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Help-Seeking for Psychological Problems in Late Adolescence

A thesis submitted for the degree of Doctor of Philosophy of the Australian National University.

by

Debra Janet Rickwood

July 1992

Declaration

I declare that this thesis reports original work and that no part has previously been presented for any degree. All sources that were consulted are acknowledged in the references.

Debra Rickwood

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I would like to pay special tribute to my supervisor Paul Duncan-Jones, who died suddenly on the 11th of July 1987. His early encouragement and direction were invaluable, and his insight, rigor and analytical skills were greatly missed later on. Without his support, and the resources of the NH&MRC Social Psychiatry Research Unit, such a research design would not have been realised.

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Abstract

Adolescent responses to psychological problems were examined using a five wave longitudinal design over a 12 month period. A total of 715 adolescents were followed at three monthly intervals from just prior to finishing high school through their first year out of school. Of the total sample, 53.1 percent complied with all five waves of data collection. Compliers were more likely to be girls and those with a greater interest in mental health.

These Australian adolescents were shown to confide their psychological problems overwhelmingly to friends, with about 70 percent seeking help from friends at each wave. This compared with 30 percent who sought help from their family, and only 5-10 percent who turned to professional sources of help. The peer group was shown to be the primary source of emotional support.

The prevalence of minor psychiatric morbidity was very high, with 20 to 30 percent of the sample suffering from psychological distress at any time. This was comparable with other studies of adolescent mental health, confirming that late adolescence and finishing school was a period of considerable distress. Symptoms of minor affective disorder were more common in girls than boys, also consistent with other findings.

Although psychological symptoms were an important predictor of help-seeking, such behavior was shown to have multiple predictors. A range of variables from the social-psychological approach to illness behavior were hypothesised to increase vulnerability to psychological problems and thereby encourage help-seeking behavior. The major proposition of illness behavior research, that factors other than symptoms influence illness behavior, was strongly supported.

Emotional vulnerability factors were shown to vary in their predictive value over the different help-seeking contexts. Help-seeking from friends, family and professionals were found to be distinct domains with different facilitators and inhibitors. Turning to friends for support was predicted by being female, perceived

psychological distress, private self-consciousness and fear of the stigma attached to psychological illness. These factors both facilitated help-seeking from friends and inhibited it in those with symptoms. Seeking help from the peer group, of the help-seeking behaviors, was most affected by vulnerability factors, but was also shown to be a result of peer group socialisation processes.

Family help-seeking was the least affected by vulnerability to psychological problems. Facilitators of family help-seeking were shown to be availability of confiding relationships and being female. Only lacking a confiding relationship inhibited family help-seeking in those who were distressed.

Those few adolescents who sought professional help were best predicted by psychological distress and life events. Professional help was the most disorder and problem driven type of help-seeking. So few young people sought professional help partly because their problems may not have been seen as appropriate for professional intervention.

Furthering the usual predictive nature of help-seeking studies, the effectiveness of help-seeking, in terms of subsequent psychological distress, was also examined. A disturbing finding was that none of the three types of help-seeking reduced minor affective symptoms three months later. Seeking help was unrelated to mental health outcome. This was discussed as a consequence of the type of help offered in most help-seeking episodes. A focus on the self and how one feels is maladaptive for many adolescents. Self-focus reinforces and encourages an overconcern with the self, which generally results in the amplification, rather than reduction, of psychological symptoms.

With so many adolescents clearly suffering from psychological distress, the needs of these young people did not appear to be being met by either their informal social support networks or professional services. The help-seeking habits of adolescents need to be considered to provide appropriate services. There was a need for peer based services where skills could be learned to reduce the emotional arousal caused by the many psychological problems of adolescence.

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Introduction

Most people would agree that good health is essential in order to achieve the most rewarding and fulfilling life possible. While the detrimental effects of poor physical health are apparent, the effects of poor mental health are more obscure. Exceptions are severe psychiatric conditions such as schizophrenia where the condition's debilitating effects are obvious. Non-psychotic psychiatric conditions, such as the minor affective disorders of depression and anxiety, can also be major obstacles to achieving a good life. Such disorders are becoming more prevalent and are considered to be a plague of modern living. Whatever the reasons for the emergence of this 'modern plague', these disorders make otherwise healthy, active and productive people unable to enjoy their lives to the full.

