveys, and differences in populations sampled and response rates. Response rates are particularly difficult to compare meaningfully, as they vary according to the population studied, the recruitment and survey methods, and the method used to calculate the response rate.
The studies included in this component of the review have examined different aspects of unprompted labelling. All studies have focused on accurate labelling, as this is so often seen to be an important indicator of a population’s mental health literacy (Jorm, 2012). Accurate labelling can be defined as those labels that most closely approximate the intended DSM-IV disorder described in the vignette. It is examined in these studies in terms of the range of labels most commonly used, including accurate labels, rates of accurate labelling, factors associated with accurate labelling, time series studies of rates of accurate labelling, the association between accurate labelling and help-seeking, and the influence of community education strategies in changing rates of accurate labelling. The following sub-sections examine findings regarding each of these aspects of labelling.

4.5.1 Use of unprompted labels

4.5.1.1 Types of labels used

All studies that report on the range of labels in common use in a sample (see Tables 4.1 and 4.2) have used vignettes based on those developed by Jorm and colleagues (1997), which facilitates comparisons. In regard to depression (Table 4.1), the accurate label was the most commonly used label in all samples from western countries as well as samples from India and urban Malaysia. The labels “stress” and “psychological problem” were also very common. Yet this was not the case in samples from all other non-western countries and migrant samples from western countries. Labels most commonly used in these samples were lay terms such as “psychological/ mental/ emotional problem”, “mental illness”, “physical illness”, “stress” or “anxiety”. Another feature of the labels used in these samples, albeit less commonly, was the use of causal terms to label the problem such as “financial or familial obligations”, “love failure” or “romance related” and “mid-life crisis”, and more generic concepts such as “insomnia” and “boredom/lack of motivation”.
Table 4-1: Frequency of the five most common labels used to describe the problem in depression vignettes

<table>
<thead>
<tr>
<th>Study</th>
<th>Study participants</th>
<th>Method (response rate)</th>
<th>Vignette (DSM IV or ICD-10 based)</th>
<th>Frequency ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett et al. (2006)</td>
<td>Australian rural public n=666</td>
<td>Postal survey (36%)</td>
<td>Depression * Male ICD-10 &amp; DSM IV</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Depression 81%</td>
<td>Physical illness 4.2%</td>
</tr>
<tr>
<td>Dahlberg et al. (2008)</td>
<td>Swedish public n=358</td>
<td>Household or research office face-to-face survey (64.7%)</td>
<td>Depression* (ICD-10 &amp; DSM IV) &lt; 33.3%</td>
<td>Stress 20%</td>
</tr>
<tr>
<td>Fisher &amp; Goldney (2003)</td>
<td>Australian public n=3010</td>
<td>Household face-to-face survey (70.2%)</td>
<td>Depression* Depression (15-24 year olds) Depression 50.9% Stress 24.8% Psychological problems 14.4% Work-related problem 7.1% Nervous breakdown 1 %</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Depression 39% Stress 16.7% Psychological problems 15.6% Work-related problem 8% Nervous breakdown 3.7%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>OR=0.6,p&lt;0.01 OR=0.6, p&lt;0.01 n.s. n.s. OR=3.9, p&lt;0.05</td>
<td></td>
</tr>
<tr>
<td>Goldney et al. (2001)</td>
<td>Australian public n=3010</td>
<td>Household face-to-face survey (70.2%)</td>
<td>Depression* No depression Depression 48.6% Stress 22.4% Psychological problem 12.5% Work-related problem 8.4% Nervous breakdown 2.9%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other depression Depression 51.9% Stress 24.7% Psychological problem 10.9% Work-related problem 8.6% Nervous breakdown 2.2%</td>
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<tr>
<td></td>
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<td>Major depression Depression 55.6% Stress 18% Psychological problem 11.7% Work-related problem 9.3% Nervous breakdown 3.4%</td>
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<td>n.s. n.s. n.s. n.s. n.s.</td>
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</tbody>
</table>


<table>
<thead>
<tr>
<th>Study</th>
<th>Study participants</th>
<th>Method (response rate)</th>
<th>Vignette (DSM IV or ICD-10 based)</th>
<th>Frequency ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jorm et al. (1997)</td>
<td>Australian public n=2031</td>
<td>Household face-to-face survey (85%)</td>
<td>Depression</td>
<td>Depression 39%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stress 22%</td>
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<td></td>
<td>Has a problem 16%</td>
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<td></td>
<td>Physical condition 11%</td>
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<td></td>
<td>Mental problem 9%</td>
</tr>
<tr>
<td>Jorm et al. (2005)</td>
<td>Australian public n=3998</td>
<td>Australia Household face-to-face survey (34%)</td>
<td>Depression*</td>
<td>Depression 65.3%</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Stress 16.6%</td>
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<td></td>
<td>Psychological/ Mental/Emotional problems 4.5%</td>
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<td></td>
<td>Mental illness 3%</td>
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<td></td>
<td></td>
<td>Nervous breakdown 0.7%</td>
</tr>
<tr>
<td>Japanese public n=2000</td>
<td>Japan Household face-to-face survey (N/A)</td>
<td>Depression*</td>
<td>Psychological/ Mental/Emotional problems 29.4%</td>
<td>Stress 25%</td>
</tr>
<tr>
<td>Kermode et al. (2009)</td>
<td>Indian public n=240 Age 18 years+</td>
<td>Household face-to-face survey (100%)</td>
<td>Depression* (female only)</td>
<td>Depression 55.4%</td>
</tr>
<tr>
<td>Suhail (2005)</td>
<td>Pakistani public n=1750 Age 16-72 years</td>
<td>Household face-to-face survey (87.5%)</td>
<td>Depression*</td>
<td>Physical illness 20.6%</td>
</tr>
<tr>
<td>Study</td>
<td>Study participants</td>
<td>Method (response rate)</td>
<td>Vignette (DSM IV or ICD-10 based)</td>
<td>Frequency ranking</td>
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<tr>
<td>Swami et al., 2010</td>
<td>Malaysian public n=342</td>
<td>Written response survey Opportunistic sampling (rural) and age matched opportunistic sampling (urban)</td>
<td>Depression* Rural Emotional stress 64.6% Boredom/lack of motivation 5.8% Financial or familial obligations 5.8% Depression 4.2% Tiredness/lack of sleep 4.2%</td>
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<td>Age Urban mean 31.14 Rural mean 29.31</td>
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<tr>
<td>Tieu et al. (2010)</td>
<td>Canadian Chinese immigrants n=53</td>
<td>Household face-to-face survey (74%) Convenience sample</td>
<td>Depression* Canadian Chinese immigrants Mental illness or psychological, mental or emotional problem 30.2% Depression 11.3%</td>
<td></td>
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<tr>
<td></td>
<td>Canadian public (Canadian born) n=731</td>
<td>Telephone survey (75.2%) Probability sample</td>
<td>Canadian public Depression 74% Mental illness or psychological, mental or emotional problem 3.1%</td>
<td></td>
</tr>
<tr>
<td>Wong et al., 2010</td>
<td>Australian Chinese n=200</td>
<td>Written response survey Cluster convenience sample</td>
<td>Depression * Stress/anxiety 26.5% Depression 14% Insomnia/lack of concentration 8% Emotional disturbance 7.5%</td>
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</tbody>
</table>

*Vignette derived from Jorm et al., 1997
<table>
<thead>
<tr>
<th>Study</th>
<th>Study participants</th>
<th>Method (response rate)</th>
<th>Vignette (DSM IV or ICD-10 based)</th>
<th>Frequency ranking</th>
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<tr>
<td>Jorm et al. (1997)</td>
<td>Australian public n=2031</td>
<td>Household face-to-face survey (85%)</td>
<td>Schizophrenia</td>
<td>Depression 27%</td>
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<td>Mental illness 16%</td>
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<td>3</td>
<td>4</td>
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<td></td>
<td>Mental problem 15%</td>
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<td>5</td>
<td>Has a problem 13%</td>
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<tr>
<td>Jorm et al. (2005)</td>
<td>Australian public n=3998</td>
<td>Australia Household face-to-face survey (34%)</td>
<td>Early schizophrenia (Australia)</td>
<td>Schizophrenia/psychosis 41.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Japanese public n=2000</td>
<td>Household face-to-face survey (N/A)</td>
<td>Depression 34.8%</td>
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<td>Early schizophrenia (Japan)</td>
<td>Mental illness 23%</td>
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<td>Psychological/mental emotional problem 28.4%</td>
<td>Schizophrenia/psychosis 17.2%</td>
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<td></td>
<td>Depression 13.6%</td>
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<td></td>
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<td>Stress 5.0%</td>
</tr>
<tr>
<td>Kermode et al. (2009)</td>
<td>Indian public n=240 Age 18 years+</td>
<td>Household face-to-face survey (100%)</td>
<td>Psychosis*</td>
<td>Stress 71.1%</td>
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<td></td>
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<td></td>
<td></td>
<td>Psychological/emotional problem 35.0%</td>
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<td></td>
<td>Mental illness 28.8%</td>
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<td></td>
<td>5</td>
<td>Depression 23.3%</td>
</tr>
<tr>
<td>Peluso et al. (2008)</td>
<td>Brasilian public n=500</td>
<td>Household face-to-face survey (N/A)</td>
<td>Schizophrenia*</td>
<td>Depression 23.4%</td>
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<td></td>
<td></td>
<td></td>
<td>Psychological problem 13%</td>
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<td>3</td>
<td>4</td>
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<td></td>
<td></td>
<td>Mental problem 11%</td>
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<td></td>
<td>5</td>
<td>Spiritual problem 9%</td>
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<td></td>
<td></td>
<td>Loneliness 5%</td>
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<td></td>
<td></td>
<td></td>
<td>Schizophrenia 2.2%</td>
</tr>
<tr>
<td>Suhail (2005)</td>
<td>Pakistani public n=1750 Age 16-72 years</td>
<td>Household face-to-face survey (87.5%)</td>
<td>Psychosis*</td>
<td>Mental illness 21.2%</td>
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<td></td>
<td>Physical illness 18.4%</td>
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<td>3</td>
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<td></td>
<td></td>
<td>Possessed 8%</td>
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<td></td>
<td>5</td>
<td>Psychosis 4.94%</td>
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<tr>
<td></td>
<td></td>
<td></td>
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<td>Love failure 4%</td>
</tr>
</tbody>
</table>

*Vignette derived from Jorm et al., 1997
Like depression, the schizophrenia or psychosis vignettes (Table 4.2) also tended to be most accurately labelled in the samples from a western country (Jorm, et al., 1997; Jorm, Nakane, et al., 2005). By contrast, non-western samples tended to use other mental health labels such as “depression”, “mental illness” or “psychological/mental/ emotional problem”. These terms were also amongst the other most commonly used labels in all samples. Similar to the depression vignette labels in non-western samples, causal and generic terms were used for schizophrenia vignettes, such as “possessed”, “spiritual problem”, “physical problem”, “loneliness” and “love failure” (Peluso, Peres, & Blay, 2008; Suhail, 2005).

The difference in labels in common use between western and non-western samples has been attributed to lower levels of literacy, cultural preferences for naming mental illness in more generic terms, attribution of symptoms to spiritual factors and lack of information of a scientific/medical nature in non-western nations (Mubbashar & Farooq, 2001; Peluso, et al., 2008).

**4.5.1.2 Type of label used according to age**

Two studies examined factors associated with type of label used (other than accurate labels) and this has been in regard to age. Fisher and Goldney (2003) (Table 4.1) report that young people aged 15 to 24 years of age were more likely than older people aged 65 to 74 years to use the label “stress” and less likely to use the label “nervous breakdown”. Farrer and colleagues (2008) examined the sample described by Jorm and colleagues (2005) (Table 4.1) and report that for the depression vignette, those aged 70+ years were more likely than those aged 18 to 24 years to suggest that the person “has a problem” in general. In regard to the schizophrenia vignette (Table 4.2), 18 to 24 year olds were more likely that those aged 70+ years to use the label “depression”.
4.5.1.3 Rates of accurate labelling

Table 4.3 summarises the 20 community studies that have examined accuracy of labelling of mental disorders and socio-demographic and exposure factors commonly associated with this. Most studies examined depression, with many also examining another disorder, usually schizophrenia or psychosis, and variations thereof, as well as one study of ADHD (Pescosolido et al., 2008). Rate of accuracy of labelling of depression is generally higher than that for other disorders, with the exception of a Japanese study (Jorm, Nakane, et al., 2005) where it was similar to chronic schizophrenia. The exceptionally high rate of accurate labelling in Ireland (Lawlor et al. 2008) is likely to be due to bias in the recruitment method, with those interested or with prior experience in mental health choosing to participate in the online survey.

All studies examined labelling in adults, with the exception of two studies that have focused on young people (Burns & Rapee, 2006; Wright, et al., 2005). In these studies the rates of accuracy of labelling varied, although some of this may be attributable to differences in symptoms described in the vignette and the younger age and homogenous nature of the Burns and Rapee (2006) sample.

With the exception of two studies (Kermode, Bowen, Arole, Joag, & Jorm, 2009; Swami, Loo, & Furnham, 2010), a notable overall pattern is the far lower rate of accurate labelling in non-western countries and non-western immigrant cohorts compared to western countries, as described in the previous section regarding different labels in common use. This is particularly evident in rural non-western samples (Suhail, 2005; Swami, et al., 2010).
Table 4-3: Accurate labelling of mental disorder from a vignette and associated factors in cross-sectional community surveys

<table>
<thead>
<tr>
<th>Study</th>
<th>Study participants</th>
<th>Method (response rate)</th>
<th>Vignette (DSM IV or ICD-10 based)</th>
<th>Rate of accurate labelling</th>
<th>Vignette factors associated with accurate labelling</th>
<th>Respondent factors associated with accurate labelling</th>
<th>Exposure to mental disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett et al. (2006)</td>
<td>Australian rural public n=666 Age 18 years+</td>
<td>Postal survey (36%)</td>
<td>Depression * ICD-10 &amp; DSM IV Male</td>
<td>Depression 81%</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Burns &amp; Rapee (2006)</td>
<td>Australian secondary school students n=202 Age 15-17 years</td>
<td>In class survey 91% female (80), 60% males (122)</td>
<td>Depression (Year 9 male) Depression + suicidal thoughts (Year 12 female) (DSM IV)</td>
<td>Depression 33.8% Depression and suicidal thoughts 67.5%</td>
<td>Depression female&gt;male p&lt;0.01 Depression and suicidal thoughts female&gt;male p&lt;0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dahlberg et al. (2008)</td>
<td>Swedish public n=358</td>
<td>Household or research office face-to-face survey (64.7%)</td>
<td>Depression* (ICD-10 &amp; DSM IV)</td>
<td>Depression less than 33.3%</td>
<td>20-34 years greater compared to 35-64 years OR=1.99, p=0.028 female&gt;male OR=2.07, p=0.006 higher education (&gt;12 years)&gt; 12 years or less OR=1.85, p=0.025</td>
<td>History of illness and treatment for self compared no illness or illness without treatment n.s.</td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Study participants</td>
<td>Method (response rate)</td>
<td>Vignette (DSM IV or ICD-10 based)</td>
<td>Rate of accurate labelling</td>
<td>Vignette factors associated with accurate labelling</td>
<td>Respondent factors associated with accurate labelling</td>
<td>Exposure to mental disorder</td>
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</tr>
<tr>
<td>Goldney et al. (2001)</td>
<td>Australian public n=3010 Age 15-74 years</td>
<td>Household face-to-face survey (70.2%)</td>
<td>Depression*</td>
<td>No depression 48.6% Other depression 51.9% Major depression 55.6% n.s.</td>
<td>Major depression n.s.</td>
<td>Major depression n.s.</td>
<td>Major depression and SES n.s.</td>
</tr>
<tr>
<td>Fisher &amp; Goldney (2003)</td>
<td>Australian public n=3010 Age 15-74 years</td>
<td>Household face-to-face survey (70.2%)</td>
<td>Depression</td>
<td>Schizophrenia 39%</td>
<td>Depression 39%</td>
<td>Schizophrenia 27%</td>
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<tr>
<td>Jorm et al. (1997)</td>
<td>Australian public n=3010 Age 15-74 years</td>
<td>Household face-to-face survey (85%)</td>
<td>Depression</td>
<td>Schizophrenia 39%</td>
<td>Depression 39%</td>
<td>Schizophrenia 27%</td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Study participants</td>
<td>Method (response rate)</td>
<td>Vignette (DSM IV or ICD-10 based)</td>
<td>Rate of accurate labelling</td>
<td>Vignette factors associated with accurate labelling</td>
<td>Respondent factors associated with accurate labelling</td>
<td>Location</td>
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<tr>
<td>Jorm et al. (2005)</td>
<td>Australian public n=3998 Age 18 years+</td>
<td>Household face-to-face survey (34%)</td>
<td>Depression*</td>
<td>Depression Aus 65.3% Jpn 22.6 Depression+ suicidality Aus 77.3% Jpn 35.0% E schizophrenia Aus 41.2% Jpn17.2% C schizophrenia Aus 36.1% Jpn 33.4%</td>
<td>#Depression 70 years + lower compared to 18-24 yrs (h=.64); 25-39 yrs (h=.61); 40-54 yrs (h=.53); 55-69 yrs (h=.50)</td>
<td>Depression n.s.</td>
<td>Tokyo</td>
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<tr>
<td>^Griffiths et al. (2009) Australian public</td>
<td>Japanese public n=2000 Age 20-69 years</td>
<td>Household face-to-face survey (N/A)</td>
<td>Early schizophrenia* Chronic schizophrenia*</td>
<td>Depression*</td>
<td>Depression Aus 65.3% Jpn 22.6 Depression+ suicidality Aus 77.3% Jpn 35.0% E schizophrenia Aus 41.2% Jpn17.2% C schizophrenia Aus 36.1% Jpn 33.4%</td>
<td>Early schizophrenia 70 years+ lower compared to 40-54 yrs (h=.50)</td>
<td>Depression and suicidality Inner regional&gt; Major city OR=1.6, p&lt;0.05</td>
</tr>
<tr>
<td>#Farrer et al., 2008 Australian public Depression and early schizophrenia vignettes only</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Early schizophrenia n.s.</td>
<td>Chronic schizophrenia Inner regional&gt; Major city OR=1.84, p&lt;0.05</td>
</tr>
<tr>
<td>Kermode et al. (2009)</td>
<td>Indian public n=240 Age 18 years+</td>
<td>Household face-to-face survey (100%)</td>
<td>Depression* (female only) Psychosis*</td>
<td>Depression 55.4%</td>
<td>Psychosis 0%</td>
<td>Depression n.s.</td>
<td>Depression and suicidality Inner regional&gt; Major city OR=1.6, p&lt;0.05</td>
</tr>
<tr>
<td>Study</td>
<td>Study participants</td>
<td>Method (response rate)</td>
<td>Vignette (DSM IV or ICD-10 based)</td>
<td>Rate of accurate labelling</td>
<td>Vignette factors associated with accurate labelling</td>
<td>Respondent factors associated with accurate labelling</td>
<td>Location to mental disorder</td>
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<td>Lawlor et al. (2008)</td>
<td>Irish public n=998 Age &lt;15 -50+ years Majority 15-34 years</td>
<td>Online survey (0.076%)</td>
<td>Depression (female) Depression 78%</td>
<td>n.s. Depression female&gt;male p=0.01 Schizophrenia 93%</td>
<td>Schizophrenia n.s.</td>
<td>Urban v's rural Depression NS Psychosis n.s.</td>
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<tr>
<td>Marie et al. (2004)</td>
<td>New Zealand Maori and non-Maori public n=205 18 years+</td>
<td>Postal survey (41%)</td>
<td>Depression (DSM-IV-R) Female Depressiion 78%</td>
<td>n.s.</td>
<td>Depression n.s.</td>
<td></td>
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<tr>
<td>Peluso et al. (2008)</td>
<td>Brasilian public n=500 Age 18-65 years</td>
<td>Household face-to-face survey (N/A)</td>
<td>Schizophrenia* Schizophrenia 2.2%</td>
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<tr>
<td>Pescosolido et al. (2008)</td>
<td>United States public n=1393 Age 18 years+</td>
<td>Household face-to-face survey (70.1%)</td>
<td>ADHD Gender ADHD 41.9% Depression male&gt;female OR=0.6, p&lt;0.05 Depression n.s.</td>
<td>ADHD female&gt;male OR=3.18, p&lt;0.001</td>
<td>ADHD African American &lt; other ethnicity OR=0.27 p&lt;0.001 ADHD n.s. Depression n.s.</td>
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<td>ADHD Depression 41.9% Depression 58.5%</td>
<td>ADHD n.s. Depression younger OR=0.6, p&lt;0.05 Depression n.s.</td>
<td>ADHD female&gt;male OR=1.93 p&lt;0.01 Depression n.s. ADHD female&gt;male OR=1.93 p&lt;0.01</td>
<td>ADHD n.s. Depression More years of education &gt;less years OR=1.17, p&lt;0.01</td>
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<tr>
<td>Study</td>
<td>Study participants</td>
<td>Method (response rate)</td>
<td>Vignette (DSM IV or ICD-10 based)</td>
<td>Rate of accurate labelling</td>
<td>Vignette factors associated with accurate labelling</td>
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<td>Suhail (2005)</td>
<td>Pakistani public n=1750 Age 16-72 years</td>
<td>Household face-to-face survey (87.5%)</td>
<td>Psychosis* Depression*</td>
<td>Psychosis 4.94% Depression 18.75%</td>
<td>n.s. n.s.</td>
<td>Psychosis More years of education &gt;less years OR=2.03 p&lt;0.001 Depression More years of education &gt;less years p&lt;0.001</td>
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<tr>
<td>Swami et al., 2010</td>
<td>Malaysian public n=342 Age Urban mean 31.14 Rural mean 29.31</td>
<td>Written response survey Opportunistic sampling (rural) and age matched opportunistic sampling (urban)</td>
<td>Depression*</td>
<td>4.2% (rural) 62.1% (urban) Depression with suicidal ideation*</td>
<td>9.5% (rural) 63.7% (urban)</td>
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<tr>
<td>Tieu et al. (2010)</td>
<td>Canadian Chinese immigrants n=53</td>
<td>Household face-to-face survey (74%) Convenience sample Telephone survey (75.2%) Probability sample</td>
<td>Depression*</td>
<td></td>
<td></td>
<td>Canadian Chinese immigrants 11.3% (Chinese cultural values n.s. assoc) Canadian born 74%</td>
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<tr>
<td>Study</td>
<td>Study participants</td>
<td>Method (response rate)</td>
<td>Vignette (DSM IV or ICD-10 based)</td>
<td>Rate of accurate labelling</td>
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<tr>
<td>Wang et al. (2007)</td>
<td>Canadian public n=3047 Age 18-74 years</td>
<td>Telephone survey (75.2%)</td>
<td>Depression*</td>
<td>Depression 75.6%</td>
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<tr>
<td>Wong et al., 2010</td>
<td>Australian Chinese n=200 Age 19-78 years</td>
<td>Written response survey Cluster convenience sample</td>
<td>Depression *</td>
<td>Depression 14%</td>
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<tr>
<td>Wright et al. (2005)</td>
<td>Australian public n=1207 Age 12-25 years</td>
<td>Telephone survey (89.7%)</td>
<td>Depression*</td>
<td>Depression 48.7%</td>
<td>Gender</td>
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<tr>
<td>Cotton et al. (2006)</td>
<td>Australian public n=1207 Age 12-25 years</td>
<td>Telephone survey (89.7%)</td>
<td>Depression*</td>
<td>Depression 48.7%</td>
<td>Gender</td>
<td></td>
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</table>

*Vignette derived from Jorm et al., 1997. Italics indicate secondary study and associated results
4.5.1.4 Factors associated with accurate label use

Vignette attributes have been found to influence labelling. In studies where male and female versions of a vignette were randomly assigned, male vignette character has been associated with a greater likelihood of accurate labelling in two studies, one that studied ADHD (Pescosolido, et al., 2008) and the other of depression (Cotton, Wright, Harris, Jorm, & McGorry, 2006).

Across adult age ranges, accurate labelling of depression and schizophrenia was less common in those aged 65 years or older (Farrer, Leach, Griffiths, Christensen, & Jorm, 2008; Fisher & Goldney, 2003). This is possibly a cohort effect due to less exposure to information campaigns in earlier generations. For depression in particular, there were repeated findings regarding an association between younger age and more accurate labelling (Dahlberg, Waern, & Runeson, 2008; Farrer, et al., 2008; Fisher & Goldney, 2003; Pescosolido, et al., 2008). However, amongst young people, accuracy of labelling is reported to be greater in older adolescents and young adults compared to those aged 12 to 17 years of age (Wright, et al., 2005) for both depression and psychosis. This is possibly due to the greater life experience of the older age group and their increased exposure to disorders due to increasing cumulative incidence with age.

In regard to gender, females were more likely than males to accurately label depression (and ADHD) in all studies examining this factor, apart from one where the association was non-significant (Suhail, 2005), whereas the association with accuracy of labelling of schizophrenia or psychosis was consistently found to be non-significant. This may be related to the higher prevalence of depression in females than males (Slade, et al., 2009), whereas there is not the same degree of gender difference for psychosis or schizophrenia (V. A. Morgan, et al., 2011).

A number of other socio-demographic factors have also been examined. In studies that examined the effect of education, there were significant associations with higher education (Dahlberg, et al., 2008; Lawlor, et al., 2008; Pescosolido, et
al., 2008; Suhail, 2005), with the exception of two studies (Bartlett, Travers, Cartwright, & Smith, 2006; Pescosolido, et al., 2008) where associations were non-significant. For ethnicity, the association varied due to differences in the type of ethnicity and the disorder examined. In regard to depression, people of African American (Pescosolido, et al., 2008) and Chinese Canadian (Tieu, Konnert, & Wang, 2010) origin were less likely to use accurate labels, whereas there was no significant association with ethnicity in an Australian study (Goldney, Fisher, & Wilson, 2001), although the type of ethnicity examined is not described. A study comparing Maori to non-indigenous individuals in New Zealand also showed no significant difference in regard to accurate labelling of depression (Marie, Forsyth, & Miles, 2004). The association between ethnicity and accurate label for ADHD has been found to be non-significant (Pescosolido, et al., 2008). The association between urbanization and labelling may also not be able to be generalized across countries. In western countries, it has been variably reported as being stronger in inner regional areas than major cities in Australia (Griffiths, Christensen, & Jorm, 2009), but non-significant in Ireland (Lawlor, et al., 2008). However, for non-western countries, the divide between urban and rural areas has been more consistent, with accurate labelling being more common in urban areas (Suhail, 2005; Swami, et al., 2010). Associations with employment status (Lawlor, et al., 2008), socio-economic status (Goldney, et al., 2001), marital status (Bartlett, et al., 2006), income (Bartlett, et al., 2006) and religious affiliation (Bartlett, et al., 2006) have all been found to be non-significant, although it must be noted that these factors have each been examined in only one study.

In regard to experience of mental disorder, exposure to mental illness through a family member or friend appears to be associated with labelling of depression (Bartlett, et al., 2006), whereas experience of disorder in oneself has not been found to be associated with accurate labelling (Dahlberg, et al., 2008; Goldney, et al., 2001).
4.5.1.5 Repeated cross-sectional surveys of accurate labelling

It is evident from Table 4.3 that accuracy of labelling seems to be improving over time. This is confirmed in repeated cross-sectional surveys of accurate labelling. A number of these types of studies have been conducted using the vignette method. In a comparison of findings from two national Australian surveys conducted by Jorm and colleagues (2005) in 1995 (n=2164) and 2003-2004 (n=1823), accurate labelling significantly increased over time for both the depression (1995, 39.0% and 2003-2004 67.3%) and schizophrenia (1995, 26.3% and 2003-2004 36.2%) vignettes. Goldney and colleagues (2009) report similar trends in their study of South Australians at three time points in 1998, 2004 and 2008, again using independent samples. Accurate labelling of a depression vignette increased the most from 1998 (49.5%) to 2004 (68.1%) p<0.001) and a more modest increase occurred from 2004 to 2008 (70.9%) p<0.05). For both studies, the changes were, in part, attributed to beyondblue: the national depression initiative, an Australian national depression awareness program that commenced in 2000 and continues to the present day, as well as a range of concurrent less specific mental health awareness raising initiatives. However, as Goldney and colleagues (2009) highlight, it is difficult to pinpoint the factors responsible. A sub-sample of this study was used to examine rates of accurate labelling in urban and rural young men aged 15 to 30 years of age in 1998 and compared these to accuracy rates for this group in 2008 (Eckert, Kutek, Dunn, Air, & Goldney, 2010) and a significant increase over time was reported in both rural (1998, 51.6%; 2008, 68.8%; OR: 2.1) and urban (1998, 41%; 2008, 62.6%; OR: 2.41) young men. The authors attributed the higher rates of accurate labelling in the rural group to campaigns regarding depression and high rates of male suicide in rural areas in the late 1990’s. The overall improvement over time for both groups was attributed to the same community awareness strategies described above.

An increase in accurate labelling of disorder has also been reported in a German study (Angermeyer, et al., 2009). Accurate labelling of a schizophrenia vignette increased from 17.1% in 1993 to 22.4% in 2001 (p<0.001) and accuracy of
labelling of a depression vignette increased from 26.9% to 37.5% in the same time frame (p<0.001). The authors suggest that these changes are due, in part, to advances in pharmacological and psychotherapeutic techniques, as well as to reforms in service provision, all of which may have served to increase the acceptability of services in Germany at the time. The authors also note that mental health community awareness campaigns were conducted in the intervening period.

4.5.1.6 Summary of use of unprompted labels

There is some variation in the types of labels used between studies. The difference is most noticeable between western and non-western samples. However, there are also many similarities and some of these may be due to the method of pre-coding of common labels by interviewers, which is part of the design of the questionnaire developed by Jorm and colleagues (1997, 2005). Furthermore it is apparent that the accuracy of labelling has improved over time and is, to some extent, higher in younger cohorts. This is possibly due to the effect of community education strategies. A range of other factors also appear to influence accuracy of labelling. The most consistent findings regarding significant associations with accurate label use include female gender (for depression), younger adult age and higher level of education. There is also some consistency in findings regarding an association with ethnicity, as well as locality, but only for non-western samples. These findings provide an indication of factors that influence labelling that could be targeted to improve help-seeking. But first it is necessary to take a closer look at the relationship between unprompted labelling and help-seeking.

4.5.2 Use of unprompted labels and help-seeking

As with labelling itself, the association between label use and help-seeking choices has focused on accurate labelling, as studies of this kind have been examined within the framework of mental health literacy. Five studies have
examined accurate labelling and its association with help-seeking preferences, although only two have focused on young people. In two studies of the same sample of young people age 12 to 25 years (n=1207), Wright and colleagues (2005) reported an association between accurate labelling of depression and psychosis and rating of professionally recommended forms of treatment as helpful (depression $\chi^2 (1)=8.831; p=0.003$; psychosis $\chi^2 (1)=12.109; p=0.001$). In a more detailed analysis of this type of association, accurate labelling of both depression and psychosis was the predictor variable most often associated with the choice of appropriate forms of help or treatment, even when other factors such as age, gender, exposure to someone else with the illness and exposure to campaigns were included in the logistic regression (Wright, et al., 2007).

Accurate labelling of the psychosis vignette was associated with an unprompted choice of best form of help (OR=2.22; p=0.002), and belief in the helpfulness of a psychiatrist (OR=4.86; p<0.001), psychologist (OR=4.17; p<0.001), antipsychotics (OR=3.96; p<0.001) and counselling (OR=5.31; p=0.009). Accurate labelling of depression was associated with a belief in a range of treatment options, including getting help in less than one week (OR=1.86; p=0.014), seeing a psychologist (OR=1.93; p=0.004) or social worker (OR=1.86; p=0.012) and the treatments of antidepressants (OR=2.78; p<0.001) and counselling (OR=1.83; p=0.037). Effect sizes were far greater for psychosis than for depression.

In regard to adult populations, an Australian study by Goldney and colleagues (2009) also reported that accurate labelling of depression compared to labelling the vignette as a work or other problem, was associated with a belief in recommended sources of help, although in this study the association was with belief in the potential helpfulness of seeing a psychiatrist ($\chi^2 (1) = 6.40; p=0.011$), whereas associations with potential helpfulness of seeing a psychologist or counsellor/counselling were non-significant. Similar results were found by Angermeyer and colleagues (2009) who, in two surveys of adults from eastern Germany, one conducted in 1993 (n=1564) and the other in 2001 (n=1003), reported that accurate labelling of depression and psychosis vignettes was associated with a belief in the helpfulness of psychiatrist (OR=3.11; p=0.000) as well as the helpfulness of psychotropic medication (OR=2.22; p=0.006) and
psychotherapy (OR=3.64; p=0.004). However, it must be noted that the analysis used an estimated logit model for the total sample where accurate labelling across time and vignettes were combined, hence the distinct association of accurate labelling of depression and psychosis with help-seeking cannot be determined. Suhail (2005), in a study of adults from Pakistan (n=1750), also reported that those accurately labelling a psychosis vignette were more likely to believe that a psychiatrist would be the best source of help, although this was not statistically significant.

In both youth and adult studies, there have been consistent findings of a significant association between accurate label use and belief in the helpfulness of a range of professionals and medications. A number of community education initiatives have attempted to improve labelling with the aim of improving help-seeking. These are reviewed next.

4.5.3 Impact of community education interventions on label use

Community education initiatives designed to improve mental health literacy, such as training programs, school-based interventions and whole-of-community strategies, are becoming increasingly common in the developed world (Dumesnil & Verger, 2009; Kelly, Jorm, & Wright, 2007). Many aim to improve the accuracy of labelling of mental disorders with a view to improving help-seeking, as it is considered to part of the package of good mental health literacy, a central goal of many interventions (Dumesnil & Verger, 2009; Kelly, et al., 2007). However, only a small number of community education intervention studies have measured their effect on labelling accuracy.

Two studies have examined the impact of beyondblue: the national depression initiative, the Australian national depression awareness campaign described earlier (section 4.5.1.5). After three years of this national campaign, there was a higher frequency of accurate labelling of depression in high-exposure states (percentage change 31.3%), that is states that funded beyondblue and therefore had far greater levels of campaign activity, compared to low-exposure states.
(percentage change 24.6%) (Jorm, Christensen, et al., 2005). However, the authors emphasise that there was a lower base rate of labelling accuracy in the high-exposure states. A study of the impact of the same intervention on young people after more than five years of operation demonstrated that awareness of beyondblue was a significant predictor of accurate labelling of a depression vignette (OR=2.34; p<0.001) in a cross-sectional national telephone survey (n=929) (A. J. Morgan & Jorm, 2007).

A study of a smaller scale community awareness campaign targeting depression and psychosis in young people (12 to 25 years of age) in regions of Victoria, Australia (Wright, et al., 2006), used a cross-sectional telephone survey before and after 14 months of the campaign in a quasi-experimental design (n=600 per condition) at both pre-intervention and post-intervention. No significant difference in change in accuracy of labelling of a depression or psychosis vignette was found between the comparison and experimental regions over time.

In their study of the impact of Mental Health First Aid training program for adults, Kitchener and Jorm (2002) found there was significant improvement in accuracy of labelling a schizophrenia vignette (n=106; p<0.001) six months post intervention. No significant improvement in accuracy of labelling of a depression vignette could be found as it was close to the maximum at baseline. Similar studies have been conducted in Australian Asian migrant communities. A Mental Health First Aid training program conducted with members of the Vietnamese community in Australia reported significant improvement (p<0.01) in accuracy of labelling depression, early schizophrenia and chronic schizophrenia immediately post-intervention and a non-significant change for depression with suicidal thoughts, which had the highest baseline frequency of accurate labelling (68.3%)(Minas, Colucci, & Jorm, 2009). A study of Australian immigrants of Chinese-speaking background also found improvements in accurate labelling immediately post-intervention for depression (p<0.001), but less substantial improvement was found in the labelling of schizophrenia (p=0.21) (Lam, Jorm, & Wong, 2010). The significant improvement for both labels in these studies may
be explained by very low baseline rates of accurate labelling (for example Lam et al., 2010: depression 19% and schizophrenia 9%).

Two controlled trials of Mental Health First Aid training have been conducted. A randomized controlled trial based in a workplace setting (Kitchener & Jorm, 2004) found no significant difference in accuracy of labelling between the intervention (n=146) and control (n=155) groups. This is most likely due to high baseline rates for labelling, especially for depression. The second study, a cluster randomized control trial with adult participants in a rural setting (Jorm, Kitchener, O’Kearney, & Dear, 2004), reported a significant improvement (p<0.001) in the percentage of participants accurately labelling a vignette between the intervention (n=416) and control (n=377) groups.

In a semi-structured think-aloud interview design (V. L. Patel, et al., 2004), the effectiveness of a patient guideline in facilitating recognition and labelling of depression was assessed. A sample of U.S. adults (n=24) was asked to read patient guidelines outlining the symptoms and treatment of depression. Accuracy of labelling of a simple and a complex depression vignette were assessed before and after the intervention. Accuracy of labelling significantly improved for both the simple (p<0.01) and complex (p<0.01) depression vignettes. Through a content analysis of the problem solving processes of participants, the authors argue that the guideline modified the structure of knowledge and how it was used in problem solving. However, limitations of this study are the small sample size and the use of pre-primed responses rather than more true-to-life unprompted labelling.

These findings suggest that where interventions are intensively targeted, such as Mental Health First Aid, or are conducted as a large-scale awareness campaign (e.g. beyondblue), and as long as baseline rates are not so high that a significant change cannot occur, interventions can improve the accuracy of labelling of depression and psychosis.
4.5.4 Summary of findings regarding use of unprompted labels and help-seeking – rates, benefits and risks

Many studies have examined unprompted labelling. The majority of these have been in adults, focusing mostly on depression and to a lesser extent on psychosis. In western countries, accurate labels are most commonly used, especially for depression, however this is not necessarily by the majority of the population. By contrast, in non-western countries, an array of other labels are used. In regard to factors associated with the use of unprompted labels, most have examined accurate labelling. On the whole, the most consistent findings are that accurate labels are most likely to be used by younger people, females, and those with a higher level of education. Amongst young people, accurate labels are most commonly used by females and young adults more so than by adolescents.

In regard to help-seeking, accurate labelling of psychosis is associated with unprompted recommendations for the best form of help for psychosis. Accurate labels for depression and psychosis vignettes are associated with a belief in the helpfulness of professionally recommended sources of help. Accurate labelling is also potentially changeable. Intensive and targeted community education efforts have been found to improve accurate labelling, and the improvements in rates of accurate labelling in repeated cross-sectional surveys have been attributed to community education efforts.

Although most community education initiatives have implicitly assumed that accurate labelling was essential to effective recognition and help-seeking, the evidence regarding the potential benefits and harms of labelling is still emerging. Indeed, whilst effectively labelling a mental disorder may facilitate help-seeking, it may also be coupled with stigmatizing beliefs as outlined in Chapter 3 (Angermeyer & Matschinger, 2005; Link, et al., 1989; Penn & Nowlin-Drummond, 2001) and thus potentially reduce people’s willingness to seek help (Biddle, et al., 2007; Gulliver, et al., 2010; Vogel, Wester, et al., 2006). Hence, to fully understand the possible benefit of labelling to help-seeking, the relationship between labelling and stigma requires further examination.
4.5.5 Use of unprompted labels and stigma

In the final part of this literature review of unprompted labelling, the association between unprompted labelling and stigma is examined. Just as a focus on unprompted labelling was important when examining the association between labelling and help-seeking, as elucidated in Section 4.5.2, consideration of the use of unprompted labels in relation to stigma is also imperative. This is because studies that examine prompted labelling, or which combine all labels used that relate to a mental illness under the rubric of one label such as “mental illness”, may mask the real effect of how different labels are associated with stigma, as they do not take into account the different effects of the various labels a person may use. For example, prompting with the label “mental illness” or “mentally ill” may be more of an indicator to a respondent of the person having participated in psychiatric services (Rüsch, et al., 2005) rather than a description of a mental health problem itself. Furthermore, as discussed in Chapter 3 (Section 3.7.1), stigma is multidimensional, and, as detailed in the literature review below, the association between stigma and labelling varies depending on the component of stigma examined.

From the literature search strategy described in Section 4.3, four studies were found that examined the association between unprompted labelling and stigma (see Table 4.4). Social distance and a range of other personal stigma components were the focus of these studies. All used the vignette method to examine unprompted labels applied to vignettes of schizophrenia/psychosis or depression. Apart from one study by Angermeyer and colleagues (2009), which was based on DSM-III-R criteria (American Psychiatric Association, 1987), all were derived from those developed by Jorm and colleagues (1997). Social distance was the most frequently examined aspect of stigma. In regard to schizophrenia, use of the accurate label was found in one study to be associated with social distance items, that is a reduced willingness to interact with the person described in the vignette (Angermeyer, et al., 2009), however the association was non-significant in the other study examining the accurate label (Jorm & Griffiths, 2008). By contrast, a preference for social distance was
associated with other labels for this vignette, such as “psychological/mental/emotional problem” (Jorm & Griffiths, 2008) and “brain/mind problem” (Kermode, Bowen, Arole, Pathare, & Jorm, 2009). However, generally associations between other mental health labels and a preference for social distance tended to be negative or non-significant. For depression, only one study showed an association between the accurate label and a social distance item (Angermeyer, et al., 2009), but in general most findings were non-significant (Angermeyer, et al., 2009; Jorm & Griffiths, 2008; Kermode, Bowen, Arole, Pathare, et al., 2009).

In regard to personal stigma, one study used a schizophrenia vignette and an association was found between belief in dangerousness and the accurate label for schizophrenia (Jorm & Griffiths, 2008). However, for studies examining depression, most associations with the accurate label were either non-significant or showed a negative association (Jorm & Griffiths, 2008; J. Wang & Lai, 2008).

In summary, there seems to be more association between accurate and non-specific labels and stigma for schizophrenia/psychosis vignettes than for depression vignettes, confirming findings that schizophrenia is generally more stigmatized (Angermeyer & Dietrich, 2006). However, it is difficult to draw definite conclusions, as the studies vary according to the aspect of stigma measured, the vignettes and stigma scales used, and cultural differences between the countries studied.
Table 4-4: Studies of the association between unprompted labelling of vignettes of mental disorders and stigma

<table>
<thead>
<tr>
<th>Author</th>
<th>Study population</th>
<th>Vignettes</th>
<th>Stigma components</th>
<th>Labels examined</th>
<th>Direction of relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angermeyer et al., 2009</td>
<td>Adults 18 years + Eastern Germany 1993 and 2001</td>
<td>Schizophrenia (DSM IIIR) Depression (DSM IIIR)</td>
<td>Social Distance (Link et al., 1987), seven items</td>
<td>• Accurate label - depression or schizophrenia</td>
<td>Schizophrenia vignette Schizophrenia +ve for rejected as tenant, less likely to be recommended for a job, n.s. for other five items</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Depression vignette Depression +ve for rejected as a carer, n.s. for other six items</td>
</tr>
<tr>
<td>Jorm et al, 2008</td>
<td>Adults, 18 years + Australia</td>
<td>Early and chronic schizophrenia (DSM IV) Depression with and without suicidal thoughts (DSM IV)</td>
<td>Social distance (Link et al. 1999), five items Personal stigma (Griffiths et al., 2006) One item - dangerousness</td>
<td>• Accurate label - depression or schizophrenia • Nervous breakdown • Mental illness • Psychological/mental/emotional problems • Stress • Has a problem</td>
<td>Schizophrenia vignettes Psychological/mental/emotional problem +ve for social distance. Schizophrenia +ve for dangerousness n.s. other labels Depression vignettes n.s. all labels</td>
</tr>
<tr>
<td>Kermode et al., 2009</td>
<td>Adults, 18 years + India</td>
<td>Psychosis Depression</td>
<td>Social distance (Link et al., 1999) five items</td>
<td>• Depression • Brain/mind problem • Mental illness • Psychological/mental/emotional problem • Stress</td>
<td>Psychosis vignette +ve for brain/mind problem -ve for depression, mental illness, psychological emotional problem n.s. stress Depression vignette -ve for stress n.s. all other labels</td>
</tr>
<tr>
<td>Wang et al., 2008</td>
<td>Adults 18 years + Canada</td>
<td>Depression (DSM IV)</td>
<td>Personal stigma (Griffiths et al., 2004) nine items</td>
<td>• Accurate label - depression</td>
<td>Males Depression -ve association with could snap out of it, sign of personal weakness, not a real medical illness n.s for other six items Females Depression -ve association with not vote for politician with the problem, would not employ someone with the problem, sign of personal weakness, not a real medical illness n.s for other five items</td>
</tr>
</tbody>
</table>
4.6 Conclusions regarding unprompted labelling studies

Whilst a range of labels are used to describe mental disorders, accurate labelling is most strongly associated with a choice of and a belief in the helpfulness of professionally recommended sources of help. Furthermore, labelling is modifiable. Intensive and targeted community education efforts have been found to improve it. However, this improvement may come at a price, as some labels are associated with stigma that may outweigh the benefits of labelling for help-seeking. However, more information is required to draw clear conclusions and before this knowledge can be applied to increase help-seeking in young people. The following section examines the gaps in the literature and the research questions developed to address them.

4.7 Summary of background chapters and areas for further research

Taken together, the argument of chapters 1 to 4 is that mental disorders are common and have serious consequences for young people. Treatments are available that can potentially minimize their negative impact, however many young people do not seek help. If they do, this may only occur after significant delay, during which time substantial deterioration and interruption to their developmental trajectory can occur. Many studies have examined factors that influence help-seeking in young people with a view to improving help-seeking. Improving effective labelling of mental disorders when they emerge offers promise as a means of improving help-seeking as it is modifiable. It has been found to be associated with effective help-seeking choices, and, as models of help-seeking suggest, is likely to be a hub in the representation of illness that draws all points of illness representation together to enable the effective formation of action plans regarding help-seeking.
Although there is potential for labelling to improve recognition and help-seeking for mental disorders in the young, more evidence is required regarding the use of labels in this age group to inform the development of appropriate interventions.

Studies to date reveal that a range of labels are used to describe mental disorders, however the majority of these have focused on accurate labelling alone. Little is known about the nature of inaccurate labels young people use, how common they are, and the benefits or harms associated with them. For example, it may be that inaccurate labels are adequate in themselves in facilitating help-seeking without impacting on stigma.

In regard to the nature of labelling, it cannot be assumed that factors that influence it will be static during adolescence and young adulthood. This is a period of life in which increasing exposure to mental disorders in both self and peers may occur (Kessler, Amminger, et al., 2007). There is also a great deal of cognitive maturation and academic learning occurring that may affect labelling.

No studies to date have examined how labelling emerges, how it evolves in adolescence and young adulthood, and what factors might influence this development. Parental involvement in young people’s lives is also changing and evolving during this life stage. The influence of parental knowledge and beliefs on young people’s mental health literacy has been reported (Jorm & Wright, 2007, 2008), and they are an important source of knowledge that informs the process of labelling and illness representation (Leventhal, et al., 1980). However, to date, the influence of parental factors on labelling has not been investigated.

Up to the present time, all studies, including those examining the beliefs of young people have examined prompted help-seeking recommendations for the person described in the vignette. However, it is also important to examine unprompted responses about help-seeking recommendations, as these are more likely to reflect actual help-seeking behaviour rates as reported in epidemiological surveys as opposed to prompted beliefs or endorsements of closed-ended questions (Pescosolido & Olafsdottir, 2010). Whilst the only study of labelling
and help-seeking by young people did examine unprompted responses regarding recommended sources of help to some degree, it was in regard to the person described in the vignette. Although this approach is important, it cannot be assumed to reflect a young person's own help-seeking intentions, as responses about a peer may be affected by optimism bias, that is, a belief that one is less susceptible to a negative event than others (Raviv, Raviv, Vago-Gefen, & Fink, 2009; Spendelow & Jose, 2010). Hence, responses that relate to the respondents themselves are also important.

In relation to stigma, a range of labels in common use has been examined, partially because of the debate regarding the association between the use of labels and stigma. However, the associations with the different aspects of stigma have been variably examined. Social distance has been the most commonly examined, whereas very few studies have examined personal stigma and none have examined perceived stigma. Due consideration needs to be given to different forms of stigma and their relationship with labels, as earlier studies of youth indicate that the association between stigma and help-seeking varies according to the aspect of stigma examined (e.g. Yap, et al., 2010)).

Depression and psychotic disorders have dominated studies of labelling to date. The investigation of other disorders is important in order broaden the potential application of findings. In particular, labelling of anxiety disorders has been completely neglected, despite their status as the most prevalent of all disorders in this age group (Australian Bureau of Statistics, 2007b) and delays into treatment being the longest (Thompson, et al., 2008; P. S. Wang, et al., 2007). Social phobia (5.4%) is amongst the most prevalent of the anxiety disorders, being second only to post-traumatic stress disorder (PTSD) (7.7%) for this age group (Australian Bureau of Statistics, 2007a). An examination of social phobia is considered preferable to PTSD, as its diagnosis relies on the presentation of varied symptoms in a similar way to depression and psychosis. Whereas PTSD, by its nature, needs to be considered in the context of a traumatic event (DSM IV), and this greatly influences lay labelling (Spoont, et al., 2009). Furthermore, just as labelling has been found to differ between disorders in both young people and
adults, it is possible that the development of labelling during adolescence and young adulthood may differ between disorders.

### 4.8 Thesis research questions

In response to the gaps that have been identified in the literature on labelling of mental disorders by young people, a series of questions were developed and addressed in this thesis. They are:

1. What labels and terms do young people aged 12 to 25 years use to describe a range of mental disorders – depression, psychosis and social phobia?
2. How does label use vary according to age and gender, and what other factors influence label use?
3. Which labels are associated with a preference for forms of help recommended by professionals?
4. Is there an association between label use and stigmatising beliefs?

The approach for addressing these questions is described in the next chapter on the study method.
5 Method

The thesis research questions detailed in Section 4.8 were addressed by the analysis of data from a vignette-based mental health literacy telephone survey. This survey was conducted with a national sample of young people aged 12 to 25 years using a cross-sectional study design. In this chapter, a justification of the method is outlined, and an overview of the development of the questionnaire is described. This is followed by details regarding the sample, interview, measures used and the structure of the data analysis. Some key results from the survey, which are important to the design of this study have been reported by others involved in the survey. Pertinent details from these papers will be covered in this (Method) chapter. Outcomes from the analyses conducted as part of this thesis are described in the Chapters 6, 7 & 8 (Results).

5.1 Justification of method selection

The use of a vignette-based mental health literacy survey affords the opportunity to look at how people might hypothetically label mental disorders when they first present. This approach has been used extensively in the study of labelling of mental disorders (see Section 4.2). As outlined in Section 4.2, a vignette of a person experiencing a mental health problem provides a stimulus following which a series of questions can be asked, such as what they think the nature of the problem is (the label), what help would be effective and the stigmatizing beliefs held in relation to the person described. Both unprompted and prompted responses can be recorded in relation to these questions (for examples see Appendix A, B2 for an unprompted help-seeking question, D1 for a prompted help-seeking question). As discussed in Chapter 4 (Sections 4.2.1), the specific value of eliciting unprompted responses regarding the label applied to the problem is that the response is more likely to reflect the experience of recognizing and labelling a mental disorder as it occurs in the real-life process of
help-seeking (Leventhal, et al., 2011; Pescosolido & Olafsdottir, 2010). Eliciting unprompted labels also allows for an analysis of the specific labels a person might use. The association of each of these labels used with a range of help-seeking choices and stigmatising beliefs can then be compared.

5.2 Development of the questionnaire

The data examined in this thesis were from the Australian National Survey of Youth Mental Health Literacy, a computer-assisted telephone survey of 3746 Australians aged 12-25 years, conducted in 2006 (Jorm, et al., 2007a). The Chief Investigators for this survey were Prof. Anthony Jorm and the thesis author. The survey questionnaire (see Appendix A) was based on a questionnaire originally developed for use in a face-to-face national survey of adults conducted in 1995 by Jorm and colleagues (1997). This adult survey was a vignette-based questionnaire that described a person experiencing either depression or psychosis and was followed by a series of questions relating to mental health literacy. The questionnaire was then modified slightly by the thesis author for a computer-assisted telephone interview (CATI) survey of young people aged 12 to 25 years in a regional study that also used vignettes of depression and psychosis (Wright, et al., 2005). A study by Kelly and colleagues (2006) also modified the adult questionnaire for younger respondents. This was a written response survey of secondary school students in years 8, 9 and 10 using vignettes of depression and conduct disorder. However, there were no data available on the mental health literacy of young people at a national level—the kind needed to inform national policy and program development—hence the National Survey of Youth Mental Health Literacy was developed.

The National Survey of Youth Mental Health Literacy is built on the concepts and measures developed in the preceding surveys and addressed major gaps in knowledge at the time. These gaps related to a lack of knowledge of young people’s mental health literacy in relation to anxiety disorders and comorbid presentations of depression and substance use, which are amongst the most
common mental disorders in this age group (Australian Bureau of Statistics, 2007b). The use of an accompanying survey of co-resident parents was a novel addition, acknowledging the potentially important role that parents play in influencing the mental health literacy of their offspring. Other additions included an expanded examination of help-seeking intentions, particularly the addition of an unprompted help-seeking question near the start of the survey, questions relating to mental health first aid knowledge (Kitchener & Jorm, 2002) and the inclusion of the Kessler Psychological Distress Scale (K6) (Kessler, et al., 2002). The inclusion of these additional items in the questionnaire and the overall survey design were partially informed by earlier work of the thesis author in relation to labelling and early detection of mental health problems in young people (Wright, et al., 2005; Wright, et al., 2007; Wright, et al., 2006). In addition, the questionnaire and survey design were developed with the intent that the aspects of the survey related to labelling would be suitable for use in the author's PhD thesis.

Ethics approval for implementation of the survey was obtained from the Human Research and Ethics Committee of The University of Melbourne in May 2006. Participants were not compensated for their participation.

5.3 Sample

The survey company The Social Research Centre conducted a computer-assisted survey of 3746 Australians aged 12-25 years on behalf of the Chief Investigators, Prof. Anthony Jorm and the thesis author. The sample was contacted using random-digit dialling to cover all of Australia during June to August 2006. Up to nine calls were made to establish contact. Interviewers ascertained whether there was more than one resident in the household within the age range and, if there were multiple, selected the one with the most recent birthday. Respondents were eligible if they were aged 12-25 years, able to understand and communicate in English and, if under 18 years, a parent or guardian consented to their participation. If the young person lived with a parent who was able to
understand and communicate in English, then one parent was also invited to be interviewed using the most recent birthday method.

From the random-digit dialling database, 153942 calls were made. Just over half of these, 77951 (50.6%), were unusable, as they were businesses, fax machines, modems, or disconnected numbers. No contact was made with a further 20390 (13.2%) due to no answer, answering machine or engaged. A further 10833 (7%) could not have their scope status confirmed due to household refusal or because an appointment made to screen the household was not later needed as the sample quota for each vignette had been reached. Of the remaining potential participants, 38681 (25.1%) were confirmed as out of scope, leaving 6087 (4%) potential participants. The final response rate was 61.5%, defined as completed interviews (3746) out of a sample of 6087 potential participants.

Of the total sample of young people, 2925 lived with a parent (78.1%), and 2005 of these households had a parent complete an interview, giving a parent response rate of 68.5%. The sub-sample of young people with a parent in the household was younger on average than the total sample (mean age 16.5 years v. 18.2 years).

There was little variation in response rate by geographic region (State), with response rates ranging from 57.4% to 69.9%, and a very small difference in response rate between metropolitan (61.6%) and regional/rural (61.3%) locations. The age and gender differences between responders and non-responders are not available, as the respondents’ specific age and gender could not be determined before in-scope status was established. However, the age and gender proportions in the sample are similar to the national population: 43.6% of 12-17 year olds in the sample compared to 42.4% in the population, and 47.9% of males in the sample compared to 51.2% in the population.

There were 835 males and 798 females in the age group 12-17 years, and 958 males and 1155 females in the 18-25 year age group. The mean age for the 12-17 year age group was 14.64 (SD=1.67) and for the 18 to 25 year age group the
mean was 21.01 (SD=2.27). Of the whole sample of young people, 52.1% were female, 16.6% spoke a language other than English at home, and 3.3% were of Aboriginal and/or Torres Strait Islander origin.

For the parent sample, the majority were in the age group 40-49 (55.7%), 68.9% were female, 11.8% spoke a language other than English at home, 1.9% were of Aboriginal and/or Torres Strait Islander origin, and 40.6% had an education level of degree or diploma or higher. In regard to parent occupation, 49.9% were working full-time, 30.4% were working part-time, 2.1% were unemployed, 4.6% were studying and 17.8% were principally employed in home duties.

5.4 The Interview

The interview (see Appendix A) was based on a vignette of a young person with a mental disorder (Jorm, et al., 2007a). On a random basis, respondents were read one of four vignettes: depression, depression with alcohol misuse, social phobia and psychosis. Only one vignette was used per respondent to avoid carry over effects from one vignette to the next, and to minimize the likelihood of respondent attrition due to excessive interview length. The vignettes were written to satisfy DSM-IV (American Psychiatric Association, 1994) criteria for their respective mental disorders. This thesis focuses on the depression (n=929), psychosis (n=968) and social phobia (n=905) vignettes only. This is because these vignettes represent single diagnostic groups, whereas the fourth vignette described a co-morbid diagnosis, depression and substance misuse, which potentially complicated the investigation of labelling, as two labels would be required, making comparisons with the other vignettes that focus on a single diagnosis problematic. Hence the fourth vignette was not included.

Respondents were read a vignette of the same gender and age group as their own. Respondents aged 12-17 years were read a version of the vignette describing a 15 year old and 18-25 year olds were read a version of the vignette portraying a 21 year old. The details of the vignette were altered slightly to be
age appropriate (e.g. reference to functioning at school vs. on a course). Parents interviewed were read the same vignette as their child. The three 15 year old male vignettes are provided here as examples.

5.4.1 The Vignettes

Depression vignette

"John is a 15 year old who has been feeling unusually sad and miserable for the last few weeks. He is tired all the time and has trouble sleeping at night. John doesn't feel like eating and has lost weight. He can't keep his mind on his studies and his marks have dropped. He puts off making any decisions and even day-to-day tasks seem too much for him. His parents and friends are very concerned about him."

Psychosis vignette

"John is a 15 year old who lives at home with his parents. He has been attending school irregularly over the past year and has recently stopped attending altogether. Over the past six months he has stopped seeing his friends and begun locking himself in his bedroom and refusing to eat with the family or to have a bath. His parents also hear him walking about in his bedroom at night while they are in bed. Even though they know he is alone, they have heard him shouting and arguing as if someone else is there. When they try to encourage him to do more things, he whispers that he won't leave home because he is being spied upon by the neighbour. They realize he is not taking drugs because he never sees anyone or goes anywhere."

Social phobia vignette

"John is a 15 year old living at home with his parents. Since starting his new school last year he has become even more shy than usual and has made only one friend. He would really like to make more friends but is scared that he'll do or say something embarrassing when he's around others. Although John's work is OK he rarely says a word in class and becomes incredibly nervous, trembles, blushes and seems like he might vomit if he has to answer a question or speak in front of the class. At home, John is quite talkative with his family, but becomes quiet if anyone he doesn't know
well comes over. He never answers the phone and he refuses to attend social gatherings. He knows his fears are unreasonable but he can’t seem to control them and this really upsets him.”

5.4.2 Questions related to the vignette

After being read the vignette, respondents were asked a series of questions to assess a number of areas, including their labelling of the disorder in the vignette; what they would do to seek help if they had the problem; beliefs about interventions, stigmatizing beliefs and social distance; the six-item version of the Kessler Psychological Distress Scale; exposure to mental disorders and media campaigns about mental health; and socio-demographic characteristics. Parents were asked a subset of the same questions as their child with changes in wording to reflect the parent’s perspective.

Whilst many questions were included in the questionnaire (see Appendix E), this thesis focused on the questions from the youth survey that related to the research questions described in section 4.7. These covered label use, help-seeking and stigma, and factors known to be associated with them including age, gender, education, ethnicity, exposure to mental disorders and exposure to mental health campaigns, and for parents, level of education and label use. Following is a detailed description of the questions related to these factors.

5.5 Measures

5.5.1 Label use

Presentation of the vignette was followed by an open-ended question asking “What, if anything, do you think is wrong with John (male version) / Jenny (female version)?” for which unprompted responses were recorded. Interviewers recorded responses according to a set of pre-coded response categories (depression, schizophrenia, psychosis, mental illness, stress, nervous
breakdown, psychological/mental emotional problem, has a problem, cancer, nothing, don’t know) These response categories were derived from a content analysis of responses in pilot interviews conducted by the Australian Bureau of Statistics for the adult National Survey of Mental Health Literacy (Jorm, et al., 1997) and responses to the same question in the surveys of young people (Kelly, Jorm, & Rodgers, 2006; Wright, et al., 2005). Responses that did not fit the pre-coded response categories were transcribed verbatim.

5.5.2 Help-seeking

Respondents were then read a range of help-seeking questions that included two components. Firstly, there was a question to ascertain the respondent's unprompted help-seeking intentions if they had a problem like the one in the vignette as an indicator of the kind of help they might seek of their own accord. Secondly, there was a series of questions that sought their opinion about the helpfulness of a range of different sources of help and treatment for the person described in the vignettes in order to measure acceptability of sources of help and various treatments.

5.5.2.1 Unprompted help-seeking intentions/preferences

Following the labelling question, the young people were asked “If you had a problem right now like (John/Jenny), would you go for help?” Responses were coded as either “yes”, “no”, “don’t know” or “refused”. Respondents who answered “yes” to this question were then asked “Where would you go?” for which unprompted responses were recorded. Interviewers recorded responses according to pre-coded response categories which specified the source of help that the respondent would seek help from: both parents, mother, father, other person (which was then specified), a service (which was then specified). The unprompted sources of help regarding “other person” and “service” that were examined in this thesis were selected based on a consensus of mental health professionals regarding which interventions are likely to be helpful for the young
people portrayed in the vignettes. Details regarding this consensus process are described in detail in the following section (Section 5.5.2.2).

5.5.2.2 Prompted help-seeking and treatment beliefs

Whilst a broad range of help-seeking and treatment items were covered in this series of prompted help-seeking questions, those analysed in this thesis are based on a consensus of mental health professionals about which interventions are likely to be helpful for the young people portrayed in the vignettes. This consensus was derived from the results of a corresponding postal survey of health professionals (GPs, psychologists, psychiatrists and mental health nurses) conducted between September 2006 and January 2007 to determine the sources of help, treatment options and self-help actions that professionals recommended for the person described in the vignettes used in this survey (Jorm, Morgan, & Wright, 2008a, 2008b). The sources of help, treatment and self-help action examined in this thesis were endorsed by at least 70% of clinicians for at least one of the vignettes (see Table 5.1).

The first prompted help-seeking question was: “There are a number of people who could possibly help John/Jenny. I’m going to read out a list and I’d like you to tell me whether they would be helpful, harmful or neither to John/Jenny”. Then a list of professionals and services was read out: a general practitioner or family doctor, a counsellor, a telephone counselling service such as Kids Helpline/Lifeline (the former used for those aged 12-17 years and the latter for those aged 18-25 years), a psychologist, and a psychiatrist.

The same helpfulness rating scale was used for two further sets of questions. The young person was asked “Do you think the following medicines are likely to be helpful, harmful or neither for John/Jenny? Again, if you are unsure, that’s fine, just let me know”. A range of medicines was read out including antidepressants and antipsychotics. This was followed by the question “Do you think the following are likely to be helpful, harmful or neither for John/Jenny?” A range of
actions were read out including: becoming physically more active, getting relaxation training, receiving counselling, receiving cognitive behaviour therapy (CBT), joining a support group of people with similar problems, going to a local mental health service, and practicing meditation, as well as cutting down on use of alcohol, cigarettes and marijuana.

Table 5-1: Summary of interventions considered helpful by more than 70% of clinicians: percent endorsing (adapted from (Jorm, et al., 2008a, 2008b))

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<tr>
<td>Professionals</td>
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<tr>
<td>GP</td>
<td>90</td>
<td>90</td>
<td>89</td>
<td>93</td>
<td>75</td>
<td>78</td>
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<tr>
<td>Counselor</td>
<td>81</td>
<td>76</td>
<td></td>
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<tr>
<td>Psychologist</td>
<td>86</td>
<td>90</td>
<td>73</td>
<td>75</td>
<td>93</td>
<td>92</td>
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<tr>
<td>Psychiatrist</td>
<td>77</td>
<td>86</td>
<td>94</td>
<td>96</td>
<td>71</td>
<td>75</td>
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<tr>
<td>Telephone counseling service</td>
<td>79</td>
<td>72</td>
<td></td>
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<tr>
<td>Medications</td>
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<tr>
<td>Antidepressants</td>
<td>76</td>
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<tr>
<td>Antipsychotics</td>
<td></td>
<td>80</td>
<td>88</td>
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<tr>
<td>Actions</td>
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<tr>
<td>Physical activity</td>
<td>80</td>
<td>82</td>
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<tr>
<td>Cognitive behavior therapy</td>
<td>78</td>
<td>79</td>
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<td></td>
<td>86</td>
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<tr>
<td>Counseling</td>
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<td>81</td>
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<tr>
<td>Relaxation training</td>
<td>71</td>
<td>73</td>
<td></td>
<td></td>
<td>93</td>
<td>92</td>
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<tr>
<td>Support Group</td>
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<td>78</td>
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<tr>
<td>Mental health service</td>
<td>70</td>
<td>77</td>
<td>92</td>
<td>93</td>
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<tr>
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<td>80</td>
<td>82</td>
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<tr>
<td>Cut down alcohol</td>
<td>92</td>
<td>94</td>
<td>91</td>
<td>85</td>
<td>83</td>
<td>82</td>
</tr>
<tr>
<td>Cut down cigarettes</td>
<td>77</td>
<td>73</td>
<td></td>
<td></td>
<td>84</td>
<td>78</td>
</tr>
<tr>
<td>Cut down marijuana</td>
<td>94</td>
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<td>91</td>
<td>94</td>
<td>89</td>
<td>90</td>
</tr>
</tbody>
</table>
5.5.3 Stigma

Concerning stigma, a series of questions were asked to examine personal and perceived stigma and social distance, facets of stigma previously described in Chapter 4. Personal and perceived stigma were measured using scales adapted for youth (Jorm, Kitchener, Sawyer, Scales, & Cvetkovski, 2010; Jorm & Wright, 2008; Reavley & Jorm, 2011) from adult scales developed by Griffiths and colleagues (Griffiths, et al., 2004; Griffiths et al., 2006).

In regard to personal stigma, participants indicated on a five point Likert scale (1 - strongly disagree, 5- strongly agree) the degree to which they personally agreed with the following statements: (John/Jenny) could snap out of it if (he/she) wanted to; (John’s/Jenny’s) problem is a sign of personal weakness; (John’s/Jenny’s) problem is not a real medical illness; (John/Jenny) is dangerous; It is best to avoid (John/Jenny) so that you don’t develop this problem yourself; (John’s/Jenny’s) problem makes (him/her) unpredictable; You would not tell anyone if you had a problem like (John's/Jenny’s).

For perceived stigma the same statements were used except each statement was preceded by “Most people believe that...”, with the exception of the final statement “Most people would not tell anyone if they had a problem like (John’s/Jenny’s)”.

Social distance was measured using a scale adapted for youth (Jorm & Wright, 2008; Kelly & Jorm, 2007) from a scale developed for adults (Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999). Respondents were asked to rate on a four point Likert scale (1- yes, definitely, 4 – definitely not) whether they would be happy to spend time with the person described in the vignettes in the following circumstances: To go out with (John/Jenny) on the weekend; To work on a project with (John/Jenny); To invite (John/Jenny) around to your house; To go to (John’s/Jenny’s) house; Would you be happy to develop a close friendship with (John/Jenny)?
The stigma outcome variables derived from these questions and used in this thesis were based on stigma components developed from a principal components analysis of the responses to the three stigma scales. This analysis is described in a related study examining stigmatizing beliefs in young people and their parents (Jorm & Wright, 2008). In brief, four principal components were identified independently in both samples of young people and parents, and a single item about personal reluctance to disclose which did not load on any of the components and was considered separately. These principal components have been replicated in a separate sample (Reavley & Jorm, 2011).

The stigma scales based on summing the items with high loadings derived from the principal components analysis were as follows:

- **social distance** – derived from all items on the social distance scale (Cronbach’s α = 0.86)
- **dangerous/unpredictable** – derived from the items “the person is unpredictable”, “the person is dangerous” from the personal and perceived stigma scales (α = 0.68)
- **weak not sick** – derived from the items “could snap out of it”, “the problem is a sign of personal weakness”, “the problem is not a real medical illness”, “it is best to avoid the person” from the personal stigma scale (α = 0.68)
- **stigma perceived in others** - derived from the items “could snap out of it”, “the problem is a sign of personal weakness”, “the problem is not a real medical illness”, “it is best to avoid the person”, “you would not tell anyone if you had a similar problem” from the perceived stigma scale (α = 0.67)
- **reluctance to disclose** – is based on the item “you would not tell anyone if you had a similar problem” from the personal stigma scale.

The four stigma scales and the reluctance to disclose item were dichotomized at their medians, because some of the components had very skewed distributions, with higher scores indicating more stigmatizing views.
5.5.4 Exposure to mental disorders and mental health information

A series of questions was asked to ascertain personal exposure to mental disorders. Respondents were asked: “Has anyone in your family or close circle of friends ever had a problem similar to John’s/Jenny’s?”, “Have they received professional help or treatment for these problems?” (family/friend history), and “Have you ever had a problem similar to John’s/Jenny’s?”, “Have you received any professional help or treatment for these problems?” (personal history). In regard to exposure to media campaigns about mental health, respondents were asked “Have you seen, read or heard any advertisements about mental health problems in the past 12 months?” (mental health advertising), “In the past 12 months, have you received any information about mental health problems from your teachers (12-17 year olds)/ workplace/TAFE (Technical College)/University (18-25 year olds)?” (school/work mental health information), and “Have you heard of beyondblue: the national depression initiative?” (national depression initiative). All exposure questions coded the responses as either “yes”, “no”, “don’t know” or “refused”.

5.5.5 Socio-demographic information

Finally, respondents were asked a range of socio-demographic questions to ascertain their age, gender, and language spoken at home as an indicator of ethnicity (English vs. other language). Parent respondents were also asked to indicate their highest level of education. Level of education of the youth respondents was not recorded due to the high correlation of years of education with age in this age range. Instead, parental education level was used as a proxy measure of the young person’s exposure to an educationally stimulating environment.
5.6 Data analytic techniques

The data analysis was guided by the four research questions, and these questions form the subheadings of this section. All analyses were carried out using Statistical Package for the Social Sciences (SPSS) versions 17.0 and Predictive Analytics SoftWare (PASW) Statistics version 18.0.

5.6.1 What labels and terms do young people aged 12 to 25 years use to describe a range of mental disorders – depression, psychosis and social phobia?

Only the accurate label and the four most common labels for each vignette are examined here, as these are the labels most commonly used in the community and therefore the findings that relate to these are most relevant. Furthermore, selecting the most common responses ensures adequate cell size for all analyses. Accurate labelling is defined as those labels that approximate the DSM-IV diagnostic label upon which the vignettes were based and validated.

5.6.1.1 Validation of Accurate Vignette Labels

To validate the capacity of the vignettes to accurately convey the intended depiction of their respective DSM-IV diagnoses, data from the postal survey of health professionals described earlier (Section 5.5.2.2) was used to determine the diagnosis professionals gave to the person described in the vignettes (Jorm, et al., 2008a, 2008b). For simplicity, only data related to psychiatrists' and psychologists' diagnoses of the depression, psychosis and social phobia vignettes were analysed. In brief, clinicians were sent a version of the youth mental health literacy questionnaire to assess face validity of the vignette and concordance with diagnostic criteria. The surveys were sent to the 428 psychiatrists listed in the Medicare Provider File, which lists all registered medical practitioners in Australia, and a random sample of 500 psychologists listed in the Australian Psychologists Registration Board’s online database of registered psychologists for the state of Victoria. Only the male version of the vignettes were used and the age of the person depicted was randomly assigned to be either 15 or 21 years of
age. Two lines were provided for a response to the open-ended question “What if anything do you think is wrong with John?” Responses of participants were coded according to DSM-IV chapter according to whether they noted the presence of a mood disorder, schizophrenia or other psychotic disorder, or an anxiety disorder.

5.6.1.2 Reliability of the post-coding of labels

Whilst some unprompted responses to the labelling question “What, if anything, do you think is wrong with John (male version) /Jenny (female version)?” were recorded according to pre-coded response categories, a content analysis of responses that did not fit the pre-coded categories led to post interview coding of 56 other categories as part of the establishment of the survey database. Many of these responses were used in labelling the vignette protagonist’s problem in the social phobia vignette, which had not been used in previous surveys. The post-coded response categories that were amongst the four most common and the most accurate responses for each vignette are described here, as these are the focus of analysis in this thesis. They included “anxiety” (which included the label anxious), “anxiety disorder”, “drugs”, “eating disorder” (which included the labels anorexia, bulimia, eating disorder), “low self-confidence/low self-esteem”, “physical problem” (which included the labels glandular fever, chronic fatigue syndrome, diabetes), “shy” and “social phobia” (which included the label social anxiety).

To ensure the reliability of the post-coding process, an analysis was undertaken to measure inter-rater agreement in regard to the uncoded response categories. A second rater reviewed a random sample of 100 uncoded responses to the above question for each of the three vignettes and coded these responses according to the 56 post-coded response categories. Responses that were assigned to the pre-coded response categories were excluded. The selected 300 uncoded responses were randomly ordered and the second rater was blinded to the vignette upon which the responses were based. The Kappa measure of agreement was calculated for two sets of 300 responses.
5.6.1.3 Frequency of label use

To establish the nature and frequency of labels used by young people, the frequency of accurate labelling and use of all other labels to describe the vignettes, were analysed using percent frequencies for each of the three vignettes.

5.6.1.4 Number of labels used per respondent

Multiple responses were accepted for the labelling question and some respondents used more than one label to describe the problem in the vignette. Hence a further analysis of the number of different labels used to identify the problem in the vignette per respondent was conducted to provide a measure of population uncertainty in regard to labelling of the three disorders described. The frequency distribution of the number of respondents who used one through to five or more labels was examined. A further analysis was undertaken to determine whether number of labels used varied according to age, gender or vignette. Because the distribution of number of labels was highly skewed, non-parametric Mann-Whitney U and Kruskal-Wallis tests were used.

5.6.2 How does label use vary according to age and gender, and what other factors influence label use?

5.6.2.1 Frequency of label use according to age and gender

To examine whether label use varied according to age and gender, differences in rates of labelling according to these factors were analysed using percent frequencies.
5.6.2.2 Variation in exposure to mental disorders and campaigns according to age and gender

Variation in exposure to mental disorders and campaigns according to age and gender for the whole sample of young people was also examined. Rates of reported exposure to the five exposure variables (family/friend history, personal history, national depression initiative, school/work mental health information, mental health advertising) were analysed according to age and gender using percent frequencies.

5.6.2.3 Factors associated with label use

Following these descriptive analyses, univariate analyses were used to examine individual associations, for each of the three vignettes, between label use and each of the known predictors for label use to ascertain what other factors might be associated with label use. The dependent variables were the accurate label and the four most common labels for each vignette. The predictor variables were those variables shown in earlier studies to be associated with labelling (Section 4.5.1.4), that is, the socio-demographic variables which include age, gender, and language spoken at home; the exposure to mental disorder variables which were exposure through family and friends who have experienced disorder and received help (family/friend history) and exposure to mental disorder and receipt of help in oneself (personal history); and the campaign exposure variables which were exposure to mental health advertising (mental health advertising), exposure to mental health information delivered through school or the workplace and (school/work mental health information) exposure to beyondblue: the national depression initiative,( for simplicity hereafter referred to as “the Australian national depression initiative” or when referred to in tables “national depression initiative”). All the predictor variables were dichotomous, except for age (12-25 years), which was analysed as a continuous variable.
Multipredictor logistic regression analyses were then used to examine which of these predictors remained significant in their association with each of the five label outcome variables.

### 5.6.2.4 Parent factors associated with label use

For the sub-sample of young people who had one of their parents respond, an additional set of univariate and multipredictor logistic regression analyses were conducted to examine the influence of parent characteristics (parent education level and label used by parent) on the child’s use of labels. This is the only analysis that used the parent data. The aim was to determine whether parent education level, as a proxy measure of level of education or exposure to exposure to an educationally stimulating environment, influenced label use given that level of education has been associated with label use (see Table 4.3). *Parent label use* was also included as a covariate to determine whether exposure to label use by parents influences a young person’s label use in much the same way as exposure to mental health information has found to be associated with label use (see Table 4.3). *Parent education level* was dichotomised according to “degree/diploma or higher” versus “other”, and *parent label* used the same list of the most accurate and four most common labels identified by the young people for each vignette. The multipredictor logistic regression analyses were repeated with this sub-sample using the same process and variables described above with the addition of the two parent predictor variables (parent education and parent label).

### 5.6.3 Which labels are associated with a preference for forms of help recommended by professionals?

The principal form of analysis to address this question was a series of single and multipredictor binary logistic regression analyses to examine the association between label use and help-seeking preferences whilst controlling for other known predictors of help-seeking. The accurate and most common labels for each vignette were the predictor variables of primary interest.
The covariates in the logistic regression analyses were the socio-demographic factors known to be associated with help-seeking, that is age, gender and language spoken at home (ethnicity) (see Tables 2.1-2.4). All predictor variables were dichotomous except for age (12 to 25 years), which was analysed as a continuous variable.

In regard to the unprompted help-seeking items, some responses were combined with others due to their low frequency. The unprompted help-seeking items (and their sample frequencies) were: family member, which included both parents (23.5%), mother (8.3%), father (0.9%), and other family member (7%); friend (15.6%); doctor/General Practitioner (20.5%); counsellor (15.1%); and mental health specialist, which included mental health service or clinic (0.9%), psychiatrist (2.3%), psychologist (2.6%), and other mental health professional (0.8%).

The prompted help-seeking outcome variables regarding helpfulness of professionals and services were general practitioner (GP), counsellor, a telephone counselling service, psychologist, and a psychiatrist and the prompted helpful medication outcome variables were antidepressants and antipsychotics. The prompted treatment or self help-action outcome variables were physical activity, relaxation training, counselling, cognitive behaviour therapy (CBT), support group, mental health service, as well as cutting down alcohol, cutting down cigarettes and cutting down marijuana. These items were dichotomized for the analysis into “helpful” versus “other responses”.

Univariate binary logistic regression analyses examined the association between each of the predictor variables and each of the help-seeking outcome variables.

Multipredictor binary logistic regression analyses were then used to examine which of the predictor variables remained significant in their association with each of the help-seeking and treatment outcome variables, adjusting for other predictors and covariates.
5.6.4 Is there an association between label use and stigmatising beliefs?

The means of the stigma scales for each of the vignettes were examined as an indicator of the overall level of stigmatizing beliefs held by the respondents.

Binary logistic regression analyses were then used to estimate the association between each of the five stigma scales described earlier (Section 5.5.3) and use of the accurate and most common labels for each vignette. Again, the inclusion of multiple labels accommodated the nomination by some respondents of more than one label to describe the vignette. Socio-demographic factors potentially associated with stigma were included as covariates, that is, age, gender, and language spoken at home as a measure of ethnicity (Angermeyer & Dietrich, 2006; Jorm & Oh, 2009). Univariate binary logistic regression analyses examined the association between each of the predictor variables and each of the stigma scales. Multipredictor binary logistic regression analyses were then used to examine which of the predictor variables remained significant in their association with each of the stigma outcome variables taking into account possible confounding effects. Each model included use/non-use of the five most common labels elicited by the vignette including the accurate label, and socio-demographic variables. All predictors were dichotomous except for age (12 to 25 years).

5.6.5 Correlations between predictor variables used in the logistic regression analyses

A check was carried out for multicollinearity of the predictor variables by examining the degree of correlation between the predictors used for each of the logistic regression analyses. For each of the three vignette sub-samples, factors examined in the correlation matrix included the accurate and four most common labels, given that some respondents used more than one label to describe the problem in the vignette. Other factors included were the socio-demographic factors of age, gender and language spoken at home, and the exposure variables,
that is, exposure through family and friends who have experienced disorder and received help (family/friend history), exposure to mental disorder and receipt of help for oneself (personal history), and exposure to mental health advertising, exposure to school/work mental health information and exposure to the national depression initiative.

Using Cohen’s guidelines regarding correlation strength (Cohen, 1988), no large correlations were found between predictors. There was a medium correlation between personal history and family/friend history for each of the vignettes for the main sample of young people and the sub-sample of those who had a paired parent interview (main sample: depression 0.36, psychosis 0.32, social phobia 0.37; paired parent sub-sample: depression 0.33, psychosis 0.36, social phobia 0.39). All other correlations were small or very small, which led to the conclusion that for the logistic regression analyses, multicollinearity was not a problem.

5.7 Chapter summary

This chapter has outlined the cross-sectional study design of this thesis, which is based on the data from the vignette-based National Survey of Youth Mental Health Literacy. The nature of the questionnaire design allows for a detailed examination of the range of labels used by young people and factors influencing their use, as well as how these labels might be associated with different types of help-seeking choices and stigmatizing beliefs. The following three chapters describe the results of the data analyses.
6 Results - Labels used by young people and factors associated with their use

The labels used by young people to describe mental disorders are the focus of this chapter. The results reported here relate to a specific sub-set of labels, that is, the accurate and four most common labels used to describe each of the vignettes. The results regarding frequency of all the labels used for each vignette are appended (Appendix B). The results of exploratory analyses related to labels used by young people, as described in section 5.6.1, are detailed. This is followed by results from the logistic regression analyses used to examine factors associated with label use as outlined in section 5.6.2.

6.1 Preliminary analyses of label use

6.1.1 Validation of Accurate Vignette Labels

Concordance with the intended depiction of a DSM-IV disorder in the vignettes was at least 88% for psychiatrists (Table 6.1) and at least 82% for psychologists (Table 6.2).
Table 6-1: Psychiatrists’ diagnoses of vignettes: percent endorsing DSM IV diagnoses

<table>
<thead>
<tr>
<th>Vignette</th>
<th>Number of psychiatrists receiving vignette</th>
<th>Mood disorder diagnosis (%)</th>
<th>Schizophrenia &amp; other psychotic disorders diagnosis (%)</th>
<th>Anxiety disorder diagnosis (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression 15 years</td>
<td>73</td>
<td>91.8</td>
<td>17.8</td>
<td>5.5</td>
</tr>
<tr>
<td>Depression 21 years</td>
<td>85</td>
<td>88.2</td>
<td>20.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Psychosis 15 years</td>
<td>77</td>
<td>14.3</td>
<td>96.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Psychosis 21 years</td>
<td>78</td>
<td>11.5</td>
<td>92.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Social phobia 15 years</td>
<td>58</td>
<td>8.6</td>
<td>13.8</td>
<td>91.4</td>
</tr>
<tr>
<td>Social phobia 21 years</td>
<td>73</td>
<td>9.6</td>
<td>8.2</td>
<td>95.9</td>
</tr>
</tbody>
</table>

Note: Percentages do not add up to 100% because multiple diagnoses were permitted

Table 6-2: Psychologists’ diagnoses of vignettes: percent endorsing DSM IV diagnoses

<table>
<thead>
<tr>
<th>Vignette</th>
<th>Number of psychologists receiving vignette</th>
<th>Mood disorder diagnosis (%)</th>
<th>Schizophrenia &amp; other psychotic disorders diagnosis (%)</th>
<th>Anxiety disorder diagnosis (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression 15 years</td>
<td>96</td>
<td>93.8</td>
<td>4.2</td>
<td>11.5</td>
</tr>
<tr>
<td>Depression 21 years</td>
<td>102</td>
<td>95.1</td>
<td>8.8</td>
<td>12.7</td>
</tr>
<tr>
<td>Psychosis 15 years</td>
<td>87</td>
<td>29.9</td>
<td>82.8</td>
<td>6.9</td>
</tr>
<tr>
<td>Psychosis 21 years</td>
<td>96</td>
<td>19.8</td>
<td>88.5</td>
<td>4.2</td>
</tr>
<tr>
<td>Social phobia 15 years</td>
<td>93</td>
<td>7.5</td>
<td>1.1</td>
<td>90.3</td>
</tr>
<tr>
<td>Social phobia 21 years</td>
<td>85</td>
<td>10.6</td>
<td>3.5</td>
<td>94.1</td>
</tr>
</tbody>
</table>

Note: Percentages do not add up to 100% because multiple diagnoses were permitted

6.1.2 Verbatim responses

Examples of verbatim responses for each of the vignettes are presented in Table 6.3 to illustrate the range of responses and the codes applied.
Table 6-3: Examples of verbatim responses and their post-coded labels

<table>
<thead>
<tr>
<th>Response</th>
<th>Post-coded label</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depression vignette</strong></td>
<td></td>
</tr>
<tr>
<td>Drug problem, weed</td>
<td>Drugs</td>
</tr>
<tr>
<td><em>Something has happened and its made her really depressed</em></td>
<td>Depression</td>
</tr>
<tr>
<td><em>Kinda sick and having troubles and stuff</em></td>
<td>Sick</td>
</tr>
<tr>
<td><em>Diabetes or leukaemia, anorexia or bulimia</em></td>
<td>Physical problem/ eating disorder</td>
</tr>
<tr>
<td><em>Maybe she broke up with her boyfriend and is having trouble in her life</em></td>
<td>Relationship break-up/problem</td>
</tr>
<tr>
<td><strong>Psychosis vignette</strong></td>
<td></td>
</tr>
<tr>
<td><em>She’s probably paranoid or something</em></td>
<td>Paranoia, paranoid</td>
</tr>
<tr>
<td><em>Some sort of mental problem and can’t cope with life’s pressures</em></td>
<td>Psychological, emotional, mental problem/ pressure</td>
</tr>
<tr>
<td><em>Adolescence is kicking in</em></td>
<td>Typical teenage problem</td>
</tr>
<tr>
<td><em>Might be going mad or depressed</em></td>
<td>Crazy/ depression</td>
</tr>
<tr>
<td><em>Insomnia, been abused, anxiety or crazy in his head, he also might have been abused</em></td>
<td>Insomnia/ abuse, trauma or adverse life event/ anxiety/ crazy</td>
</tr>
<tr>
<td><strong>Social phobia vignette</strong></td>
<td></td>
</tr>
<tr>
<td><em>Confidence issues, guess she’s not confident in her opinions and knowledge</em></td>
<td>Low self-confidence, low self-esteem</td>
</tr>
<tr>
<td><em>Too shy, has a mental illness</em></td>
<td>Shy/ mental illness</td>
</tr>
<tr>
<td><em>Nervous type of person</em></td>
<td>Nervous</td>
</tr>
<tr>
<td><em>Effects of previous events, over caution to avoid hurt</em></td>
<td>Abuse, trauma or adverse life event</td>
</tr>
<tr>
<td><em>Too embarrassed, got fears</em></td>
<td>Negative emotions/ specific fears</td>
</tr>
</tbody>
</table>

6.1.3 Reliability of the post-coding of labels

The inter-rater agreement regarding the post-coding of labels is summarized in Table 6.4. The Kappa value for most labels was above 0.8, representing very good agreement. The lower Kappa values were 0.717 for “physical problem” and 0.658 for “psychological problem”, representing excellent agreement.
Table 6-4: Kappa measure of agreement for rating of post-coded labels

<table>
<thead>
<tr>
<th>Label (N=300)</th>
<th>Rater 1 % Frequency</th>
<th>Rater 2 % Frequency</th>
<th>Kappa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>23.7</td>
<td>23.3</td>
<td>0.99</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>4.7</td>
<td>4.7</td>
<td>1.00</td>
</tr>
<tr>
<td>Psychosis</td>
<td>0.3</td>
<td>0.3</td>
<td>1.00</td>
</tr>
<tr>
<td>Mental Illness</td>
<td>5.0</td>
<td>5.0</td>
<td>1.00</td>
</tr>
<tr>
<td>Stress</td>
<td>4.0</td>
<td>3.7</td>
<td>0.95</td>
</tr>
<tr>
<td>Psychological problem</td>
<td>2.0</td>
<td>4.0</td>
<td>0.66</td>
</tr>
<tr>
<td>Anxiety/anxious</td>
<td>5.0</td>
<td>5.3</td>
<td>0.90</td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>1.0</td>
<td>1.3</td>
<td>0.85</td>
</tr>
<tr>
<td>Drugs</td>
<td>6.7</td>
<td>6.7</td>
<td>1.00</td>
</tr>
<tr>
<td>Eating Disorder</td>
<td>5.3</td>
<td>5.3</td>
<td>1.00</td>
</tr>
<tr>
<td>Low self-confidence/low self-esteem</td>
<td>10.7</td>
<td>11.7</td>
<td>0.95</td>
</tr>
<tr>
<td>Paranoid</td>
<td>2.0</td>
<td>1.7</td>
<td>0.91</td>
</tr>
<tr>
<td>Physical problem</td>
<td>3.7</td>
<td>3.7</td>
<td>0.72</td>
</tr>
<tr>
<td>Shy</td>
<td>9.7</td>
<td>9.3</td>
<td>0.98</td>
</tr>
<tr>
<td>Social anxiety/social phobia</td>
<td>1.3</td>
<td>1.7</td>
<td>0.89</td>
</tr>
</tbody>
</table>

6.1.4 Frequency of label use

Overall, 929 young people received the depression vignette, 968 received the psychosis vignette and 905 received the social phobia vignette. The frequency distribution of all labels used for each of the vignettes is appended (Appendix B). The frequencies of the accurate and most common labels are discussed in detail here and summarized in Table 6.5.

For the depression vignette, 69.1% (n=642) of respondents used the accurate label of “depression.” This was also the overwhelmingly most frequent response, followed by “stress” (6.7%, n=62), “drugs” (5.0%, n=46), “eating disorder” (4.8%, n=45) and “physical problem” (4.8%, n=45). For the psychosis vignette, 33.4% (n=324) accurately labelled this as “schizophrenia” or “psychosis” and this was the most frequent response, followed by “depression” (24.8%, n=240), “mental illness” (18.5%, n=179), “psychological/mental/emotional problems” (8.3%, n=80) and “paranoia/paranoid” (2.9%, n=28). For the social phobia vignette, only 5.0% (n=45) accurately labelled it as “social anxiety”, “social phobia” or
“anxiety disorder”. The most common label used to describe this vignette was “low self-confidence/self-esteem” (22.7%, n=205), followed by “shy” (20.4%, n=185), “depression” (13.4%, n=121) and “anxiety/anxious” (10.3%, n=93).