Minor affective disorders are particularly problematic during adolescence. Suicide, generally attributed to depression, is an increasingly common killer of young people. Non-fatal depression and anxiety are also prevalent and can make adolescence a negative and unpleasant stage of life for many young people and their friends and family. Affective disorders are doubly a problem during adolescence as they not only cause pain and stress in themselves, but also have a profoundly negative effect on the development of the adult personality, identity and social relationships.

Adolescence is the stage of life when skills are developed to deal with the wide range of problems and difficulties encountered in everyday adult life. The onset of minor affective disorder at this time can create a vicious circle of stress, poor coping strategies, followed by further stress. Examining responses to minor affective disorders and differentiating effective from ineffective coping strategies is, therefore, fundamental to understanding the management of stress and illness in general. As such strategies are initially formulated during adolescence, the study of adolescent responses could lead to intervention strategies that would not only make

adolescence a less stressful life stage, but also assist in the development of better coping skills to deal with the challenges of adulthood.

Coping with health problems involves a process of symptom perception and recognition, defining oneself as being ill (and perhaps as requiring some sort of treatment), seeking appropriate help to obtain effective treatment, and complying with that treatment. This sequence is one of the processes in what is termed illness behavior. Illness behavior refers to all behavior related to health, either physical or mental, and covers preventative, maintenance and compliance health behavior. Illness behavior also includes behavior that leads to negative health consequences.

The social-psychological approach to the study of illness behavior concentrates on factors that account for individual differences. Various elements of the personality and social environment are hypothesised to underlie the development of symptoms, the recognition and perception of these symptoms, the definition of oneself as ill, and finally seeking help.

This thesis focuses on one specific step in the illness behavior process: help-seeking. It initially describes adolescent help-seeking behavior in response to psychological disorder. From a social psychological perspective, it then analyses some of the predictors of help-seeking. Whether the help-seeking behaviors of these adolescents were effective as forms of coping with psychological distress is finally examined.

The first chapter reviews the extensive research literature on illness behavior, concentrating specifically on the health problem of minor affective disorder, the adolescent stage of life, and social-psychological factors that are expected to account for individual differences in help-seeking behavior. This provides a background for the presentation of a theoretical model of the predictors of help-seeking behavior for adolescents in response to minor affective disorder.

The longitudinal and prospective method of data collection is described in chapter two. Both a brief outline of a pilot study, which was used to check

administration procedures and select and refine instruments, and a more detailed explanation of the main study are provided.

Basic descriptive data for the sample and measures are presented in the third chapter. The response rates for the five waves of data collection and differences between responders and non-responders indicate possible bias in the longitudinal sample. The reliability of each of the measures is discussed as well as a description of this group of adolescents in terms of the measures.

The dependent measure of help-seeking is described in chapter four. The help-seeking behavior of these adolescents was very much focused toward seeking help from friends, with some seeking help from family, and very few seeking professional help.

A model to predict each type of help-seeking is presented in chapter five. Variables from the social psychological approach to illness behavior are hypothesised to increase emotional vulnerability to psychological problems which facilitates help-seeking behavior.

Chapters six, seven, and eight present the results of applying the theoretical model to predicting help-seeking from friends, family and professionals, respectively. Predictors indicating emotional vulnerability to psychological problems were shown to account for seeking help from friends and for seeking professional help, but were not able to account for help-seeking from family.

The final chapter of data analysis, chapter nine, focuses on whether seeking help from these sources is effective in reducing the psychological distress associated with psychological problems. Talking about psychological problems to friends, family or professionals did not seem to improve these adolescents' subsequent mental health.

Chapter ten discusses the lack of professional help-seeking, the seeming ineffectiveness of the present help that is obtained and the usefulness of considering factors affecting emotional vulnerability to psychological distress as predictors of help-seeking. Some of the limitations of the study are acknowledged and more

qualitative directions for future research in adolescent help-seeking are suggested. Examining the help-seeking behavior of a group of Australian adolescents over the period of a year provided data pertinent to assessing their needs in relation to dealing with the considerable psychological distress they experience.

Chapter 1

Illness Behavior and Help-Seeking

Minor Psychiatric Disorder

The study of psychiatric disorders is beset with problems. First and foremost are problems of definition and diagnosis. Mental illness presents the greatest difficulty for both physicians and the public in terms of definition because this type of illness does not appear to be caused by the biological disease process (Field, 1976). There is no easy way to make an unequivocal diagnosis; no x-rays or bloodtests positively identify a condition (Goldberg, 1981). Approaching mental illness as if it was a disease is generally inappropriate; most mental disorders are essentially problems of social living that result from the way we define and organise our world. Unlike physical illness, no mental disorder is present without symptoms; the symptoms are the disease and the disease the symptoms (Goldberg, 1981). Within the range of psychiatric disorders, definition and diagnosis are most complex for the minor psychiatric disorders. Symptoms of the major psychoses are usually specific, extreme and incapacitating for the sufferer. Minor psychiatric symptoms are pervasive and common and often go unnoticed by others.

Most minor psychiatric disorder is depression, generalised anxiety and combinations of the two (Goldberg, 1985). The Dictionary of Psychology (Chaplin, 1975) defines depression as:

> 1. in the normal individual, a state of despondency characterised by feelings of inadequacy, lowered activity, and pessimism about the future 2. in pathological cases, an extreme state of unresponsiveness to stimuli, together with self-depreciation, delusions of inadequacy, and hopelessness (p.135).

Anxiety is:

> 1. feelings of mingled dread and apprehension about the future without specific cause of the fear 2. chronic fear of mild degree 3. strong, overwhelming fear (p.33).

These definitions reveal a fundamental and generally unresolved issue regarding the separation of depression and, to a lesser extent, anxiety as normal human emotions from clinically relevant pathology (Klerman, 1983). The presence of symptoms alone does not mean the presence of the disorder because dysphoric mood, motivational and behavioral deficits, and negative cognitions are pervasive aspects of human life. The distinction between normal and pathological exists not only in the number of symptoms present, but also their severity, duration, configuration and the extent to which they impair normal social functioning (Aneshensel, 1985). Although often accompaniments to normal life, anxiety and depression become pathological when they are excessive reactions to a situation, intensely painful and cannot be brought under control (Henderson, 1984a). Definition and diagnosis are therefore extremely subjective.

A 'true' diagnosis of minor psychiatric disorder requires assessment by a clinician. Even such assessment is not absolute, however. The reliability between clinicians has been shown to be as low as .30 or .40, depending on the criteria used (Matarazzo, 1983). There is confusion between psychiatrists over the allocation of symptoms to diagnostic categories (Kreitman et al, 1961; Foulds, 1976). While clinical examination is still considered to be the best method to determine a diagnosis, the cost and impracticality of employing this on a large scale led to the development of symptom scales for research applications. The major penalty in using such scales is uncertainty regarding their validity. Some clinicians argue that the scales are only indirectly related to diagnosable mental disorders and that covariation between the scales results from the non-specific distress that they tap, generally demoralisation (Dohrenwend & Dohrenwend, 1982). Others believe the covariation reflects a single construct of the physical, cognitive and emotional manifestations of depression and anxiety (Tanaka & Huba, 1984). The items that constitute the scales are, in fact, the same as those used by psychiatrists to come up with a diagnosis, but without the flexibility to probe more deeply.

It is even more difficult to separate distinct diagnoses of either depression or anxiety because mixed states are very common. They may be separated by erecting arbitrary decision rules, but this ignores the reality that while some people are mostly depressed and others are mostly anxious, many suffer from a combination of both (Goldberg et al, 1987). The advantages and disadvantages of trying to consider them separately are not even firmly established (Cooke, 1981; Finlay-Jones, 1981).

The preceding are but a few of the problems that plague the understanding of minor psychiatric disorders. Normal versus abnormal, categorical versus dimensional, state versus trait, primary versus secondary, bipolar versus unipolar, and endogenous versus exogenous are all issues that have been debated at length yet still remain substantially unresolved (Wing & Bebbington, 1982).

Prevalence Of Minor Psychiatric Disorder

Despite the problems and however they are defined, minor psychiatric disorders, in particular depression, are the most common disorders in all industrial societies and their frequency seems to be increasing in developing countries (Jablensky, 1987). We seem to live in an 'age of melancholy' (Klerman, 1978) as data from many epidemiological surveys confirm.

The incidence and prevalence of all minor psychiatric conditions have been increasing since the advent of systematic measurement in the late 1950's (Goldberg & Huxley, 1980). Incidence rates, although perhaps the most powerful data, are difficult to obtain because of difficulties dating the onset of a disorder (Wing & Bebbington, 1982). However, at least three well conducted studies report an increase in the incidence of minor affective disorders. Hagnell et al (1982) reported a 10-fold increase in depression in a cohort of 20 to 39 year old males when comparing incidence rates from 1947 to 1957 with those from 1957 to 1972. Weissman (1985) found a marked birth cohort effect on the cumulative incidence of major depression with a highly significant shift towards higher rates and earlier onset in females born after 1935 compared with those born before 1935. Dunn and

Skuse (1981) demonstrated that the incidence of major depression increased dramatically for males between 1957 and 1976.