Table 6-5: Frequency of accurate and most common labels used for each vignette

<table>
<thead>
<tr>
<th>Depression vignette (n=929)</th>
<th>Psychosis vignette (n=968)</th>
<th>Social Phobia vignette (n=905)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>Schizophrenia/Psychosis</td>
<td>Low self-confidence</td>
</tr>
<tr>
<td>69.1%</td>
<td>33.4%</td>
<td>22.7%</td>
</tr>
<tr>
<td>Stress</td>
<td>Depression</td>
<td>Shy</td>
</tr>
<tr>
<td>6.7%</td>
<td>24.8%</td>
<td>20.4%</td>
</tr>
<tr>
<td>Drugs</td>
<td>Mental Illness</td>
<td>Depression</td>
</tr>
<tr>
<td>5.0%</td>
<td>18.5%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Eating Disorder</td>
<td>Psychological problem</td>
<td>Anxiety</td>
</tr>
<tr>
<td>4.8%</td>
<td>8.3%</td>
<td>10.3%</td>
</tr>
<tr>
<td>Physical problem</td>
<td>Paranoia</td>
<td>Social Phobia</td>
</tr>
<tr>
<td>4.8%</td>
<td>2.9%</td>
<td>5.0%</td>
</tr>
</tbody>
</table>

6.1.5 Number of labels used per respondent

The frequency distribution of the number of respondents who gave between one and seven labels is summarized in Table 6.6. For the total sample, 67.4% of respondents used one label, 24.2% used two labels, 6.5% used three labels 1.4% used four labels and 0.4% used five or more labels. A Mann-Whitney U Test revealed that females used significantly more labels than males (females, mean=1.47; males, mean =1.39; Z= -3.83; p<0.001), and that those aged 18-25 years used more labels than 12-17 year olds (12-17 years, mean =1.41; 18-25 years, mean = 1.45; Z= -2.76; p=0.006). A Kruskal-Wallis Test revealed a significant difference in the number of labels used according to vignette, with the most labels used for the social phobia and psychosis vignettes and the least for the depression vignette (social phobia vignette, mean =1.45; psychosis vignette, mean=1.45; depression vignette, mean=1.37; χ² = 12.50; p=0.002).
### Table 6-6: Proportion of respondents (%) who use one through to seven labels to describe the vignette according to total sample, age group, gender and vignette

<table>
<thead>
<tr>
<th>Sample Groups</th>
<th>Number of labels given to vignette problem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Total sample</strong> (N=3745)</td>
<td>67.4</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male (n=1792)</td>
<td>69.9</td>
</tr>
<tr>
<td>Female (n=1953)</td>
<td>65.2</td>
</tr>
<tr>
<td><strong>Age group</strong></td>
<td></td>
</tr>
<tr>
<td>12-17 years (n=1632)</td>
<td>69.3</td>
</tr>
<tr>
<td>18-25 years (n=2113)</td>
<td>66.0</td>
</tr>
<tr>
<td><strong>Vignette</strong></td>
<td></td>
</tr>
<tr>
<td>Depression (n=929)</td>
<td>72.2</td>
</tr>
<tr>
<td>Psychosis (n=967)</td>
<td>66.8</td>
</tr>
<tr>
<td>Social Phobia (n=905)</td>
<td>64.5</td>
</tr>
</tbody>
</table>

### 6.2 Factors associated with label use

#### 6.2.1 Frequency of label use by age and gender

Accurate label use steadily increased with age for all three vignettes (Figure 1), with females generally using accurate labels more frequently across all age groups and vignettes, apart from the psychosis vignette where males used the accurate label more frequently for the 12-13 year age group and the 22-23 year age group. The use of the terms “depression” and “anxiety” to describe the social phobia vignette also increased with age, the latter more so for females.

Describing the depression vignette with the term “physical problem” and, to a lesser extent, “drugs” also showed some increase with age, particularly by males. For the depression vignette, the label “eating disorder” was more frequently used by females and this tended to decrease with age. The only other clear decrease in use of a label with age was the term “shy” used to describe the social phobia vignette, and overall, this label was more frequently used by males.
Figure 1: Frequency of use of accurate* and common labels to describe the vignettes according to age (2 year groups) and gender
Figure 2: Frequency of exposure to mental disorders and types of mental health campaigns according to age (2 year groups) and gender
6.2.2 Variation in exposure to mental disorders and campaigns according to age and gender

For the whole sample of young people, personal experience of a mental disorder and having sought help (Figure 2a), and of exposure to a family member or friend who had experienced a mental disorder and who sought help (Figure 2b) increased steadily with age. Exposure to mental health advertising (Figure 2c) and exposure to the Australian national depression initiative (Figure 2d) increased with age up to 16-18 years then tended to plateau. Exposure to mental health information at school, university or workplace peaked at 15 and then steadily declined with age (Figure 2e). Exposure to all life experience and environmental factors followed a similar gradient for both genders; however males’ reports of exposure were almost always less than females’.

6.2.3 Associations of label use with socio-demographic and exposure factors

Although some of the associations that were significant in the univariate binary logistic regression analysis became non-significant in the multipredictor logistic regression analysis, the regression coefficients did not differ greatly in magnitude, hence no further sequential regression analyses were conducted and only the significant results of the multipredictor logistic regression analyses are reported here. The results of the univariate analysis are appended (Appendix C).

6.2.3.1 Factors associated with accurate label use

Accurate label use had the greatest number of associated predictors compared to almost all other labels. The predictor variables most consistently associated with accurate label use across all vignettes were: age in years, exposure to mental disorder through family or friend, and exposure to campaigns via the Australian national depression initiative or via information at educational institution or workplace (see Tables 6.7-6.9). The only other label with a similar range of predictors was the label “anxiety/anxious” for the social phobia vignette.
6.2.3.2 Factors associated with other labels

For the depression vignette, the label “drugs” was associated with male gender and the label “eating disorder” was associated with younger age and female gender (Table 6.7). For the psychosis vignette, the label “mental illness” was associated with older age and female gender, while use of the label “depression” was associated with exposure to the Australian national depression initiative and mental health advertising (Table 6.8). The use of all labels for the social phobia vignette tended to increase with age, except for the label “shy”, which tended to be associated with younger age and male gender. Female gender was associated with the accurate label and “anxiety” for the social phobia vignette. Exposure to a family member or friend with social phobia symptoms as depicted in the vignette was associated with the use of labels “depression” and “anxiety” (Table 6.9).

Table 6-7: Predictors of accurate* and most common labels for the depression vignette by youth: odds ratios and p-values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Depression*</th>
<th>Stress</th>
<th>Drugs</th>
<th>Eating Disorder</th>
<th>Physical problem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>OR</td>
<td>OR</td>
</tr>
<tr>
<td><strong>Socio-demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>1.13</td>
<td>.000</td>
<td>1.05</td>
<td>.146</td>
<td>1.08</td>
</tr>
<tr>
<td>Female gender</td>
<td>1.46</td>
<td>.017</td>
<td>1.67</td>
<td>.068</td>
<td>0.26</td>
</tr>
<tr>
<td>English at home</td>
<td>1.61</td>
<td>.016</td>
<td>0.59</td>
<td>.089</td>
<td>1.13</td>
</tr>
<tr>
<td><strong>Exposure to mental disorders</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family/friend history</td>
<td>1.60</td>
<td>.012</td>
<td>0.54</td>
<td>.060</td>
<td>1.12</td>
</tr>
<tr>
<td>Personal history</td>
<td>2.26</td>
<td>.011</td>
<td>0.50</td>
<td>.218</td>
<td>0.67</td>
</tr>
<tr>
<td><strong>Exposure to campaigns</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National depression initiative</td>
<td>1.82</td>
<td>.000</td>
<td>1.08</td>
<td>.787</td>
<td>0.78</td>
</tr>
<tr>
<td>School/work mental health information</td>
<td>2.05</td>
<td>.000</td>
<td>0.84</td>
<td>.559</td>
<td>0.58</td>
</tr>
<tr>
<td>Mental health advertising</td>
<td>1.86</td>
<td>.000</td>
<td>0.99</td>
<td>.963</td>
<td>1.35</td>
</tr>
</tbody>
</table>
Table 6-8: Predictors of accurate* and most common labels for the psychosis vignette by youth: odds ratios and p-values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Schizophrenia/Psychosis*</th>
<th>Depression</th>
<th>Mental Illness</th>
<th>Psychological problem</th>
<th>Paranoid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td><strong>Socio-demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>1.18</td>
<td>.000</td>
<td>1.01</td>
<td>.636</td>
<td>1.05</td>
</tr>
<tr>
<td>Female gender</td>
<td>0.88</td>
<td>.393</td>
<td>1.16</td>
<td>.333</td>
<td>1.42</td>
</tr>
<tr>
<td>English at home</td>
<td>1.35</td>
<td>.158</td>
<td>0.99</td>
<td>.991</td>
<td>1.39</td>
</tr>
<tr>
<td><strong>Exposure to mental disorders</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family/friend history</td>
<td>1.98</td>
<td>.000</td>
<td>1.33</td>
<td>.115</td>
<td>0.80</td>
</tr>
<tr>
<td>Personal history</td>
<td>0.75</td>
<td>.346</td>
<td>1.31</td>
<td>.363</td>
<td>1.33</td>
</tr>
<tr>
<td><strong>Exposure to campaigns</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National depression initiative</td>
<td>1.66</td>
<td>.001</td>
<td>1.48</td>
<td>.015</td>
<td>1.81</td>
</tr>
<tr>
<td>School/work mental health information</td>
<td>1.54</td>
<td>.010</td>
<td>1.21</td>
<td>.255</td>
<td>1.11</td>
</tr>
<tr>
<td>Mental health advertising</td>
<td>1.40</td>
<td>.040</td>
<td>1.47</td>
<td>.023</td>
<td>1.35</td>
</tr>
</tbody>
</table>

Table 6-9: Predictors of accurate* and most common labels for the social phobia vignette by youth: odds ratios and p-values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Social Phobia*</th>
<th>Low self-confidence/ self-esteem</th>
<th>Shy</th>
<th>Depression</th>
<th>Anxiety/ anxious</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td><strong>Socio-demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>1.30</td>
<td>.000</td>
<td>1.06</td>
<td>.013</td>
<td>0.88</td>
</tr>
<tr>
<td>Female gender</td>
<td>2.69</td>
<td>.010</td>
<td>1.26</td>
<td>.163</td>
<td>0.64</td>
</tr>
<tr>
<td>English at home</td>
<td>0.93</td>
<td>.881</td>
<td>0.92</td>
<td>.732</td>
<td>0.69</td>
</tr>
<tr>
<td><strong>Exposure to mental disorders</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family/friend history</td>
<td>1.15</td>
<td>.700</td>
<td>0.70</td>
<td>.083</td>
<td>0.89</td>
</tr>
<tr>
<td>Personal history</td>
<td>1.57</td>
<td>.330</td>
<td>1.06</td>
<td>.846</td>
<td>1.08</td>
</tr>
<tr>
<td><strong>Exposure to campaigns</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National depression initiative</td>
<td>2.28</td>
<td>.033</td>
<td>1.24</td>
<td>.222</td>
<td>.85</td>
</tr>
<tr>
<td>School/work mental health information</td>
<td>2.64</td>
<td>.004</td>
<td>0.76</td>
<td>.135</td>
<td>1.09</td>
</tr>
<tr>
<td>Mental health advertising</td>
<td>0.59</td>
<td>.146</td>
<td>1.14</td>
<td>.471</td>
<td>1.28</td>
</tr>
</tbody>
</table>
After age, the most common significant predictor of label use for all vignettes was exposure to the Australian national depression initiative. Furthermore, this exposure was always associated with accurate or approximate labels, for example, “depression” and “mental illness” for psychosis and “depression” or “anxiety” for social phobia.

### 6.2.3.3 Parent factors associated with label use

In regard to the sub-sample of young people with a paired parent respondent, the regression coefficients did not differ greatly in magnitude between the univariate and multipredictor logistic regression analyses. Hence, no further sequential regression analyses were conducted and only the significant results of the multipredictor logistic regression analyses are reported here (Tables 6.10-6.12), the results from the univariate logistic regression analyses are appended (Appendix D).

Accurate label use by the young person was associated with accuracy of parent label for all three vignettes (Depression OR=1.74, \( p=.024 \); Psychosis OR=2.20, \( p<.001 \); Social Phobia OR=11.32, \( p=.007 \)). For the depression vignette, the use of the label “eating disorder” was associated with the parent labels “depression” (OR=4.27, \( p=.008 \)) and “eating disorder” (OR=3.41, \( p=.026 \)) and the use of the label “physical problem” was associated with the parent label “eating disorder” (OR=7.88, \( p=.009 \)). For the social phobia vignette, the use of the label “anxiety/anxious” by the young person was associated with the parent label “social anxiety/social phobia/anxiety disorder” (OR=4.48, \( p=.007 \)). Parent education level was not associated with any of the most accurate or most common labels used to describe the vignettes.
Table 6-10: Predictors, including parent characteristics, of accurate* and most common labels for the depression vignette by youth: odds ratios and p-values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Depression*</th>
<th>Stress</th>
<th>Drugs</th>
<th>Eating Disorder</th>
<th>Physical problem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR  p</td>
<td>OR</td>
<td>OR</td>
<td>OR  p</td>
<td>OR  p</td>
</tr>
<tr>
<td>Socio-demographics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>1.18  .000</td>
<td>.96</td>
<td>.576</td>
<td>1.02  .783</td>
<td>0.89  .117</td>
</tr>
<tr>
<td>Female gender</td>
<td>1.38  .146</td>
<td>1.33</td>
<td>.513</td>
<td>0.52  .175</td>
<td><strong>7.69  .000</strong></td>
</tr>
<tr>
<td>English at home</td>
<td>0.84  .604</td>
<td>1.77</td>
<td>.464</td>
<td>0.69  .556</td>
<td>0.87  .873</td>
</tr>
<tr>
<td>Exposure to mental disorders</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family/friend history</td>
<td>1.44   .169</td>
<td>1.10</td>
<td>.839</td>
<td>0.93  .892</td>
<td>0.61  .310</td>
</tr>
<tr>
<td>Personal history</td>
<td><strong>3.42  .017</strong></td>
<td>1.04</td>
<td>.948</td>
<td>0.40  .394</td>
<td>1.04  .959</td>
</tr>
<tr>
<td>Exposure to campaigns</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National depression initiative</td>
<td><strong>1.86  .006</strong></td>
<td>1.31</td>
<td>.527</td>
<td>0.93  .868</td>
<td>0.75  .502</td>
</tr>
<tr>
<td>School/work mental health information</td>
<td><strong>2.10  .002</strong></td>
<td>0.93</td>
<td>.875</td>
<td>0.34  .091</td>
<td>0.72  .429</td>
</tr>
<tr>
<td>Mental health advertising</td>
<td><strong>1.83  .006</strong></td>
<td>1.19</td>
<td>.700</td>
<td>0.80  .622</td>
<td>1.50  .345</td>
</tr>
<tr>
<td>Parent labels &amp; education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Depression</td>
<td><strong>1.72  .029</strong></td>
<td>0.60</td>
<td>.253</td>
<td>0.98  .977</td>
<td><strong>4.27  .008</strong></td>
</tr>
<tr>
<td>Parent Stress</td>
<td>0.99  .979</td>
<td>1.57</td>
<td>.464</td>
<td>1.11  .896</td>
<td>1.58  .506</td>
</tr>
<tr>
<td>Parent Drugs</td>
<td>1.75  .073</td>
<td>0.00</td>
<td>.997</td>
<td>1.32  .617</td>
<td>0.50  .390</td>
</tr>
<tr>
<td>Parent Eating Disorder</td>
<td>1.04  .930</td>
<td>1.15</td>
<td>.863</td>
<td>0.00  .998</td>
<td><strong>3.41  .026</strong></td>
</tr>
<tr>
<td>Parent Physical</td>
<td>1.06  .863</td>
<td>1.32</td>
<td>.639</td>
<td>1.99  .257</td>
<td>2.33  .133</td>
</tr>
<tr>
<td>Parent Education</td>
<td>1.27  .283</td>
<td>1.17</td>
<td>.696</td>
<td>0.68  .432</td>
<td>1.24  .588</td>
</tr>
</tbody>
</table>

Note: An analysis of the association between "drugs" and English at home was not included in the analysis for "drugs" due to low frequency of responses
Table 6-11: Predictors, including parent characteristics, of accurate* and most common labels for the psychosis vignette by youth: odds ratios and p-values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Schizophrenia /Psychosis*</th>
<th>Depression</th>
<th>Mental Illness</th>
<th>Psychological problem</th>
<th>Paranoid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td><strong>Socio-demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>1.27</td>
<td>.000</td>
<td>0.98</td>
<td>.647</td>
<td>1.04</td>
</tr>
<tr>
<td>Female gender</td>
<td>0.84</td>
<td>.433</td>
<td>1.15</td>
<td>.514</td>
<td>1.44</td>
</tr>
<tr>
<td>English at home</td>
<td>0.94</td>
<td>.892</td>
<td>1.41</td>
<td>.414</td>
<td>1.11</td>
</tr>
<tr>
<td><strong>Exposure to mental disorders</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family/friend history</td>
<td>2.06</td>
<td>.007</td>
<td>1.34</td>
<td>.286</td>
<td>0.60</td>
</tr>
<tr>
<td>Personal history</td>
<td>0.61</td>
<td>.320</td>
<td>1.15</td>
<td>.772</td>
<td>1.37</td>
</tr>
<tr>
<td><strong>Exposure to campaigns</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National depression initiative</td>
<td>1.14</td>
<td>.566</td>
<td>1.48</td>
<td>.075</td>
<td>1.95</td>
</tr>
<tr>
<td>School/work mental health information</td>
<td>1.51</td>
<td>.077</td>
<td>1.22</td>
<td>.368</td>
<td>0.90</td>
</tr>
<tr>
<td>Mental health advertising</td>
<td>1.57</td>
<td>.058</td>
<td>1.64</td>
<td>.038</td>
<td>1.07</td>
</tr>
<tr>
<td><strong>Parent labels &amp; education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Schizophrenia/ Psychosis</td>
<td>2.19</td>
<td>.001</td>
<td>0.69</td>
<td>.100</td>
<td>1.23</td>
</tr>
<tr>
<td>Parent Depression</td>
<td>1.08</td>
<td>.739</td>
<td>1.43</td>
<td>.117</td>
<td>0.92</td>
</tr>
<tr>
<td>Parent Mental Illness</td>
<td>1.01</td>
<td>.972</td>
<td>1.34</td>
<td>.217</td>
<td>1.60</td>
</tr>
<tr>
<td>Parent Psychological problem</td>
<td>0.69</td>
<td>.328</td>
<td>1.08</td>
<td>.819</td>
<td>1.20</td>
</tr>
<tr>
<td>Parent Paranoid</td>
<td>1.05</td>
<td>.936</td>
<td>0.86</td>
<td>.803</td>
<td>0.86</td>
</tr>
<tr>
<td>Parent Education</td>
<td>1.07</td>
<td>.748</td>
<td>0.82</td>
<td>.391</td>
<td>1.19</td>
</tr>
</tbody>
</table>
Table 6-12: Predictors, including parent characteristics, of accurate* and most common labels for the social phobia vignette by youth: odds ratios and p-values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Social Phobia*</th>
<th>Low self-confidence/self-esteem</th>
<th>Shy</th>
<th>Depression</th>
<th>Anxiety/ anxious</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td><strong>Socio-demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>1.39</td>
<td>.007</td>
<td>1.10</td>
<td>.010</td>
<td>0.89</td>
</tr>
<tr>
<td>Female gender</td>
<td>7.13</td>
<td>.038</td>
<td>1.48</td>
<td>.104</td>
<td>0.82</td>
</tr>
<tr>
<td>English at home</td>
<td>1.21</td>
<td>.870</td>
<td>1.41</td>
<td>.415</td>
<td>0.61</td>
</tr>
<tr>
<td><strong>Exposure to mental disorders</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family/friend history</td>
<td>1.01</td>
<td>.989</td>
<td>0.81</td>
<td>.509</td>
<td>0.80</td>
</tr>
<tr>
<td>Personal history</td>
<td>3.26</td>
<td>.174</td>
<td>1.71</td>
<td>.181</td>
<td>1.08</td>
</tr>
<tr>
<td><strong>Exposure to campaigns</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National depression initiative</td>
<td>3.77</td>
<td>.143</td>
<td>1.41</td>
<td>.178</td>
<td>1.06</td>
</tr>
<tr>
<td>School/work mental health information</td>
<td>2.22</td>
<td>.260</td>
<td>0.86</td>
<td>.553</td>
<td>1.06</td>
</tr>
<tr>
<td>Mental health advertising</td>
<td>0.54</td>
<td>.407</td>
<td>1.19</td>
<td>.486</td>
<td>1.21</td>
</tr>
<tr>
<td><strong>Parent labels &amp; education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Social Phobia</td>
<td><strong>10.86</strong></td>
<td>.011</td>
<td>0.87</td>
<td>.771</td>
<td>1.70</td>
</tr>
<tr>
<td>Parent Low self-confidence</td>
<td>1.94</td>
<td>.401</td>
<td>1.56</td>
<td>.069</td>
<td>0.98</td>
</tr>
<tr>
<td>Parent Shy</td>
<td>3.49</td>
<td>.140</td>
<td>1.61</td>
<td>.099</td>
<td>1.02</td>
</tr>
<tr>
<td>Parent Depression</td>
<td>0.82</td>
<td>.860</td>
<td>1.20</td>
<td>.560</td>
<td>0.72</td>
</tr>
<tr>
<td>Parent Anxiety</td>
<td>0.00</td>
<td>.997</td>
<td>1.01</td>
<td>.981</td>
<td>0.75</td>
</tr>
<tr>
<td>Parent Education</td>
<td>4.28</td>
<td>.069</td>
<td>0.88</td>
<td>.583</td>
<td>0.66</td>
</tr>
</tbody>
</table>

6.3 Chapter discussion

Accuracy of labelling by young people varied greatly between disorders. However, a consistent finding across disorders is that more predictor variables were found to be associated with the use of accurate labels compared to almost all other labels.
6.3.1 Types of labels used

Accurate labels tend be the most frequently used labels by young people to describe depression and psychosis, although many other psychiatric and lay terms are also used. Depression was accurately labelled twice as frequently as psychosis. This difference is consistent with previous studies of young people and adults (Jorm, Nakane, et al., 2005; Wright, et al., 2005). However, the other two most common labels used for psychosis, “depression” and “mental illness”, whilst respectively being inaccurate or non-specific, reflect a belief that the problem described in the vignette is a psychiatric illness. When the percentages using these other labels are included together, labelling of some form of serious disorder is comparable for depression and psychosis. Conversely, social phobia is most commonly labelled using lay terms such as “shy” or “low self-confidence/self-esteem” rather than conventional psychiatric labels. Despite it being one of the most common disorders in this age group (Australian Bureau of Statistics, 2007a), it is clearly poorly identified and the labels used suggest that its seriousness may often be minimized.

Other labels used to describe psychosis were very similar to the earlier adult study by Jorm, Nakane and colleagues (2005), with the exception of the label “paranoid”, which is perhaps more commonly used in youth vernacular. In contrast, a range of different terms for depression were used that have not been identified in other studies, in particular “drugs” and “eating disorder”. This might indicate the higher prevalence of these disorders in this age group and therefore that these labels are more familiar (Australian Bureau of Statistics, 2010; Fairburn & Harrison, 2003). This is consistent with the Common Sense Model of health behaviour which suggests that information about labelling is in part gleaned from the general pool of lay information derived from general social communication and cultural knowledge of illness (Leventhal, et al., 1980 in Section 3.4), in this case, peers and youth culture. Also in regard to labels used for depression, use of the label “physical disorder” has only been reported in one other study and that was with Australian adults in 1997 (Jorm, et al., 1997), a time when the general adult population was less familiar with depression (Jorm,
Christensen, et al., 2005), and therefore may indicate a certain level of mental health literacy naivety in this younger age group.

6.3.2 Number of labels used

The difference in number of labels used confirms the degree to which people are more familiar with the prototype for depression than for psychosis and social phobia. As Bishop (1991) has reported, the number of labels used increased when participants were presented with a range of serious symptoms that did not fit a known prototype for a label.

6.3.3 Factors associated with label use

Use of accurate labels increased with age, which is consistent with previous findings in this age group (Cotton, et al., 2006). Findings regarding greater accuracy of labelling of depression in females and a non-significant association for gender in relation to labelling of psychosis are consistent with almost all previous studies of labelling (see Table 4.3). Female gender was also a predictor of accurate label use for social phobia. The association between accurate labelling of depression and social phobia in females may be a result of the higher prevalence of these disorders in females in this age group (Australian Bureau of Statistics, 2007a). Finally, in regard to socio-demographic predictors examined, speaking English at home was only found to be associated with accurate labelling of depression, a result similar to previous findings (Pescosolido, et al., 2008; Tieu, et al., 2010). Conversely, not speaking English at home was only associated with the label “psychological/emotional/mental problem” for psychosis.

Accurate labelling of depression and psychosis was associated with exposure to family or a friend with the disorder, which confirms earlier findings in regard to depression (Bartlett, et al., 2006), although it has not been previously examined in psychosis. In contrast, this type of association in relation to social phobia was non-significant, which may be due to higher treated prevalence of depression.
and psychosis compared to social phobia (Kohn, Saxena, Levav, & Saraceno, 2004; P. S. Wang, et al., 2005). Experience of a mental disorder in oneself and receiving help was associated with accurate labelling of depression, which is contrary to earlier findings (Dahlberg, et al., 2008; Goldney, et al., 2001).

Likelihood of using an accurate label for all three vignettes studied was also associated with exposure to the mental health community awareness strategies, confirming previous findings that these kinds of strategies can influence rates of accurate labelling (see section 4.5.3). It is important to note that part of the Australian national depression initiative involved interventions based in educational and workplace settings, so the two sorts of exposure, national depression initiative and school or work mental health information, may not have been independent (Spence, Burns, & Boucher, 2005), although correlations were low (see section 5.6.5).

Given that age is associated with increased exposure to mental illness in self or others and to mental health campaigns (see Figure 2), these exposures are potential mediators of age differences in labelling. However, these factors do not fully account for the age differences in labelling, as they remained after adjusting for exposure differences.

Parents also play a role in the development of labelling. It appears that the accuracy of the label used by parents to describe a mental disorder is more specific and important than the child’s general exposure to vocabulary through having better educated parents. This finding adds to the evidence regarding the important role that parents play in young people’s mental health literacy (Jorm & Wright, 2008; Jorm, et al., 2007b) and as a prime source of health information that informs labelling (Leventhal, et al., 1980).

The association between accurate label use and exposure to a range of predictors may be understood in the context of word frequency. Word frequency is traditionally defined as how often a word is found in print materials and approximates the distribution in spoken language (Carterette & Jones, 1974).
Marinellie and Chan (2006) have found that as exposure to a word increases, word meaning is connected and organized in a more detailed and specific way in language organizational structures. This may explain why the label depression had more exposure factors associated with it when it was applied accurately to the depression vignette as greater exposure to the word may have enabled it to be embedded more accurately in language organisational structures. Thus it was applied more accurately than when it was applied to the other vignettes where it was associated with fewer exposure factors.

6.3.4 Summary

Overall, the findings in this chapter highlight the status of label use for mental disorders amongst young people and potential opportunities for improving labelling. Further information is required regarding the association between the range of labels young people might use and their association with help-seeking to determine the relative benefits of these labels. The following chapter examines this in more detail.
7 Results - Labels used by young people and their association with help-seeking preferences

The labels used by young people to describe mental disorders vary greatly. This chapter examines whether help-seeking choices vary according to the kind of label a young person has used, based on results from the analysis described in Section 5.6.3. Young people’s unprompted preferences for help if they had a problem like the person described in the vignette are examined first. This is followed by an investigation of the association between the label that the young person has used and their belief in the helpfulness of a range of professionals, treatments and self-help actions for the person described in the vignette.

Binary logistic regression was the principal form of analysis. Similar to the previous chapter, the regression coefficients did not differ greatly in magnitude between the univariate and multipredictor binary logistic regression analyses, hence no further sequential regression analyses were conducted. Only the significant results of the multipredictor logistic regression analyses are reported here and univariate analyses are appended (Appendix E).

7.1 Unprompted preferences for sources of help

Results from the multipredictor binary logistic regression analyses are summarized in Tables 7.1 to 7.3. For the depression vignette, use of the accurate label “depression” was associated with a preference for help from a counsellor (OR=1.76, p=0.024), and the label “physical problem” was associated with a preference for help from a doctor/GP (OR=2.68, p=0.003). The label “stress” was
associated with less intention to seek any help for the hypothetical situation described in the vignette (OR=0.49, p=0.021).

For the psychosis vignette, use of the accurate label “schizophrenia/psychosis” was associated with preference for doctor/GP as a source of help (OR=1.77, p=0.001), as was the label “mental illness”, although the strength of the association for the latter was lower (OR=1.59, p=0.021). The accurate label was also associated with a preference for not seeking help from a friend (OR=0.37, p<0.001), whereas those who used the label “depression” were more likely to prefer informal sources of help including family member (OR=1.51, p=0.012) and friend (OR=2.09, p<0.001). “Depression” was also the only label that was associated with an intention to seek any help for the psychosis vignette (OR=1.56, p=0.035), whereas the label “paranoid” was associated with less intention to seek any help (OR=0.40, p=0.028).

For the social phobia vignette, the accurate label was associated with an intention to seek any help (OR=2.34, p=0.049) and a preference for help from a doctor/GP (OR=2.31, p=0.025) and especially a mental health specialist (OR=4.99, p<0.001). The only other label that was associated with a preferred source of help was the label “anxiety/anxious” for doctor/GP (OR=2.15, p=0.007). The label “shy” was associated with less intention to seek any help for the hypothetical vignette scenario (OR=0.59, p=0.008).
Table 7-1: Predictors of preferred sources of help and attitudes to help seeking for the depression vignette by youth: odds ratios and probability values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Any help</th>
<th>Family member</th>
<th>Friend</th>
<th>Doctor/ GP</th>
<th>Counsellor</th>
<th>Mental health specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
</tr>
<tr>
<td><strong>Labels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>0.68</td>
<td>.066</td>
<td>0.86</td>
<td>.343</td>
<td>1.51</td>
<td>.050</td>
</tr>
<tr>
<td>Stress</td>
<td>0.49</td>
<td><strong>.021</strong></td>
<td>1.16</td>
<td>.600</td>
<td>0.70</td>
<td>.366</td>
</tr>
<tr>
<td>Drugs</td>
<td>1.11</td>
<td>.795</td>
<td>1.09</td>
<td>.792</td>
<td>1.26</td>
<td>.555</td>
</tr>
<tr>
<td>Eating Disorder</td>
<td>1.43</td>
<td>.464</td>
<td>1.19</td>
<td>.587</td>
<td>0.50</td>
<td>.161</td>
</tr>
<tr>
<td>Physical problem</td>
<td>2.08</td>
<td>.135</td>
<td>1.23</td>
<td>.534</td>
<td>1.04</td>
<td>.926</td>
</tr>
<tr>
<td><strong>Socio-demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td><strong>0.92</strong></td>
<td><strong>.000</strong></td>
<td><strong>0.86</strong></td>
<td><strong>.000</strong></td>
<td>1.00</td>
<td>.888</td>
</tr>
<tr>
<td>Female gender</td>
<td>1.26</td>
<td>.183</td>
<td>0.96</td>
<td>.758</td>
<td>1.34</td>
<td>.098</td>
</tr>
<tr>
<td>English at home</td>
<td>1.09</td>
<td>.700</td>
<td>1.21</td>
<td>.302</td>
<td>0.95</td>
<td>.823</td>
</tr>
</tbody>
</table>
Table 7-2: Predictors of preferred sources of help and attitudes to help seeking for the psychosis vignette by youth: odds ratios and probability values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Any help</th>
<th>Family member</th>
<th>Friend</th>
<th>Doctor</th>
<th>Counsellor</th>
<th>Mental health specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
</tr>
<tr>
<td>Schizophrenia/ psychosis</td>
<td>1.15</td>
<td>.459</td>
<td>0.90</td>
<td>.518</td>
<td>0.37</td>
<td><strong>.000</strong></td>
</tr>
<tr>
<td>Depression</td>
<td><strong>1.56</strong></td>
<td>.035</td>
<td><strong>1.51</strong></td>
<td><strong>.012</strong></td>
<td><strong>2.09</strong></td>
<td><strong>.000</strong></td>
</tr>
<tr>
<td>Mental illness</td>
<td>1.16</td>
<td>.514</td>
<td>1.11</td>
<td>.591</td>
<td>0.65</td>
<td>.137</td>
</tr>
<tr>
<td>Psychological problem</td>
<td>0.67</td>
<td>.149</td>
<td>1.11</td>
<td>.678</td>
<td>1.37</td>
<td>.347</td>
</tr>
<tr>
<td>Paranoid</td>
<td><strong>0.40</strong></td>
<td><strong>.028</strong></td>
<td>0.68</td>
<td>.379</td>
<td>2.02</td>
<td>.148</td>
</tr>
<tr>
<td>Socio-demographics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>0.88</td>
<td><strong>.000</strong></td>
<td>0.81</td>
<td><strong>.000</strong></td>
<td>0.97</td>
<td>.372</td>
</tr>
<tr>
<td>Female gender</td>
<td>0.91</td>
<td>.579</td>
<td>1.02</td>
<td>.877</td>
<td><strong>1.65</strong></td>
<td><strong>.014</strong></td>
</tr>
<tr>
<td>English at home</td>
<td>1.19</td>
<td>.417</td>
<td>1.03</td>
<td>.878</td>
<td>0.79</td>
<td>.365</td>
</tr>
</tbody>
</table>
Table 7-3: Predictors of preferred sources of help and attitudes to help seeking for the social phobia vignette by youth: odds ratios and probability values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Any help</th>
<th>Family member</th>
<th>Friend</th>
<th>Doctor</th>
<th>Counsellor</th>
<th>Mental health specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
</tr>
<tr>
<td>Social phobia</td>
<td>2.34</td>
<td>.049</td>
<td>0.87</td>
<td>.736</td>
<td>0.48</td>
<td>.241</td>
</tr>
<tr>
<td>Low self confidence</td>
<td>0.92</td>
<td>.671</td>
<td>1.34</td>
<td>.104</td>
<td>1.14</td>
<td>.594</td>
</tr>
<tr>
<td>Shy</td>
<td>0.60</td>
<td>.008</td>
<td>0.79</td>
<td>.209</td>
<td>1.03</td>
<td>.915</td>
</tr>
<tr>
<td>Depression</td>
<td>1.56</td>
<td>.074</td>
<td>0.96</td>
<td>.855</td>
<td>1.24</td>
<td>.476</td>
</tr>
<tr>
<td>Anxiety/anxious</td>
<td>0.95</td>
<td>.841</td>
<td>0.88</td>
<td>.640</td>
<td>0.50</td>
<td>.101</td>
</tr>
<tr>
<td>Age, years</td>
<td>0.88</td>
<td>.000</td>
<td>0.84</td>
<td>.000</td>
<td>1.03</td>
<td>.343</td>
</tr>
<tr>
<td>Female gender</td>
<td>1.46</td>
<td>.017</td>
<td>1.20</td>
<td>.231</td>
<td>1.28</td>
<td>.243</td>
</tr>
<tr>
<td>English at home</td>
<td>0.78</td>
<td>.271</td>
<td>1.03</td>
<td>.876</td>
<td>0.76</td>
<td>.310</td>
</tr>
</tbody>
</table>
7.2 Prompted responses regarding the helpfulness of professionals

Significant results from the multipredictor logistic regression analyses are listed in Tables 7.4 to 7.6. Results of analyses regarding the outcome variable telephone counsellor are not included, as no associations were significant. Overall, the accurate label for both the depression and psychosis vignettes was associated with a belief in the helpfulness of the most number of recommended professionals compared to other labels.

For the depression vignette, the label “depression” was associated with a belief in the helpfulness of a counsellor (OR=2.00, p=0.01) and a psychologist (OR=1.83, p<0.001). The only other significant association was for the label “eating disorder”, which was associated with a belief in the helpfulness of a psychologist (OR=2.49, p=0.035).

The accurate label for the psychosis vignette was associated with a belief in the helpfulness of a GP (OR=2.07, p=0.002), psychologist (OR=1.52, p=0.035) and psychiatrist (OR=1.86, p<0.001). “Mental illness” was the only other label to be associated with a belief in the helpfulness of a professional (psychiatrist) (OR=1.59, p=0.021), although again the association was not as strong as the accurate label.

Results for the social phobia vignette reveal that the label “depression” was associated with a belief in the most professionals, GP (OR=2.46, p=0.004) and psychiatrist (OR=1.56, p=0.046), whereas the accurate label was associated with a belief in the helpfulness of one type of professional, a psychologist (OR=3.67, p=0.034). The label “shy” was associated with a belief in the helpfulness of a counsellor (OR=2.03, p=0.045).
Table 7-4: Predictors of belief in the helpfulness of professionals and medications for the depression vignette by youth: odds ratios and probability values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>GP</th>
<th>Counsellor</th>
<th>Mental health service</th>
<th>Psychologist</th>
<th>Psychiatrist</th>
<th>Antidepressants</th>
<th>Antipsychotics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td>Depression</td>
<td>.95</td>
<td>.828</td>
<td>2.00</td>
<td>.010</td>
<td>1.38</td>
<td>.040</td>
<td>1.83</td>
</tr>
<tr>
<td>Stress</td>
<td>.57</td>
<td>.153</td>
<td>6.92</td>
<td>.059</td>
<td>0.68</td>
<td>.156</td>
<td>1.36</td>
</tr>
<tr>
<td>Drugs</td>
<td>.74</td>
<td>.470</td>
<td>0.83</td>
<td>.709</td>
<td>0.80</td>
<td>.491</td>
<td>0.88</td>
</tr>
<tr>
<td>Eating Disorder</td>
<td>4.57</td>
<td>.139</td>
<td>2.00</td>
<td>.364</td>
<td>0.72</td>
<td>.303</td>
<td><strong>2.49</strong></td>
</tr>
<tr>
<td>Physical problem</td>
<td>0.79</td>
<td>.609</td>
<td>0.70</td>
<td>.485</td>
<td>1.07</td>
<td>.836</td>
<td>1.30</td>
</tr>
</tbody>
</table>

<table>
<thead>
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<tr>
<td>Age, years</td>
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<td>.040</td>
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<td>.297</td>
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</tr>
<tr>
<td>Female gender</td>
<td>2.99</td>
<td><strong>0.00</strong></td>
<td>1.55</td>
<td>.092</td>
<td>1.02</td>
<td>.880</td>
<td>1.06</td>
</tr>
<tr>
<td>English at home</td>
<td>1.21</td>
<td>.478</td>
<td>1.18</td>
<td>.598</td>
<td><strong>1.61</strong></td>
<td><strong>0.008</strong></td>
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</tbody>
</table>
Table 7-5: Predictors of belief in the helpfulness of professionals and medications for the psychosis vignette by youth: odds ratios and probability values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>GP</th>
<th>Counsellor</th>
<th>Mental health service</th>
<th>Psychologist</th>
<th>Psychiatrist</th>
<th>Antidepressants</th>
<th>Antipsychotics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
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<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td>Schizophrenia/ psychosis</td>
<td>2.07</td>
<td>.002</td>
<td>1.49</td>
<td>.164</td>
<td>2.74</td>
<td>.000</td>
<td>1.52</td>
</tr>
<tr>
<td>Depression</td>
<td>0.92</td>
<td>.675</td>
<td>1.31</td>
<td>.360</td>
<td>1.38</td>
<td>.088</td>
<td>0.91</td>
</tr>
<tr>
<td>Mental illness</td>
<td>1.50</td>
<td>.119</td>
<td>2.05</td>
<td>.068</td>
<td>3.52</td>
<td>.000</td>
<td>1.44</td>
</tr>
<tr>
<td>Psychological problem</td>
<td>1.28</td>
<td>.458</td>
<td>1.05</td>
<td>.901</td>
<td>1.41</td>
<td>.227</td>
<td>1.64</td>
</tr>
<tr>
<td>Paranoid</td>
<td>0.55</td>
<td>.189</td>
<td>2.54</td>
<td>.366</td>
<td>0.87</td>
<td>.757</td>
<td>0.64</td>
</tr>
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</table>

**Socio-demographics**

<table>
<thead>
<tr>
<th></th>
<th>GP</th>
<th>Counsellor</th>
<th>Mental health service</th>
<th>Psychologist</th>
<th>Psychiatrist</th>
<th>Antidepressants</th>
<th>Antipsychotics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years</td>
<td>1.09</td>
<td>.001</td>
<td>1.01</td>
<td>.735</td>
<td>1.10</td>
<td>.000</td>
<td>1.13</td>
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<tr>
<td>Female gender</td>
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<td>2.18</td>
<td>.002</td>
<td>1.43</td>
<td>.022</td>
<td>1.53</td>
</tr>
<tr>
<td>English at home</td>
<td>1.95</td>
<td>.002</td>
<td>2.84</td>
<td>.000</td>
<td>2.01</td>
<td>.000</td>
<td>1.67</td>
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</tbody>
</table>
Table 7-6: Predictors of belief in the helpfulness of professionals and medications for the social phobia vignette by youth: odds ratios and probability values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>GP OR</th>
<th>p</th>
<th>Counsellor OR</th>
<th>p</th>
<th>Mental health service OR</th>
<th>p</th>
<th>Psychologist OR</th>
<th>p</th>
<th>Psychiatrist OR</th>
<th>p</th>
<th>Antidepressants OR</th>
<th>p</th>
<th>Antipsychotics OR</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Labels</strong></td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social phobia</td>
<td>1.26</td>
<td>.602</td>
<td>0.64</td>
<td>.494</td>
<td><strong>4.17</strong></td>
<td>.004</td>
<td><strong>3.67</strong></td>
<td>.034</td>
<td>1.81</td>
<td>.118</td>
<td><strong>2.81</strong></td>
<td>.002</td>
<td>0.94</td>
<td>.932</td>
</tr>
<tr>
<td>Low self confidence</td>
<td>0.88</td>
<td>.520</td>
<td>0.94</td>
<td>.836</td>
<td>0.92</td>
<td>.639</td>
<td>1.20</td>
<td>.338</td>
<td>1.06</td>
<td>.730</td>
<td>1.20</td>
<td>.610</td>
<td>1.19</td>
<td>.568</td>
</tr>
<tr>
<td>Shy</td>
<td>0.89</td>
<td>.559</td>
<td><strong>2.03</strong></td>
<td>.045</td>
<td>1.22</td>
<td>.255</td>
<td>1.15</td>
<td>.474</td>
<td>0.84</td>
<td>.315</td>
<td>1.23</td>
<td>.258</td>
<td>0.68</td>
<td>.259</td>
</tr>
<tr>
<td>Depression</td>
<td><strong>2.46</strong></td>
<td><strong>.004</strong></td>
<td>1.07</td>
<td>.873</td>
<td><strong>1.75</strong></td>
<td><strong>.015</strong></td>
<td>1.48</td>
<td>.139</td>
<td><strong>1.56</strong></td>
<td><strong>.046</strong></td>
<td><strong>2.80</strong></td>
<td><strong>.000</strong></td>
<td>1.47</td>
<td>.311</td>
</tr>
<tr>
<td>Anxiety/anxious</td>
<td>1.88</td>
<td>.078</td>
<td>5.11</td>
<td>.112</td>
<td>1.15</td>
<td>.584</td>
<td>1.78</td>
<td>.085</td>
<td>1.25</td>
<td>.379</td>
<td>1.12</td>
<td>.656</td>
<td>0.77</td>
<td>.646</td>
</tr>
<tr>
<td><strong>Socio-demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>1.05</td>
<td>.039</td>
<td>1.12</td>
<td>.002</td>
<td>1.12</td>
<td>.000</td>
<td>1.11</td>
<td>.000</td>
<td>1.06</td>
<td>.003</td>
<td>0.99</td>
<td>.507</td>
<td>0.91</td>
<td>.013</td>
</tr>
<tr>
<td>Female gender</td>
<td><strong>1.61</strong></td>
<td><strong>.003</strong></td>
<td>2.63</td>
<td><strong>.000</strong></td>
<td>1.09</td>
<td>.535</td>
<td>1.11</td>
<td>.507</td>
<td>1.06</td>
<td>.660</td>
<td>1.10</td>
<td>.525</td>
<td><strong>0.51</strong></td>
<td><strong>.011</strong></td>
</tr>
<tr>
<td>English at home</td>
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<td><strong>.021</strong></td>
<td>1.16</td>
<td>.669</td>
<td><strong>1.67</strong></td>
<td><strong>.009</strong></td>
<td>1.16</td>
<td>.482</td>
<td>1.08</td>
<td>.701</td>
<td>1.15</td>
<td>.505</td>
<td>0.69</td>
<td>.265</td>
</tr>
</tbody>
</table>
7.3 Prompted responses regarding the helpfulness of medications

As outlined in Tables 7.4 to 7.6, results from the multipredictor binary logistic regression analyses regarding a belief in the helpfulness of medications reveal that while the accurate labels for all the vignettes were associated with a belief in the helpfulness of medication, so too were a number of other labels. For the psychosis vignette, the accurate label was associated with a belief in the helpfulness of both antidepressants (schizophrenia/psychosis: OR= 1.53, p=0.004) and antipsychotics (schizophrenia/psychosis: OR=3.32, p<0.001). The label “paranoid” was also associated with a belief in the helpfulness of antipsychotics (OR=2.25, p=0.048). For the social phobia vignette, the labels “social phobia” (OR=2.81, p=0.002) and “depression” (OR=2.80, p<0.001) were associated with a belief in the helpfulness of antidepressants. In contrast, for the depression vignette, “depression” was the only label to be associated with a belief in the helpfulness of antidepressants (OR=2.39, p<0.001), while other common lay labels, that is, “stress” (OR=0.53, p=0.047), “drugs” (OR=0.31, p=0.004), and “physical problem” (OR=0.47, p=0.04), were associated with a belief that they would not be helpful.

7.4 Prompted responses regarding the helpfulness of particular actions

As outlined in Tables 7.7 to 7.9, the accurate labels for each of the vignettes were the only labels to be associated with a belief in the helpfulness of psychological therapies, that is, counselling (depression: OR=2.09, p=0.006; psychosis: OR=3.23, p=0.003) and CBT (social phobia: OR=3.58, p<0.001). The only other belief associated with the accurate labels was in the helpfulness of cutting down on use of alcohol for the depression vignette (OR=1.84, p=0.012) and the psychosis vignette (OR=2.11, p=0.006). For the psychosis vignette, the label “depression” was associated with the most number of beliefs in recommended actions, including the helpfulness of physical activity (OR=2.07, p=0.004), and cutting
down on the use of alcohol (OR=2.04, p=0.014), cigarettes (OR=1.84, p=0.025) and marijuana (OR=1.88, p=0.04), while the label “mental illness” was associated with a belief in the helpfulness of relaxation training (OR=1.96, p=0.019) and a support group (OR=2.56, p=0.015). Labelling the depression vignette as “stress” was strongly associated with a belief in the helpfulness of relaxation training (OR=8.44, p=0.036).
Table 7-7: Predictors of belief in the helpfulness of particular actions for the depression vignette by youth: odds ratios and probability values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Physical activity</th>
<th>Counselling</th>
<th>CBT training</th>
<th>Relaxation training</th>
<th>Support group</th>
<th>Practice meditation</th>
<th>Cut alcohol</th>
<th>Cut cigarettes</th>
<th>Cut marijuana</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td>Depression</td>
<td>0.93</td>
<td>.735</td>
<td>2.09</td>
<td>.006</td>
<td>1.24</td>
<td>.179</td>
<td>0.85</td>
<td>.491</td>
<td>1.03</td>
</tr>
<tr>
<td>Stress</td>
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<td>.458</td>
<td>2.19</td>
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<td>.668</td>
<td>8.44</td>
<td>.036</td>
<td>1.59</td>
</tr>
<tr>
<td>Drugs</td>
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<td>.430</td>
<td>1.06</td>
<td>.919</td>
<td>1.11</td>
<td>.747</td>
<td>0.53</td>
<td>.103</td>
<td>1.50</td>
</tr>
<tr>
<td>Eating Disorder</td>
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<td>.080</td>
<td>4.22</td>
<td>.161</td>
<td>0.86</td>
<td>.662</td>
<td>0.93</td>
<td>.883</td>
<td>1.08</td>
</tr>
<tr>
<td>Physical problem</td>
<td>1.19</td>
<td>.718</td>
<td>1.28</td>
<td>.690</td>
<td>0.72</td>
<td>.337</td>
<td>1.40</td>
<td>.536</td>
<td>0.79</td>
</tr>
</tbody>
</table>

**Socio-demographics**

|                     | OR                | p           | OR          | p                   | OR            | p                  | OR          | p             | OR            |
|---------------------|-------------------|-------------|-------------|---------------------|---------------|--------------------|-------------|p               | OR            |
| Age, years          | 1.06              | .038        | 1.03        | .380                | 1.04          | .068               | 1.01        | .842          | 0.96          | .158          | 1.04          | .043          | 1.00         | .984          | 0.91          | .001          | 0.96          | .225          |
| Female gender       | 0.91              | .629        | 1.28        | .332                | 1.14          | .348               | 1.70        | .011          | 1.38          | .103          | 2.02          | .000          | 1.44         | .109          | 1.80          | .008          | 1.26          | .352          |
| English at home     | 1.05              | .849        | 1.03        | .920                | 0.90          | .553               | 1.20        | .491          | 1.35          | .216          | 0.92          | .695          | 0.98         | .954          | 0.76          | .361          | 1.62          | .082          |

Note: An analysis of the association between cut alcohol and "physical problem" was not included in the analysis for cut alcohol due to low frequency of responses.
Table 7-8: Predictors of belief in the helpfulness of particular actions for the psychosis vignette by youth: odds ratios and probability values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Physical activity</th>
<th>Counselling</th>
<th>CBT</th>
<th>Relaxation training</th>
<th>Support group</th>
<th>Practice meditation</th>
<th>Cut alcohol</th>
<th>Cut cigarettes</th>
<th>Cut marijuana</th>
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<tbody>
<tr>
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<td>OR.p</td>
<td>OR.p</td>
<td>OR.p</td>
<td>OR.p</td>
<td>OR.p</td>
<td>OR.p</td>
<td>OR.p</td>
<td>OR.p</td>
<td>OR.p</td>
</tr>
<tr>
<td>Labels</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenia/Psychosis</td>
<td>0.71 .094</td>
<td>3.23 .003</td>
<td>1.00 .999</td>
<td>1.35 .160</td>
<td>1.65 .066</td>
<td>0.81 .215</td>
<td>2.11 .006</td>
<td>1.04 .868</td>
<td>1.39 .221</td>
</tr>
<tr>
<td>Depression</td>
<td>2.07 .004</td>
<td>1.40 .314</td>
<td>1.04 .775</td>
<td>1.38 .162</td>
<td>1.36 .262</td>
<td>1.35 .096</td>
<td>2.04 .014</td>
<td>1.84 .025</td>
<td>1.88 .040</td>
</tr>
<tr>
<td>Mental Illness</td>
<td>1.02 .924</td>
<td>1.87 .139</td>
<td>1.03 .882</td>
<td><strong>1.96 .019</strong></td>
<td><strong>2.56 .015</strong></td>
<td>1.03 .880</td>
<td>1.60 .130</td>
<td>1.42 .228</td>
<td>1.53 .201</td>
</tr>
<tr>
<td>Psychological problem</td>
<td>1.30 .464</td>
<td>0.84 .683</td>
<td>1.00 .995</td>
<td>0.88 .686</td>
<td>0.83 .621</td>
<td>0.91 .729</td>
<td>1.03 .929</td>
<td>0.81 .530</td>
<td>1.86 .200</td>
</tr>
<tr>
<td>Paranoid</td>
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<td>1.73 .161</td>
<td>5.01 .116</td>
<td>0.62 .396</td>
<td>0.78 .551</td>
<td>1.07 .912</td>
<td>0.61 .324</td>
<td>0.63 .411</td>
</tr>
</tbody>
</table>

| Socio-demographics          |                   |             |     |                    |               |                    |             |                |               |
| Age, years                  | 0.99 .712         | 1.05 .194   | 1.02 .178 | 0.96 .101          | 1.01 .734     | 1.04 .088          | 1.00 .993   | 1.00 .901      | 0.99 .840     |
| Female gender               | 0.84 .337         | **2.06 .011** | **1.35 .023** | **1.53 .026** | **1.84 .009** | **1.79 .000** | 1.18 .450   | 1.32 .171      | 1.38 .162     |
| English at home             | 1.40 .145         | **3.38 .000** | **1.63 .007** | 1.08 .750          | 1.27 .388     | 1.45 .050          | **2.04 .003** | 1.46 .127      | **2.03 .006** |
Table 7-9: Predictors of belief in the helpfulness of particular actions for the social phobia vignette by youth: odds ratios and probability values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Physical activity</th>
<th>Counselling</th>
<th>CBT</th>
<th>Relaxation training</th>
<th>Support group</th>
<th>Practice meditation</th>
<th>Cut alcohol</th>
<th>Cut cigarettes</th>
<th>Cut marijuana</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td>Social phobia</td>
<td>1.27</td>
<td>.664</td>
<td>0.63</td>
<td>.419</td>
<td>3.58</td>
<td><strong>.000</strong></td>
<td>2.90</td>
<td>.151</td>
<td>1.62</td>
</tr>
<tr>
<td>Low self confidence</td>
<td>1.28</td>
<td>.367</td>
<td>1.38</td>
<td>.291</td>
<td>1.00</td>
<td>.988</td>
<td>1.41</td>
<td>.172</td>
<td>1.05</td>
</tr>
<tr>
<td>Shy</td>
<td>1.27</td>
<td>.393</td>
<td>1.34</td>
<td>.316</td>
<td>0.74</td>
<td>.097</td>
<td>1.34</td>
<td>.228</td>
<td>1.36</td>
</tr>
<tr>
<td>Depression</td>
<td>0.99</td>
<td>.976</td>
<td>2.20</td>
<td>.103</td>
<td>0.72</td>
<td>.132</td>
<td>1.37</td>
<td>.348</td>
<td>1.46</td>
</tr>
<tr>
<td>Anxiety/anxious</td>
<td>0.96</td>
<td>.915</td>
<td>1.86</td>
<td>.316</td>
<td>1.08</td>
<td>.756</td>
<td>2.42</td>
<td>.069</td>
<td>0.76</td>
</tr>
</tbody>
</table>

**Socio-demographics**

|                    | OR               | p           | OR  | p                   | OR            | p                   | OR          | p              | OR           | p              |
|--------------------|------------------|-------------|-----|---------------------|---------------|---------------------|-------------|----------------|--------------|
| Age, years         | **1.07**         | **.039**    | **1.09** | **.011**         | **1.05**      | **.017**            | **1.07**    | **.010**       | **0.99**     | **.828**       | **1.04**     | **.089**       | **0.98**     | **.486**       | **0.94**     | **.038**       | **0.96**     | **.186**       |
| Female gender      | **0.57**         | **.012**    | **2.79** | **.000**          | **1.21**      | **.183**            | **1.30**    | **.177**       | **1.46**     | **.085**       | **1.45**     | **.017**       | **0.89**     | **.541**       | **0.59**     | **.015**       | **0.59**     | **.027**       |
| English at home    | 0.93             | .804        | 1.48| .181                | **0.64**      | **.019**            | 1.14        | .611           | 1.57         | .101          | 0.90         | .648          | 1.22        | .422          | 1.01        | .969          | 1.60        | .095          |
7.5 Chapter discussion

Of all the common labels young people used, the accurate labels were the ones that were most consistently associated with a preference for professionally recommended forms of help. This was particularly the case for professional sources of help, medications and psychological therapies. These findings were consistent across the three different mental disorder vignettes. Whilst inaccurate mental health labels were associated with some preferences for recommended sources of help and treatment for the psychosis and social phobia vignettes, this was not to the extent of the accurate label.

Most concerning is that lay labels, such as “stress”, “paranoid” and “shy”, were associated with reduced likelihood of seeking any help if the young person themselves were to have a problem like the one described in the vignette. Also, the use of more general lay labels, such as “stress”, “drugs” and “physical problem”, were associated with considering antidepressants to not be helpful in the case of depression.

Labelling of anxiety disorders and their association with help-seeking preferences has not been previously reported. Compared to the depression and psychosis vignettes, accurately labelling the social phobia was associated with a preference for a more specific source of help, that is mental health specialist, and a specific treatment, CBT, with large and medium effect sizes respectively. Using the label “depression” was almost as effective as the accurate label, as it was associated with a preference for recommended sources of help, although the associations were less consistent and the effect sizes tended to be smaller. However, these labels were amongst the least common (see Table 6.5), hence the potential benefits of accurate labelling at a population level will not be fully realised until community education efforts targeting anxiety disorders are enhanced, particularly given their high prevalence (Australian Bureau of Statistics, 2007b; Demyttenaere, et al., 2004).
In regard to the depression and psychosis vignettes, many of the results of this study replicate earlier findings from a study of young people regarding the association between accurate label use and belief in the helpfulness of recommended sources of help. Replicated findings regarding accurate labelling of depression were an association with a belief in the helpfulness of a psychologist, anti-depressants and counselling, and for accurate labelling of psychosis, a belief in the helpfulness of a psychologist, a psychiatrist, antipsychotics (antidepressants not tested) and counselling (Wright, et al., 2007). A similar pattern of findings has also been reported in adult studies, that is, an association between accurate labelling and the belief in the helpfulness of a psychiatrist (Angermeyer, et al., 2009; Goldney, et al., 2009), psychototropic medication (Angermeyer, et al., 2009) and psychotherapy (Angermeyer, et al., 2009). Another similarity is that when “depression” is used to label the problem in a vignette, its association with help-seeking preferences and treatment beliefs differs between vignettes and has the most associations when applied accurately. Interestingly, in this study, the phenomenon was found to apply to social phobia as well. Furthermore, the accurate application of the term depression to the depression vignette had the most number of predictors, associated with it, that is, repeated findings of association, compared to when it was applied to the other vignettes (see Tables 6.7-6.9). It may be that the term “depression” has become a ubiquitous label for any mental health problem, but it is more likely to be linked with selection of recommended forms of help when applied accurately to a depressive disorder. This might occur through repeated exposure to the concept, which allows for more effective schematic organization (Marinellie & Chan, 2006).

The key differences in findings to the earlier youth study (Wright, et al., 2007) relate mainly to the psychosis vignette. In the previous study, other mental health labels, particularly “mental illness”, were more often associated with a belief in recommended sources of help and treatment, and the association between the accurate label and GP was non-significant. Furthermore, the earlier study did not find an association between accurate labelling of depression and psychosis or a belief in the helpfulness of cutting down on alcohol use. These differences in results may reflect an improvement in mental health literacy over
time, as evidenced by an increase in accuracy of labelling for depression from 48.7% in 2001 (Wright, et al., 2005), to 69.1% in 2006 in the present study, and for psychosis, from the same studies, an improvement from 25.3% to 33.4%.

The large number of associations examined in regard to labelling and help-seeking could have led to Type I errors. Excluding associations with covariates, significant associations were found for 16.7% of the help-seeking preferences variables, 23.5% of the belief in professional and medications variables, and 9.6% of the belief in particular actions variables, compared to an expected 5% by chance if the null hypothesis were true. In addition, that these associations are in the expected direction and replicate earlier findings leads to greater confidence in the findings.

Labelling a disorder accurately is associated with a preference for recommended sources of help and a belief in the helpfulness of recommended treatments above and beyond all other common labels used by young people. Importantly, it is also apparent that commonly used lay labels may limit appropriate help-seeking and treatment acceptance. Improving the accuracy of labelling of mental disorders, along with a consideration of other factors that facilitate help-seeking, may improve the effectiveness of community awareness initiatives in reducing the gap between young people’s need for treatment and receipt of treatment. As highlighted earlier (Sections 3.7 and 4.4.5), stigma is an important factor to consider when considering the association between labelling and help-seeking. The following chapter examines this in detail.
8 Results - Labels used by young people and their association with stigmatising beliefs

Whilst accurate labels may facilitate effective help-seeking, they might also be associated with stigma and therefore inhibit help-seeking. This chapter examines whether there is an association between the accurate labels and other common labels that young people use and stigmatizing beliefs.

As in the previous chapter, binary logistic regression was the principal form of analysis (see section 5.6.4), and again the regression coefficients did not differ greatly in magnitude between the univariate and multiple predictor logistic regression analyses, hence no further sequential regression analyses were conducted. Only the significant results of the multipredictor logistic regression analyses are reported here and the univariate results are appended (Appendix F).

8.1 Means

The means of all stigma components were quite low across all vignettes (see Table 8.1). The means were lowest for the social distance component and highest for the dangerous/unpredictable and perceived stigma components. The results were slightly positively skewed for most items, particularly reluctance to disclose where skewness ranged from 1.23 to 1.46 across the three vignettes, whereas perceived stigma (-0.31 to -0.10) tended to be negligibly negatively skewed and dangerous/unpredictable varied (-0.49 to 0.20).
Table 8.1: *Means and standard deviations of stigma components*

<table>
<thead>
<tr>
<th>Stigma components</th>
<th>Depression vignette M (SD)</th>
<th>Psychosis vignette M (SD)</th>
<th>Social phobia vignette M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social distance</td>
<td>1.61 (0.54)</td>
<td>1.77 (0.58)</td>
<td>1.60 (0.52)</td>
</tr>
<tr>
<td>Dangerous/unpredictable</td>
<td>2.89 (0.72)</td>
<td>3.30 (0.72)</td>
<td>2.55 (0.74)</td>
</tr>
<tr>
<td>Weak not sick</td>
<td>1.94 (0.75)</td>
<td>1.94 (0.76)</td>
<td>2.05 (0.76)</td>
</tr>
<tr>
<td>Perceived stigma</td>
<td>3.00 (0.77)</td>
<td>3.01 (0.76)</td>
<td>3.13 (0.75)</td>
</tr>
<tr>
<td>Reluctance to disclose</td>
<td>2.11 (1.10)</td>
<td>2.16 (1.10)</td>
<td>2.18 (1.08)</td>
</tr>
</tbody>
</table>

8.2 The association between label use and stigma components

Adjusted odds ratios from the logistic regression analyses are shown in Tables 8.2 to 8.4 according to vignette type. A number of consistent patterns of association were found for all vignettes. Firstly, for all vignettes, associations between label use and the outcome variables *stigma perceived in others* and *reluctance to disclose* were non-significant, hence these results are not included in the tables. Secondly, in general, when mental health labels were used for the three vignettes, they were associated with seeing the person described in each of the vignettes as sick rather than weak. That is, a negative association with the *weak not sick* outcome variable was observed for the labels “depression” (OR=0.29, p<.001) and “stress” (OR=0.41, p=.006) for the depression vignette, “schizophrenia/psychosis” (OR=0.16, p<.001), “depression” (OR=0.45, p<.001), “mental illness” (OR=0.38, p<.001), and “psychological/mental problem” (OR=0.48, p=.011) for the psychosis vignette, and “social phobia” (OR=0.20, p=.004), “depression” (OR=0.60, p=.038), and “anxiety” (OR=0.30, p<.001) for the social phobia vignette. However, for all vignettes, the accurate labels had the largest effect sizes.
The only significant association between label use and the outcome variable _dangerous/unpredictable_ was for the psychosis vignette, which was predicted by use of the labels “schizophrenia/psychosis” (OR=2.77, p<.001), “mental illness” (OR=1.48, p=.032) and “psychological/mental/emotional problem” (OR=1.74, p=.031). Again, the accurate label “schizophrenia/psychosis” had the largest effect size. The only predictor variable associated with _social distance_ was the label “paranoid” for the psychosis vignette and this was a negative association.

Table 8-2: _Predictors of different components of stigma for the depression vignette by youth: odds ratios and probability values from multipredictor binary logistic regressions_

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Social distance</th>
<th>Dangerous/unpredictable</th>
<th>Weak not sick</th>
<th>Stigma perceived in others</th>
<th>Reluctance to disclose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td><strong>Labels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>0.90</td>
<td>.493</td>
<td>1.09</td>
<td>.588</td>
<td><strong>0.29</strong></td>
</tr>
<tr>
<td>Stress</td>
<td>0.79</td>
<td>.417</td>
<td>0.74</td>
<td>.311</td>
<td><strong>0.41</strong></td>
</tr>
<tr>
<td>Drugs</td>
<td>0.89</td>
<td>.727</td>
<td>1.84</td>
<td>.053</td>
<td>1.00</td>
</tr>
<tr>
<td>Eating Disorder</td>
<td>1.45</td>
<td>.241</td>
<td>0.96</td>
<td>.910</td>
<td>0.72</td>
</tr>
<tr>
<td>Physical problem</td>
<td>1.31</td>
<td>.392</td>
<td>1.06</td>
<td>.849</td>
<td>0.61</td>
</tr>
<tr>
<td><strong>Socio-demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td><strong>0.93</strong></td>
<td><strong>.000</strong></td>
<td>1.02</td>
<td>.318</td>
<td><strong>0.88</strong></td>
</tr>
<tr>
<td>Female gender</td>
<td><strong>0.48</strong></td>
<td><strong>.000</strong></td>
<td><strong>0.63</strong></td>
<td><strong>.001</strong></td>
<td><strong>0.63</strong></td>
</tr>
<tr>
<td>English at home</td>
<td>1.28</td>
<td>.180</td>
<td>0.88</td>
<td>.501</td>
<td><strong>0.38</strong></td>
</tr>
</tbody>
</table>
Table 8-3: Predictors of different components of stigma for the psychosis vignette by youth: odds ratios and probability values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Social distance</th>
<th>Dangerous/unpredictable</th>
<th>Weak not sick</th>
<th>Stigma perceived in others</th>
<th>Reluctance to disclose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td><strong>Labels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenia/psychosis</td>
<td>0.91</td>
<td>.530</td>
<td>2.77</td>
<td>.000</td>
<td>0.16</td>
</tr>
<tr>
<td>Depression</td>
<td>1.09</td>
<td>.593</td>
<td>1.05</td>
<td>.748</td>
<td>0.45</td>
</tr>
<tr>
<td>Mental illness</td>
<td>1.22</td>
<td>.250</td>
<td>1.48</td>
<td>.032</td>
<td>0.38</td>
</tr>
<tr>
<td>Psychological problem</td>
<td>1.06</td>
<td>.806</td>
<td>1.74</td>
<td>.031</td>
<td>0.48</td>
</tr>
<tr>
<td>Paranoid</td>
<td>0.39</td>
<td>.023</td>
<td>0.97</td>
<td>.939</td>
<td>0.86</td>
</tr>
<tr>
<td><strong>Socio-demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>0.91</td>
<td>.000</td>
<td>1.06</td>
<td>.001</td>
<td>0.88</td>
</tr>
<tr>
<td>Female gender</td>
<td>0.63</td>
<td>.001</td>
<td>0.76</td>
<td>.044</td>
<td>0.60</td>
</tr>
<tr>
<td>English at home</td>
<td>0.91</td>
<td>.607</td>
<td>1.22</td>
<td>.267</td>
<td>0.42</td>
</tr>
</tbody>
</table>

Table 8-4: Predictors of different components of stigma for the social phobia vignette by youth: odds ratios and probability values from multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Social distance</th>
<th>Dangerous/unpredictable</th>
<th>Weak not sick</th>
<th>Stigma perceived in others</th>
<th>Reluctance to disclose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td><strong>Labels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social phobia</td>
<td>0.82</td>
<td>.565</td>
<td>0.69</td>
<td>.394</td>
<td>0.20</td>
</tr>
<tr>
<td>Low self confidence</td>
<td>1.28</td>
<td>.139</td>
<td>0.94</td>
<td>.756</td>
<td>1.11</td>
</tr>
<tr>
<td>Shy</td>
<td>1.02</td>
<td>.927</td>
<td>0.82</td>
<td>.384</td>
<td>1.26</td>
</tr>
<tr>
<td>Depression</td>
<td>0.93</td>
<td>.727</td>
<td>1.52</td>
<td>.072</td>
<td>0.60</td>
</tr>
<tr>
<td>Anxiety/anxious</td>
<td>0.92</td>
<td>.735</td>
<td>0.69</td>
<td>.229</td>
<td>0.30</td>
</tr>
<tr>
<td><strong>Socio-demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>0.90</td>
<td>.000</td>
<td>1.02</td>
<td>.502</td>
<td>0.90</td>
</tr>
<tr>
<td>Female gender</td>
<td>0.72</td>
<td>.019</td>
<td>1.01</td>
<td>.973</td>
<td>0.85</td>
</tr>
<tr>
<td>English at home</td>
<td>0.94</td>
<td>.752</td>
<td>0.71</td>
<td>.119</td>
<td>0.30</td>
</tr>
</tbody>
</table>
8.3 Chapter discussion

Labelling mental disorders using psychiatric or lay mental health terms was not commonly associated with stigma. Indeed, the results suggest that use of accurate psychiatric labels may help to counter some potentially stigmatizing beliefs, as these were the strongest predictors of viewing the person as “sick” rather than “weak” for all three disorders. The only exception to the generally positive or benign effect of psychiatric and lay mental health labels was for the psychosis vignette, where the accurate label “psychosis/schizophrenia”, and to a lesser extent the lay mental health labels “mental illness” and “psychological/mental/mental/emotional problem”, were associated with belief in unpredictability and dangerousness.

Non-specific labels such as “shy”, “low self-confidence”, “stress”, “paranoid” and “physical problem” were not associated with stigma. Indeed, in two instances—the use of the labels “stress” and “paranoid”—they were significantly less likely to be associated with weak not sick and social distance respectively. However, such associations were not common, suggesting that non-specific labels are not preferable to accurate psychiatric labels.

The non-significant associations between the labels commonly used by young people and perceived stigma shows that labelling is less relevant to the perception of what other people think than to personal stigmatizing beliefs. The non-significant findings regarding the personal stigma item reluctance to disclose may be because this was a one-item scale, which may have resulted in greater error of measurement and hence less power to detect an association.

The findings relating to the stigma component weak not sick need to be interpreted carefully, as perceptions of “sickness” may be just as stigmatizing as perceptions of “weakness”. This inference may occur as, in some studies, neurobiological conceptions of mental illness or a belief that mental illness is “a disease like any other” (Pescosolido et al., 2010), have been found to be associated with higher levels of social distance (Dietrich et al., 2004; Pescosolido, et al., 2010) and perceived dangerousness (Pescosolido, et al., 2010). However,
there are important differences in how concepts of sickness or illness have been measured. The studies examining neurobiological conceptions of mental illness (Dietrich, et al., 2004; Pescosolido, et al., 2010) focused on the role of neurobiological factors in causing the illness and, in one study, this measure was combined with prompted labelling of mental illness to create one “neurobiological conception” variable (Pescosolido, et al., 2010). In contrast, the current study examined level of agreement with statements such as the “problem is not a real medical illness” and did not directly examine causal beliefs. These difficulties in comparing findings between studies highlight the complexities of measuring stigma and how this contributes to inconsistencies in evidence.

The results for the depression and psychosis vignettes confirm findings of earlier English-language studies, including a positive association between accurate labelling and sick-not-weak stigma components for depression (J. Wang & Lai, 2008), non-significant associations between accurate label use and social distance for depression and psychosis (Jorm & Griffiths, 2008), and an association between perceived dangerousness and accurate labelling of psychosis (Jorm & Griffiths, 2008). However, in contrast to the present study, some studies of adults have found that labelling of schizophrenia and depression vignettes with accurate and lay mental health terms is associated with greater social distance (Angermeyer, et al., 2009; Jorm & Griffiths, 2008), possibly reflecting cultural or cohort differences.

The findings reported in this chapter further elucidate the degree to which the labels used by a young person to describe a mental health problem may be associated with stigma. It has highlighted the largely benign and often positive effects of labelling in relation to stigma, particularly accurate psychiatric terms, and it has helped to specify the distinct risks of labelling in regard to stigma. The following concluding chapter of this thesis draws together the findings regarding label use, help-seeking and stigma, and considers their broader theoretical and practical implications for understanding and improving help-seeking for mental disorders amongst young people.
9 Discussion and Conclusions

Mental disorders are common in young people yet many do not seek help. The reviews and syntheses, which introduced this thesis examined how help-seeking for mental disorders could be improved in young people. It was argued that improving labelling of mental disorders may be a feasible means of improving help-seeking. However, it was apparent that further empirical evidence was required to confirm and elucidate the role of labelling in help-seeking for mental disorders. The focus of this thesis, therefore, was to examine data from a national telephone survey of young people’s mental health literacy. It examined the labels the young people used to describe mental disorders portrayed in vignettes of a young person. Following this, the associations between the label respondents used and their help-seeking preferences were analysed, as well as the associations between label use and stigmatizing beliefs.

This final chapter summarises and synthesises the findings reported in the results chapters, comparing the results to previous research in the field and highlighting the new contributions to knowledge that have been made. The theoretical implications of the findings are discussed, as well as strengths and limitations of the study. The later sections of this chapter propose areas for further research, and discuss the practical implications of the findings that can be applied to improving help-seeking in young people.
9.1 Summary of research findings

9.1.1 Labelling of mental disorders and factors associated with label use

This study established that different mental disorders have different patterns of labelling by young people. Depression is labelled accurately by a majority of young people and this is done so twice as frequently as for psychosis, whereas social phobia is rarely accurately labelled. Although depression was accurately labelled by just over two-thirds of young people, some of the other common labels, such as “stress”, indicate that the disorder is less likely to be considered as serious. Psychosis attracted a range of other serious labels, such as “mental illness” and “depression”, whereas the seriousness of social phobia as a mental disorder is potentially minimized, as indicated by the common use of the lay labels “low self-confidence” or “shy”.

Males were almost four times more likely to use the label “drugs” in describing the depression vignette, while females were more than five times more likely to use the label “eating disorder” to describe the same vignette, possibly reflecting the higher relative prevalence of these disorders in their respective genders (Australian Bureau of Statistics, 2010; Fairburn & Harrison, 2003).

Evidence was produced that the Australian national depression initiative may have had general effects that are associated with mislabelling the problems described in the psychosis and social phobia vignettes as “depression”. The use of “depression” to label these vignettes was associated with exposure to the national depression initiative. However, it is important to note that any suggestion of causality regarding mislabelling of psychosis and social phobia remains speculative.

Overall, female gender was associated with accurately labelling the high prevalence disorders. Accuracy of labelling was greater with increasing age for all disorders. Indeed, the use of accurate labels was associated with a greater number of predictor factors compared to most other inaccurate labels, the
exception being the use of the label “anxiety” for social phobia. In addition to age, accurate labelling was consistently associated with exposure to mental health education campaigns and parents who use accurate labels. Accurate labelling of depression and psychosis was also associated with being exposed to a family member or friend who had experienced a mental disorder and sought help, possibly due to the higher proportion of people who experience these disorders receiving treatment. Interestingly, this was not the case for the social phobia vignette, although exposure to a family member or friend with the disorder was associated with the inaccurate labels of “depression” and “anxiety”. Use of the accurate label for the depression vignette was associated with the additional factors of ethnicity and having personally experienced the disorder and sought help. Indeed, use of the accurate label “depression” was associated with the greatest number of predictor factors, which may be related to the higher proportion of accurate labelling for this vignette.

9.1.2 Labelling and help-seeking intentions and preferences

In regard to both the unprompted help-seeking intentions and prompted help-seeking preferences, accurate labelling was associated with the nomination of professionally recommended sources of help and treatment with greater consistency than all other labels commonly used by young people. It has also been established that commonly used lay labels such as “shy”, “stress”, “drugs” or “paranoia” may lead to an avoidance of help-seeking or limit treatment acceptance. Although “depression” was a label applied to all vignettes, it was more likely to be associated with effective help-seeking and treatment options when applied accurately.

Specifically in relation to unprompted help-seeking intentions, the association between accurate labelling and help-seeking was less marked, with the exception of the accurate label of “social phobia”. This less marked association regarding unprompted help-seeking was anticipated given that this element of the interview required active searching for a solution to a problem from the respondent’s own problem solving repertoire. That is, it required more cognitive
effort than a passive endorsement of a prompted item (Pescosolido & Olafsdottir, 2010). Furthermore, unlike the prompted help-seeking questions, the unprompted question focused on the respondent’s own likely actions were they to have a problem like the one in the vignette. As this question was asked in relation to the respondents themselves, the threshold for perceived need for help was expected to be higher due to optimism bias (Raviv, et al., 2009; Spendelow & Jose, 2010).

9.1.3 Labelling and stigma

Although there has been some concern raised in the literature regarding the potential association of labelling of disorders and stigma, the results presented here suggest that this was rarely the case. Indeed, accurate labels may have a counter-stigma effect, as they were associated with believing that the problem was a real medical illness rather than a weakness, and the majority of other associations were non-significant. However, use of the accurate label for psychosis was associated with a belief that the person described was dangerous or unpredictable. An association with this stigma component was also found with the inaccurate labels “mental illness” and “psychological problem” for the same vignette, although the associations were weaker.

9.2 Comparison with previous research

Overall, the results of this study of youth are similar to findings from previous adult studies of western samples regarding the more frequent labels used for depression and psychosis. There are some differences in regard to the less frequently used labels, for example, “drugs” and “eating disorder”, which may be due to higher prevalence of these disorders in this age group (Australian Bureau of Statistics, 2010; Fairburn & Harrison, 2003) or colloquial labels more common to youth, for example, “paranoia”. Overall rates of accurate labelling by youth have improved since 2001 (see Table 4.3). However in comparison to a major national study of Australian adults from 2003-2004 (see Table 4.3), the rate of accurate labelling of depression is slightly higher in the present study, whereas
the rate of accurate rating for psychosis is lower. It is important to note that the majority of prior studies of labelling have examined depression (see Table 4.3), hence there is limited research to compare the psychosis findings to and no prior studies regarding labelling of social phobia or any anxiety disorders.

Factors associated with labelling replicate those of previous studies, including associations with female gender, higher accuracy in young adults compared to adolescents, exposure to family or friend with the illness (see Table 4.3), and exposure to campaigns (see Section 4.5.3). Ethnicity, indicated in current analyses by language spoken at home, was only associated with accuracy of label use for depression, which apart from one study of Chinese migrants in Canada (Tieu, et al., 2010), has been previously found to be non-significant. The association found in this thesis may have occurred because the measure of ethnicity used was a language-based measure rather than the respondents’ identification with a specific cultural or ethnic group. Also, unlike previous studies (see Table 4.3), experience of mental disorder in oneself was associated with accurate labelling of depression.

Although previous research relating to labelling and help-seeking is quite limited, the findings here support the findings from three studies that have previously examined this, that is a consistently positive association between accurate labelling and belief in the helpfulness of professionally-recommended sources of help (Angermeyer, et al., 2009; Goldney, et al., 2009; Wright, et al., 2007).

The results for associations between labelling and aspects of stigma also support findings from western countries (Jorm & Griffiths, 2008; J. Wang & Lai, 2008) and, where there is a difference, it is likely to be due to difference in the stigma measure used (Angermeyer, et al., 2009), as discussed in detail in section 8.4.
9.3 New contributions to the field of mental health literacy

Overall, the examination of labelling of mental disorders in this thesis has extended the research on labelling, as it is examined in more detail and in relation to a broader range of factors compared to how it has been examined in the field of mental health literacy previously. In particular, the research undertaken in this thesis breaks new ground in the following areas: it has examined a range of labels in common use, it provides a more detailed examination of the association between label use and help-seeking and between label use and stigma, and is the first study to examine these factors in relation to an anxiety disorder (see Chapter 4).

This thesis has shown that young people in this study used different labels compared to adults in other studies. In relation to the types of labels used, this thesis focused on the range of common but specific unprompted labels used and this has allowed for a comparison of a range of labels. This in turn has enabled a greater understanding of how different labels for mental disorders are applied relative to others. It also highlights how accurate labelling evolves with age through adolescence and young adulthood, and the important influence of the accuracy of parental label use on young people's labelling accuracy.

Concerning labelling and help-seeking, this thesis examined a far greater range of help-seeking options and examined these in relation to a broad range of labels in common use. No other studies have examined unprompted help-seeking intentions in relation to labelling. Examination of unprompted help-seeking is important as it is likely to be a more realistic indication of an individual’s actual help-seeking behaviour (Pescosolido & Olafsdottir, 2010). Hence these results provide a stronger indication of how labelling may influence intentions and eventual behaviour. However, it must be emphasized that causation cannot be inferred from the cross-sectional results reported here. A prospective longitudinal study, possibly involving an intervention would be required to address this reliably.
Regarding labelling and stigma, the thesis has comprehensively examined all aspects of stigma previously examined in a range of individual studies in the mental health literacy field. The only association found was an association between one aspect of stigma, a belief that the person described in the vignette would be dangerous or unpredictable, and mental health labels for the psychosis vignette, particularly the accurate label.

This is the first study of labelling of an anxiety disorder depicted in a vignette, which met criteria established in the labelling literature review (see Chapter 4). It is evident that when social phobia is labelled accurately, the accurate label is associated consistently and strongly with specific sources of mental health help, for example mental health specialist, psychologist, mental health service and CBT. This association with specific sources of mental health help occurred more often than for other mental health labels applied to the social phobia vignette, and more often than the accurate labels for the other vignettes. However, unlike other vignettes, another mental health label for the social phobia vignette, “depression”, also showed repeated associations with recommended help-seeking choices. However, these associations were not as strong or as specific to mental health professionals and treatments as for the accurate label. These findings may have implications regarding the selection of the most appropriate labels to promote for anxiety disorders.

9.4 Theoretical implications of findings

The higher number of factors associated with accurate labelling compared to other labels may be fruitfully understood in relation to Leventhal’s CSM model (Leventhal, et al., 1980). Leventhal and colleagues suggests that the information or knowledge that informs labelling and illness representation comes from three primary sources, namely general social communication and cultural knowledge, authority figures and previous experience with the illness. In most instances of accurate labelling, factors representative of all of these sources have been found to be associated with accurate labelling. As discussed earlier (Section 6.3.3), the effective use of the accurate label may then be further understood to occur due
to the increased word frequency that arises from exposure to the accurate application of these labels via these varied sources of knowledge and information. This is because as exposure to a word increases, word meaning is connected and organized in a more detailed and specific way in language organizational structures (Marinellie & Chan, 2006).

However, the accurate label for the social phobia vignette did not have a greater number of predictors associated with its use than the label “anxiety” and, to some extent, the label “depression”. This may be because a lower proportion of people with social phobia receive treatment than those with depression or psychosis (Kohn, et al., 2004; P. S. Wang, et al., 2005), hence young people are likely to have had less experience of knowing someone who has received help for the illness. It may also be that social phobia is, by its nature, a more ‘private’ disorder that is not discussed or observed in social contexts, whereas the symptoms of psychosis are harder to hide.

The higher proportion of accurate labelling of depression and social phobia in females may be explained in a similar way. These disorders have a higher prevalence and a higher proportion of young people receiving treatment amongst females than males (Australian Bureau of Statistics, 2007a). In contrast, accurate labelling of psychosis was not associated with gender. This is interesting given that the prevalence of psychosis in youth is higher in males (V. A. Morgan, et al., 2011).

Label use has been found to play an important role in help-seeking for physical illnesses, as demonstrated in studies based on the CSM. Findings regarding help-seeking reported in this thesis suggest that labelling is also potentially important in help-seeking for mental disorders. Only one other small qualitative study has examined labelling in relation to the CSM in the field of mental health, and label use was considered to be an important part of the help-seeking process (Elwy, et al., 2011). One study has applied the CSM to help-seeking for mental health problems in young people and found an association with the other four components of the CSM, that is, beliefs regarding their the causes, consequences, timeline and controllability (Vanheusden, et al., 2009). The findings from this
thesis complement findings in the Vanheusden study by confirming an association between help-seeking and the remaining illness representation component, labelling.

Labelling that is not accurate is also important to consider because the use of generic lay terms such as “shy” or “stress” may lead a person to think of the problem as within the bounds of normal functioning and hence delay (Bishop, 1991) or not seek care (Klimidis, Hsiao, & Minas, 2007). This is particularly the case with younger people in the age group. Young males are at particular risk of inaccurate labelling, which may prevent effective help seeking. Not only was male gender less frequently associated with accurate label use, it was more frequently associated with inaccurate label use, such as “drugs” for depression or “shy” for social phobia. Furthermore, young males are less likely to receive mental health services (Slade, et al., 2009) and are known to be poorer help-seekers (see Table 2.1). Although a range of factors can explain their lower help-seeking (Rickwood, et al., 2005), limited capacity to label disorders may be one of them. In addition, it must be noted that less accurate labelling by males was not found with psychosis, so it could also be an issue of familiarity due to lower prevalence of depression and anxiety disorders in males. Taking these explanations into account, on balance, young males could benefit from targeted efforts to improve their capacity to label disorders, as it could lead to improvements in help-seeking.

Similarly, other factors associated with inaccurate label use, such as lack of exposure to mental health information, non-English speaking background and inaccurate parent label use (an indicator of poor parental mental health literacy (Jorm, et al., 2007b), were also associated with lower likelihood of help-seeking (Table 2.3). If labelling acts as a cue in the process of help-seeking, a lack of attention to improving the labelling of people who fall into these potential risk groups could contribute to health inequalities in relation to help-seeking and health service access for mental disorders.

However, as discussed in the previous section, inaccurate labelling for social phobia may need to be considered differently. Social phobia is a high prevalence
disorder (Slade, et al., 2009), yet being an anxiety disorder it has one of the lowest rates of treatment and treatment delays are amongst the longest (Thompson, et al., 2008; P. S. Wang, et al., 2005). The accurate label of “social phobia” and the alternative (but inaccurate) label of “depression” were both associated with selection of recommended forms of help, but were collectively used by less than 19% of respondents. This problem with labelling social phobia may help to explain the lower rates of health service use and treatment delay for this disorder (Bishop, 1991; Thompson, et al., 2008). Whilst labelling may be critical to reducing delays into treatment for anxiety disorders, it may be that using the terms “anxiety disorder” or “depression” may be adequate. This may be a more realistic approach to labelling of anxiety disorders, as there are so many different forms and it is not feasible for young people to know the psychiatric labels for each.

Findings from this study provide further evidence regarding the association between labelling and stigma by distinguishing labelling the problem from labelling the person, in the way suggested by Link and Phelan (2010). Whilst previous studies have indicated that labelling the problem is associated with stigma, almost all of these have been in relation to prompted use of the term “mental illness” or combining all mental disorder and mental health labels under the heading of mental illness. Examination of the distinct labels used by young people to describe mental disorders and their association with various aspects of stigma has afforded a more thorough and detailed examination of the association between these factors. It has revealed that labelling the problem, in most cases, is not associated with stigmatizing beliefs. Although labelling is often tagged with negative connotations, it may not be that the disorder label inhibits help-seeking due to its association with stigma, but rather being labelled as a user of psychiatric services may be potentially stigmatizing, and concern about this can inhibit help-seeking.

Indeed, accurate labels may counter stigmatizing views that the problem is a sign of weakness rather than a real illness. This possibility is important, as countering the belief that a person is “weak not sick” may in turn overcome the potential of this stigma component to inhibit help-seeking (Yap, et al., 2010). However, the
major exception regarding the benefits of labelling is the risk of increasing perceptions of dangerousness and unpredictability through use of the labels “psychosis” or “schizophrenia”. This association suggests that strategies designed to promote help-seeking for psychosis need to proceed with caution, as campaign messages could potentially increase stigma and hence derail help-seeking (Vogel, Wester, et al., 2006). However, a related study has found that believing that the person described in the same psychosis vignette was dangerous or unpredictable was associated with an intention to seek help if the respondent themselves had a problem like the one described in the vignette (Yap, et al., 2010). Findings regarding this association may strengthen the argument that the use of accurate labels may facilitate help-seeking, even though they are associated with a particular stigma component. However, the belief that a person with psychosis is dangerous or unpredictable may negatively influence the self-stigma a young person directs toward themselves once the possibility of help-seeking for psychosis is considered (Rüscher, et al., 2005), and may worsen the stigma experienced by young people receiving treatment for psychosis (Moses, 2009).

9.5 Strengths and limitations of the study

9.5.1 Strengths

The survey and accompanying analysis reported in this thesis study have a number of strengths. In regard to the sample, it was based on data collected in a large, national survey and is likely to have been more inclusive of a greater diversity of young people’s perspectives than the more common school- and college- or health-service-based convenience samples that have often been used to examine labelling, help-seeking and stigma in young people. Although the in-scope status of some households contacted could not be established and this limits the capacity to absolutely define the representativeness of the survey, the similarity of the sample to the national population in regard to age, gender and residential location supports the potential generalizability of the results.
The focus on youth is important, as it is the period of life when the onset of a mental disorder is most likely to occur (Kessler, Angermeyer, et al., 2007) and where an understanding of the role of labelling and help-seeking is paramount. Also in regard to age, the inclusion of parents’ level of education and label use has helped to elucidate the potential environmental influences on label use, and is particularly important in this age range when young people are often still dependent on their parents.

In regard to the questionnaire, the elicitation of unprompted responses immediately after the description of the vignette may be a more authentic reflection of the labels young people are likely to use in real life as opposed to responses to pre-determined labels (Pescosolido & Olafsdottir, 2010). In addition, the focus of the survey on mental health was not mentioned till much later in the survey, reducing the potential for biases in the labels given.

Important issues regarding measurement integrity have been addressed. The intended depiction of a specific mental disorder in each of the vignettes was validated using clinician consensus, as were the recommended sources of help. In addition, the inter-rater reliability regarding the coding of the unprompted labels used by respondents was high.

The design of the questionnaire and the particular analyses used in this thesis study has enabled a focus on the range of labels in common use, rather than just psychiatric labels (e.g. Burns & Rapee, 2006; Wright, et al., 2005). This has helped to build a picture of how young people perceive mental disorders generally and highlights the potential problems associated with the alternative of using inaccurate labels. Furthermore, examining label use across a range of disorders added greater context for the consideration of label use, as the determinants and implications of the range of labels used can be understood through a process of comparison between disorders.
9.5.2 Limitations

The findings must also be considered in light of some of the study's limitations. Labelling of a problem portrayed in a vignette, while convenient as a means of measuring mental health literacy, cannot fully reflect the actual experience of conceptualizing and responding to a problem in real life, whether it is in oneself or others. A hypothetical vignette cannot incorporate the interactions and non-verbal cues that help gain insight into a person's problem, and rarely do people neatly present a clear picture of symptoms simultaneously (Link, Yang, Phelan, & Collins, 2004). Furthermore, questions relating to a vignette cannot adequately evoke the complexities of the stigma experience (Yang, et al., 2007).