Prevalence estimates are much easier to obtain and are also more reliable, although the information they provide is less specific. Table 1.1 presents prevalence rates from some of the many epidemiologic studies conducted in the United States, United Kingdom and Australia. It is evident that the rates vary greatly according to the criteria used to define the disorder and the type of population sampled. Nevertheless it is clear that these disorders affect 10 to 20 percent of the population and are a problem of considerable proportion.

An instrument used extensively to detect minor psychiatric morbidity in a wide variety of surveys, and therefore especially useful for comparative purposes, is the General Health Questionnaire (GHQ) (Goldberg, 1972). Table 1.2 presents prevalence rates from some of the studies that have employed the GHQ. These prevalence estimates also vary a great deal from a low of 10 percent in some community studies (Shiraev, 1978) to a high of 61 percent in a sample of chiropractic patients (Parker & Tupling, 1976). The prevalence is much higher in samples drawn from general practice patients than in those drawn from the community. This is due largely to the association between poor physical health and concomitant psychological distress (Mechanic, 1980).

It has been suggested that much of the disorder reported in prevalence surveys is chronic or recurrent. In the two Camberwell, S.E. London community surveys, 69 percent (Wing et al, 1978) and 50 percent (Wing, 1980) of the disorders present at the time of interview were reported to have been in existence for 12 months or more. These were chronic conditions that fluctuated frequently by improving and then recurring.

While nearly all studies of minor psychiatric disorder have been confined to the Western industrialised world, Orley and Wing (1979) found very high rates in two East African villages: 14.3 percent for men and 22.6 percent for women. Such results suggest that these disorders may also be prevalent in developing nations.

However, the authors warn that there are many differences, such as the lack of medical services and high prevalence of physical disabilities, that make comparisons between this sample and industrialised populations impossible.

Table 1.1: Prevalence Studies of Minor Psychiatric Disorder.

Study	Place	Scale	Sample	Prevalence (%)
Hennessy, Bruen & Cullen (1973) n=864	Canberra	Langner 22	community 18+	borderline 18.4 (m=15.7 f=20.8) disturbed 7.6 (m=5.3 f=9.9)
Srole et al (1962) n=1660	Midtown Manhattan	Langner 22	community 18+	borderline 20.0 disturbed 11.2
Manis et al (1963) n=1183	Michigan 18+	Langner 22	community	borderline 25.1 disturbed 12.0
Phillips (1966) n=599	New Hampshire	Langner 22	community 18+	borderline 18.9 disturbed 8.6
Meile (1972) n=6016	"plains state"	Langner 22	community 18+	borderline 21.4 disturbed 10.8
Schoenbach et al (1982) n=384	North Carolina	CES-D	community 12-15	major depression 2.9
Uhlenhuth et al (1983)	US	DSM-III	community 18-79	major depression 5.1 (m=2.8 f=6.9) anxiety 6.4 (m=4.3 f=8.0)
Boyd & Weissman (1981)	UK	DSM-III	adult women	major depression (f=8.4) minor depression (f=14.8)

continued ...

Table 1.1: Continued.

Study	Place	Scale	Sample	Prevalence (%)
Weissman & Myers (1978)	New Haven	DSM-III	community 18+	depression 4.2 (m=3.2 f=5.2)
Wing et al (1978)	Camberwell SE London	PSE	adult women	depression (f=9.3)
Bebbington et al (1981)	Camberwell SE London	PSE	adult	depression 6.9 (m=4.8 f=9.0)
Parker, Holmes & Manicavasagar (1986)	Sydney	Beck	general practice	depressives 21.0 (m=17.0 f=25.0)
Byrne (1980)	Canberra	Zung	adult	depression 15.7 (m=12.8 f=18.6)
Joshua & Mellsop (1979) n=2108	Prahan Melbourne	psychiatric diagnosis	15+	depressive neuroses 5.3 (m=2.4 f=7.8)
Strömbom (1975) n=575	Bradbury SW Sydney	survey	general practice	nerve problems 22.9 (m=15.2 f=30.5)
Weissman et al (1985) n=3058	New Haven	DIS	community 18+	current disorder 17.4
Mechanic & Greenley (1976) n=1502	Wisconsin	Langner 22	student 18-24	depression 45.0

Table 1.2: Prevalence of Minor Psychiatric Disorder Using the General Health Questionnaire.