Furthermore, generalizing the findings from labelling of the vignette to how a person might label the same problems if they themselves were to experience them needs to be undertaken with caution. When a person is experiencing a mental health problem themselves, they may also experience difficulties with insight or cognition, particularly with psychosis (Sadock & Sadock, 2007, chap. 13), which may affect their ability to identify and label their symptoms. Also, if a young person were to experience the problem themselves they may be less likely to consider that they have a mental disorder and hence are less likely to apply an accurate label to themselves than they would apply a peer due to the effects of optimism bias (Raviv, et al., 2009; Spendelow & Jose, 2010). For these reasons, applying findings from this thesis to any individual young person labelling a disorder they may be experiencing would need to be undertaken with caution.

It is also important to note that other studies have found that labelling can be affected by the age and gender of the vignette character (Cotton, et al., 2006; Pescosolido, et al., 2008). However, it was not possible to examine these factors in the present study, because age group and gender of the vignette character were selected to match that of the respondent.

In regard to the limitations of labels applied to the vignette, the accurate label of “social phobia” was only used by 5% of participants. This uneven 5%/95%
distribution of respondents may have resulted in the results being less robust. Hence findings relating to this label need to be interpreted with caution.

This study focused on help-seeking intentions and beliefs rather than actual help-seeking behaviour. This may limit the applicability of the findings. However, a meta-analysis of studies of intentions and behaviour change supports the notion that intentions are strongly associated with behaviour (Webb & Sheeran, 2006), and specifically in relation to help-seeking for mental health problems, beliefs and attitudes are predictive of intentions (Schomerus, Matschinger, & Angermeyer, 2009).

Another limitation regarding the help-seeking findings arises from the way the questions eliciting prompted and unprompted responses were framed. A comparison of findings between unprompted and prompted results within the study is difficult, as the former asked questions in relation to the respondent themselves having the problem and the latter in relation to the person described in the vignette. It would be expected that, given the tendency of young people to have a higher threshold of perceived need for help for self than for a peer (Raviv, et al., 2009), more associations may have been found if the unprompted questions were asked in relation to the vignette character.

A number of limitations apply specifically to the stigma findings. The responses to the stigma items may be affected by social desirability bias, so the results may underrepresent the extent of stigmatizing beliefs. Each of the stigma scales contained only a small number of items and this may have increased error of measurement and under-estimated the size of effects. In addition, combining the terms “dangerous” and “unpredictable” may limit the distinct application of the findings regarding these stigma components. Other research has found that the dangerous element is associated with willingness to seek help, whereas belief in unpredictability is associated with decreased willingness to seek help (Mojtabai, 2010). However, the high loadings of both items on the same principal component for both young people and their parents (Jorm & Wright, 2008) and replication of findings with a sample of adolescents (Reavley & Jorm, 2011) suggest that it is a cohesive construct.
Finally, the majority of effect sizes for the significant results were small to medium and this might potentially limit their public health significance. However, this must also be considered in relation to the relative cost of changing knowledge about the labelling of disorders, which can be achieved at a relatively low cost through targeted community awareness initiatives. Given the cost, even small effects may be important for guiding public health action.

9.6 Future research

9.6.1 Extensions of the study

The current study has focused on labelling of a hypothetical problem being experienced by someone else, and many of the help-seeking questions and the stigma items also related to the person depicted in the vignette. However, responses can be quite different when the question is asked in relation to the self. An indication of this is the difference in help-seeking responses in this thesis regarding the self, compared to responses regarding the person in the vignette. The findings presented in this thesis are useful in that they indicate how a young person might respond to a peer. This is important as friends and family are a common source of help (Jorm, et al., 2007b). Yet it may be that if a young person is asked to imagine themselves experiencing a range of problems by placing them as the protagonist in the vignettes, the threshold for labelling might be quite different. Indeed, the threshold for accurately labelling a problem in the self is likely to be higher due to optimism bias (Raviv, et al., 2009; Spendelow & Jose, 2010) and the desire of young people not to consider a problem as a real health problem (Biddle, et al., 2007). In seeking responses in relation to the self, a focus on unprompted responses would remain essential. This approach would also allow for an examination of self-stigma, that is, the stigmatizing views an individual holds in regard to themselves. This is vital as measurement of self-stigma is a major gap in the consideration of the association between stigma and labelling, and would only be able to be assessed if the vignette protagonist was the respondent themselves.
Future research should also further explore the nature of labelling and stigma from the perspective of key players in the help-seeking process such as families (Franz et al., 2010) and friends. Using qualitative methodologies would expand our understanding of the subjective and interpersonal processes that influence stigma and labelling (Yang, et al., 2007) in the help-seeking process.

Another useful extension of the current study would be to examine labelling of other mental disorders common in young people. A vignette that illustrates a substance use disorder is particularly important, as these disorders are more common in this age group than at other ages. Substance use disorders affect 13% of young people, and are particularly common in young males (16%) (Australian Bureau of Statistics, 2010). As discussed in section 5.4, a fourth vignette for the survey, which described a co-morbid diagnosis of depression and substance misuse, was not included in this study. This was because it potentially complicated the investigation of labelling, as two labels were theoretically required, making comparisons with the other vignettes that focused on a single diagnosis problematic. However, now that single diagnoses have been investigated, the examination of comorbid presentations would be a useful extension to this study as they are often the more severe presentations of mental illness and are associated with a higher level of impairment and suicidal behaviour (Australian Bureau of Statistics, 2007b). Comorbid disorders affect approximately one third of young people with a mental disorder (Australian Bureau of Statistics, 2010). The presence of more than one disorder may mean they are harder to label accurately, as they do not fit with a single illness prototype (Bishop, 1991). However, comorbid presentations are important to consider, as they are common, have serious consequences, and are an example of how the onset of mental disorders may not match prototypic presentations.

**9.6.2 Broader issues to be covered in future work**

Whilst the use of a vignette applied to the self potentially provides a more reliable indication of the individual's own help-seeking intentions, it cannot
capture actual behaviour. Furthermore, it cannot determine whether there is a causal relationship between labelling and help-seeking, or between labelling and a range of stigma components. Indeed all other studies to date that have used the CSM in relation to help-seeking for mental disorders have been retrospective and have used a cross-sectional design (Elwy, et al., 2011; Vanheusden, et al., 2009). Ideally, a population-representative prospective follow-up study would be used address this issue. This could involve respondents being interviewed at regular intervals, bi-monthly for example, for monitoring of symptoms, then a more lengthy interview just prior to help-seeking to ascertain symptoms and label applied, as well as a range of other illness representation components, using a measure such as the Illness Perception Questionnaire (IPQ-R) (Moss-Morris et al., 2002). The trigger for the interview would be the person making an appointment. Stigma could be measured within the component of the interview dealing with consequences of the disorder and help-seeking. Other factors would be controlled for by conducting the same interview at the time the appointment is made with a non-help-seeking respondent in the sample matched for initial physical and mental health status, age, gender, socio-economic status, exposure to mental health campaigns and knowledge of someone who has sought help. This study design is similar to a study by Cameron and colleagues (1993), which examined help-seeking for general health problems in adults. Similar to the Cameron study, the proposed study would require some control over the source of help to ensure that all health care seeking was tracked. In Australia, for example, the establishment of new regional youth mental health clinics across the country could allow for this (Jorm, et al., 2007b).

An extension of this would be to implement a mental health literacy training program for young people and parents that has been shown to be effective in improving mental health literacy, for example, Mental Health First Aid training (see review of community education initiatives section 4.5.3). This would allow for pre, post and follow-up measurement of mental health literacy, including measures of label use, help-seeking and stigma to see if improvement in knowledge, beliefs and intentions could be improved and maintained and track participants prospectively in regard to their help-seeking. Tracking of help-seeking could be achieved by emphasizing use of a particular health service, as
described immediately above, or tagging of participants’ use of whole-of-population government funded health services (e.g. National Health Service (NHS) in Britain, Medicare in Australia).

Tracking use of health services, as described in these two suggested study designs, would help to definitively answer many causal questions about factors that determine help-seeking as described in the CSM, including the potential role of labelling. This could then inform efforts to improve help-seeking amongst young people. However, the feasibility of these studies may be limited by the amount of funding, organisational logistics and organisational cooperation required to conduct them.

9.7 Practical implications of the research

The results of this study suggest that promoting accurate problem-centred labelling within community awareness campaigns may improve help-seeking rates amongst young people for depression, social phobia and, for the most part, psychosis. Importantly, accurate labels are unlikely to lead to an increase in personal stigma, perceived stigma or social distance. Targeting parents is particularly important, especially for those in the younger age group who are likely to find labelling more difficult, as younger adolescents are not as cognitively mature as older adolescents and young adults (Chan & Marinellie, 2008). There may also be benefit in specifically targeting those likely to be poor labellers such as males, as they are less likely to seek help (see Tables 2.1-2.4), and difficulties with labelling an emerging mental disorder may contribute to their lower rates of help-seeking. This could be achieved by designing help-seeking messages with a focus on accurate labelling that are particularly pertinent to males.

Due to the association between the accurate label for psychosis and the stigma component dangerous/unpredictable, campaigns need to include strategies that effectively target this component of stigma (Minas, et al., 2009; Pinfold et al., 2003). Parents may also be important targets for these interventions, as their
perceptions of dangerousness and unpredictability have been found to be specifically associated with these same perceptions in their offspring (Jorm & Wright, 2008).

Although the effect sizes reported here were small to medium, the cost of strategies to improve labelling through community awareness initiatives designed to improve help-seeking is likely to be low compared to alternatives such as population screening for mental disorders.

**9.8 Conclusion**

When considering labelling of mental disorders and help-seeking in young people, it can be broadly concluded that specific accurate labels are linked to specific sources of help, while generic lay labels are linked to generic sources of help. Using an accurate label acts as a schematic hub for conceptualizing an emerging mental disorder that enables effective selection of recommended sources of help. Stigma is not commonly associated with use of an accurate label and is therefore unlikely to be a barrier to help-seeking in most instances. These findings can help to inform and improve the effectiveness of community awareness strategies designed to increase help-seeking rates for mental disorders in young people.
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Appendix A

National Survey of Mental Health Literacy in Young People

Combined Youth/Parent Interview
Incorporating Orygen changes (approved by ethics committee) (25 May 2006)

Call outcome codes (SMS screen)
1. No answer
2. Answering machine
3. Fax machine / modem
4. Engaged
5. Appointment
6. Stopped interview
7. LOTE – No follow up
8. Named person not known (only applies if calling back to keep an appointment and phone answerer denies knowledge of named person)
9. Telstra message / Disconnected
10. Not a residential number
11. Too old / deaf / disabled/health/family reasons
12. Claims to have done survey
13. Away for duration
14. Other out of scope
15. Terminated during screening / midway (HIDDEN CODE)
16. (SUPERVISOR USE ONLY) Refused prior (eg. phoned 1800 number to refuse participation after receiving letter)
**YOUTH MODULE**

Good morning/afternoon/evening. My name is [...] calling on behalf of the University of Melbourne from the Social Research Centre. The University is conducting a major study of people’s attitudes to some public health issues facing Australians today to gain a better understanding of what people know and understand about some health problems.

Your telephone number has been chosen at random from all possible telephone numbers in your area. Please be assured that you cannot be personally identified by participating in this study.

**(ALL)**

S1a. Are there any PARENTS of people aged between 12 and 25 in this household?

1. Yes (GO TO S2)
2. No
3. Refused (GO TO RR1)

**(NO PARENTS OF PEOPLE AGED 12-25 IN HOUSEHOLD)**

S1b. Are there ANY people aged between 18 and 25 in this household?

1. Yes (GO TO S6b)
2. No (GO TO TERM1)
3. Refused (GO TO RR1)

PRES3 IF PARENT OF CHILDREN AGED 12-25 CONTINUE, ELSE GO TO S6

**(CHILDREN AGED 12-25 IN HOUSEHOLD)**

S2. Can I speak to the parent of the child or children aged 12-25 in the household?

1. Yes – parent available now (CONTINUE)
2. Yes – parent not available now (RECORD NAME AND ARRANGE CALLBACK)
3. No - refused (GO TO RR1)

**(PARENT OF CHILD/REN AGED 12-25 IN HOUSEHOLD)**

S2A. The University of Melbourne is conducting a major study of young people’s attitudes to some public health issues facing Australians today.

1. Continue

**(PARENT OF CHILD/REN AGED 12-25 IN HOUSEHOLD)**

S2A1. To help us select the young person we’d like to interview, could I just ask, how many 12-25 year olds live in this household?

1. One
2. More than one (Record number) (GO TO S2B)
3. Refused (GO TO S2B)
4. None (GO TO TERM 1)

**(PARENT OF CHILD AGED 12-25 IN HOUSEHOLD)**

S2A2. Is this child aged 12-17 or 18-25?

1. 12-17 (GO TO S3A)
2. 18-25 (GO TO PRES6A)

**(MORE THAN ONE CHILD AGED 12-25 IN HOUSEHOLD)**

S2B. Could you please tell me the age of the 12-25 year old in the household who had their birthday most recently?

1. 12-17 year old had birthday most recently
2. 18-25 year old had birthday most recently (GO TO PRES6A)
S3A. This study aims to gain a better understanding of what people know and understand about some health problems. I would like to interview your child, but as they are a minor I need your permission. During the interview, your child will be asked their views about certain health problems and what they have heard about them in the media. At the end of the interview they will be asked a few questions about their own health. They do not have to answer any questions they don’t want to. The interview with your child would take around 15 minutes.

Before we begin, I have to tell you a few things. If your child agrees to be interviewed, they are free to withdraw from the survey at any time. If for any reason you want to contact one of the researchers at the university, I can give you a number for that person. If you have any ethical concerns about the research you can contact the University’s ethics officer. I will provide the phone number if you ask for it.

The study is being carried out on behalf of ORYGEN Research Centre at the University of Melbourne, using funding provided by the National Health and Medical Research Council. The study has been approved by the University’s ethics committee.

At the end of the child interview we will select a parent and ask whether they are available to answer similar questions. The selected parent will not be told the child’s responses nor will the child be told the parent’s responses, but the responses will be linked in the database. We will also ask whether the child would be willing to participate in another survey in a few years time to compare responses, and if they agree, ask for contact details including email and postal address and phone number as well as those of a person close to them in case these details change. Do you have any questions about the study?

1. Continue (GO TO S3B)
2. Wants to be sent a letter (explaining purpose of survey)
3. Refuses to continue without more specific information about survey content (DISPLAY SCONTENT)

*A(WANT TO BE SENT A COPY OF THE LETTER)*
ALET (RECORD NAME AND COLLECT ADDRESS DETAILS) [*PROGRAMMER NOTE RE ALET: WILL NEED TO BE ABLE TO TRACK INTERVIEWS RESULTING FROM SENDING A COPY OF THE LETTER]*

*S3B. Do we have your permission to interview your child?*

1. Yes
2. No (GO TO RR1)

*PARENT PROVIDED CONSENT*
S3C. RECORD GENDER OF PARENT PROVIDING CONSENT

1. Male
2. Female

*HAVE PERMISSION TO INTERVIEW CHILD*
S4. Please may I speak with the child AGED 12-17 who had their birthday most recently?

1. Yes – available now (RE-INTRODUCE SURVEY AND CONTINUE)
2. Yes – not available now (ARRANGE CALLBACK)
3. No - refused (GO TO RR1)
*(HAVE PERMISSION TO INTERVIEW CHILD 12-17)*

**S5.** I’ve just spoken to your parent/guardian who has given permission for you to take part in a study of some public health issues, because we’re interested in your views.

This study aims to gain a better understanding of what people know and understand about some health problems. During the interview, you will be asked your views about certain health problems and what you have heard about them in the media. At the end of the interview you will be asked a few questions about your own health. You do not have to answer any questions you don’t want to. The interview takes around 15 minutes.

Before we begin, I have to tell you a few things. The study is being carried out on behalf of ORYGEN Research Centre at the University of Melbourne. If you agree to be interviewed, you are free to withdraw from the survey at any time. If for any reason you want to contact one of the researchers at the university, I can give you a number for that person. If you have any ethical concerns about the research you can contact the University’s ethics officer. I will provide the phone number if you ask for it. Do you have any questions about the study?

Are you willing to go ahead?

1. Yes – available now (GO TO S7)
2. Yes – not available now (ARRANGE CALLBACK)
3. No – refused (GO TO RR1)
4. Refuses to continue without more specific information about survey content (DISPLAY SCONTENT)

SCONSENT. The survey is about the biggest health problem facing youth today. The questions will cover areas such as awareness of this health problem, where people go for help, and how the problem may be treated.

1. Snap back to previous question (S5=4 OR S3A=3)

**PRES6A** IF S2A1=1 AND SA2=2 (ONE CHILD 12-25 IN HOUSEHOLD, CHILD 18-25 HAD MOST RECENT BIRTHDAY) GO TO S6a INTRO A. OTHERS GO TO S6a INTRO B

*(CHILD AGED 18-25 HAD MOST RECENT BIRTHDAY)*

**S6a.** INTRO A Could I speak to the 18-25 year old please?

INTRO B I’d like to speak to the 18-25 year old who had their birthday most recently.

RE-INTRODUCE AND CONTINUE

This study aims to gain a better understanding of what people know and understand about some health problems. During the interview, you will be asked your views about certain health problems and what you have heard about them in the media. At the end of the interview you will be asked a few questions about your own health. You do not have to answer any questions you don’t want to. The interview takes around 15 minutes to complete per participant with total time about 30 minutes if a parent participates.

Before we begin, I have to tell you a few things. The study is being carried out on behalf of ORYGEN Research Centre at the University of Melbourne, using funding provided by the National Health and Medical Research Council. The study has been approved by the University’s ethics committee. If you agree to be interviewed, you are free to withdraw from the survey at any time. If for any reason you want to contact one of the researchers at the university, I can give you a number for that person. If you have any ethical concerns about the research you can contact the University’s ethics officer. I will provide the phone number if you ask for it. Do you have any questions about the study?*

Are you willing to go ahead?

1. Yes – available now (GO TO S7)
2. Yes - not available now (ARRANGE CALLBACK)
3. No - refused (GO TO RR1)
*(PEOPLE AGED 18-25 IN HOUSEHOLD)
S6b. I'd like to speak to the 18-25 year old who had their birthday most recently.

IF PHONE IS HANDED TO SOMEONE ELSE, RE-INTRODUCE AND CONTINUE.
This study aims to gain a better understanding of what people know and understand about some health problems. During the interview, you will be asked your views about certain health problems and what you have heard about them in the media. At the end of the interview you will be asked a few questions about your own health. You do not have to answer any questions you don't want to. The interview takes around 15 minutes to complete.

Before we begin, I have to tell you a few things. The study is being carried out on behalf of ORYGEN Research Centre at the University of Melbourne, using funding provided by the National Health and Medical Research Council. The study has been approved by the University's ethics committee. If you agree to be interviewed, you are free to withdraw from the survey at any time. If for any reason you want to contact one of the researchers at the university, I can give you a number for that person. If you have any ethical concerns about the research you can contact the University's ethics officer. I will provide the phone number if you ask for it. Do you have any questions about the study?

Are you willing to go ahead?

1. Yes – available now (GO TO S7)
2. Yes – not available now (ARRANGE CALLBACK)
3. No - refused (GO TO RR1)

*(REFUSED)

RR1. OK, that's fine, no problem, but could you just tell me the main reason you do not want to participate, because that's important information for us?

1. No comment / just hung up
2. Too busy
3. Not interested
4. Too personal / intrusive
5. Don’t like subject matter
6. Don’t believe surveys are confidential / privacy concerns
7. Silent number
8. Don’t trust surveys / government
9. Never do surveys
10. 16 minutes is too long
11. Get too many calls for surveys / telemarketing
12. Asked to be taken off list and never called again
13. Too old / frail / deaf / unable to do survey (CODE AS TOO OLD / FRAIL / DEAF)
14. Not a residential number (business, etc) (CODE AS NOT A RESIDENTIAL NUMBER)
15. Language difficulty (CODE AS LANGUAGE DIFFICULTY NO FOLLOW UP)
16. Other (Specify)
17. Not enough information provided about survey content / questions
18. Won’t do survey by phone (only on-line / self-completion / face-to-face)

*(REFUSED)

RR2. RECORD RE-CONTACT TYPE

1. Definitely don’t call back
2. Possible conversion

TIMESTAMP1
*DEMOGRAPHICS
*(ALL)
S7. Record sex of respondent.

1. Male
2. Female

*(ALL)
S8. How old are you?

1. 12-17 (Specify age) [ALLOWABLE RANGE 12-17]
2. 18-25 (Specify age) [ALLOWABLE RANGE 18-25]

*(ALL)
S9. Are you currently…… (MULTIPLES ACCEPTED)

READ OUT
1. Studying full-time
2. Studying part-time
3. Working full-time
4. Working part-time
5. Unemployed and looking for work, or
6. Something else (Specify)
7. (Refused)

PRES10 IF S9=1 OR 2 (CURRENTLY STUDYING) CONTINUE, ELSE GO TO VIGNETTES.
*(CURRENTLY STUDYING)
S10. Are you currently studying at a…?

READ OUT
1. School
2. TAFE, or
3. University
4. Other (Specify)
5. Refused

*(ALL)
Vignettes
PRES11 IF S7=1 (MALE) REFER TO JOHN AND MALE VIGNETTES/REFERENCES THROUGHOUT QUESTIONNAIRE, ELSE S7=2 (FEMALE) REFER TO JENNY AND FEMALE VIGNETTES/ REFERENCES THROUGHOUT QUESTIONNAIRE.
S11. Now I am going to ask you about the health problems of a person I will call (John/Jenny). (John/Jenny) is not a real person, but there are people (like him/her). If you happen to know someone who resembles (him/her) in any way, that is a total coincidence.

PRES12 IF S8=1 (RESPONDENT IS AGED 12-17) SELECT RANDOM 15 Y/OLD VIGNETTE,
IF S8=2 (RESPONDENT IS AGED 18-25) SELECT RANDOM 21 Y/OLD VIGNETTE.

**PROGRAMMER NOTE – PLEASE SET UP SO VIGNETTE SELECTION CAN BE AUDITED THROUGH TOPLINES
15 YEAR OLD VIGNETTES
Scenario 1 - Depression
1A. MALE
John is a 15 year old who has been feeling unusually sad and miserable for the last few weeks. He is tired all the time and has trouble sleeping at night. John doesn’t feel like eating and has lost weight. He can’t keep his mind on his studies and his marks have dropped. He puts off making any decisions and even day-to-day tasks seem too much for him. His parents and friends are very concerned about him.

1B. FEMALE
Jenny is a 15 year old who has been feeling unusually sad and miserable for the last few weeks. She is tired all the time and has trouble sleeping at night. Jenny doesn’t feel like eating and has lost weight. She can’t keep her mind on her studies and her marks have dropped. She puts off making any decisions and even day-to-day tasks seem too much for her. Her parents and friends are very concerned about her.

Scenario 2 – Psychosis
1A. MALE
John is a 15 year old who lives at home with his parents. He has been attending school irregularly over the past year and has recently stopped attending altogether. Over the past six months he has stopped seeing his friends and begun locking himself in his bedroom and refusing to eat with the family or to have a bath. His parents also hear him walking about in his bedroom at night while they are in bed. Even though they know he is alone, they have heard him shouting and arguing as if someone else is there. When they try to encourage him to do more things, he whispers that he won’t leave home because he is being spied upon by the neighbour. They realize he is not taking drugs because he never sees anyone or goes anywhere.

1B. FEMALE
Jenny is a 15 year old who lives at home with her parents. She has been attending school irregularly over the past year and has recently stopped attending altogether. Over the past six months she has stopped seeing her friends and begun locking herself in her bedroom and refusing to eat with the family or to have a bath. Her parents also hear her walking about in her bedroom at night while they are in bed. Even though they know she is alone, they have heard her shouting and arguing as if someone else is there. When they try to encourage her to do more things, she whispers that she won’t leave home because she is being spied upon by the neighbour. They realize she is not taking drugs because she never sees anyone or goes anywhere.

Scenario 3 – Social phobia
1A. MALE
John is a 15 year old living at home with his parents. Since starting his new school last year he has become even more shy than usual and has made only one friend. He would really like to make more friends but is scared that he’ll do or say something embarrassing when he’s around others. Although John’s work is OK he rarely says a word in class and becomes incredibly nervous, trembles, blushes and seems like he might vomit if he has to answer a question or speak in front of the class. At home, John is quite talkative with his family, but becomes quiet if anyone he doesn’t know well comes over. He never answers the phone and he refuses to attend social gatherings. He knows his fears are unreasonable but he can’t seem to control them and this really upsets him.
1B. FEMALE
Jenny is a 15 year old living at home with her parents. Since starting her new school last year she has become even more shy than usual and has made only one friend. She would really like to make more friends but is scared that she'll do or say something embarrassing when she's around others. Although Jenny's work is OK she rarely says a word in class and becomes incredibly nervous, trembles, blushes and seems like she might vomit if she has to answer a question or speak in front of the class. At home, Jenny is quite talkative with her family, but becomes quiet if anyone she doesn't know well comes over. She never answers the phone and she refuses to attend social gatherings. She knows her fears are unreasonable but she can't seem to control them and this really upsets her.

Scenario 4 – Depression and substance abuse
1A. MALE
John is a 15 year old who has been feeling unusually sad and miserable for the last few weeks. He is tired all the time and has trouble sleeping at night. John doesn't feel like eating and has lost weight. He can't keep his mind on his studies and his marks have dropped. He puts off making any decisions and even day-to-day tasks seem too much for him. John has been drinking a lot of alcohol over the last year, and recently lost his weekend job because of his hangovers. His parents and friends are very concerned about him.

1B. FEMALE
Jenny is a 15 year old who has been feeling unusually sad and miserable for the last few weeks. She is tired all the time and has trouble sleeping at night. Jenny doesn't feel like eating and has lost weight. She can't keep her mind on her studies and her marks have dropped. She puts off making any decisions and even day-to-day tasks seem too much for her. Jenny has been drinking a lot of alcohol over the last year, and recently lost her weekend job because of her hangovers. Her parents and friends are very concerned about her.

21 YEAR OLD VIGNETTES
Scenario 1 - Depression
1A. MALE
John is a 21 year old who has been feeling unusually sad and miserable for the last few weeks. He is tired all the time and has trouble sleeping at night. John doesn't feel like eating and has lost weight. He can't keep his mind on his studies and his marks have dropped. He puts off making any decisions and even day-to-day tasks seem too much for him. His parents and friends are very concerned about him.

1B. FEMALE
Jenny is a 21 year old who has been feeling unusually sad and miserable for the last few weeks. She is tired all the time and has trouble sleeping at night. Jenny doesn't feel like eating and has lost weight. She can't keep her mind on her studies and her marks have dropped. She puts off making any decisions and even day-to-day tasks seem too much for her. Her parents and friends are very concerned about her.

Scenario 2 - Psychosis
2A. MALE
John is a 21 year old who lives at home with his parents. He has been attending his course irregularly over the past year and has recently stopped attending altogether. Over the past six months he has stopped seeing his friends and begun locking himself in his bedroom and refusing to eat with the family or to have a bath. His parents also hear him walking about in his bedroom at night while they are in bed. Even though they know he is alone, they have heard him shouting and arguing as if someone else is there. When they try to encourage him to do more things, he whispers that he won't leave home because he is being spied upon by the neighbour. They realize he is not taking drugs because he never sees anyone or goes anywhere.
2B. FEMALE
Jenny is a 21 year old who lives at home with her parents. She has been attending her course irregularly over the past year and has recently stopped attending altogether. Over the past six months she has stopped seeing her friends and begun locking herself in her bedroom and refusing to eat with the family or to have a bath. Her parents also hear her walking about in her bedroom at night while they are in bed. Even though they know she is alone, they have heard her shouting and arguing as if someone else is there. When they try to encourage her to do more things, she whispers that she won’t leave home because she is being spied upon by the neighbour. They realize she is not taking drugs because she never sees anyone or goes anywhere.

Scenario 3 – Social phobia
3A. MALE
John is a 21 year old living at home with his parents. Since starting his new course last year he has become even more shy than usual and has made only one friend. He would really like to make more friends but is scared that he’ll do or say something embarrassing when he’s around others. Although John’s work is OK he rarely says a word in class and becomes incredibly nervous, trembles, blushes and seems like he might vomit if he has to answer a question or speak in front of the class. At home, John is quite talkative with his family, but becomes quiet if anyone he doesn’t know well comes over. He never answers the phone and he refuses to attend social gatherings. He knows his fears are unreasonable but he can’t seem to control them and this really upsets him.

3B. FEMALE
Jenny is a 21 year old living at home with her parents. Since starting her new course last year she has become even more shy than usual and has made only one friend. She would really like to make more friends but is scared that she’ll do or say something embarrassing when she’s around others. Although Jenny’s work is OK she rarely says a word in class and becomes incredibly nervous, trembles, blushes and seems like she might vomit if she has to answer a question or speak in front of the class. At home, Jenny is quite talkative with her family, but becomes quiet if anyone she doesn’t know well comes over. She never answers the phone and she refuses to attend social gatherings. She knows her fears are unreasonable but she can’t seem to control them and this really upsets her.

Scenario 4 – Depression and substance abuse
4A. MALE
John is a 21 year old who has been feeling unusually sad and miserable for the last few weeks. He is tired all the time and has trouble sleeping at night. John doesn’t feel like eating and has lost weight. He can’t keep his mind on his studies and his marks have dropped. He puts off making any decisions and even day-to-day tasks seem too much for him. John has been drinking a lot of alcohol over the last year, and recently lost his weekend job because of his hangovers. His parents and friends are very concerned about him.

4B. FEMALE
Jenny is a 21 year old who has been feeling unusually sad and miserable for the last few weeks. She is tired all the time and has trouble sleeping at night. Jenny doesn’t feel like eating and has lost weight. She can’t keep her mind on her studies and her marks have dropped. She puts off making any decisions and even day-to-day tasks seem too much for her. Jenny has been drinking a lot of alcohol over the last year, and recently lost her weekend job because of her hangovers. Her parents and friends are very concerned about her.
*Section A: Recognition of disorders
*(ALL)*
A1. What, if anything, do you think is wrong with (John/Jenny)? (MULTIPLES ACCEPTED)

1. Depression
2. Schizophrenia/paranoid schizophrenia
3. Psychosis/psychotic
4. Mental illness
5. Stress
6. Nervous breakdown
7. Psychological/mental/emotional problems
8. Has a problem
9. Cancer
10. Other (specify)
11. Nothing
12. Don’t know
13. Refused

*Section B: Intended actions to seek help and perceived barriers
*(ALL)*
B1. If you had a problem right now like (John/Jenny), would you go for help?

1. Yes
2. No (GO TO B5)
3. Don’t know (GO TO B5)
4. Refused (GO TO B5)

*(WOULD GO FOR HELP)*
B2. Where would you go? DO NOT PROMPT
(MULTIPLES ACCEPTED)

1. Would seek help from BOTH parents
2. Would seek help from mother
3. Would seek help from father
4. Would seek help from other person (specify)
5. Would seek help from service (specify)
6. Don’t know
7. Refused

*(WOULD GO FOR HELP)*
B3. How confident would you be in your ability to ask this (person/service) for help? Would you say…?

READ OUT
1. Very confident
2. Fairly confident
3. Slightly confident, or
4. Not confident at all
5. Not sure/Don’t know

*(WOULD GO FOR HELP)*
B4. What might stop you from seeking help from this (person/service)? (MULTIPLES ACCEPTED)

1. The cost of seeing the person
2. Concern that the person might feel negatively about you
3. Concern that what the person might say is wrong
4. Concern about what other people might think of you seeing the person
5. The person/service is too far to travel to
6. It is too hard to get an appointment
7. Concern about the side effects of treatment
8. Not liking the type of treatment that is likely to be offered
9. Thinking that nothing can help
10. Having to wait for an appointment
11. Too embarrassed/shy
12. Other (Specify)
13. Don’t know

PREB5 IF B2=1, 2 OR 3 (WOULD SEEK HELP FROM PARENT) GO TO C1. OTHERS CONTINUE

PROGRAMMER NOTE: IN DATA FILE, IF B2=1, 2 OR 3, AUTOFILL B5=1

*(NOT PREVIOUSLY MENTIONED SEEKING HELP FROM PARENT(S))
B5. If you had a problem right now like (John/Jenny), would you feel able to talk to your parents about it?
   1. Yes
   2. No (GO TO C1)
   3. Don’t know (GO TO C1)
   4. Refused (GO TO C1)
   5. Parents not available (e.g. passed away / estranged / lives overseas) (GO TO C1)

PROGRAMMER NOTE: IN DATA FILE, IF B2=1, AUTOFILL B6=1; IF B2=2, AUTOFILL B6=2; IF B2=3, AUTOFILL B6=3

*(WOULD FEEL ABLE TO TALK TO PARENTS)
B6. Would you talk to both parents, just your mother or just your father?
   1. Both parents
   2. Just mother
   3. Just father
   4. Don’t know
   5. Refused

*Section C: Beliefs and intentions about first aid
*(ALL)
C1. Imagine (John/Jenny) is someone you have known for a long time and care about. You want to help (him/her). What would you do?
   1. Answer given (specify)
   2. Don’t know
   3. Refused

*(ALL)
C2. How confident would you be in your ability to help (John/Jenny)? Would you say…?
   READ OUT
   1. Very confident
   2. Fairly confident
   3. Slightly confident, or
   4. Not confident at all
   5. Not sure/Don’t know

*(ALL)
C3. I am going to read out a list of things you could do to try and help (John/Jenny). I want you to tell me whether you think it would helpful, harmful or neither for (John/Jenny) if you were to do these things. If you are unsure, that’s fine, just let me know….
   1. Continue
(STATEMENTS)
a. Listen to (his/her) problems in an understanding way.
b. Talk to (him/her) firmly about getting (his/her) act together.
c. Suggest (he/she) seek professional help.
d. Make an appointment for (him/her) to see a GP IF NECESSARY: This would be with
   (his / her) knowledge.
e. Ask (him/her) whether (he/she) is feeling suicidal.
f. Suggest (he/she) have a few drinks to forget (his/her) troubles.
g. Rally friends to cheer (him/her) up.
h. Ignore (him/her) until (he/she) gets over it.
i. Keep (him/her) busy to keep (his/her) mind off problems.
j. Encourage him/her to become more physically active.

(Would that be helpful, harmful, neither, or not sure)

(RESPONSE FRAME)
1. Helpful
2. Harmful
3. Neither
4. (Depends)
5. Don’t know
6. (Refused)

*Section D. Beliefs about interventions*
*(ALL)*

D1. There are a number of different people who could possibly help (John/Jenny).
I’m going to read out a list of them and I’d like you to tell me whether they would be
helpful, harmful or neither to (John/Jenny). Again, if you are unsure, that’s fine, just let
me know….

1. Continue

(STATEMENTS)
a. A GP or family doctor
b. A lecturer (IF 21 YO VIGNETTE USED)/A teacher (IF 15 YO VIGNETTE USED)
c. A counselor
d. A telephone counseling service, such as [Lifeline (IF 21 YO VIGNETTE USED)/Kids
   Helpline (IF 15 YO VIGNETTE USED)]
e. A psychologist
f. A psychiatrist
g. A close family member
h. A close friend

(Would that be helpful, harmful, neither, or not sure)

(RESPONSE FRAME)
1. Helpful
2. Harmful
3. Neither
4. (Depends)
5. Don’t know
6. (Refused)
D2. Is it likely to be helpful, harmful or neither if (John/Jenny) tried to deal with (his/her) problems on (his/her) own?

1. Helpful
2. Harmful
3. Neither
4. (Depends)
5. Don’t know
6. (Refused)

D3. Do you think the following medicines are likely to be helpful, harmful or neither for (John/Jenny)? Again, if you are unsure, that’s fine, just let me know….

1. Continue

(STATEMENTS)
   a. Vitamins
   b. St John’s wort
   c. Antidepressants
   d. Tranquillizers
   e. Antipsychotics
   f. Sleeping pills

(Would that be helpful, harmful, neither, or not sure)

(RESPONSE FRAME)
1. Helpful
2. Harmful
3. Neither
4. (Depends)
5. Don’t know
6. (Refused)

D4. Do you think the following are likely to be helpful, harmful or neither for (John/Jenny)? (Again, if you are unsure, that’s fine, just let me know…).

1. Continue

(STATEMENTS)
   a. Becoming more physically active
   b. Getting relaxation training
   c. Practicing meditation
   d. Having regular massages
   e. Getting acupuncture
   f. Getting up early each morning and getting out in the sunlight
   g. Receiving counseling
   h. Receiving cognitive-behavior therapy
   i. Looking up a web site giving information about (his/her) problem
   j. Reading a self-help book on (his/her) problem
   k. Joining a support group of people with similar problems
   l. Going to a local mental health service
   m. Being admitted to a psychiatric ward of a hospital
   n. Using alcohol to relax
   o. Smoking cigarettes to relax
   p. Using marijuana to relax
   q. Cutting down on use of alcohol
   r. Cutting down on smoking cigarettes
s. Cutting down on marijuana

(Would that be helpful, harmful, neither, or not sure)

(RESPONSE FRAME)
1. Helpful
2. Harmful
3. Neither
4. (Depends)
5. (Don’t know)
6. (Refused)

*Section E. Beliefs about prevention
*(ALL)
E1. The next few questions are about things (John/Jenny) might do to reduce (his/her) risk of developing the problem in the first place. If a young person did the following, do you think it would reduce their risk of developing a problem like (John’s/Jenny’s)? This is just a “Yes” or “No” question...

1. Continue

(STATEMENTS)
  a. Keeping physically active
  b. Avoiding situations that might be stressful
  c. Keeping regular contact with friends
  d. Keeping regular contact with family
  e. Avoiding sugary foods
  f. Not using marijuana
  g. Never drinking alcohol in excess
  h. Making regular time for relaxing activities
  i. Having a religious or spiritual belief

(RESPONSE FRAME)
1. Yes
2. No
3. Depends
4. Don’t know
5. Refused

*Section F. Stigmatizing attitudes and social distance
*(ALL)
F1. The next few questions contain statements about (John’s/Jenny’s) problem. Please indicate how strongly YOU PERSONALLY agree or disagree with each statement.

1. Continue

(STATEMENTS)
  a. (John/Jenny) could snap out of it if (he/she) wanted
  b. (John’s/Jenny’s) problem is a sign of personal weakness.
  c. (John’s/Jenny’s) problem is not a real medical illness.
  d. (John/Jenny) is dangerous. (If the respondent is unsure of the meaning of ‘dangerous’ in this statement, inform them it means ‘dangerous to others’)
  e. It is best to avoid (John/Jenny) so that you don’t develop this problem yourself.
  f. (John’s/Jenny’s) problem makes (him/her) unpredictable.
  g. You would not tell anyone if you had a problem like (John’s/Jenny’s).

(Do you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree)

(RESPONSE FRAME)
1. Strongly agree
2. Agree
3. Neither agree nor disagree
4. Disagree
5. Strongly disagree
6. (Don’t know)
7. (Refused)

*(ALL)*

F2. Now we would like you to tell us what you think MOST OTHER PEOPLE believe. Please indicate how strongly you agree or disagree with the following statements.

1. Continue

(STATIONS)

a. Most other people believe that (John/Jenny) could snap out of it if he/she wanted.
b. Most people believe that (John’s/Jenny's) is a sign of personal weakness.
c. Most people believe that (John’s/Jenny’s) problem is not a real medical illness.
d. Most people believe that (John/Jenny) is dangerous.
e. Most people believe that it is best to avoid (John/Jenny) so that they don’t develop this problem themselves.
f. Most people believe that (John’s/Jenny’s) problem makes him/her unpredictable.
g. Most people would not tell anyone if they had a problem like (John’s/Jenny’s).

(Do you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree)

(RESPONSE FRAME)

1. Strongly agree
2. Agree
3. Neither agree nor disagree
4. Disagree
5. Strongly disagree
6. (Don’t know)
7. (Refused)

*(ALL)*

F3. The following questions ask how you would feel about spending time with (John/Jenny).

Would you be happy (READ STATEMENT). Would you say....

(STATIONS)

a. To go out with (John/Jenny) on the weekend?
b. To work on a project with (John/Jenny)?
c. To invite (John/Jenny) around to your house?
d. To go to (John’s/Jenny’s) house?
e. Would you be happy to develop a close friendship with (John/Jenny)?

(RESPONSE FRAME)

READ OUT
1. Yes, definitely
2. Yes, probably
3. Probably not, or
4. Definitely not
5. (Don’t know)
6. (Refused)

*Section G: Exposure to mental disorders*  
*(ALL)*

G1. Has anyone in your family or close circle of friends ever had a problem similar to (John’s/Jenny’s)?
1. Yes  
2. No (GO TO G3)  
3. Refused to answer (GO TO G3)  
4. Don’t know (GO TO G3)

*(FAMILY OR CLOSE FRIEND HAD SIMILAR PROBLEM)*
G2. Have they received any professional help or treatment for these problems?

1. Yes  
2. No  
3. Refused to answer  
4. Don’t know

*(ALL)*
G3. Have you ever had a problem similar to (John's/Jenny’s)?

1. Yes  
2. No (GO TO G7A)  
3. Refused to answer (GO TO G7A)  
4. Don’t know (GO TO G7A)

*(RESPONDENT HAD SIMILAR PROBLEM)*
G4. Was this within the past 12 months?

1. Yes  
2. No  
3. Don’t know

*(RESPONDENT HAD SIMILAR PROBLEM)*
G5. Have you received any professional help or treatment for these problems?

1. Yes  
2. No (GO TO G7A)  
3. Refused to answer (GO TO G7A)  
4. Don’t know (GO TO G7A)

*(RESPONDENT RECEIVED TREATMENT)*
G6. Was this helpful?

1. Yes  
2. No  
3. Refused to answer  
4. Don’t know

*K6 Interviewer Administered Version*
*(ALL)*
G7A. The next questions are about how you have been feeling during the PAST 30 DAYS.

About how often during the past 30 days did you feel NERVOUS—would you say ALL of the time, MOST of the time, SOME of the time, A LITTLE of the time, or NONE of the time?

1. All of the time  
2. Most,  
3. Some,  
4. A Little, or  
5. None of the time  
6. (IF VOLUNTEERS - Don’t know)  
7. (IF VOLUNTEERS - Refused)
G7B. During the past 30 days, about how often did you feel HOPELESS?
READ OUT IF NECESSARY

1. All of the time
2. Most,
3. Some,
4. A Little, or
5. None of the time
6. (IF VOLUNTEERS - Don’t know)
7. (IF VOLUNTEERS - Refused)

G7C. During the past 30 days, about how often did you feel RESTLESS OR FIDGETY?
READ OUT IF NECESSARY

1. All of the time
2. Most,
3. Some,
4. A Little, or
5. None of the time
6. (IF VOLUNTEERS - Don’t know)
7. (IF VOLUNTEERS - Refused)

G7D. During the past 30 days, how often did you feel SO DEPRESSED THAT NOTHING COULD CHEER YOU UP?
READ OUT IF NECESSARY

1. All of the time
2. Most,
3. Some,
4. A Little, or
5. None of the time
6. (IF VOLUNTEERS - Don’t know)
7. (IF VOLUNTEERS - Refused)

G7E. During the past 30 days, about how often did you feel THAT EVERYTHING WAS AN EFFORT?
READ OUT IF NECESSARY

1. All of the time
2. Most,
3. Some,
4. A Little, or
5. None of the time
6. (IF VOLUNTEERS - Don’t know)
7. (IF VOLUNTEERS - Refused)

G7F. During the past 30 days, about how often did you feel WORTHLESS?
READ OUT IF NECESSARY

1. All of the time
2. Most,
3. Some,
4. A Little, or
5. None of the time
6. (IF VOLUNTEERS - Don’t know)
*Section H: Impact of campaigns and media exposure*

*(ALL)*

H2. Have you seen, read, or heard any advertisements about mental health problems in the past 12 months?

1. Yes
2. No (GO TO H1)
3. Don’t know (GO TO H1)
4. Refused (GO TO H1)

*(SEEN ADVERTISING ABOUT MENTAL HEALTH PROBLEMS IN PAST 12 MONTHS)*

H2A. Can you tell me what you remember about it? (RECORD UP TO 3)

1. Answer given (specify)
2. Don’t know
3. Refused

*(SEEN ADVERTISING ABOUT MENTAL HEALTH PROBLEMS IN PAST 12 MONTHS)*

H2B. Did you see or hear this advertising in…. (ACCEPT MULTIPLES)

READ OUT
1. The newspaper
2. A magazine
3. Radio
4. TV, or
5. Somewhere else (Specify)
6. (Don’t know)

*(ALL)*

H1. Have you seen, read, or heard any news stories about mental health problems in the past 12 months?

1. Yes
2. No (GO TO PREH3)
3. Don’t know (GO TO PREH3)
4. Refused (GO TO PREH3)

*(SEEN NEWS STORY ABOUT MENTAL HEALTH PROBLEMS IN PAST 12 MONTHS)*

H1A. Can you tell me what you remember about it? (RECORD UP TO 3)

1. Answer given (specify)
2. Don’t know
3. Refused

*(SEEN NEWS STORY ABOUT MENTAL HEALTH PROBLEMS IN PAST 12 MONTHS)*

H1B. Did you see or hear this news story in…. (ACCEPT MULTIPLES)

READ OUT
1. The newspaper
2. A magazine
3. Radio
4. TV, or
5. Somewhere else (Specify)
6. (Don’t know)

PREH3 IF S10=1 (CURRENTLY AT SCHOOL) CONTINUE, ELSE GO TO PREH4

*(IF AT SCHOOL)*
H3. In the past 12 months, have you received any information about mental health problems from your teachers?

1. Yes
2. No (GO TO PREH4)
3. Don’t know (GO TO PREH4)
4. Refused (GO TO PREH4)

*(RECEIVED INFORMATION ABOUT MENTAL HEALTH PROBLEMS FROM TEACHERS)
H3A. Can you tell me what you remember about it?

1. Answer given (Specify)
2. Don’t know
3. Refused

*(RECEIVED INFORMATION ABOUT MENTAL HEALTH PROBLEMS FROM TEACHERS)
H3B. How was this information presented?
(ACCEPT MULTIPLES)

1. Class lesson from teacher
2. Poster/pamphlet/brochure
3. Referral to website
4. Talk from person other than teacher
5. Other (Specify)
6. Don’t know

PREH4 IF S9=3 OR 4 (CURRENTLY WORKING) OR S10=2 OR 3 (CURRENTLY STUDYING AT TAFE OR UNIVERSITY) CONTINUE, ELSE GO TO H6A

*(CURRENTLY WORKING)
H4. In the past 12 months have you had any information about mental health problems at your (workplace/TAFE/University)?

1. Yes
2. No (GO TO H6A)
3. Don’t know (GO TO H6A)
4. Refused (GO TO H6A)

*(RECEIVED INFORMATION ABOUT MENTAL HEALTH PROBLEMS FROM WORKPLACE/TAFE/UNIVERSITY)
H4A. Can you tell me what you remember about it?

1. Answer given (specify)
2. Don’t know
3. Refused

*(RECEIVED INFORMATION ABOUT MENTAL HEALTH PROBLEMS FROM WORKPLACE/TAFE/UNIVERSITY)
H4B. How was this information presented?
(ACCEPT MULTIPLES)

1. Talk
2. Training course
3. Poster/pamphlet/brochure
4. Newsletter
5. Email or website
6. Other (Specify)
7. Refused

*(ALL)
H6A. Which organizations related to mental health problems, if any, can you think of? (MULTIPLES ACCEPTED)

1. beyondblue
2. Lifeline
3. Kids Helpline
4. Salvation Army
5. SANE Australia
6. Black dog institute
7. Mental Health Council of Australia
8. Australian Medical Association
9. Other organization (specify)
10. Don’t know
11. Refused
12. None / can’t think of any

PREH7 IF H6A=1 (AWARE OF BEYONDBLUE) GO TO H8, ELSE CONTINUE *(NOT AWARE OF BEYONDBLUE UNAIDED)

H7. Have you heard of beyondblue: the national depression initiative?

1. Yes
2. No
3. Don’t know
4. Refused

*(ALL)

H8. Have you heard of The Mellow Yellow Institute?

1. Yes
2. No
3. Don’t know
4. Refused

PREH9 IF H6A=12 AND H7=2, 3 OR 4 AND H8=2, 3 OR 4 (NOT AWARE OF ANY MENTAL HEALTH ORGANISATIONS – UNPROMPTED, AND NOT AWARE / DK / REF PROMPTED AWARENESS FOR BEYOND BLUE OR MELLOW YELLOW) GO TO SECTION I INTRO. OTHERS CONTINUE *(ALL AWARE OF ORGANISATION RELATED TO MENTAL HEALTH PROBLEMS)

H9. Which websites related to mental health problems, if any, have you visited? (MULTIPLES ACCEPTED)

1. beyondblue: www.beyondblue.org.au
2. Sane Australia: www.sane.org.au
3. Lifeline: www.lifeline.org.au
5. Blue Pages: www.bluepages.anu.edu.au
8. MoodGYM: www.moodgym.anu.edu.au
9. Mellow Yellow Institute: www.mellowyellow.org.au
11. Head Space: www.headspace.org.au
12. Other (Specify__________)
13. None / not visited a website of organization related to mental health
14. Visited website - can’t remember name
15. (Don’t know)
16. (Refused)

Section I: Sociodemographic characteristics
Finally, just a few questions about yourself to help us analyse the results of the survey.

1. Continue

*(ALL)*

I1. (Just to confirm) Do you live with both your parents, just your mother, just your father or neither parent?

1. Both your parents
2. Just your mother
3. Just your father
4. Neither parent
5. Refused
6. Don’t know

*(ALL)*

I2. Do you speak a language other than English at home?

1. No, English only
2. Yes, Italian
3. Yes, Greek
4. Yes, Cantonese
5. Yes, Mandarin
6. Yes, Arabic
7. Yes, Vietnamese
8. Yes, German
9. Yes, Spanish
10. Yes, Tagalog (Filipino)
11. Yes, Other (Specify)
12. (Don’t know)
13. (Refused)

*(ALL)*

I3. Are you Aboriginal or Torres Strait Islander?

1. Yes
2. No
3. Refused

*(ALL)*

I4. What is the postcode where you live?

DISPLAY POSTCODE FROM SAMPLE (IF AVAILABLE).

1. Postcode correct as displayed (ONLY DISPLAY IF POSTCODE AVAILABLE)
2. Postcode incorrect / not displayed (RECORD POSTCODE) (ALLOWABLE RANGE 800 TO 8999)
3. Postcode incorrect as displayed, don’t know postcode (RECORD LOCALITY)
4. Refused

*(ALL)*

I5. Ten percent of my work is checked by my supervisor, and they may need to call you back to verify your participation. Can I please record your first name so they will know who to ask for?

1. Name given (specify)
2. Refused

*(ALL)*
I6. Would you be willing to be contacted again in a few years time to answer a similar range of questions as part of a comparison study?

ONLY DISPLAY IF 18-25 YEAR OLD
We would like your contact details including email, postal address and phone number, as well as the contact details of a person close to you in case your details change.

1. Yes (if 18-25 years, ask for contact details for self [name, email address, postal address, telephone number (mobile and landline)] and those of a person close to them in case their contact details change) (ONLY DISPLAY IF 18-25)
2. Yes (if 12-17 years, record consent) (ONLY DISPLAY IF 12-17)
3. No
4. Refused

PREQI7 IF Q1=1, 2 OR 3 (LIVING WITH PARENT) CONTINUE, ELSE GO TO END *(LIVING WITH PARENT)
I7. Would you be willing for me to ask your (parent/guardian) / (mother) / (father) some questions about the same issues, we would not tell your (parent/guardian) / (mother) / (father) anything you have said, but your responses would be linked in the database. IF LIVE WITH BOTH PARENTS SAY: We need to speak with the parent living in the household who has had the most recent birthday.

1. Yes - Parent with the most recent birthday available now (GO TO PARENT MODULE)
2. Yes - Parent with the most recent birthday not available now (SCHEDULE CALL-BACK)
3. No - Refused to pass on to parent with the most recent birthday

END. Thanks for participating in this survey. Just in case you missed it, my name is (...) calling on behalf of the University of Melbourne.

If you would like more information about the mental health problems I've described I can give you the telephone number of a help line that provides free and confidential information. Would you like this telephone number?

IF YES: The number is 1800 18 7263. This is an organisation called SANE Australia. The number is attended during business hours.

Results of the study will be available in a report that can be accessed on the internet at www.orygen.org.au It will not identify any individual in the study.

TIMESTAMP2
Good morning/afternoon/evening. My name is [...] calling on behalf of the University of Melbourne from the Social Research Centre. The University is conducting a major study of people’s attitudes to some public health issues facing Australians today. Your telephone number has been chosen at random from all possible telephone numbers in your area. Please be assured that you cannot be personally identified by participating in this study.

This study aims to gain a better understanding of what people know and understand about some health problems. During the interview, you will be asked your views about certain health problems (and what you have heard about them in the media. At the end of the interview you will be asked a few questions about your own health). You do not have to answer any questions you don’t want to. You will not be told your child’s responses nor will your child be told your responses, but the responses will be linked in the database. The interview takes around 15 minutes.

Before we begin, I have to tell you a few things. The study is being carried out on behalf of ORYGEN Research Centre at the University of Melbourne, using funding provided by the National Health and Medical Research Council. The study has been approved by the University’s ethics committee. If you agree to be interviewed, you are free to withdraw from the survey at any time. If for any reason you want to contact one of the researchers at the university, I can give you a number for that person. If you have any ethical concerns about the research you can contact the University’s ethics officer. I will provide the phone number if you ask for it. Do you have any questions about the study?

*(ALL) PS1. Are you willing to go ahead?
1. Yes – available now (GO TO PS2)
2. Yes - not available now (ARRANGE CALLBACK)
3. No (GO TO PREPI7)

*(ALL) PS2. Record sex of respondent
1. Male
2. Female

*(ALL) PS3. Are you currently….. (MULTIPLES ACCEPTED)

READ OUT
1. Working full-time
2. Working part-time
3. Unemployed and looking for work
4. Studying full-time
5. Studying part-time
6. Home duties, or
7. Something else (Specify)
8. (Refused)
*(ALL)*
S11. Now I am going to ask you about the health problems of a person I will call (John/Jenny). (John/Jenny) is not a real person, but there are people (like him/her). If you happen to know someone who resembles (him/her) in any way (him/her), that is a total coincidence.

**READ OUT SAME VIGNETTE SELECTED FOR REFERENCE CHILD IN YOUTH INTERVIEW**

*Section A: Recognition of disorders*
*(ALL)*
PA1. What, if anything, do you think is wrong with (John/Jenny)? (MULTIPLES ACCEPTED)

1. Depression
2. Schizophrenia/paranoid schizophrenia
3. Psychosis/psychotic
4. Mental illness
5. Stress
6. Nervous breakdown
7. Psychological/mental/emotional problems
8. Has a problem
9. Cancer
10. Other (specify)
11. Nothing
12. Don’t know
13. Refused

*Section B & C: Beliefs and intentions about first aid, intended actions to seek help and perceived barriers*
*(ALL)*
PB1. Imagine (John/Jenny) is your child. You want to help (him/her). What would you do?

1. Response given (specify)
2. Don’t know
3. Refused

*(ALL)*
PB2. How confident would you be in your ability to help (John/Jenny)? Would you say…?

READ OUT
1. Very confident
2. Fairly confident
3. Slightly confident, or
4. Not confident at all
5. Not sure/Don’t know

*(ALL)*
PB3. If you had to get help from someone for (John/Jenny) where would you go?

1. Would seek help from person (specify)
2. Would seek help from service (specify)
3. Don’t know
4. Refused

*(ALL)*
PB4. What might stop you from seeking help from this (person/service)? (MULTIPLES ACCEPTED)

1. The cost of seeing the person
2. Concern that the person might feel negatively about you
3. Concern that what the person might say is wrong
4. Concern about what other people might think of you seeing the person
5. The person/service is too far to travel to
6. It is too hard to get an appointment
7. Concern about the side effects of treatment
8. Not liking the type of treatment that is likely to be offered
9. Thinking that nothing can help
10. Having to wait for an appointment
11. Too embarrassed/shy
12. Other (Specify)
13. Don’t know

*(ALL)*

PB5. I am going to read out a list of things you could do to try and help (John/Jenny). I want you to tell me whether you think it would helpful, harmful or neither for (John/Jenny) if you were to do these things. If you are unsure, that’s fine, just let me know….

1. Continue

(STATEMENTS)

a. Listen to (his/her) problems in an understanding way.
b. Talk to (him/her) firmly about getting (his/her) act together.
c. Suggest (he/she) seek professional help.
d. Make an appointment for (him/her) to see a GP. IF NECESSARY: This would be with (his / her) knowledge
e. Ask (him/her) whether (he/she) is feeling suicidal.
f. Suggest (he/she) have a few drinks to forget (his/her) troubles.
g. Rally friends to cheer (him/her) up.
h. Ignore (him/her) until (he/she) gets over it.
i. Keep (him/her) busy to keep (his/her) mind off problems.
j. Encourage (him/her) to become more physically active.

(Would that be helpful, harmful or neither)

(RESPONSE FRAME)

1. Helpful
2. Harmful
3. Neither
4. (Depends)
5. Don’t know
6. (Refused)

*Section D. Beliefs about interventions*

*(ALL)*

PD1. There are a number of different people who could possibly help (John/Jenny). I’m going to read out a list of them and I’d like you to tell me whether they would be helpful, harmful or neither to (John/Jenny). Again, if you are unsure, that’s fine, just let me know….

1. Continue

(STATEMENTS)

a. A GP or family doctor
b. A lecturer (IF 21 YO VIGNETTE USED)/A teacher (IF 15 YO VIGNETTE USED)
c. A counselor
d. A telephone counseling service, such as [Lifeline (IF 21 YO VIGNETTE USED)/Kids Helpline (IF 15 YO VIGNETTE USED)]
e. A psychologist
f. A psychiatrist
g. A close family member
h. A close friend

(Would that be helpful, harmful, neither or not sure)

(RESPONSE FRAME)
1. Helpful
2. Harmful
3. Neither
4. (Depends)
5. Don’t know
6. (Refused)

*(ALL)
P D2. Is it likely to be helpful, harmful or neither if (John/Jenny) tried to deal with (his/her) problems on (his/her) own?

1. Helpful
2. Harmful
3. Neither
4. (Depends)
5. Don’t know
6. (Refused)

*(ALL)
P D3. Do you think the following medicines are likely to be helpful, harmful or neither for (John/Jenny)? (Again, if you are unsure, that’s fine, just let me know….)

1. Continue

(STATEMENTS)
a. Vitamins
b. St John’s wort
c. Antidepressants
d. Tranquillizers
e. Antipsychotics
f. Sleeping pills

(Would that be helpful, harmful or neither)

(RESPONSE FRAME)
1. Helpful
2. Harmful
3. Neither
4. (Depends)
5. (Don’t know)
6. (Refused)

*(ALL)
P D4. Do you think the following are likely to be helpful, harmful or neither for (John/Jenny)?

1. Continue

(STATEMENTS)
a. Becoming more physically active
b. Getting relaxation training
c. Practicing meditation
d. Having regular massages
e. Getting acupuncture
f. Getting up early each morning and getting out in the sunlight
g. Receiving counseling
h. Receiving cognitive-behavior therapy
i. Looking up a web site giving information about (his/her) problem
j. Reading a self-help book on (his/her) problem
k. Joining a support group of people with similar problems
l. Going to a local mental health service
m. Being admitted to a psychiatric ward of a hospital
n. Using alcohol to relax
o. Smoking cigarettes to relax
p. Using marijuana to relax
q. Cutting down on use of alcohol
r. Cutting down on smoking cigarettes
s. Cutting down on marijuana

(Would that be helpful, harmful, neither or not sure?)

(RESPONSE FRAME)
1. Helpful
2. Harmful
3. Neither
4. (Depends)
5. Don’t know
6. (Refused)

*Section E. Beliefs about prevention
*(ALL)
PE1. The next few questions are about things a parent might do to reduce the risk of (John/Jenny) developing the problem in the first place. If a parent did the following, do you think it would reduce the risk of their child developing a problem like (John’s/Jenny’s)? This is just a “Yes” or “No” question…

1. Continue

(STATEMENTS)
a. Showing the child lots of affection
b. Keeping the child under tight control at all times
c. Using plenty of strong discipline
d. Keeping their child away from stressful situations as much as possible
e. Parents not having arguments in front of their child
f. Parents never drinking alcohol in excess
g. Avoiding giving their child sugary foods
h. Encouraging the child to make regular time for relaxing activities
i. Bringing the child up to have a religious or spiritual belief

(RESPONSE FRAME)
1. Yes
2. No
3. Depends
4. Don’t know
5. Refused

*Section F. Stigmatizing attitudes and social distance
*(ALL)
PF1. The next few questions contain statements about (John’s/Jenny’s) problem. Please indicate how strongly YOU PERSONALLY agree or disagree with each statement.

1. Continue

(STATEMENTS)
a. (John/Jenny) could snap out of it if he/she wanted
b. (John's/Jenny's) problem is a sign of personal weakness.
c. (John's/Jenny's) problem is not a real medical illness.
d. (John/Jenny) is dangerous. (If the respondent is unsure of the meaning of ‘dangerous’ in this statement, inform them it means ‘dangerous to others’)
e. It is best to avoid (John/Jenny) so that you don’t develop this problem yourself.
f. (John's/Jenny's) problem makes him/her unpredictable.
g. You would not tell anyone if you had a problem like (John's/Jenny's)

(Do you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree)

(RESPONSE FRAME)
1. Strongly agree
2. Agree
3. Neither agree nor disagree
4. Disagree
5. Strongly disagree
6. (Don't know)
7. (Refused)

*(ALL)
PF2. Now we would like you to tell us what you think MOST OTHER PEOPLE believe. Please indicate how strongly you agree or disagree with the following statements.

1. Continue

(STATESMENTS)
a. Most other people believe that John/Jenny) could snap out of it if he/she wanted.
b. Most people believe that (John's/Jenny's) problem is a sign of personal weakness.
c. Most people believe that (John's/Jenny's) problem is not a real medical illness.
d. Most people believe that (John/Jenny) is dangerous.
e. Most people believe that it is best to avoid (John/Jenny) so that they don't develop this problem themselves.
f. Most people believe that (John's/Jenny's) problem makes him/her unpredictable.
g. Most people would not tell anyone if they had a problem like (John's/Jenny's).

(Do you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree)

(RESPONSE FRAME)
1. Strongly agree
2. Agree
3. Neither agree nor disagree
4. Disagree
5. Strongly disagree
6. (Don't know)
7. (Refused)

*(ALL)
PF3. The following questions ask how you would feel about your child (NAME OF REFERENCE CHILD) spending time with (John/Jenny).

Would you be happy for your child (NAME OF REFERENCE CHILD) (READ STATEMENT). Would you say....

(STATESMENTS)
a. To go out with (John/Jenny) on the weekend?
b. To work on a project with (John/Jenny)?
c. To invite (John/Jenny) around to your house?
d. To go to (John's/Jenny's) house?
e. Would you be happy for your child to develop a close friendship with (John/Jenny)?
(RESPONSE FRAME)
READ OUT
1. Yes, definitely
2. Yes, probably
3. Probably not, or
4. Definitely not
5. (Don’t know)
6. (Refused)

*Section G: Exposure to mental disorders
*(ALL)
PG1. Has anyone in your family or close circle of friends ever had a problem similar to (John’s/Jenny’s)?

1. Yes
2. No (GO TO PG3)
3. Refused to answer (GO TO PG3)
4. Don’t know (GO TO PG3)

*(FAMILY OR CLOSE FRIEND HAD SIMILAR PROBLEM)
PG2. Have they received any professional help or treatment for these problems?

1. Yes
2. No
3. Refused to answer
4. Don’t know

*(ALL)
PG3. Have you ever had a problem similar to (John’s/Jenny’s)?

1. Yes
2. No (GO TO PG7A)
3. Refused to answer (GO TO PG7A)
4. Don’t know (GO TO PG7A)

*(RESPONDENT HAD SIMILAR PROBLEM)
G4. Was this within the past 12 months?

1. Yes
2. No
3. Don’t know

*(RESPONDENT HAD SIMILAR PROBLEM)
PG5. Have you received any professional help or treatment for these problems?

1. Yes
2. No (GO TO PG7A)
3. Refused to answer (GO TO PG7A)
4. Don’t know (GO TO PG7A)

*(RESPONDENT RECEIVED TREATMENT)
PG6. Was this helpful?

1. Yes
2. No
3. Refused to answer
4. Don’t know

*K6 Interviewer Administered Version
*(ALL)*

PG7A. The next questions are about how you have been feeling during the PAST 30 DAYS.

About how often during the past 30 days did you feel NERVOUS—would you say ALL of the time, MOST of the time, SOME of the time, A LITTLE of the time, or NONE of the time?

1. All of the time
2. Most,
3. Some,
4. A Little, or
5. None of the time
6. (IF VOLUNTEERS - Don’t know)
7. (IF VOLUNTEERS - Refused)

*(ALL)*

PG7B. During the past 30 days, about how often did you feel HOPELESS?
READ OUT IF NECESSARY

1. All of the time
2. Most,
3. Some,
4. A Little, or
5. None of the time
6. (IF VOLUNTEERS - Don’t know)
7. (IF VOLUNTEERS - Refused)

*(ALL)*

PG7C. During the past 30 days, about how often did you feel RESTLESS OR FIDGETY?
READ OUT IF NECESSARY

1. All of the time
2. Most,
3. Some,
4. A Little, or
5. None of the time
6. (IF VOLUNTEERS - Don’t know)
7. (IF VOLUNTEERS - Refused)

*(ALL)*

PG7D. During the past 30 days, how often did you feel SO DEPRESSED THAT NOTHING COULD CHEER YOU UP?
READ OUT IF NECESSARY

1. All of the time
2. Most,
3. Some,
4. A Little, or
5. None of the time
6. (IF VOLUNTEERS - Don’t know)
7. (IF VOLUNTEERS - Refused)

*(ALL)*

PG7E. During the past 30 days, about how often did you feel THAT EVERYTHING WAS AN EFFORT?
READ OUT IF NECESSARY

1. All of the time
2. Most,
3. Some,
4. A Little, or
5. None of the time
6. (IF VOLUNTEERS - Don’t know)
7. (IF VOLUNTEERS - Refused)

*(ALL)
PG7F. During the past 30 days, about how often did you feel WORTHLESS?
READ OUT IF NECESSARY

1. All of the time
2. Most,
3. Some,
4. A Little, or
5. None of the time
6. (IF VOLUNTEERS - Don’t know)
7. (IF VOLUNTEERS - Refused)

*Section H: Impact of campaigns and media exposure

*(ALL)
PH2. Have you seen, read, or heard any advertisements about mental health problems in the past 12 months?

1. Yes
2. No (GO TO PH1)
3. Don’t know (GO TO PH1)
4. Refused (GO TO PH1)

*(SEEN ADVERTISING ABOUT MENTAL HEALTH PROBLEMS IN PAST 12 MONTHS)
PH2A. Can you tell me what you remember about it? (RECORD UP TO 3)

1. Answer given (specify)
2. Don’t know
3. Refused

*(SEEN ADVERTISING ABOUT MENTAL HEALTH PROBLEMS IN PAST 12 MONTHS)
PH2B. Did you see or hear this advertising in…. (ACCEPT MULTIPLES)

READ OUT
1. The newspaper
2. A magazine
3. Radio
4. TV, or
5. Somewhere else (Specify)
6. (Don’t know)

*(ALL)
PH1. Have you seen, read, or heard any news stories about mental health problems in the past 12 months?

1. Yes
2. No (GO TO PREPH3)
3. Don’t know (GO TO PREPH3)
4. Refused (GO TO PREPH3)

*(SEEN NEWS STORY ABOUT MENTAL HEALTH PROBLEMS IN PAST 12 MONTHS)
PH1A. Can you tell me what you remember about it? (RECORD UP TO 3)

1. Answer given (specify)
2. Don’t know
3. Refused

*(SEEN NEWS STORY ABOUT MENTAL HEALTH PROBLEMS IN PAST 12 MONTHS)
PH1B. Did you see or hear this news story in..... (ACCEPT MULTIPLES)

READ OUT
1. The newspaper
2. A magazine
3. Radio
4. TV, or
5. Somewhere else (Specify)
6. (Don’t know)

PREPH3 IF S10=1 (CURRENTLY AT SCHOOL) CONTINUE, ELSE GO TO PREPH4
*(IF CHILD AT SCHOOL)
PH3. In the past 12 months, have you received any information about mental health problems from your child’s school?

1. Yes
2. No (GO TO PREPH4)
3. Don’t know (GO TO PREPH4)
4. Refused (GO TO PREPH4)

*(RECEIVED INFORMATION ABOUT MENTAL HEALTH PROBLEMS FROM CHILD’S SCHOOL)
PH3A. Can you tell me what you remember about it?

1. Answer given (Specify)
2. Don’t know
3. Refused

*(RECEIVED INFORMATION ABOUT MENTAL HEALTH PROBLEMS FROM CHILD’S SCHOOL)
PH3B. How was this information presented?
(ACCEPT MULTIPLES)

1. Information from teacher
2. Poster/pamphlet/brochure
3. Referral to website
4. Information from person other than teacher
5. Other (Specify)
6. Don’t know

PREPH4 IF PS3=1 OR 2 (CURRENTLY WORKING) CONTINUE, ELSE GO TO PH6A
*(CURRENTLY WORKING)
PH4. In the past 12 months have you had any information about mental health problems at your workplace?

1. Yes
2. No (GO TO PH6A)
3. Don’t know (GO TO PH6A)
4. Refused (GO TO PH6A)

*(RECEIVED INFORMATION ABOUT MENTAL HEALTH PROBLEMS FROM WORKPLACE)
PH4A. Can you tell me what you remember about it?

1. Answer given (specify)
2. Don’t know
3. Refused
*(RECEIVED INFORMATION ABOUT MENTAL HEALTH PROBLEMS FROM WORKPLACE)*

PH4B. How was this information presented?

(ACCEPT MULTIPLES)

1. Talk
2. Training course
3. Poster/pamphlet/brochure
4. Newsletter
5. Email or website
6. Other (Specify)
7. Refused

*(ALL)*

PH6A. Which organizations related to mental health problems, if any, can you think of?

(MULTIPLES ACCEPTED)

1. beyondblue
2. Lifeline
3. Kids Helpline
4. Salvation Army
5. SANE Australia
6. Black dog institute
7. Mental Health Council of Australia
8. Australian Medical Association
9. Other organization (specify)
10. Don’t know
11. Refused
12. None / can’t think of any

PREPH7 IF PH6A=1 (AWARE OF BEYONDBLUE) GO TO PH8, ELSE CONTINUE

*(NOT AWARE OF BEYONDBLUE UNAIDED)*

PH7. Have you heard of beyondblue: the national depression initiative?

1. Yes
2. No
3. Don’t know
4. Refused

*(ALL)*

PH8. Have you heard of The Mellow Yellow Institute?

1. Yes
2. No
3. Don’t know
4. Refused

PREPH9 IF PH6A=12 AND PH7=2, 3 OR 4 AND PH8=2, 3 OR 4 (NOT AWARE OF ANY MENTAL HEALTH ORGANISATIONS – UNPROMPTED, AND NOT AWARE / DK / REF PROMPTED AWARENESS FOR BEYOND BLUE OR MELLOW YELLOW) GO TO SECTION I INTRO. OTHERS CONTINUE

*(ALL AWARE OF ORGANISATION RELATED TO MENTAL HEALTH PROBLEMS)*

PH9. Which websites related to mental health problems, if any, have you visited?

(MULTIPLES ACCEPTED)

1. beyondblue: www.beyondblue.org.au
2. Sane Australia: www.sane.org.au
3. Lifeline: www.lifeline.org.au
Section I: Sociodemographic characteristics
*(ALL)
Finally, just a few questions about yourself to help us analyse the results of the survey.

1. Continue

*(ALL)
PI1. How old are you?

1. 20-29
2. 30-39
3. 40-49
4. 50-59
5. 60 OR OVER
6. REFUSED

*(ALL)
PI2. What is the highest level of education you have completed?

1. Primary school
2. Year 7 to year 9
3. Year 10
4. Year 11
5. Year 12
6. Trade/apprenticeship
7. Other TAFE/technical certificate
8. Diploma
9. Bachelor degree
10. Post-graduate degree
11. Other (Specify)
12. Refused

*(ALL)
PI3. Do you speak a language other than English at home?

1. No, English only
2. Yes, Italian
3. Yes, Greek
4. Yes, Cantonese
5. Yes, Mandarin
6. Yes, Arabic
7. Yes, Vietnamese
8. Yes, German
9. Yes, Spanish
10. Yes, Tagalog (Filipino)
11. Yes, Other (Specify)
12. (Don’t know)
13. (Refused)

*(ALL)

PI4. Are you Aboriginal or Torres Strait Islander?

1. Yes
2. No
3. Refused

*(ALL)

PI6. Ten percent of my work is checked by my supervisor, and they may need to call you back to verify your participation. Can I please record your first name so they will know who to ask for?

1. Name given (specify)
2. Refused

PREPPI7 IF I6=2 (CHILD AGED 12-17 AND AGREED TO BE RE-CONTACTED) CONTINUE, ELSE GO TO PREPEND.

*(ALL)

PI7. Do we have your permission to contact your child in a few years time for a follow-up interview?

1. Yes [RECORD CONTACT DETAILS FOR CHILD: name, email address, postal address, telephone number (mobile and landline) and those of a person close to them in case their contact details change]
2. No

PREPEND. IF PS1=3 (PARENT REFUSED TO COMPLETE INTERVIEW) GO TO PRR1, ELSE CONTINUE

*(ALL)

PEND. Thanks for participating in this survey. Just in case you missed it, my name is (…) calling on behalf of the University of Melbourne.

If you would like more information about the mental health problems I’ve described I can give you the telephone number of a help line that provides free and confidential information. Would you like this telephone number?

IF YES: The number is 1800 18 7263. This is an organisation called SANE Australia. The number is attended during business hours.

Results of the study will be available in a report that can be accessed on the internet at www.orygen.org.au. It will not identify any individual in the study.

TIMESTAMP 3

*(PARENT REFUSED TO BE INTERVIEWED)

PRR1. OK, that’s fine, no problem, but could you just tell me the main reason you do not want to participate, because that’s important information for us?

1. No comment / just hung up
2. Too busy
3. Not interested
4. Too personal / intrusive
5. Don’t like subject matter
6. Don’t believe surveys are confidential / privacy concerns
7. Silent number
8. Don’t trust surveys / government
9. Never do surveys
10. 16 minutes is too long
11. Get too many calls for surveys / telemarketing
12. Asked to be taken off list and never called again
13. Too old / frail / deaf / unable to do survey (CODE AS TOO OLD / FRAIL / DEAF)
14. Not a residential number (business, etc) (CODE AS NOT A RESIDENTIAL NUMBER)
15. Language difficulty (CODE AS LANGUAGE DIFFICULTY NO FOLLOW UP)
16. Other (Specify)

*(PARENT REFUSED TO BE INTERVIEWED)*

PRR2. RECORD RE-CONTACT TYPE

1. Definitely don’t call back
2. Possible conversion

*Responses to possible questions*

<table>
<thead>
<tr>
<th>Question</th>
<th>Response to give</th>
</tr>
</thead>
<tbody>
<tr>
<td>How did you get my number?</td>
<td>Your telephone number has been chosen at random from all possible telephone numbers in your area. We find that this is the best way to obtain a representative sample for our study.</td>
</tr>
<tr>
<td>Who will have access to the information?</td>
<td>The data will be used by a team of researchers at ORYGEN Research Centre headed by Professor Tony Jorm.</td>
</tr>
<tr>
<td>What will the information be used for?</td>
<td>The researchers are interested in how much understanding members of the public have about health problems and how public information campaigns might help improve this understanding.</td>
</tr>
<tr>
<td>How will confidentiality be protected?</td>
<td>The data will be stored without names attached on computers which are protected by passwords.</td>
</tr>
<tr>
<td>Can I talk to the ethics officer?</td>
<td>Phone 03 8344 2073 during business hours</td>
</tr>
<tr>
<td>Can I talk to the researcher in charge?</td>
<td>Phone Professor Tony Jorm on 0401449672</td>
</tr>
<tr>
<td>Are there any risks?</td>
<td>Some people could find some questions distressing but the researchers at the University have carried out similar surveys in the past and have found no ill effects of participation.</td>
</tr>
</tbody>
</table>

**Distress Scripts**

<table>
<thead>
<tr>
<th>Situation</th>
<th>Response to give</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1. Participant is audibly upset (e.g. crying)</td>
<td>I can sense that you may be upset. Would you like me to call back another time or do you want to terminate the interview? CONTINUE TERMINATE CALL BACK (IF TERMINATE OR CALL BACK) Thankyou for your time. I can recommend a telephone counseling service if you would like to talk to someone. Would you like this telephone number? (IF YES) Go to D3.</td>
</tr>
<tr>
<td>D2. Participant requests to terminate the interview due to distress</td>
<td>Thankyou for your time. I can recommend a telephone counseling service if you would like to talk to someone. Would you like this telephone number? (IF YES) Go to D3.</td>
</tr>
<tr>
<td>D3. Participant wishes to talk to a counsellor</td>
<td>Lifeline Australia is a 24-hour telephone counselling service. Their phone number is 13 11 14.</td>
</tr>
</tbody>
</table>
TERM1 Thank you for your help but we need to speak to people aged 12-25.

**ALLTERM** (summary of terminations)

1. Terminated at S1A=3 OR S1B=3 (H/HOLD REFUSAL–UNKNOWN WHETHER H/HOLD QUALIFIES)
2. Terminated at S1B=2 (NO PEOPLE AGED 12-25 IN H/HOLD)
3. Terminated at S2=3 (H/HOLD REFUSAL – QUALIFYING H/HOLD)
4. Terminated at S3B=2 OR S4=3 (PARENT REFUSED PERMISSION TO INTERVIEW CHILD)
5. Terminated at S5=3 (12-17 YEAR OLD RESPONDENT REFUSAL)
6. Terminated at S6A=3 OR S6B=3 (18-25 YEAR OLD RESPONDENT REFUSAL)
7. All other terminations (S7 TO END)
### Appendix B

Table 1: *Frequency of label use for each vignette*

<table>
<thead>
<tr>
<th>Label</th>
<th>Depression</th>
<th>Psychosis</th>
<th>Social Phobia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>69.1%</td>
<td>24.8%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>0.2%</td>
<td>32.0%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Psychosis</td>
<td>0.0%</td>
<td>1.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Mental Illness</td>
<td>1.3%</td>
<td>18.5%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Stress</td>
<td>6.7%</td>
<td>1.3%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Nervous Breakdown</td>
<td>0.0%</td>
<td>0.3%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Psychological/mental/emotional problems</td>
<td>1.4%</td>
<td>8.3%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Has a problem</td>
<td>1.7%</td>
<td>1.7%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Cancer</td>
<td>0.2%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Nothing</td>
<td>0.1%</td>
<td>0.3%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>6.6%</td>
<td>11.2%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Other</td>
<td>37.7%</td>
<td>36.5%</td>
<td>79.8%</td>
</tr>
<tr>
<td>Abuse/assault/trauma/adverse life event</td>
<td>0.6%</td>
<td>2.0%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Agoraphobia</td>
<td>0.0%</td>
<td>0.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Alcohol problem</td>
<td>0.3%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Anti-social</td>
<td>0.1%</td>
<td>1.0%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Anxiety/anxious</td>
<td>0.6%</td>
<td>0.8%</td>
<td>10.3%</td>
</tr>
<tr>
<td>Anxiety disorder</td>
<td>0.3%</td>
<td>0.1%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Autism/Asperger’s/ADD</td>
<td>0.0%</td>
<td>0.1%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Bereavement</td>
<td>0.5%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Bipolar</td>
<td>0.5%</td>
<td>1.7%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Body image issues</td>
<td>0.8%</td>
<td>0.4%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Bullying</td>
<td>2.2%</td>
<td>2.7%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Crazy</td>
<td>0.0%</td>
<td>2.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Delusional/hallucinating</td>
<td>0.0%</td>
<td>1.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Disability</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Drugs</td>
<td>5.0%</td>
<td>1.5%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Eating Disorder</td>
<td>4.8%</td>
<td>2.3%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Family problems</td>
<td>3.1%</td>
<td>1.7%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Fear of people/socialising</td>
<td>0.0%</td>
<td>0.2%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Friend problems</td>
<td>1.0%</td>
<td>1.8%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Insecure</td>
<td>0.1%</td>
<td>0.3%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Label</td>
<td>Depression n=929</td>
<td>Psychosis n=968</td>
<td>Social Phobia n=905</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------------------</td>
<td>-----------------</td>
<td>---------------------</td>
</tr>
<tr>
<td><strong>Insomnia/poor sleep</strong></td>
<td>2.7%</td>
<td>0.6%</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>Introverted</strong></td>
<td>0.0%</td>
<td>0.1%</td>
<td>1.0%</td>
</tr>
<tr>
<td><strong>Isolated/withdrawn</strong></td>
<td>0.1%</td>
<td>1.2%</td>
<td>1.0%</td>
</tr>
<tr>
<td><strong>Lack of friends</strong></td>
<td>0.2%</td>
<td>0.5%</td>
<td>1.2%</td>
</tr>
<tr>
<td><strong>Lack social skills/need to socialise more</strong></td>
<td>0.1%</td>
<td>1.2%</td>
<td>9.1%</td>
</tr>
<tr>
<td><strong>Lazy/unmotivated</strong></td>
<td>0.9%</td>
<td>0.3%</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>Lifestyle risk factors</strong></td>
<td>1.1%</td>
<td>0.8%</td>
<td>0.3%</td>
</tr>
<tr>
<td><strong>Lonely</strong></td>
<td>0.4%</td>
<td>1.4%</td>
<td>0.2%</td>
</tr>
<tr>
<td><strong>Low self-confidence/low self-esteem</strong></td>
<td>0.9%</td>
<td>1.9%</td>
<td>22.7%</td>
</tr>
<tr>
<td><strong>Negative emotions</strong></td>
<td>2.5%</td>
<td>1.2%</td>
<td>1.8%</td>
</tr>
<tr>
<td><strong>Nervous</strong></td>
<td>0.0%</td>
<td>0.0%</td>
<td>4.5%</td>
</tr>
<tr>
<td><strong>Other2</strong></td>
<td>0.9%</td>
<td>1.1%</td>
<td>0.4%</td>
</tr>
<tr>
<td><strong>Overweight/obese/fat</strong></td>
<td>0.4%</td>
<td>0.2%</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>Panic attacks/OCD/PTSD</strong></td>
<td>0.0%</td>
<td>0.5%</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>Paranoia/paranoid</strong></td>
<td>0.0%</td>
<td>2.9%</td>
<td>0.7%</td>
</tr>
<tr>
<td><strong>Peer pressure</strong></td>
<td>0.1%</td>
<td>0.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Personality disorder</strong></td>
<td>0.1%</td>
<td>0.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Phobia</strong></td>
<td>0.0%</td>
<td>0.2%</td>
<td>0.3%</td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td>4.8%</td>
<td>0.9%</td>
<td>0.2%</td>
</tr>
<tr>
<td><strong>Poor diet/nutrition</strong></td>
<td>4.5%</td>
<td>0.5%</td>
<td>0.2%</td>
</tr>
<tr>
<td><strong>Pregnant</strong></td>
<td>0.5%</td>
<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Pressure</strong></td>
<td>0.4%</td>
<td>0.4%</td>
<td>0.4%</td>
</tr>
<tr>
<td><strong>Relationship breakup/problem</strong></td>
<td>1.9%</td>
<td>0.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>School/study/work problems</strong></td>
<td>3.3%</td>
<td>2.4%</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>Self-conscious</strong></td>
<td>0.0%</td>
<td>0.1%</td>
<td>1.7%</td>
</tr>
<tr>
<td><strong>Sexuality issues</strong></td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Shy</strong></td>
<td>0.1%</td>
<td>0.2%</td>
<td>20.4%</td>
</tr>
<tr>
<td><strong>Sick/needs help</strong></td>
<td>0.6%</td>
<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Social anxiety/social phobia</strong></td>
<td>0.0%</td>
<td>0.0%</td>
<td>3.2%</td>
</tr>
<tr>
<td><strong>Social problem</strong></td>
<td>0.4%</td>
<td>1.0%</td>
<td>5.2%</td>
</tr>
<tr>
<td><strong>Specific fears</strong></td>
<td>0.1%</td>
<td>1.1%</td>
<td>4.6%</td>
</tr>
<tr>
<td><strong>Split personality</strong></td>
<td>0.0%</td>
<td>0.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Suicidal</strong></td>
<td>0.3%</td>
<td>0.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Tired/rundown</strong></td>
<td>1.3%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Typical teenage problem/hormonal</strong></td>
<td>0.5%</td>
<td>0.4%</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>Upbringing risk factor</strong></td>
<td>0.0%</td>
<td>0.1%</td>
<td>2.4%</td>
</tr>
</tbody>
</table>
## Appendix C

Table 1: Predictors of accurate* and most common labels for the depression vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Depression*</th>
<th>Stress</th>
<th>Drugs</th>
<th>Eating Disorder</th>
<th>Physical problem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p</td>
<td>OR</td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td><strong>Socio-demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>1.13</td>
<td>.000</td>
<td>1.04</td>
<td>.269</td>
<td>1.08</td>
</tr>
<tr>
<td>Female gender</td>
<td>1.13</td>
<td>.000</td>
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Table 2: Predictors of accurate* and most common labels for the psychosis vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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<th>Depression</th>
<th>Mental Illness</th>
<th>Psychological problem</th>
<th>Paranoid</th>
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Table 3: Predictors of accurate* and most common labels for the social phobia vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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<th>Depression</th>
<th>Anxiety/ anxious</th>
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### Appendix D

Table 1: Predictors, including parent characteristics, of accurate* and most common labels for the depression vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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<th>Physical problem</th>
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Table 2: Predictors, including parent characteristics, of accurate* and most common labels for the psychosis vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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<th>Predictor variable</th>
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<th>Depression</th>
<th>Mental Illness</th>
<th>Psychological problem</th>
<th>Paranoid</th>
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Table 3: Predictors, including parent characteristics, of accurate* and most common labels for the social phobia vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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Note: Difference in single and multipredictor regression coefficients for association between accurate labelling of social phobia by young person and parent is due to low number of respondents in sub-sample using this label.
## Appendix E

Table 1: Predictors of preferred sources of help and attitudes to help seeking for the depression vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

<table>
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<th>Friend</th>
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<th>Counsellor</th>
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Table 2: Predictors of preferred sources of help and attitudes to help seeking for the psychosis vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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Table 3: Predictors of preferred sources of help and attitudes to help seeking for the social phobia vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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Table 4: Predictors of belief in the helpfulness of professionals and medications for the depression vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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Table 5: Predictors of belief in the helpfulness of professionals and medications for the psychosis vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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Table 6: Predictors of belief in the helpfulness of professionals and medications for the social phobia vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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Table 7: Predictors of belief in the helpfulness of particular actions for the depression vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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Table 8: Predictors of belief in the helpfulness of particular actions for the psychosis vignette by youth: odds ratios and probability values from univariate and multipredictor binary logistic regressions

<table>
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<tr>
<th>Predictor variables</th>
<th>Physical activity</th>
<th>Counselling</th>
<th>CBT training</th>
<th>Relaxation training</th>
<th>Support group</th>
<th>Practice meditation</th>
<th>Cut alcohol</th>
<th>Cut cigarettes</th>
<th>Cut marijuana</th>
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Table 9: Predictors of belief in the helpfulness of particular actions for the social phobia vignette by youth: odds ratios and p-values from multipredictor binary logistic regressions

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<th>Predictor variables</th>
<th>Physical activity</th>
<th>Counselling</th>
<th>CBT</th>
<th>Relaxation training</th>
<th>Support group</th>
<th>Practice meditation</th>
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Table 1: Predictors of different components of stigma for the depression vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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<th>Predictor variables</th>
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<th>Stigma perceived in others</th>
<th>Reluctance to disclose</th>
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Table 2: Predictors of different components of stigma for the psychosis vignette by youth: odds ratios and p-values from univariate and multipredictor binary logistic regressions

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<th>Predictor variables</th>
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<th>Weak not sick</th>
<th>Stigma perceived in others</th>
<th>Reluctance to disclose</th>
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Table 3: Predictors of different components of stigma for the social phobia vignette by youth: odds ratios and probability values from univariate and multipredictor binary logistic regressions

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<th>Predictor variables</th>
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<th>Dangerous/unpredictable p</th>
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<th>Weak not sick p</th>
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<td>1.01</td>
<td>.546</td>
<td>1.00</td>
<td>.959</td>
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<tr>
<td>Female gender</td>
<td>0.71</td>
<td>.010</td>
<td>0.98</td>
<td>0.884</td>
<td>0.72</td>
<td>.016</td>
<td>1.11</td>
<td>.445</td>
<td>0.99</td>
<td>.925</td>
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<tr>
<td>English at home</td>
<td>0.93</td>
<td>.691</td>
<td>0.72</td>
<td>0.132</td>
<td>0.31</td>
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<td>.706</td>
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<td></td>
<td>0.94</td>
<td>.752</td>
<td>0.71</td>
<td>0.119</td>
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<td>.000</td>
<td>0.83</td>
<td>.323</td>
<td>0.90</td>
<td>.632</td>
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</tbody>
</table>
Appendix G


Labels used by young people to describe mental disorders: factors associated with their development

Annemarie Wright, Anthony F. Jorm

Objective: The aim of the present study was to describe the most common terms used to label mental disorders and examine how label use develops with age, and the factors that may mediate any of these developmental changes.

Method: A national telephone survey was conducted with 2802 Australian young people aged 12–25 years and 1528 co-resident parents. Label use was assessed in response to one of three randomly assigned vignettes describing symptoms of depression, psychosis and social phobia.

Results: Depression was correctly labelled twice as frequently as psychosis, whereas social phobia was rarely correctly labelled and most commonly labelled using lay terms. Use of accurate labels increased with age and female subjects were more likely to use them. For all vignettes, likelihood of using an accurate label was associated with exposure to mental health community awareness campaigns and accuracy of label used by a parent. Exposure to a family member or friend who had experienced the disorder and sought help was associated with accurate labelling of the depression and psychosis vignettes only. Male gender was more frequently associated with inaccurate label use.

Conclusions: Accuracy of labelling by young people varies greatly between disorders. More predictors were found for use of accurate labels compared to almost all other non-diagnostic labels. An understanding of the landscape of labelling of mental disorders and factors that mediate their development can be harnessed to improve the effectiveness of community education initiatives. This in turn has the potential to improve labelling of mental disorders by young people and increase appropriate help-seeking during this crucial onset period.

Key words: Depression, labelling, psychosis, social phobia, youth.

The onset of most mental disorders tends to occur in adolescence and young adulthood [1], but many young people fail to seek help or delay seeking help. Delays in treatment are associated with poorer outcomes [2]. The most frequently reported reasons for delayed help-seeking have been lack of recognition that the problem is a mental disorder and poor knowledge about appropriate forms of help [3]. The term ‘mental health literacy’ has been used to describe knowledge and skills that aid the recognition, management and prevention of mental disorders [4]. Studies in this field have found that, among young people, lack of knowledge is common, with recognition rates of approximately 50% for depression [5,6] and 25% for psychosis [5].

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Received 2 March 2009; accepted 4 June 2009.

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In regard to the specifics of recognition, accurate labelling of mental disorders (depression or psychosis) by young people has been found to be strongly associated with an appropriate choice of help and treatment, even after adjusting for other predictors such as age, gender, exposure to someone else with the illness and exposure to awareness campaigns [7]. Indeed, labelling a problem as a specific mental health problem has been found to be a key factor in reducing time to help-seeking [8], and detection of a mental disorder is greater if the patient explicitly raises the problem with their family doctor/general practitioner (GP) [9,10]. So, although labelling is a very specific component of mental health literacy, it is likely to be a central one. It may trigger a schema of health beliefs that can point a person in the right direction for help and treatment, and increase the likelihood of detection by health-care professionals.

Although it is known that elements of mental health literacy vary with age among both young people [5] and adults [11], what is not known is how labelling develops with age during adolescence and young adulthood. In particular, we do not know how various types of labelling change with age and the factors associated with these developmental trends. Gender differences in labelling have similarly not been investigated developmentally. Female subjects tend to show more accurate labelling than male [11–13], but it is not known when this gender difference begins to appear or what factors produce it. Indeed, despite the mounting literature examining the benefits of labelling for help-seeking [7,8] and potential harm of labelling in relation to stigma [14,15], no-one to date has examined how labelling emerges and evolves in adolescence and young adulthood and what factors might mediate this development. This is a period of life in which there will be increasing exposure to mental disorders in both self and peers, but there is also a great deal of cognitive maturation and academic learning occurring that can affect labelling.

There are a number of factors previously found to be associated with labelling that may mediate any age and gender effects. These factors include exposure to mental illness through personal experience or through family members or friends [7,14,16,17] and, to some extent, education [12]. Factors found to be associated with other aspects of mental health literacy (e.g., knowledge of effective help-seeking) are also potential mediators. These include language spoken at home and exposure to community awareness strategies [7]. More recently, the influence of parental knowledge and attitudes on young people’s mental health literacy has been reported [18,19], but to date has not been investigated in the area of labelling.

It is possible that the development of labelling may differ between disorders. Studies of labelling to date have focused primarily on depression and psychotic disorders [7,14,16]. The investigation of other disorders would broaden the generalizability of the findings. Anxiety disorders are particularly relevant in this regard, given their high prevalence and typical first onset in this age group [1,20].

The aims of the present study were therefore to (i) describe the most common terms used by young people to label depression, psychosis and an anxiety disorder (social phobia); (ii) determine whether labelling changes with age and whether this change differs according to gender; and (iii) examine factors that may be mediating any developmental changes; these include exposure to mental disorders in self or others, mental health campaign exposure, level of education, parental use of labels and language spoken at home.

Method

Sample

A computer-assisted survey of 3746 Australians aged 12–25 years was conducted during June–August 2006. The sample was contacted using random-digit dialling to cover all of Australia. If the young person lived with a parent who was able to understand and communicate in English, then one parent was also invited to be interviewed. The response rate was 61.5% for the young people and 68.5% for co-resident parents. Further details of the sample are reported elsewhere [21,22].

Interview

The interview was based on a vignette of a young person with a mental disorder [21]. On a random basis, respondents were read one of four vignettes: depression, depression with alcohol misuse, social phobia, and psychosis. The vignettes were written to satisfy DSM-IV criteria. Respondents were read a vignette of the same gender and age group as their own [21]. Respondents aged 12–17 years were read a version of the vignette describing a 15-year-old, and 18–25-year-olds were read a version portraying a 21-year-old. Parents interviewed were read the same vignette as their child.

After being presented with the vignette, respondents were asked a series of questions to assess a number of areas, including their recognition/labelling of the disorder in the vignette; what they would do to seek help if they had the problem; beliefs about interventions, stigmatizing attitudes and social distance; and the six-item version of the Kessler Psychological Distress Scale; exposure
to mental disorders and media campaigns about mental health; and sociodemographic characteristics. Parents were asked a subset of the same questions as their child, with changes in wording to reflect the parent’s perspective.

The present paper focuses on responses to the depression, psychosis and social phobia vignettes only, because each of these represent a single diagnostic group. The paper presents data on the recognition, exposure and sociodemographic questions, so these are described in detail here. Description of the vignette was followed by an open-ended question asking ‘What, if anything, do you think is wrong with John (male version)/Jenny (female version)?’, for which unprompted responses were recorded. Interviewers recorded responses according to pre-coded response categories (depression, schizophrenia, psychosis, mental illness, stress, nervous breakdown, psychological/mental emotional problem, has a problem, cancer, nothing, don’t know) derived from a content analysis of responses to the same questions in earlier surveys [4,5]. A content analysis of responses that did not fit these pre-coded categories led to post-coding of 56 other categories. Many of these responses were used to describe the social phobia vignette, which had not been used in surveys previously. For simplicity, the post-coded response categories that were among the four most common and the most accurate responses for each vignette are described here, because these are the focus of analysis in this paper. They include anxiety/anxious, anxiety disorder, drugs, eating disorder (anorexia, bulimia, eating disorder), low self-confidence/low self-esteem, physical problem (glandular fever, chronic fatigue syndrome, diabetes), shy, social anxiety/social phobia. A series of questions was asked to ascertain personal exposure to mental disorders. Respondents were asked: ‘Has anyone in your family or close circle of friends ever had a problem similar to John’s/Jenny’s?’, ‘Have they received professional help or treatment for these problems?’, and ‘Have you ever had a problem similar to John’s/Jenny’s?’. ‘Have you received any professional help or treatment for these problems?’ In regard to exposure to media campaigns about mental health, respondents were asked ‘Have you seen, read or heard any advertisements about mental health problems in the past 12 months?’, ‘In the past 12 months, have you received any information about mental health problems from your teachers (12–17-year-olds)/workplace/TAFE (Technical College)/University (18–25-year-olds)?’, and ‘Have you heard of beyondblue: the national depression initiative?’ All exposure questions coded the responses as either ‘yes’, ‘no’, ‘don’t know’ or ‘refused’. Finally, respondents were asked a range of sociodemographic questions to ascertain their age, gender, language spoken at home and, for parent respondents, their highest level of education.

Given the previously reported associations of labelling with age, gender, education, language spoken at home, exposure to mental disorders and exposure to mental health campaigns, these factors were selected for inclusion as possible predictors of label use. Parental education level was used as a proxy measure of the young person’s exposure to an educationally stimulating environment.

**Ethics**

Ethics approval was obtained from The University of Melbourne Human Research and Ethics Committee.

**Validation of the vignettes**

To validate the correct labels for the vignettes, a postal survey of health professionals was conducted to determine the diagnosis (labels) that professionals gave to each person described. Details of the methodology and sample are reported elsewhere [23–25]. For simplicity, only data related to psychiatrist and psychologist diagnoses of the depression, psychosis and social phobia vignettes are reported here. Professionals gave open-ended responses that were coded according to DSM-IV chapter in terms of whether they mentioned a mood disorder, schizophrenia or other psychotic disorder, or an anxiety disorder. Concordance with the intended depiction of a DSM-IV disorder in the vignettes was at least 88% for psychiatrists (Table 1) and at least 82% for psychologists (Table 2).

**Data analysis**

Age and gender differences in labelling were analysed using per cent frequencies to determine the rate of accurate labelling, as well as the rate of all other labels commonly used by young people to describe each of the three vignettes. Accurate labelling was defined as those labels that approximated the DSM-IV diagnostic label [26] upon which the vignettes were based and validated [23–25].

<table>
<thead>
<tr>
<th>Vignette</th>
<th>No. psychiatrists receiving vignette</th>
<th>Mood disorder diagnosis (%)</th>
<th>Schizophrenia and other psychotic disorders diagnosis (%)</th>
<th>Anxiety disorder diagnosis (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression 15 years</td>
<td>73</td>
<td>91.8</td>
<td>17.8</td>
<td>5.5</td>
</tr>
<tr>
<td>Depression 21 years</td>
<td>85</td>
<td>88.2</td>
<td>20.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Psychosis 15 years</td>
<td>77</td>
<td>14.3</td>
<td>96.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Psychosis 21 years</td>
<td>78</td>
<td>11.5</td>
<td>92.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Social phobia 15 years</td>
<td>58</td>
<td>8.6</td>
<td>13.8</td>
<td>91.4</td>
</tr>
<tr>
<td>Social phobia 21 years</td>
<td>73</td>
<td>9.6</td>
<td>8.2</td>
<td>95.9</td>
</tr>
</tbody>
</table>

Percentages do not add up to 100% because multiple diagnoses were possible.
Table 2. Psychologist diagnoses of vignettes (coded by DSM-IV chapters)

<table>
<thead>
<tr>
<th>Vignette</th>
<th>No. psychologists receiving vignette</th>
<th>Mood disorder diagnosis (%)</th>
<th>Schizophrenia and other psychotic disorders diagnosis (%)</th>
<th>Anxiety disorder diagnosis (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression 15 years</td>
<td>96</td>
<td>93.8</td>
<td>4.2</td>
<td>11.5</td>
</tr>
<tr>
<td>Depression 21 years</td>
<td>102</td>
<td>95.1</td>
<td>8.8</td>
<td>12.7</td>
</tr>
<tr>
<td>Psychosis 15 years</td>
<td>87</td>
<td>29.9</td>
<td>82.8</td>
<td>6.9</td>
</tr>
<tr>
<td>Psychosis 21 years</td>
<td>96</td>
<td>19.8</td>
<td>88.5</td>
<td>4.2</td>
</tr>
<tr>
<td>Social phobia 15 years</td>
<td>93</td>
<td>7.5</td>
<td>1.1</td>
<td>90.3</td>
</tr>
<tr>
<td>Social phobia 21 years</td>
<td>85</td>
<td>10.6</td>
<td>3.5</td>
<td>94.1</td>
</tr>
</tbody>
</table>

Percentages do not add up to 100% because multiple diagnoses were possible.

Following this descriptive analysis, multiple binary logistic regression analyses were used to examine predictors of the labelling outcome variables identified here (most accurate and most common) for each vignette. The predictors covered sociodemographic factors (age, gender, language spoken at home) and exposure factors (exposure to mental disorders and help-seeking, campaign exposure). All the predictor variables were dichotomous, except for age (12–25 years), which was analysed as a continuous variable.

For the subsample of young people who also had one of their parents respond, an additional set of multiple binary logistic regression analyses was conducted to examine the influence of parent characteristics (parent education level and label used by parent) on the child’s use of labels. The aim was to determine whether parent education level and parent label use were associated with young people’s label use in this subsample. ‘Parent education level’ was dichotomized according to ‘degree/diploma or higher’ versus ‘other’; and ‘label used by parent’ used the same list of the most accurate and four most common labels identified by the young people for each vignette.

Results

Labels used by young people to describe the vignettes

Overall, 929 young people received the depression vignette, 968 received the psychosis vignette and 905 received the social phobia vignette. For the depression vignette, 69.1% (n = 642) of respondents used the accurate label of ‘depression’ and this was also the most frequent response, followed by ‘stress’ (6.7%, n = 62), ‘drugs’ (5.0%, n = 46), ‘eating disorder’ (4.8%, n = 45) and ‘physical problem’ (4.8%, n = 45). For the psychosis vignette, 33.4% (n = 324) accurately labelled this as ‘schizophrenia’ or ‘psychosis’ and this was the most frequent response, followed by ‘depression’ (24.8%, n = 240), ‘mental illness’ (18.5%, n = 179), ‘psychological/mental/emotional problems’ (8.3%, n = 80) and ‘paranoia/paranoid’ (2.9%, n = 28). For the social phobia vignette, only 5.0% (n = 45) correctly labelled it as either ‘social anxiety’, ‘social phobia’ or ‘anxiety disorder’. The most common label used to describe this vignette was ‘low self-confidence/self-esteem’ (22.7%, n = 205), followed by ‘shy’ (20.4%, n = 185), ‘depression’ (13.4%, n = 121) and ‘anxiety/anxious’ (10.3%, n = 93).

Variation in label use according to age and gender

Correct label use steadily increased with age for all three vignettes (Figure 1), with female subjects generally using accurate labels more frequently across all age groups and vignettes, apart from the psychosis vignette, for which male subjects used the accurate label more frequently for the 12–13 year age group and the 22–23 year age group. The use of the terms ‘depression’ and ‘anxiety’ to describe the social phobia vignette also increased with age, the latter more so for female subjects. Describing the depression vignette with the term ‘physical problem’ and, to a lesser extent, ‘drugs’ also showed some increase with age, particularly by male subjects. For the depression vignette, the label ‘eating disorder’ was far more frequently used by female subjects and this tended to decrease with age. The only other clear decrease in use of a label with age was the term ‘shy’, used to describe the social phobia vignette, and overall this term was more frequently used by male subjects.

Variation in exposure to mental disorders and campaigns according to age and gender

For the whole sample of young people, personal experience of a mental disorder and having sought help (Figure 2a) and exposure to a family member or friend who had experienced a mental disorder and sought help (Figure 2b) steadily increased with age. Exposure to mental health advertising (Figure 2c) and exposure to the national depression initiative beyondblue campaign (Figure 2d) increased with age up to 16–18 years then tended to plateau. Exposure to mental health information at school, university or workplace peaked at 15 and steadily declined with age (Figure 2e). Exposure to all life experience and environmental factors followed a similar gradient for both genders, but male subjects’ exposure was almost always less than that of female subjects’.
Factors associated with correct label use

Correct label use had the greatest number of associated predictors compared to almost all other labels. The predictor variables most consistently associated with correct label use across all vignettes were: age in years, exposure to mental disorder through family or friend, and exposure to campaigns via the national depression initiative or information at educational institution or workplace (Tables 3–5). The only other label with a similar range of predictors was the label 'anxiety/anxious' for the social phobia vignette.

Factors associated with other labels

For the depression vignette, the label 'drugs' was associated with male gender and the label 'eating disorder' was associated with younger age and female gender. For the psychosis vignette, the label 'mental illness' was associated with older age and female gender, while use of the label 'depression' was associated with exposure to the national depression initiative and mental health advertising. The use of all labels for the social phobia vignette tended to increase with age, except for the label 'shy', which tended to be associated with younger age and male gender. Female gender
Table 3. Predictors of accurate and most common labels for the depression vignette by youth

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Depression OR</th>
<th>Depression p</th>
<th>Stress OR</th>
<th>Stress p</th>
<th>Drugs OR</th>
<th>Drugs p</th>
<th>Eating disorder OR</th>
<th>Eating disorder p</th>
<th>Physical problem OR</th>
<th>Physical problem p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sociodemographic characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>1.131</td>
<td>0.000</td>
<td>1.055</td>
<td>0.146</td>
<td>1.079</td>
<td>0.075</td>
<td>0.849</td>
<td>0.001</td>
<td>1.105</td>
<td>0.024</td>
</tr>
<tr>
<td>Female gender</td>
<td>1.461</td>
<td>0.017</td>
<td>1.666</td>
<td>0.068</td>
<td>0.256</td>
<td>0.000</td>
<td>5.565</td>
<td>0.000</td>
<td>0.807</td>
<td>0.495</td>
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<td>English at home</td>
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<td>0.016</td>
<td>0.588</td>
<td>0.089</td>
<td>1.129</td>
<td>0.780</td>
<td>1.294</td>
<td>0.579</td>
<td>0.639</td>
<td>0.227</td>
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<tr>
<td><strong>Exposure to mental disorders and help-seeking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Family/friend history</td>
<td>1.597</td>
<td>0.012</td>
<td>0.539</td>
<td>0.060</td>
<td>1.119</td>
<td>0.754</td>
<td>0.921</td>
<td>0.824</td>
<td>1.583</td>
<td>0.170</td>
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<td>Personal history</td>
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<td>0.011</td>
<td>0.503</td>
<td>0.218</td>
<td>0.672</td>
<td>0.482</td>
<td>0.697</td>
<td>0.535</td>
<td>0.322</td>
<td>0.072</td>
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<td><strong>Campaign exposure</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National depression initiative</td>
<td>1.817</td>
<td>0.000</td>
<td>1.081</td>
<td>0.787</td>
<td>0.784</td>
<td>0.471</td>
<td>0.884</td>
<td>0.717</td>
<td>1.120</td>
<td>0.732</td>
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<td>2.051</td>
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<td>0.582</td>
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<td>0.496</td>
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<td>Mental health advertising</td>
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<td>1.354</td>
<td>0.379</td>
<td>1.284</td>
<td>0.471</td>
<td>1.114</td>
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</tr>
</tbody>
</table>

OR, odds ratio. Odds ratios and p from multiple binary logistic regression.

---

Table 4. Predictors of accurate and most common labels for the psychosis vignette by youth

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Schizophrenia /psychosis OR</th>
<th>Schizophrenia /psychosis p</th>
<th>Depression OR</th>
<th>Depression p</th>
<th>Mental illness OR</th>
<th>Mental illness p</th>
<th>Psychological problem OR</th>
<th>Psychological problem p</th>
<th>Paranoid OR</th>
<th>Paranoid p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sociodemographic characteristics</strong></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>1.180</td>
<td>0.000</td>
<td>1.010</td>
<td>0.636</td>
<td>1.049</td>
<td>0.050</td>
<td>0.999</td>
<td>0.981</td>
<td>1.003</td>
<td>0.953</td>
</tr>
<tr>
<td>Female gender</td>
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<td>0.393</td>
<td>1.162</td>
<td>0.333</td>
<td>1.418</td>
<td>0.045</td>
<td>1.050</td>
<td>0.840</td>
<td>0.729</td>
<td>0.430</td>
</tr>
<tr>
<td>English at home</td>
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<td>0.158</td>
<td>0.998</td>
<td>0.991</td>
<td>1.388</td>
<td>0.197</td>
<td>0.512</td>
<td>0.015</td>
<td>0.706</td>
<td>0.502</td>
</tr>
<tr>
<td><strong>Exposure to mental disorders and help-seeking</strong></td>
<td></td>
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</tr>
<tr>
<td>Family/friend history</td>
<td>1.977</td>
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<td>0.115</td>
<td>0.796</td>
<td>0.278</td>
<td>0.681</td>
<td>0.243</td>
<td>1.668</td>
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<td>Personal history</td>
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<td>1.314</td>
<td>0.363</td>
<td>1.333</td>
<td>0.387</td>
<td>0.000</td>
<td>0.997</td>
<td>0.347</td>
<td>0.318</td>
</tr>
<tr>
<td><strong>Campaign exposure</strong></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National depression initiative</td>
<td>1.661</td>
<td>0.001</td>
<td>1.482</td>
<td>0.015</td>
<td>1.812</td>
<td>0.001</td>
<td>1.163</td>
<td>0.548</td>
<td>2.127</td>
<td>0.075</td>
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<td>School/work mental health information</td>
<td>1.543</td>
<td>0.010</td>
<td>1.210</td>
<td>0.255</td>
<td>1.113</td>
<td>0.569</td>
<td>1.086</td>
<td>0.751</td>
<td>1.213</td>
<td>0.644</td>
</tr>
<tr>
<td>Mental health advertising</td>
<td>1.400</td>
<td>0.040</td>
<td>1.475</td>
<td>0.023</td>
<td>1.354</td>
<td>0.114</td>
<td>1.162</td>
<td>0.554</td>
<td>1.572</td>
<td>0.328</td>
</tr>
</tbody>
</table>

OR, odds ratio. Odds ratios and p from multiple binary logistic regression.
was associated with the anxiety and depression cluster labels for the social phobia vignette, and exposure to a family member or friend with social phobia symptoms was associated with the use of labels ‘depression’ and ‘anxiety’. After age, the most common predictor of label use for all vignettes was exposure to the national depression initiative beyondblue campaign. Furthermore, this exposure was always associated with accurate or approximate labels for example ‘depression’ and ‘mental illness’ for psychosis and ‘depression’ or ‘anxiety’ for social phobia.

**Associations with labelling by parents**

For the subsample of young people with an associated parent respondent, correct label use by the young person was associated with accuracy of parent label for all three vignettes (depression, odds ratio (OR) = 1.721, \( p = 0.029 \); psychosis, OR = 2.192, \( p = 0.001 \); social phobia, OR = 10.865, \( p = 0.011 \)). For the depression vignette, the use of the label ‘eating disorder’ was associated with the parent labels ‘depression’ (OR = 4.272, \( p = 0.008 \)) and ‘eating disorder’ (OR = 3.414, \( p = 0.026 \)), and the use of the label ‘physical problem’ was associated with the parent label ‘eating disorder’ (OR = 7.877, \( p = 0.009 \)). For the social phobia vignette, the use of the label ‘anxiety/anxious’ by the young person was associated with the parent label ‘social anxiety/social phobia/anxiety disorder’ (OR = 4.481, \( p = 0.007 \)). Parent education level was not associated with any of the most accurate or most common labels used to describe the vignettes.

**Discussion**

Accuracy of labelling by young people varies greatly between disorders. A consistent finding across disorders, however, is that more predictors were found for use of accurate labels compared to almost all other non-diagnostic labels.

Accurate labels tend to be the most frequently used labels by young people to describe depression and psychosis, although many other psychiatric and lay terms are also used. Depression was correctly labelled twice as frequently as psychosis. This difference is consistent with previous findings for young people, as well as for adults [5, 6, 27]. The other two most common labels used for psychosis, however, ‘depression’ and ‘mental illness’, although either inaccurate or non-specific, reflect a belief that it is a serious problem. When the percentages using these other labels are taken into account, labelling of some form of serious disorder is comparable between depression and psychosis. Conversely, social phobia is most commonly labelled using lay terms rather than conventional psychiatric labels. This is the first study to report findings on the labelling of social phobia. Despite it being one of the most common disorders in
these factors, howe- potential mediators of age differences in labelling.

Use of accurate labels increased with age, and female subjects were more likely to use them, which is consistent with previous findings [13]. Female gender was a predictor of accurate label use for depression and social phobia, which may be a result of the higher prevalence of these disorders among female subjects [20]. Likelihood of using an accurate label was also associated with exposure to the mental health community awareness strategies of the national depression initiative, and mental health information received through education or work settings. It is important to note that part of the national depression initiative involved interventions based in educational and workplace settings, so the two sorts of exposure are not independent [28]. Accurate labelling of depression and psychosis was associated with exposure to family or a friend with the disorder, which may be due to higher treated prevalence of these disorders compared to social phobia [20,29]. Language spoken at home was not found to be associated with any form of labelling, confirming findings by Klimidis et al. [17]. Given that age is associated with increased exposure to mental illness in self or others and to mental health campaigns, these exposures are potential mediators of age differences in labelling. These factors, however, do not fully account for the age differences in labelling because they remained after adjusting for exposure differences.

Parents also play a role in the development of labelling. It appears that the accuracy of the label used by parents to describe a mental disorder is more important than the child’s general exposure to vocabulary through having better educated parents. This finding strengthens understanding of the important role that parents play in young people’s mental health literacy, as highlighted in previous studies [18,19].

Inaccurate labelling is also important to consider because, as Klimidis et al. have suggested, use of lay terms may lead a person to think of the problem as within the bounds of normal and hence not seek care [17]. Young male subjects are at particular risk of inaccurate labelling that may prevent effective help seeking. Not only was male gender less frequently associated with accurate label use, it was more frequently associated with inaccurate label use, such as ‘drugs’ for depression or ‘shy’ for social phobia. This finding indicates that young male subjects need more targeted efforts to improve their capacity to label disorders.

As well as involving the use of lay labels, mislabelling can also take the form of labelling a disorder as another disorder. Although this type of mislabelling may still lead a person to help seeking, the type of help sought may not be optimal. For example, the use of the label ‘depression’ to describe psychosis may be problematic, because earlier findings suggest that it is less frequently associated with effective help-seeking compared to a correct label [7]. Another example of this is that female subjects were five times more likely to mislabel the depression vignette as an eating disorder, which has unknown implications for help-seeking pathways.

It is apparent that different disorders have different patterns of labelling. Although depression is well labelled, some of the more common labels, such as ‘stress’ and ‘drugs’, indicate that it is easily minimized. Psychosis appropriately attracts more serious labels, whereas social phobia is generally minimized. It is also apparent that the national depression initiative has had general effects that are associated with mislabelling of many disorders as ‘depression’. This effect may be occurring because there have not been community awareness initiatives sufficiently targeting other disorders. This finding may suggest, as highlighted by others previously [12,30], that different disorders require differing approaches to the improvement of labelling. The need to improve labelling of social phobia is particularly pressing so that its impact is not minimized.

Many factors found here to be associated with accurate labelling are modifiable. They could be modified through population mental health initiatives, whether it be through increasing exposure to community awareness campaigns, exposing young people to people who have actually experienced the disorder through school presentations and the like, or through enhancing parent mental health literacy.

The present findings highlight the breadth of common labels used by young people and this is the first study of its kind to examine how labelling of mental disorders evolves during adolescence and young adulthood and how this varies between genders. An understanding of the development of labelling can assist the population health practitioner to be aware of current language used to describe disorders to aid effective communication in community awareness strategies. (For example, emphasizing that social phobia is more than just shyness and that depression is more then just stress.)

The present study has a number of strengths, including the large nationally representative sample, the coverage of the age range in which mental
disorders often have first onset, the inclusion of parents, and the validation of the vignette labels using a substantial sample of mental health professionals. Another strength was that the focus of the survey on mental health was not mentioned until much later in the survey, reducing the potential for biases in the labels given. The findings, however, must also be considered in light of some of the study’s limitations. Labelling of a problem as described in a vignette, although convenient as a means of measuring mental health literacy, may not truly reflect the actual experience of conceptualizing a problem in real life, whether it be in oneself or others. Furthermore, some of the disorders involve cognitive impairments, which may affect the ability to label appropriately in real life. For this reason, the task of labelling a vignette may more accurately reflect the capacity to describe an illness in a peer rather than oneself.

In conclusion, an understanding of the landscape of labelling of mental disorders and factors that mediate their development can be harnessed to improve the effectiveness of community awareness initiatives. This in turn has the potential to improve labelling of mental disorders by young people and perhaps increase appropriate help-seeking during this crucial onset period.

**Acknowledgements**

Financial support was provided by the National Health and Medical Research Council, the Sidney Myer Health Fund, the Colonial Foundation and beyondblue: the national depression initiative. Amy Morgan, Claire Kelly, Robyn Langlands, Betty Kitchener and Len Kanowski had input into the survey content. Darren Pennay and Graham Challice from the Social Research Centre provided advice on survey methodology. Amy Morgan assisted with the data analysis and Kathryn Junor assisted in design of the figures.

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Labels used by young people to describe mental disorders: which ones predict effective help-seeking choices?

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Received: 26 May 2010 / Accepted: 16 May 2011 / Published online: 31 May 2011 © Springer-Verlag 2011

Abstract

Purpose Mental disorders are common in young people, yet many do not seek help. Being able to label the problem may facilitate effective help-seeking, but it is not clear which labels are best. This study aims to examine which labels commonly used by young people are associated with a preference for recommended sources of help and treatment.

Method A national telephone survey was conducted with a randomly selected sample of 2,802 Australian young people aged 12–25 years. Respondents were read out one of three vignettes describing symptoms of a mental disorder, and asked a series of questions regarding labelling of the problem described and related help-seeking preferences and beliefs. Binary logistic regression analyses were used to measure the association between type of label used and help-seeking preferences and beliefs.

Results Use of the accurate label to describe the problem in the vignette predicted a preference for recommended sources of help with greater consistency than any other labels commonly used by young people. Inaccurate mental health labels did predict some preferences for recommended sources of help and treatment, but not to the extent of the accurate label. Lay labels such as "stress", "paranoid" and "shy" predicted less intention to seek any help for the problem described in the vignette.

Conclusions Labelling a disorder accurately does predict a preference for recommended sources of help and a belief in the helpfulness of recommended treatments. Importantly, it is also apparent that some commonly used lay labels cannot do this and indeed may limit appropriate help-seeking and treatment acceptance.

Keywords Labelling · Help-seeking · Youth · Depression · Psychosis · Social phobia

Introduction

While mental disorders commonly have first onset during adolescence and early adulthood [1–3], and they are most prevalent in this age group [4], it is striking that young people have a low rate of service use [5, 6]. International studies reveal that, across all ages, 35.5–50.3% of "serious" cases in developed countries received no treatment in a 12-month period [7]. Those who receive treatment may do so only after a long delay, varying from months to years [8–10]. Strategies to promote earlier help-seeking are clearly warranted.

There are many factors that influence help-seeking for mental disorders in young people [11–14]. One of these is being able to label or identify a disorder accurately, which has been found to be associated with a preference for recommended forms of help [15]. Indeed, self-diagnosis or labelling of the problem is considered to be a key aspect of the help-seeking process [16–18].

The literature on labelling of mental disorders by the public dates back to the 1950s and is diverse in its definitions, theoretical constructs and applications [16, 19, 20]. For the purpose of this study, ‘labelling’ refers to the lay use of unprompted terms or descriptors to characterise the symptoms of a mental disorder being experienced by a hypothetical or actual person. The term ‘recognition’ has also been used to describe this concept [21]. However,
‘labelling’ is preferred in this instance as it more clearly specifies what is involved, viz. applying a term to the symptoms described, observed or experienced, as opposed to more general acknowledgement that the symptoms are familiar or simply recognised as an unspecified problem.

The importance of labelling has been highlighted in two help-seeking studies. In a study of delay in help-seeking, Thompson et al. [22] found that the average time taken to recognise that the problem was related to anxiety or depression accounted for the majority of the total delay to seek help. Labelling may also assist recognition once professional help is sought. This is demonstrated in a study of young people presenting to general practitioners (GPs) [23]. It found that those young people who identified their problem as a mental illness of some kind at presentation were six times more likely to have their mental health problem correctly identified by the GP compared to those who did not consider that they had a mental illness.

The only vignette-based study to focus on labelling and help-seeking in young people found that accurate labelling of both depression and psychosis was the predictor variable most often associated with the choice of a range of appropriate forms of help or treatment for the person described in the vignette, even when other factors such as age, gender, exposure to someone else with the illness and exposure to campaigns were included in the logistic regression [15]. Accurate labelling of a psychosis vignette was associated with an unprompted choice of a recommended source of help, and with a belief that a psychiatrist, psychologist, antipsychotics and counselling would be helpful for the person described in the vignette. Accurate labelling of depression was associated with the treatment preferences of getting help in less than 1 week, and a belief in the helpfulness of a psychologist, social worker, antidepressants and counselling. Studies of adults have also reported an association between accurate labelling of disorder (depression and psychosis) and perceived helpfulness of a psychiatrist [24, 25], psychotropic medication [24] and psychotherapy [24].

What is not clear is the degree to which using accurate labels may be any better in facilitating help-seeking compared to a range of other labels commonly used by young people [26]. For example, it is not clear whether using the accurate label for depression is more effective in facilitating help-seeking than the lay term “stress”. In addition, little is known about how these labels affect unprompted help-seeking preferences for oneself, as opposed to a fictional person described in a vignette. Furthermore, the degree to which labelling is associated with help-seeking may vary between disorders. While there is some information about labelling and its association with help-seeking for depression and psychosis [15], little is known about labelling and help-seeking for anxiety disorders. These disorders are of prime importance given they are the most prevalent of all disorder classes in this age group [4] and delays into treatment are the longest [9, 22].

The aim of this study, therefore, was to examine which labels are associated with the choice of help-seeking and treatment options for depression, psychosis and social phobia recommended by mental health professionals [27–29], whilst controlling for a range of other variables known to be associated with help-seeking by young people, including age [11, 14], gender [14, 30] and ethnicity [12, 31]. Treatment choices were assessed using both unprompted responses (where the person gives their choices in response to an open-ended question) and prompted responses (where specific help-seeking options are listed). Unprompted preferences reflect the options that spontaneously come to mind when a young person is put in a hypothetical situation where some sort of help for a mental health problem is warranted. By contrast, prompted ratings of the helpfulness of various kinds of formal and informal help sources, medicines and actions may be more indicative of the acceptability of recommended treatments.

Method

Sample

On behalf of the investigators, the survey company, The Social Research Centre, conducted a computer-assisted telephone survey of 3,746 Australians aged 12–25 years. The sample was contacted using random-digit dialling to cover all of Australia during June to August 2006. Details of the methodology have been reported previously [32].

From the random-digit dialling database, 153,942 calls were made, and just over half of these, 77,951 (50.6%), were unusable as they were businesses, fax machines, modems, or disconnected numbers, and no contact was made with a further 20,390 (13.2%) due to no answer, answering machine or engaged. A further 10,833 (7%) could not have their scope status confirmed due to household refusal or because an appointment made to screen the household was not later needed, and 38,681 (25.1%) were confirmed as out of scope, leaving 6,087 (4%) potential participants. The final response rate was 61.5%, defined as completed interviews (3,746) out of a sample of 6,087 potential participants. There were 835 males and 798 females in the age group 12–17 years, and 958 males and 1,155 females in the 18–25-year age group. The mean age for the 12–17-year age group was 14.64 (SD 1.67) and for the 18- to 25-year age group, the mean was 21.01 (SD 2.27). Of the whole sample of young people, 52.1% were female, 16.6% spoke a language other than English at
home, and 3.3% were of Aboriginal and/or Torres Strait Islander origin.

There was little variation in response rate by geographic region (state), with response rates ranging from 57.4 to 69.9%, and a very small difference in response rate between metropolitan (61.6%) and regional/rural (61.3%) locations. The age and gender differences between responders and non-responders are not available, as the respondents’ specific age and gender could not be determined before in-scope status was established. However, the age and gender proportions in the sample are similar to the national population: 43.6% of 12- to 17-year-olds in the sample compared to 42.4% in the population, and 47.9% of males in the sample compared to 51.2% in the population.

Interview

The interview was based on a vignette of a young person with a mental disorder [32]. On a random basis, respondents were read out one of four vignettes: depression, depression with alcohol misuse, social phobia and psychosis. The present paper focusses on the depression (n = 929), psychosis (n = 968) and social phobia (n = 905) vignettes as they each represent single diagnostic groups. The vignettes were written to satisfy DSM-IV [33] criteria and validated against clinician diagnosis [26]. Respondents were read out a vignette of the same gender and age group as their own. Respondents aged 12–17 years were read out a version of the vignette describing a 15-year-old; 18- to 25-year-olds were read out a version of the vignette portraying a 21-year-old. The details of the vignette were altered slightly to be age appropriate (e.g. reference to functioning at school vs. on a course).

After being presented with the vignette, respondents were asked a series of questions to assess a number of areas, including their labelling of the disorder in the vignette; what they would do to seek help if they had the problem; beliefs about sources of help and treatments; and socio-demographic characteristics.

labelling of the problem

Description of the vignette was followed by an open-ended question asking, “What, if anything, do you think is wrong with John (male version)/Jenny (female version)” for which unprompted responses were recorded. Interviewers recorded responses according to pre-coded response categories (depression, schizophrenia, psychosis, mental illness, stress, nervous breakdown, psychological/mental/emotional problem, has a problem, cancer, nothing, do not know) derived from a content analysis of responses to the same questions in earlier surveys [34, 35]. A content analysis of responses that did not fit these pre-coded categories led to post-coding of 56 other categories. Many of these responses were used to describe the social phobia vignette, which had not been used in surveys previously. For simplicity, the post-coded response categories that are amongst the four most common and the most accurate responses for each vignette are described here, as these are the focus of analysis in this paper. They include anxiety/anxious, drugs, eating disorder (including the responses anorexia, bulimia, eating disorder), low self-confidence/low self-esteem, physical problem (including the responses glandular fever, chronic fatigue syndrome, diabetes), shy, and social phobia (including the responses social phobia, social anxiety or anxiety disorder).

Help-seeking items

Respondents were then read a range of help-seeking questions that included two components. Firstly, there was a question to ascertain the respondent’s help-seeking preferences without prompting as an indicator of the kind of help they might seek of their own accord and, secondly, there was a series of questions that sought their opinion about the helpfulness of a range of different sources of help and treatment for the person described in the vignettes in order to measure acceptability of treatments. Whilst a broad range of help-seeking and treatment items were covered in the interview, those selected for analysis in this paper are based on a consensus of mental health professionals about which interventions are likely to be helpful for the young people portrayed in the vignettes. This consensus was based on the results of a postal survey of health professionals (GPs, psychologists, psychiatrists and mental health nurses) conducted between September 2006 and January 2007 to determine the sources of help, treatment options and self-help actions that professionals recommend. Details of the methodology and sample are reported elsewhere [27–29].

Following the labelling question, the young people were asked “If you had a problem right now like (John/Jenny), would you go for help?” Responses were coded as either “yes”, “no”, “don’t know” or “refused”. Respondents were then asked “Where would you go?” for which unprompted responses were recorded. Interviewers recorded responses according to pre-coded response categories according to the source of help that the respondent would seek help from: both parents, mother, father, other person (which was then specified), a service (which was then specified).

This was followed by the prompted help-seeking items: “There are a number of people who could possibly help John/Jenny. I’m going to read out a list and I’d like you to tell me whether they would be helpful, harmful or neither
to John/Jenny”. Then the following list was read out: a
general practitioner or family doctor, a counsellor, a
telephone counselling service, a psychologist, and a
psychiatrist.

The same helpfulness rating scale was used for two
further sets of questions. The young person was asked “Do
you think the following medicines are likely to be helpful,
harmful or neither for John/Jenny? Again, if you are
unsure, that’s fine, just let me know”. A range of medicines
was read out including anti-depressants and antipsychotics.
This was followed by the question “Do you think the
following are likely to be helpful, harmful or neither for
John/Jenny?” A range of actions were read out including:
becoming physically more active, getting relaxation train-
ing, receiving counselling, receiving cognitive behaviour
therapy (CBT), joining a support group of people with
similar problems, as well as cutting down on use of alco-
hol, cigarettes and marijuana.

Socio-demographic items

Respondents were asked a range of socio-demographic
questions to ascertain their age, gender, and language
spoken at home. Apart from asking respondents about
their current involvement in education or employment,
highest level of education was not recorded due to the
high correlation of years of education with age in this age
group.

Ethics approval

Ethics approval was obtained from The University of
Melbourne Human Research and Ethics Committee.

Data analysis

All analyses were carried out using PASW Statistics ver-

sion 18.0 and SPSS Version 17.0. Only the accurate label
and the four most common labels for each vignette are
reported here, as these are the labels most commonly used
in the community and therefore the findings that relate to
these are most relevant. Accurate labelling is defined as
those labels that approximate the DSM-IV [33] diagnosis
upon which the vignettes were based and validated. The
rate of accurate labelling, as well as the rate of use of all
other labels to describe the vignettes, was analysed using
percent frequencies for each of the three vignettes and is
described in detail elsewhere [26].

To ensure the reliability of the coding of the labels used,
a preliminary reliability study was needed to measure inter-
rater agreement in regard to the 56 post-coded response
categories. A second rater reviewed a random sample of
100 uncoded responses to the labelling question for each of
the three vignettes and coded these responses according to
the 56 post-coded response categories. Responses that were
assigned to the pre-coded response categories were exclu-
sed. The selected 300 uncoded responses were randomly
ordered and the second rater was blinded to the vignette
upon which the responses were based. The two sets of 300
responses were then analysed using the kappa measure of
agreement to assess agreement in coding the labels used.

To provide a measure of population uncertainty in
regard to labelling of the three disorders described in the
vignettes, an analysis of the frequency of the number of
different labels used to identify the problem in the vignette
per respondent was also undertaken. A further analysis was
undertaken to determine whether number of labels used
varied according to age, gender or vignette. Because the
distribution of number of labels was highly skewed, non-
parametric Mann–Whitney U and Kruskal–Wallis tests
were used.

The principal form of analysis was then a series of
univariate and multipredictor binary logistic regression
analyses to examine the association between label use and
help-seeking preferences whilst controlling for other
known predictors of help-seeking. The accurate and most
common labels for each vignette were the predictor vari-
ables of primary interest. However, as previously high-
lighted, some respondents used more than one label to
describe the problem in the vignette; hence, a check was
carried out for multicollinearity by examining the degree of
correlation between the labels for each vignette. The only
significant correlation found was for the social phobia
vignette between the labels “depression” and “anxiety”
($r = 0.177$).

The covariates in the logistic regression analyses were
the socio-demographic factors known to be associated with
help-seeking, that is age, gender and language spoken at
home (ethnicity). All predictor variables were dichotomous
except for age (12–25 years) which was analysed as a
continuous variable.

The help-seeking preference outcome variables were
derived from the unprompted help-seeking items and the
prompted rating of a range of help-seeking and treatment
options. In regard to the unprompted items, the first ques-
tion was “If you had a problem right now like (John/
Jenny), would you go for help?”. Responses were dichot-
omized into “yes” and “no”/“do not know”. From the
sub-set of respondents who answered “yes” to this ques-
tion, unprompted preferences regarding sources of help
were derived from the pre-coded verbatim responses to the
question “Where would you go?” which included parent,
family member, friend, doctor/General Practitioner, coun-
seller, and mental health specialist. Ratings of the prompt-
ted help-seeking and treatment items were dichotomized
for the analysis into “helpful” versus “other responses”.

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Univariate binary logistic regression analyses examined the association between each of the predictor variables and each of the help-seeking outcome variables. Multipredictor binary logistic regression analyses were then used to examine which of the predictor variables remained significant in their association with each of the help-seeking and treatment outcome variables, adjusting for other predictors and covariates. Although some of the associations that were significant in the univariate binary logistic regression analysis became non-significant in the multipredictor binary logistic regression analysis, the regression coefficients did not differ greatly in magnitude, hence no further sequential regression analyses were conducted and only the significant results of the multipredictor logistic regression analyses are reported here. The regression analyses generated a large number of odds ratios. In order to summarise these and show where there was consistency of results, the findings were summarised in tables, with the magnitude of associations indicated as small, medium, or large according to Rosenthal’s criteria [36].

Results

Inter-rater agreement on coding of labels

The kappa value for inter-rater agreement on coding of most labels analysed in this paper was above 0.8, representing very good agreement. The exceptions were 0.72 for “physical problem” and 0.66 for “psychological problem”, representing good and moderate agreement, respectively.

Number of labels used

The frequency distribution of the number of respondents who used 1 through to 5 or more labels was analysed for the total sample and showed that 67.4% of respondents used one label, 24.2% used two labels, 6.5% used three labels, 1.4% used four labels, and 0.4% used 5 or more labels. A Mann–Whitney U Test revealed a significant difference in number of labels used per respondent according to gender, with females using significantly more labels than males (females, mean = 1.47; males, mean = 1.39; Z = 3.83; p < 0.001), and a significant difference according to age group, with those aged 18–25 years using more labels than 12- to 17-year-olds (12–17 years, mean = 1.41; 18–25 years, mean = 1.45; Z = -2.76; p = 0.006). A Kruskal–Wallis test revealed a significant difference in the number of labels used according to vignette, with the most labels used for the social phobia and psychosis vignettes and the least for the depression vignette (social phobia vignette, mean = 1.45; psychosis vignette, mean = 1.45; depression vignette, mean = 1.37; \( \chi^2 = 12.50; p = 0.002 \)).

Unprompted preferences for sources of help

Results from the multipredictor binary logistic regression analyses are summarised in Table 1. Results of analyses regarding the outcome variable “parent” are not included as all findings were non-significant.

For the depression vignette, use of the accurate label “depression” predicted a preference for help from a counsellor (OR = 1.76, p = 0.024), and the label “physical problem” predicted a preference for help from a doctor/GP (OR = 2.68, p = 0.003). The label “stress” predicted less intention to seek any help for the hypothetical situation described in the vignette (OR = 0.49, p = 0.021).

For the psychosis vignette, use of the accurate label “schizophrenia/psychosis” predicted preference for doctor/GP as a source of help (OR = 1.77, p = 0.001), as did the label “mental illness”, although the strength of the association for the latter was lower (OR = 1.59, p = 0.021). The accurate label also predicted a preference for not seeking help from a friend (OR = 0.37, p < 0.001), whereas those who used the label “depression” were more likely to prefer informal sources of help including family member (OR = 1.51, p = 0.012) and friend (OR = 2.09, p < 0.001). “Depression” was also the only label that predicted an intention to seek any help for the hypothetical vignette scenario (OR = 1.56, p = 0.035), whereas the label “paranoid” predicted less intention to seek any help (OR = 0.40, p = 0.028).

For the social phobia vignette, the correct label predicted an intention to seek any help (OR = 2.34, p = 0.049) and a preference for help from a doctor/GP (OR = 2.31, p = 0.025) and especially a mental health specialist (OR = 4.99, p < 0.001). The only other label that predicted a preferred source of help was the label “anxiety/anxious” for doctor/GP (OR = 2.15, p = 0.007). The label “shy” predicted less intention to seek any help for the hypothetical vignette scenario (OR = 0.59, p = 0.008).

Prompted responses regarding the helpfulness of professionals

Significant results from the multipredictor logistic regression analyses are listed in Table 2. Results of analyses regarding the outcome variable “telephone counsellor” are not included as all findings were non-significant. Overall, the accurate label for both the depression and psychosis vignettes predicted a belief in the helpfulness of the most number of recommended professionals compared to other labels. For the depression vignette, the label “depression” predicted a belief in the helpfulness of a counsellor (OR = 2.00, p = 0.01) and a psychologist (OR = 1.83, p < 0.001). The only other significant association was for the label “eating disorder” that predicted a belief in the helpfulness of a psychologist (OR = 2.49, p = 0.035). The
accurate label for the psychosis vignette predicted a belief in the helpfulness of a GP (OR = 2.07, \( p = 0.002 \)), psychologist (OR = 1.52, \( p = 0.035 \)) and psychiatrist (OR = 1.86, \( p < 0.001 \)). “Mental illness” was the only other label to predict a belief in the helpfulness of a professional (psychiatrist) (OR = 1.59, \( p = 0.021 \)), although again the association was not as strong.

Results for the social phobia vignette reveal that the label “depression” predicted a belief in the most professionals, GP (OR = 2.46, \( p = 0.004 \)) and psychiatrist (OR = 1.56, \( p = 0.046 \)), whereas the accurate label predicted a belief in the helpfulness of one type of professional, a psychologist (OR = 3.67, \( p = 0.034 \)). The label “shy” predicted a belief in the helpfulness of a counsellor (OR = 2.03, \( p = 0.045 \)).

Prompted responses regarding the helpfulness of medications

As outlined in Table 1, results from the multipredictor binary logistic regression analyses regarding a belief in the helpfulness of medications reveal that while the accurate labels for all the vignettes predicted a belief in the helpfulness of medication, so too did a number of other labels. For the psychosis vignette, the accurate label predicted a belief in the helpfulness of both anti-depressants (schizophrenia/psychosis: OR = 1.53, \( p = 0.004 \)) and antipsychotics (schizophrenia/psychosis: OR = 3.32, \( p < 0.001 \)). The label “paranoid” also predicted a belief in the helpfulness of antipsychotics (OR = 2.25, \( p = 0.048 \)). For the social phobia vignette, the labels “social phobia” (OR = 2.815, \( p = 0.002 \)) and “depression” (OR = 2.80, \( p < 0.001 \)) predicted a belief in the helpfulness of antipsychotics (OR = 2.25, \( p = 0.048 \)). For the depression vignette, “depression” was the only label to predict a belief in the helpfulness of anti-depressants (OR = 2.39, \( p < 0.001 \)), while other common lay labels, that is, “stress” (OR = 0.53, \( p = 0.047 \)), “drugs” (OR = 0.31, \( p = 0.004 \)), and “physical problem” (OR = 0.47, \( p = 0.04 \)), predicted a belief that they would not be helpful.
The only other action predicted by the accurate labels was a belief in the helpfulness of cutting down on use of alcohol for the depression vignette (OR = 1.84, p = 0.012) and the psychosis vignette (OR = 2.11, p = 0.006). For the psychosis vignette, the label ‘‘depression’’ predicted the most number of beliefs in recommended actions, including the helpfulness of physical activity (OR = 2.07, p = 0.004), and cutting down on the use of alcohol (OR = 2.04, p = 0.014), cigarettes (OR = 1.84, p = 0.025) and marijuana (OR = 1.88, p = 0.04), while the label “mental illness” predicted a belief in the helpfulness of relaxation training (OR = 1.96, p = 0.019) and a support group (OR = 2.56, p = 0.015). Labelling the depression vignette as “stress” was strongly associated with a belief in the helpfulness of relaxation training (OR = 8.44, p = 0.036).

Discussion

This is the first study to examine the relative effectiveness of a range of common labels used by young people in predicting help-seeking preferences. Of all the common labels a young person might use, the accurate labels were the ones that most consistently predicted a preference for professionally recommended forms of help. This is particularly the case for professional sources of help, medications and psychological therapies. These findings were consistent across the three different mental disorder vignettes. Whilst inaccurate mental health labels did predict some preferences for recommended sources of help and treatment for the psychosis and social phobia vignettes, this was not to the extent of the accurate label.

Most concerning is that lay labels such as “stress”, “paranoid” and “shy” were associated with reduced likelihood of seeking any help if the young person themselves were to have a problem like the one described in the vignette. In addition, the use of more general lay labels such as “stress”, “drugs” and “physical problem” were associated with the young persons sampled considering anti-depressants to not be helpful in the case of depression.

This is the first study to examine which labels predict a preference for recommended forms of help and treatment for an anxiety disorder. Compared to the depression and psychosis vignettes, accurately labelling the social phobia

Table 2 Label use as a predictor of belief in the helpfulness of professionals and medications for the vignettes by youth: effect sizes and p values from multipredictor binary logistic regression analyses

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>GP</th>
<th>Counsellor</th>
<th>Psychologist</th>
<th>Psychiatrist</th>
<th>Antidepressants</th>
<th>Antipsychotics</th>
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<tbody>
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<td>Depression vignette</td>
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<td>Drugs</td>
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<td>Eating disorder</td>
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<td>Psychosis vignette</td>
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<td>Social phobia vignette</td>
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<td>Social phobia/anxiety disorder</td>
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Adjusted for age, gender, language spoken at home
↑ small effect size (OR > 1.5), ↑↑ medium effect size (OR > 2.5), ↑↑↑ large effect size (OR > 4) [36], ↓ indicates inverse OR with corresponding effect size
* p < 0.05, ** p < 0.01, *** p < 0.001

(depression: OR = 2.09, p = 0.006; psychosis: OR = 3.23, p = 0.003) and CBT (social phobia: OR = 3.58, p < 0.001).
vignette predicted a preference for a more specific source of help, which is a mental health specialist, and a specific treatment, CBT, with large and medium effect sizes, respectively. Using the label “depression” was almost as effective as the accurate label in predicting a preference for recommended sources of help, although the associations were less consistent and the effect sizes tended to be smaller. However, these labels were amongst the least common [26], hence the potential benefits of accurate labelling at a population level will not be fully realised until community education efforts targeting anxiety disorders are enhanced, particularly given their high prevalence [4].

In regard to the depression and psychosis vignettes, many of the findings from this study replicate earlier findings from a study of young people regarding the association between accurate label use and belief in the helpfulness of recommended sources of help including, for depression, a belief in the helpfulness of a psychologist, anti-depressants and counselling, and for psychosis, a belief in the helpfulness of a psychiatrist, antipsychotics (anti-depressants not tested) and counselling [15]. A similar pattern of findings has also been reported in adult studies, that is, an association between accurate labelling and the belief in the helpfulness of a psychiatrist [24, 25], psychotropic medication [24] and psychotherapy [24]. Another similarity is that when “depression” is used to label the problem in a vignette, its association with help-seeking preferences and treatment beliefs differs between vignettes and has the most associations when applied accurately. Interestingly, in this study, the phenomenon has been found to apply to social phobia as well. It may be that the term “depression” has become a ubiquitous label for any mental health problem, but is more effective when applied accurately to a depressive disorder.

The key differences in findings to the earlier youth study mainly relate to the psychosis vignette. In the previous study other mental health labels, particularly “mental illness”, were more often associated with a belief in recommended sources of help and treatment and the association between the accurate label and GP was non-significant. Furthermore, the earlier study did not find an association between accurate labelling of depression and psychosis and a belief in the helpfulness of cutting down on alcohol use. These differences in results may reflect an improvement in mental health literacy over time, as

Table 3  Label use as a predictor of belief in the helpfulness of particular actions for the vignettes by youth: effect sizes and p values from multipredictor binary logistic regression analyses

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Physical activity</th>
<th>Counselling</th>
<th>CBT</th>
<th>Relaxation training</th>
<th>Support group</th>
<th>Cut down alcohol</th>
<th>Cut down cigarettes</th>
<th>Cut down marijuana</th>
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<td><strong>Depression vignette</strong></td>
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Adjusted for age, gender, language spoken at home
↑ small effect size (OR > 1.5), ↑↑ medium effect size (OR > 2.5), ↑↑↑ large effect size (OR > 4) [36], ↓ indicates inverse OR with corresponding effect size
* p < 0.05, ** p < 0.01, *** p < 0.001
evidenced by an increase in accuracy of labelling for depression from 48.7% in 2001, to 69.1% in 2006, and for psychosis an improvement from 25.3 to 33.4% [26, 35], or differences in the range of covariates adjusted for in the two studies.

The present study has a number of strengths including use of a large national sample covering the age range when onset is most likely to occur, use of vignettes with validated labels, and high inter-rater reliability regarding label coding. A focus on labels in common use maximises the relevance of the findings. Although the in-scope status of some households contacted could not be established and this limits the capacity to absolutely define the representativeness of the survey, the similarity of the sample to the national population in regard to age, gender and residential location supports the potential generalizability of the results. However, the results must also be considered in light of a number of limitations. This study has focused on help-seeking intentions and preferences rather than actual help-seeking behaviour. While the likelihood that these translate into behaviour has been supported [14, 37, 38], it has also been questioned [25, 39]. It could be argued that the large number of associations examined could lead to Type I errors. Excluding associations with covariates, significant associations were found for 15.2% of the help-seeking preferences variables, 20.9% of the belief in professional and medications variables, and 10% of the belief in particular actions variables, compared to an expected 5% by chance if the null hypothesis was true. The fact that these associations are in the expected direction and replicate earlier findings further leads to greater confidence in the findings. Another limitation concerns the way the questions eliciting prompted and unprompted responses were framed. A comparison of findings between unprompted and prompted results within the study is difficult, as the former asked questions in relation to the respondent themselves having the problem and the latter in relation to the person described in the vignette. It would be expected that given the tendency of young people to have a higher threshold of perceived need for help for self than for a peer [40], that more associations may have been found if the null hypothesis was true. The fact that this may not be so. While being able to accurately label a disorder is unlikely in itself to be sufficient in guiding a person to appropriate help, it may be an indicator of good mental health literacy [21], and as such it may be a vital trigger for accessing a schema of how to deal with a certain kind of mental disorder. However, further research regarding the role of labelling in help-seeking relative to other known mediators of help-seeking is required. A consideration of these factors in the context of actual cases of help-seeking would also be beneficial in clarifying the extent to which labelling facilitates help-seeking in real life.

In conclusion, labelling a disorder accurately does predict a preference for recommended sources of help and a belief in the helpfulness of recommended treatments above and beyond all other common labels used by young people. Importantly, it is also apparent that commonly used lay labels may limit appropriate help-seeking and treatment acceptance. Improving the accuracy of labelling of mental disorders, along with a consideration of other factors that facilitate help-seeking, may improve the effectiveness of community awareness initiatives in reducing the gap between young people’s need for treatment and receipt of treatment.

Acknowledgments Financial support was provided by the National Health and Medical Research Council, the Sidney Myer Health Fund, the Colonial Foundation, and “beyondblue: the national depression initiative”. Amy Morgan and Anna Kingston assisted with components of the data analysis. Nicholas Allen provided advice regarding data analysis and development of the manuscript.

References

Labeling of mental disorders and stigma in young people

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A R T I C L E   I N F O

Article history:
Available online 6 July 2011

Keywords:
Australia
Stigma
Label
Mental disorder
Adolescent
Young adult
Help-seeking

A B S T R A C T

Mental disorders are common in young people, yet many do not seek help. The use of psychiatric labels to
describe mental disorders is associated with effective help-seeking choices, and is promoted in community
awareness initiatives designed to improve help-seeking. However these labels may also be coupled with
stigmatizing beliefs and therefore inhibit help-seeking: lay mental health or non-specific labels may be
less harmful. We examined the association between labeling of mental disorders and stigma in youth using
data from a national telephone survey of 2802 Australians aged 12—25 years conducted from June 2006
to August 2006. Label use and stigmatizing beliefs were assessed in response to vignettes of a young person
experiencing depression, psychosis or social phobia. Logistic regressions examined the association
between a range of labels commonly used, including psychiatric labels, and a range of stigma components.
There were no significant associations between label use and the stigma components of “stigma perceived
in others”, “reluctance to disclose” and for the most part “social distance”. Most mental health labels
were associated with seeing the person as “sick” rather than “weak” and accurate psychiatric labels had the
strongest effect sizes. However, for the psychosis vignette, the “dangerous/unpredictable” component was
predicted by the labels “schizophrenia/psychosis”, “mental illness” and “psychological problem”, and the
accurate psychiatric label showed the strongest association. For all vignettes, generic lay labels were not
associated with stigma, but also rarely had a counter stigma effect. These findings suggest that the use of
accurate psychiatric labels by young people is seldom associated with stigma and may assist young people
by reducing perceptions of weakness. However, community education that promotes accurate labeling of
psychosis should proceed with caution and address beliefs about dangerousness and unpredictability.

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Introduction

Mental disorders are prevalent in young people, affecting at least 1 in every 4 to 5 each year (Patel, Flisher, Hetrick, & McGorry, 2007), yet many do not seek help (Slade, Johnston, Oakley Browne Andrews, & Whiteford, 2009). Recognizing and labeling a mental health problem as it emerges is considered to be a natural part of the help-seeking process (Angel & Thoits, 1987; Biddle, Donovan, Sharp, & Gunnell, 2007; Vogel, Wester, Larson, & Wade, 2006). Indeed, the identification and labeling of mental disorders is a focus of mental health community awareness initiatives designed to facilitate help-seeking and entry into treatment (Dumesnil & Verger, 2009; Kelly, Jorm, & Wright, 2007). However, the use of labels in the field of mental health has been contentious. There have been decades of debate about their potential for harm, particularly in relation to fueling stigmatizing attitudes (Gove, 1975; Jorm & Griffiths, 2008; Link, Cullen, Struening, Shout, & et al, 1989; Pescosolido et al., 2010; Scheff, 1966).

Labeling and stigma

Studies examining Labeling Theory (Scheff, 1966) and Modified Labeling Theory (Link et al., 1989) have been at the forefront of research examining the association between labeling and stigma related to mental disorders. They have reported on the negative and stigmatizing impact of a person being labeled as mentally ill or as a consumer of mental health services. Consistent with this view, there is other research showing that the use of psychiatric terms by the public to label mental health problems (as opposed to people) can also be stigmatizing (Angermeyer & Matschinger, 2005; Penn & Nowlin-Drummond, 2001). Although recently this has been the subject of debate (Jorm & Griffiths, 2008; Read, Haslam, & Davies, 2009; Read, Haslam, Sayce, & Davies, 2006).

However, Link and Phelan (2010) have argued that labeling has both positive and negative aspects and needs to be considered as a “package deal”. They suggest that whilst there is evidence that labeling a person who has received psychiatric treatment as “mentally ill” is stigmatizing, labeling the problem—the illness itself—can be beneficial, as it facilitates treatment and ultimately amelioration of symptoms. Therefore
a critical distinction needs to be made between labeling the person and labeling the problem, that is, the label that stems from being a person who has participated in psychiatric services (Rüschi, Angermeyer, & Corrigan, 2005) versus labeling a mental health problem as it emerges in the process of recognition and help-seeking.

Research into the labeling of mental health problems by the public and its association with stigma has used a variety of methods. The most common have been to examine reactions to the label itself (Mann & Himelein, 2004; Penn & Nowlin-Drummond, 2001), to present a vignette and ask whether the person is mentally ill (prompted identification) (Link, Phelan, Bresnahan, Sueve, & Pescosolido, 1999; Martin, Pescosolido, & Tuch, 2000; Perry, Pescosolido, Martin, McLeod, & Jensen, 2007; Pescosolido et al., 2010; Phillips, 1967), or to ask the participant to label a vignette and then pool all labels involving mental illness (Angermeyer & Matschinger, 2003; Angermeyer & Matschinger, 2005). However, the distinct labels used to describe a mental disorder that have been elicited without prompting are more likely to reflect the experience of recognizing and labeling a mental disorder as it occurs in the real-life process of help-seeking (Angel & Toits, 1987; Biddle et al., 2007; Vogel et al., 2006). Indeed, prompted labeling or pooling results may mask the real effect of how different labels are associated with stigma, as they do not take into account the different effects of the various labels a person may use. For example, prompting with the label “mental illness” or “mentally ill” may be more of an indicator to a respondent of the person having participated in psychiatric services (Rüschi et al., 2005) rather than a description of a mental health problem itself.

**Complexity of the stigma construct**

A further complexity in this area is that stigma is a multidimensional construct that has been variously described and measured, potentially leading to inconsistency in the evidence. Various facets of stigma have been examined from the perspective from which they are experienced. These include personal stigma—the stigmatizing attitudes a person has regarding others (Griffiths, Christensen, Jorm, Evans, & Groves, 2004); self-stigma—the stigmatizing views individuals have in regard to themselves (Corrigan & Watson, 2002); perceived stigma-beliefs regarding the stigmatizing views that others hold (Griffiths et al., 2004); interpersonal stigma—the stigma that occurs within interpersonal communication and lived engagements (Yang et al., 2007); discriminatory behavior (Corrigan, Markowitz, Watson, Rowan, & Kubiac, 2003); the experience of being stigmatized (Wahl, 1999); and structural discrimination—the policies of private and governmental institutions that restrict the opportunities of people with mental illness (Corrigan, Markowitz, & Watson, 2004). Furthermore, these different facets of stigma are themselves multidimensional. For example, personal stigma has various components, including desire for social distance, perception of mental disorders as due to weakness, belief in dangerousness, reluctance to disclose to others, desire for social control and goodwill (Jorm & Oh, 2009).

**Unprompted labels and stigma**

Social distance and a range of other personal stigma components have been the focus of a small number of studies that have examined the association between unprompted labeling of mental disorders and stigma. All of these studies have used the vignette method to examine labels applied to vignettes of schizophrenia/psychosis or depression (see Table 1). Social distance has been the most frequently examined aspect of stigma. In regard to schizophrenia, use of the accurate label has been found in one study to be associated with social distance items (Angermeyer, Holzinger, & Matschinger, 2009), however the association was non-significant in the other study examining the accurate label (Jorm & Griffiths, 2008). By contrast, social distance was associated with other labels for this vignette such as psychological/mental/emotional problem (Jorm & Griffiths, 2008) and brain/mind problem (Kermode, Bowen, Arole, Pathare, & Jorm, 2009). However, generally associations between other mental health labels and social distance tended to be negative or non-significant. For depression, only one study showed an association between the accurate label and a social distance item (Angermeyer et al., 2009), but in general most findings were non-significant (Angermeyer et al., 2009; Jorm & Griffiths, 2008; Kermode et al., 2009).

In regard to personal stigma, one study used a schizophrenia vignette and an association was found between belief in dangerousness and the accurate label for schizophrenia (Jorm & Griffiths, 2008). However, for studies examining depression, most associations with the accurate label were either non-significant or showed a negative association (Jorm & Griffiths, 2008; Wang & Lai, 2008).

In summary there seems to be more association between accurate and non-specific labels and stigma for schizophrenia/psychosis vignettes than for depression vignettes, confirming findings that schizophrenia is generally more stigmatized (Angermeyer & Dietrich, 2006). However, it is difficult to draw definite conclusions, as the studies vary according to the aspect of stigma measured, the vignettes and stigma scales used, and cultural differences between the countries studied.

**Labeling as a facilitator of help-seeking**

Labeling also plays a key role in the help-seeking process (Angel & Toits, 1987; Biddle et al., 2007; Vogel et al., 2006). This is of particular importance for adolescence and young adulthood, as this is when mental disorders commonly first occur (Kessler et al., 2007) and is therefore when help is likely to be sought for the first time. Help-seeking evolves during this time as young people move from relying on their parents during adolescence to external sources of help as they progress into young adulthood (Jorm, Wright, & Morgan, 2007b; Rickwood, Deane, Wilson, & Carrochio, 2005).

One study that examined the association between unprompted label use and help-seeking amongst young people (Wright, Jorm, Harris, & McGorry, 2007) reported that accurate labels were more consistently associated with preference for recommended forms of treatment, relative to all other mental health and non-mental health labels. A more recent study examined the unprompted labels most commonly used by young people to describe a range of mental disorders in vignettes predicted a preference for professionally recommended sources of help with greater consistency and the accurate label for schizophrenia (Jorm & Griffiths, 2008). However, for studies examining depression, most associations with the accurate label were either non-significant or showed a negative association (Jorm & Griffiths, 2008; Wang & Lai, 2008).

Even when important factors such as age and gender were controlled for, findings suggest that accurate psychiatric labeling of a range of mental disorders in vignettes predicted a preference for professionally recommended sources of help with greater consistency than any other labels commonly used. Inaccurate or imprecise mental health labels such as “mental illness” had weaker associations, while broad, non-specific labels such as “stress”, “paranoid” and “shy” predicted less intention to seek any help at all if the respondent experienced the problem described in the vignette. Adult studies have reported similar findings (Angermeyer et al., 2009; Goldney, Dunn, Dal Grande, Crabb, & Taylor, 2009).

**Labeling as an inhibitor of help-seeking (through stigma)**

Whilst effectively labeling a mental disorder may facilitate help-seeking amongst the young, it may also be coupled with...
stigmatizing beliefs and thus potentially reduce people’s willingness to seek help. Help-seeking studies have highlighted that different elements of stigma influence help-seeking in different ways (Yap, Wright, & Jorm, 2010). Stigma components found to be associated with a reduced willingness to seek help for a mental disorder include personally believing that a person is weak not sick (Yap et al., 2010), social distance (Yap et al., 2010), perceived stigma (Chandra & Minkovitz, 2006; Golberstein, Eisenberg, & Gollust, 2008; Logsdon, Usui, Pinto-Foltz, & RATEKREW, 2009) and self-stigma (Vogel, Wade, & Hackler, 2007). On the other hand, personal belief in dangerousness (Perry et al., 2007; Yap et al., 2010) has been found to be associated with increased willingness to seek help. Both the positive and negative associations between stigma and help-seeking have been found to be stronger in young adults than adolescents (Yap et al., 2010). This may in part be due to young adults’ greater knowledge and resourcefulness regarding professional sources of help noted earlier.

**Justification for the study**

The association between accurate psychiatric labeling and effective help-seeking (Wright et al., 2011) may point toward the need to emphasize the use of accurate labels in help-seeking focused mental health education campaigns. However, it is unclear whether accurate psychiatric labels are more or less stigmatizing than other common labels young people use, and whether on balance, alternative non-specific labels may be preferable. All of the stigma and unprompted labeling studies to date have focused on adults. Little research has been conducted that examines unprompted label use and stigma amongst young people. Yet, adolescence and young adulthood is arguably a more crucial period of life in which to investigate the impact of labeling of mental disorders, as this is when these disorders are likely to first occur (Kessler et al., 2007), are most prevalent (Australian Bureau of Statistics, 2007), and health service use is at its lowest (Slade et al., 2009). Results from adult studies may not be applicable to young people, as levels of stigma have been found to be different in youth due developmental trends and cohort effects (Angermeyer & Dietrich, 2006; Jorm & Oh, 2009). Stigma components of particular interest are those that have found to be associated with help-seeking in young people, that is, personal stigma, perceived stigma and social distance (Chandra & Minkovitz, 2006; Golberstein et al., 2008; Logsdon et al., 2009; Yap et al., 2010). Socio-demographic factors known to be associated with stigma in the context of help-seeking will also need to be accounted for, that is, age (Yap et al., 2010), gender (Chandra & Minkovitz, 2006; Vogel et al., 2007), and ethnicity (Loya, Reddy, & Hinshaw, 2010). Whilst level of education has been found to be a factor associated with stigma in some adult studies (Angermeyer & Dietrich, 2006; Jorm & Oh, 2009), it is unlikely to be as distinctly associated in youth due to the high correlation of years of education with age in this age range.

Furthermore, a range of disorders needs to be considered, particularly those that commonly have their first onset in youth, such as depression, psychosis and social phobia (Kessler et al., 2007). The vignette method, which has often been used to measure stigma (Link, Yang, Phelan, & Collins, 2004), provides an effective means of providing the respondent with a stimulus that can specifically and reliably depict these disorders from which unprompted labels can be applied and stigma questions can be based. It also enables comparison with the adult studies described earlier.

### Table 1

<table>
<thead>
<tr>
<th>Author</th>
<th>Study population</th>
<th>Vignettes</th>
<th>Stigma components</th>
<th>Labels examined</th>
<th>Direction of relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angermeyer et al., 2009</td>
<td>Adults 18 + years Eastern Germany 1993 and 2001</td>
<td>Schizophrenia (DSM III) Depression (DSM III)</td>
<td>Social distance seven items (Link, Cullen, Frank, &amp; Wozniak, 1987)</td>
<td>• Accurate label – depression or schizophrenia</td>
<td>Schizophrenia vignette Schizophrenia +ve for rejected as tenant, less likely to be recommended for a job, n.s. for other five items Depression vignette Depression +ve for rejected as a career, n.s. for other six items</td>
</tr>
<tr>
<td>Jorm &amp; Griffiths, 2008</td>
<td>Adults, 18 + years Australia</td>
<td>Early and chronic schizophrenia (DSM IV) Depression with and without suicidal thoughts (DSM IV)</td>
<td>Social distance five items (Link et al., 1999)</td>
<td>• Accurate label – depression or schizophrenia • Nervous breakdown • Mental illness • Psychological/mental/emotional problems • Stress • Has a problem</td>
<td>Schizophrenia vignettes Psychological/mental/emotional problem +ve for social distance. Schizophrenia +ve for dangerousness n.s. other labels</td>
</tr>
<tr>
<td>Kermode et al., 2009</td>
<td>Adults, 18 + years India</td>
<td>Psychosis Depression</td>
<td>Social distance five items (Link et al., 1999)</td>
<td>• Depression • Brain/mind problem • Mental illness • Psychological/mental/emotional problem • Stress</td>
<td>Depression vignettes n.s. all labels</td>
</tr>
<tr>
<td>Wang &amp; Lai, 2008</td>
<td>Adults 18 + years Canada</td>
<td>Depression (DSM IV)</td>
<td>Personal stigma nine items (Griffiths et al., 2004)</td>
<td>• Accurate label – depression</td>
<td>Males Depression; +ve association with could snap out of it, sign of personal weakness, not a real medical illness n.s. for other six items Females Depression; –ve association with not vote for politician with the problem, would not employ someone with the problem, sign of personal weakness, not a real medical illness n.s. for other five items</td>
</tr>
</tbody>
</table>

+ve = positive relationship; –ve = negative relationship; n.s. = non-significant relationship.

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**References**


Kessler, R. E., CDC, & NIMH (2007). \[...\]


The aims of this study were, therefore, to examine the association between the unprompted labels commonly used by young people (including accurate psychiatric labels) and a range of stigma components in relation to depression, psychosis and social phobia.

Method

Sample

A computer-assisted national telephone survey of 3746 Australian young people aged 12–25 years was conducted from June to August in 2006 using random digit dialing. Up to nine calls were made to establish contact. Interviewers ascertained whether there was more than one resident in the household within the age range and, if there were multiple, selected the one with the most recent birthday. Respondents were eligible if they were aged 12–25 years, able to understand and communicate in English and, if under 18 years, a parent or guardian consented to their participation. The response rate was 61.5%, defined as completed interviews (3746) out of a sample of potential participants who could be contacted and confirmed as in scope (8087). There was little difference in response rate by geographic region (state), with response rates ranging from 57.4% to 69.9%, and a very small difference in response rate between metropolitan (61.6%) and regional/rural (61.3%) locations. The age and gender difference between responders and non-responders is not available, as the respondents who did not respond were not asked any questions.

Interview

The interview was based on four vignettes of a young person with a mental disorder (Jorm, Wright, & Morgan, 2007a) written to satisfy DSM IV (American Psychiatric Association, 1994) criteria and validated against clinician diagnosis (Wright & Jorm, 2009). The age and gender of the vignettes were chosen to match that of the respondent. The present paper focuses on the depression (n = 929), psychosis (n = 968) and social phobia (n = 905) vignettes only. This is because these vignettes represent single diagnostic groups, whereas the fourth vignette described a co-morbid diagnosis, depression and substance misuse, which complicates the investigation of labeling and hence was not included.

Ethics approval was obtained from the Human Research and Ethics Committee of The University of Melbourne. Participants were not compensated for their participation.

Measures

Label use

To ascertain the label respondents would use for the problem, after being presented with the vignette they were asked an open-ended question “What, if anything, do you think is wrong with John (male version)/Jenny (female version)?” for which unprompted responses were recorded and multiple responses accepted (Wright & Jorm, 2009). Interviewers recorded responses according to pre-coded response categories (depression, schizophrenia, psychosis, mental illness, stress, nervous breakdown, psychological/mental emotional problem, has a problem, cancer, nothing, don’t know) derived from a content analysis of responses to the same questions in earlier surveys (Jorm et al., 1997; Wright et al., 2005). Those that did not fit the pre-coded response categories were recorded verbatim.

Stigma

- Personal and perceived stigma were measured using scales adapted for youth (Jorm, Kitchener, Sawyer, Scales, & Cvetkoviski, 2010; Jorm & Wright, 2008; Reavley & Jorm, 2011) from adult scales developed by Griffiths et al. (2004, 2006). For personal stigma, participants indicated on a five point Likert scale (1 = strongly disagree, 5 = strongly agree) the degree to which they personally agreed with the following statements: (John/Jenny) could snap out of it if (he/she) wanted to; (John/Jenny)’s problem is a sign of personal weakness; (John/Jenny)’s problem is not a real medical illness; (John/Jenny) is dangerous; It is best to avoid (John/Jenny) so that you don’t develop this problem yourself; (John/Jenny)’s problem makes (him/her) unpredictable; You would not tell anyone if you had a problem like (John/Jenny)’s. For perceived stigma the same statements were used except each statement was preceded by “Most people believe that….”, with the exception of the final statement “Most people would not tell anyone if they had a problem like (John/Jenny)’s”.

- Social distance was measured using a scale adapted for youth (Jorm & Wright, 2008; Kelly & Jorm, 2007) from a scale developed for adults (Link et al., 1999). Respondents were asked to rate on a four point Likert scale (1 = yes, definitely, 4 = definitely not) whether they would be happy to spend time with the person described in the vignettes in the following circumstances: To go out with (John/Jenny) on the weekend; To work on a project with (John/Jenny); To invite (John/Jenny) around to your house; To go to (John/Jenny)’s house; Would you be happy to develop a close friendship with (John/Jenny)?

Socio-demographic measures

These included the respondents’ age, gender, and language spoken at home as an indicator of ethnicity (English vs. other language).

Data analysis

Label use

Whilst some unprompted labels were recorded according to pre-coded response categories, a content analysis of the verbatim responses that did not fit these pre-coded categories led to post-coding of 56 other categories. The post-coded response categories that were amongst the four most common and the most accurate responses for each vignette are described here, as these are the focus of analysis in this paper. They include anxiety/anxious, anxiety disorder, drugs, eating disorder (anorexia, bulimia, eating disorder), low self-confidence/low self-esteem, physical problem (glandular fever, chronic fatigue syndrome, diabetes), shy, and social anxiety/social phobia.

To ensure the reliability of the post-coding process, a preliminary reliability study examined inter-rater agreement in regard to the uncoded response categories. A random sample of 300 uncoded responses was coded by a second rater who was blinded to the vignette. Inter-coder agreement was measured using the Kappa coefficient. The Kappa value for most labels was above 0.8 representing very good agreement, whilst the lower Kappa values were 0.717 for “physical problem” and 0.658 for “psychological problem”, representing good and moderate agreement respectively.

Frequency of label use to describe the problem experienced by the person in the vignettes was analyzed using percent frequencies for each of the three vignettes. Accurate psychiatric labeling was defined as use of those labels that approximate the DSM IV (American Psychiatric Association et al., 1994) diagnostic category upon which the vignettes were based and validated (Wright & Jorm, 2009).
There was only one significant correlation between the labels examined — “depression” and “anxiety” for the social phobia vignette — and this was low.

**Stigma**

The stigma outcome variables were based on stigma components developed from a principal components analysis of the responses to the three stigma scales. This analysis is described in a related earlier paper examining stigmatizing beliefs in young people and their parents (Jorm & Wright, 2008). Four principal components were identified independently in both samples of young people and parents and a single item about personal “reluctance to disclose” which did not load on any of the components and was considered separately. These principal components have been replicated in a separate sample (Reavley & Jorm, 2011). The stigma scales based on summing the items with high loadings were as follows:

- **“social distance”** — derived from all items on the social distance scale (Cronbach’s α = 0.86)
- **“dangerous/unpredictable”** — derived from the items “the person is unpredictable”, “the person is dangerous” from the personal and perceived stigma scales (α = 0.68)
- **“weak not sick”** — derived from the items “could snap out of it”, “the problem is a sign of personal weakness”, “the problem is not a real medical illness”, “it is best to avoid the person” from the personal stigma scale (α = 0.68)
- **“stigma perceived in others”** — derived from the items “could snap out of it”, “the problem is a sign of personal weakness”, “the problem is not a real medical illness”, “it is best to avoid the person”, “you would not tell anyone if you had a similar problem” from the perceived stigma scale (α = 0.67)
- **“reluctance to disclose”** — is derived from the item “you would not tell anyone if you had a similar problem” from the personal stigma scale.

The four stigma scales and the reluctance to disclose item were dichotomized at the median, because some of the components had very skewed distributions, with higher scores indicating more stigmatizing views.

**The association between label use and stigma**

Logistic regression was used to estimate the association between each stigma component and use of the accurate and most common labels for each vignette whilst controlling for socio-demographic factors. Univariate binary logistic regression analyses examined the association between each of the predictor variables and each of the stigma components. Multipredictor binary logistic regression analyses were then used to examine which of the predictor variables remained significant in their association with each of the stigma outcome variables taking into account possible confounding effects. Each model included use/non-use of the five most common labels elicited by the vignette including the accurate label, and sociodemographic variables. The inclusion of multiple labels accommodated the nomination by some respondents of more than one label to describe the vignette (Wright et al., 2011). All predictors were dichotomous except for age (12–25 years).

**Results**

**Distribution of variables**

The results of the descriptive analyses are reported in Table 2. Use of the accurate label was most common for the depression vignette, followed by the psychosis vignette, while only a small proportion used the accurate label for the social phobia vignette. The psychosis vignette was labeled mostly with mental health terms, whilst lay labels were most common for the social phobia vignette.

The means of the stigma components were quite low across all vignettes. The means were lowest for the social distance component and highest for the dangerous/unpredictable and perceived stigma components. The results were slightly positively skewed for most items, particularly reluctance to disclose where skewness ranged from 1.23 to 1.46 across the three vignettes, whereas perceived stigma (−0.31 to −0.10) tended to be negatively skewed and dangerous/unpredictable varied (−0.49 to 0.20).

**Correlations**

The correlations among the five dichotomized stigma scales were all low. The highest correlations for each vignette were between the dangerous/unpredictable and perceived stigma scales. These were 0.19 for the depression vignette, 0.17 for the psychosis vignette and 0.21 for the social phobia vignette.

**The association between label use and stigma components**

Adjusted odds ratios from the logistic regression analyses are shown in Table 3 according to vignette type. After adjusting for other common labels used and socio-demographic variables, these did not differ greatly in magnitude from the unadjusted values. Hence, only the adjusted values are reported here.
A number of consistent patterns of association were found across all vignettes. Firstly, for all vignettes, associations between label use and the outcome variables “stigma perceived in others” and “reluctance to disclose” were non-significant, hence these results are not included in the tables. Secondly, in general, when mental health labels were used for the three vignettes, they were associated with seeing the person described in each of the vignettes as sick rather than weak. That is, a negative association with the “weak not sick” outcome variable was observed for the labels “depression” and “stress” for the depression vignette, “schizophrenia/psychosis”, “depression”, “mental illness”, and “psychological/mental problem” for the psychosis vignette, and “social phobia”, “depression”, and “anxiety” for the social phobia vignette. However, for all vignettes, the accurate labels had the largest effect sizes.

The only significant association between label use and the outcome variable “dangerous/unpredictable” was for the psychosis vignette, which was predicted by use of the labels “schizophrenia/psychosis”, “mental illness”, and “psychological/mental/emotional problem” again, the accurate label “schizophrenia/psychosis” had the largest effect size. The only predictor variable associated with social distance was the label “paranoid” for the psychosis vignette and this was a negative association.

**Discussion**

This is the first study to examine the association between labeling of mental disorders and stigma in young people and the first to consider this in relation to a range of labels in common use. Labeling mental disorders using psychiatric or lay mental health terms was rarely associated with stigma. Indeed the results suggest that use of accurate psychiatric labels may help to counter some potentially stigmatizing attitudes, as these were the strongest predictors of viewing the person as “sick” rather than “weak” for all three disorders. The only exception to the generally positive or benign effect of psychiatric and lay mental health labels was for the psychosocial vignette, where the accurate label “psychosis/schizophrenia”, and to a lesser extent the lay mental health labels “mental illness” and “psychological/mental/emotional problem”, were associated with belief in unpredictability and dangerousness.

Importantly, non-specific labels such as “shy”, “low self-confidence”, “stress”, “paranoid” and “physical problem” were not associated with stigma. Indeed, in two instances—the use of the labels “stress” and “paranoid”—they were significantly less likely to be associated with “weak not sick” and “social distance” respectively. However, such associations were not common, suggesting that non-specific labels are not preferable to accurate psychiatric labels.

The non-significant association between the labels commonly used by young people and perceived stigma shows that labeling is less relevant to the perception of what other people think than to personal stigmatizing beliefs. The non-significant findings regarding the personal stigma item “reluctance to disclose” may be because this was a one-item scale which may have resulted in greater error of measurement and hence less power to detect an association.

The findings relating to the stigma component “weak not sick” need to be interpreted carefully as it could be concluded that
perceptions of “sickness” may be just as stigmatizing as perceptions of “weakness”. This inference may occur as in some studies, neurobiological conceptions of mental illness or a belief that mental illness is “a disease like any other” (Pescosolido et al., 2010), have been found to be associated with higher levels of social distance (Dietrich et al., 2004; Pescosolido et al., 2010) and perceived dangerousness (Pescosolido et al., 2010). However, there are fundamental differences in how concepts of sickness or illness have been measured. The studies examining neurobiological conceptions of mental illness (Dietrich et al., 2004; Pescosolido et al., 2010) have focused on the role of neurobiological factors in causing the illness and, in one study this measure was combined with prompted labeling of mental illness to create one “neurobiological conception” variable (Pescosolido et al., 2010). By contrast, the current study examined level of agreement with statements such as the “problem is not a real medical illness”, and did not directly examine causal beliefs. These difficulties in comparison of findings between studies highlight the complexities of measuring stigma and how this contributes to inconsistencies in evidence.

This is the first study to examine the association between labeling and stigma for social phobia and labels were found not to increase stigma. However, the correct label of “social phobia” was only used by 5% of participants. This uneven 5%/95% split may have resulted in an increase standard error and restricted the power of the analysis relating to this label. Hence findings relating to this label need to be interpreted with caution.

The results for the depression and psychosis vignettes confirm results from earlier English-language studies, including a positive association between accurate labeling and sick-not-weak stigma components for depression (Wang & Lai, 2008), non-significant associations between accurate label use and social distance for depression and psychosis (Jorm & Griffiths, 2008), and an association between perceived dangerousness and accurate labeling of psychosis (Jorm & Griffiths, 2008). However, in contrast to the present study, some studies of adults have found that labeling of schizophrenia and depression vignettes with accurate and lay mental health terms is associated with greater social distance (Angermeyer et al., 2009; Jorm & Oh, 2009), possibly reflecting cultural or cohort differences.

Strengths and limitations of the study

This study has a number of strengths. The sample is drawn from a large national survey and as such may be more inclusive of a greater diversity of young people’s perspectives than the more common school and college-based convenience samples that have often been used to examine stigma in young people. The sample covers the age range when mental disorders are likely to first occur (Kessler et al., 2007) and where an understanding of the role of labeling and stigma in help-seeking is paramount. The vignettes used have had label accuracy validated by clinician consensus (Wright & Jorm, 2009) and the inter-rater reliability of the coding of the labels was high. The focus on unprompted responses immediately after the description of the vignette may be a more authentic reflection of the labels young people are likely to use in real life as opposed to responses to pre-determined labels. The value of this approach in understanding the process of help-seeking has been highlighted in a recent study by Pescosolido and Olafsdottir (2010). They reported that unprompted responses about preferred methods of help-seeking more accurately reflect actual help-seeking outcomes cited in epidemiological surveys than endorsement of prompted health care options.

The findings also need to be considered in the context of a number of limitations. The responses to the stigma items may be affected by social desirability bias. The study is vignette based, hence the findings may not fully reflect the process of labeling a problem in real life or the complex nature of the stigma experience (Link et al., 2004; Yang et al., 2007). Each of the stigma scales contained a small number of items and this may have increased error of measurement and under-estimated the size of effects. Combining the terms “dangerous” and “unpredictable” may limit the specificity of this study’s findings. Other research has found that the dangerous element is associated with willingness to seek help, whereas belief in unpredictability is associated with decreased willingness to seek help (Mojtabai, 2010). However, the high loadings of both items on the same principal component for both young people and their parents (Jorm & Wright, 2008) and replication of findings with a sample of adolescents (Reavley & Jorm, 2011) suggest that it is a cohesive construct.

Implications

The results of this study suggest that promoting accurate labeling within community awareness campaigns that are designed to enhance help-seeking amongst young people for depression, social phobia and, for the most part, psychosis are unlikely to lead to an increase in personal stigma, perceived stigma or social distance. On the contrary, they may counter stigmatizing views that the problem is a sign of weakness rather than a real illness. This effect is important, as counteracting the belief that a person is “weak not sick” may in turn overcome the potential of this stigma component to inhibit help-seeking (Yap et al., 2010). However, the major exception regarding the benefits of labeling is the risk of increasing perceptions of dangerousness and unpredictability through use of the labels “psychosis” or “schizophrenia”. This suggests that strategies designed to promote help-seeking for psychosis need to proceed with caution, as campaign messages that use these labels could potentially increase stigma and hence derail help-seeking (Vogel et al., 2006). However, a related study has found that believing that the person described in the same psychosis vignette is dangerous or unpredictable was associated with an intention to seek help if the respondent themselves had a problem like the one described in the vignette (Yap et al., 2010). Whilst this may strengthen the argument that the use of accurate labels may facilitate help-seeking, even though they are associated with a particular stigma component, it may negatively influence the self-stigma directed toward a young person themselves once the possibility of help-seeking is considered (Rüsch et al., 2005) and may worsen the stigma experienced by young people receiving treatment (Moses, 2009). Hence, at a minimum, such campaigns would benefit from including strategies that effectively target the dangerous/unpredictable component of stigma (Minas, Colucci, & Jorm, 2009; Pinfold et al., 2003), especially since the degree to which perceived dangerousness actually causes stigma remains contentious (Pescosolido, 2011; Torrey, 2011). Parents may be an important target for these interventions, as their perceptions of dangerousness and unpredictability have been found to be specifically associated with these same perceptions in their offspring (Jorm & Wright, 2008).

It is also important to note that the results cannot be applied to all elements of stigma, as only some components of the multidimensional stigma construct were measured. In particular, an examination of the association between label use and self-stigma is required given the important role it is likely to play in willingness to seek help (Schomerus, Matschinger, & Angermeyer, 2009; Vogel et al., 2007). Future research could also further explore the nature of labeling and stigma from the perspective of key players in the help-seeking process such as families (Franz et al., 2010) and friends. A focus on unprompted or open-ended responses placed earlier in the survey sequence may more clearly reflect what is in
people’s natural response repertoire than responses to closed-ended questions placed later in the survey (Pescosolido & Olafsdottir, 2010). Using qualitative methodologies would also expand our understanding of the subjective and interpersonal processes that influence stigma and labeling (Yang et al., 2007) in the help-seeking process.

Conclusion

This study makes a contribution to the stigma literature by further elucidating the degree to which labeling a mental health problem as it first emerges may be associated with stigma. It has highlighted the largely benign and often positive effects of labeling, particularly accurate psychiatric terms, as well as helped to specify the distinct risks of labeling. A continued examination of the role of labeling and its association with stigma in the help-seeking process of young people would benefit from examining the differential effects of labeling the problem versus concern about being labeled as someone who has received psychiatric treatment, particularly in relation to self-stigma. This in turn would help to further inform community education initiatives that aim to improve help-seeking amongst the young.

Acknowledgments

Financial support was provided by the National Health and Medical Research Council, the Sidney Myer Health Fund, the Colonial Foundation, and “beyondblue: the national depression initiative”. Nicholas Allen provided advice regarding conceptual development and data analysis.

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Author/s: WRIGHT, ANNEMARIE

Title: Labelling of mental disorders and help-seeking in young people

Date: 2012

Citation: Wright, A. (2012). Labelling of mental disorders and help-seeking in young people. PhD thesis, Medicine, Dentistry & Health Sciences - Centre for Youth Mental Health, The University of Melbourne.

Persistent Link: http://hdl.handle.net/11343/37617