Study	Sample	Version	Age	n	Prevalence (%)
UK					
Sims & Salmons (1975)	general practice	60	15+	107	30.8
Goldberg,Kay & Thompson (1976)	general practice	60	16+	365	29.7 (m=26.9 f=31.3)
	community	60	16+	213	11.3 (m=4.2 f=16.3)
Goldberg & Blackwell (1970)	general practice	60	16+	553	32.2
Marks, Goldberg & Hillier (1979)	general practice	60	20-80	4098	39.6
Mann (1984)	community	30	35-64	12693	23.0
Skuse & Williams (1984)	general practice	60	16+	272	39.0
Williams et al (1986)	general practice	30	18+	5885	23.4 (m=20.9 f=25.3)
Williams, Ware & Donald (1981)	general practice	30	18+	610	38.0 (m=34.2 f=40.2)
Australian					
Klugman (1975)	community	12		522	30.0 (m=24.0 f=36.0)
Parker & Tupling (1976)	chiropractic	30	15-72	84	61.0
Parker & Brotchie (1977)	general practice	30		100	39.0 (m=38.0 f=41.0)
Finlay-Jones & Burvill (1977)	community	60	15-69	2324	16.3 (m=13.5 f=18.7)
Andrews, Schonell & Tennant (1977)	community	20	20-69	863	24.0
Finlay-Jones & Burvill (1978)	general practice	60	15-69	4299	26.3 (m=22.2 f=28.8)
Shiraev (1978)	community	12	15+		
	Gosford-Wyong			73318	12.8 (m=12.4 f=13.2)
	Illawarra			142615	10.1 (m=7.7 f=12.5)
Henderson et (1979)	community	12	18+	756	30.5 (m=30.7 f=30.4)
Finlay-Jones & Eckhardt (1982)	unemployed	30	16-24	401	55.9
US					
Hoeper et al (1979)	general practice	30	18+	1072	30.0
Hoeper et al (1984)	general practice	28	18+	1452	27.8 (m=26.8 f=28.4)
Canada					
D'Arcy & Siddique (1984)	students	30	14-17	1038	27.0 (m=20.0 f=34.4)

Gender Differences in Minor Psychiatric Morbidity

Despite the diversity of prevalence estimates, it is clear that we do live in an 'age of melancholy'. This seems to be more true for women than men. An inspection of Tables 1.1 and 1.2 shows that in all the studies that gave prevalence rates separately for men and women, women reported higher rates of disorder than men. In a review of the literature Gove and Tudor (1973) found from a series of 19 studies that women never appeared in better mental health than men. Dohrenwend et al (1980) draw the same conclusion.

Not all gender differences are significant, however. Henderson et al (1979), Mann, Jenkins and Belsey (1981), Jenkins (1985ab), and Newmann (1984;1986) are among the well conducted and varied studies that found no significant gender difference in prevalence of symptoms. These studies are, however, in the minority and it has been suggested that the homogeneity of their populations in terms of either socio-demographic variables or levels of stress and social support may account for the atypical findings (Jenkins, 1985a; Meddin, 1986).

In the vast majority of studies, more women report symptoms of minor psychiatric disorder than men (Nathanson, 1977; Rosenfield, 1980; Clayton, 1983; Murphy, 1986), and present more frequently to medical practitioners with such disorder (Kessler, Brown & Broman, 1981). Jorm (1987) noted that the gender difference was not evident in childhood or very old age. The gender difference emerges as female symptom rates rise sharply during adolescence. This compares with a much less dramatic rise for males. The difference then diminishes in old age because the female rate declines while the male rate remains stable. However, the difference prevails for all of adult life. Although this gender difference has received considerable research attention (see Tousignant, Brosseau & Tremblay, 1987 for a review), its causes are still disputed. It is generally believed that the higher morbidity rates in women are not due to differences in disposition, but rather are a result of social and psychological differences between men and women, which are manifested by women having a greater propensity to recognise distress symptoms as

emotional problems (Verbrugge, 1976; O'Neil, Lancee & Freeman, 1985) and having social roles that encourage them to express such distress (Rosenfield, 1980; Gove, 1984).

Adolescence and Minor Psychiatric Disorder

A first episode of depression can occur at any age. This was demonstrated by the 25-year prospective Lundby study (Hagnell et al, 1982). Many people have their first experience of depression during adolescence, however (Winokur, 1981). Adolescence is defined by the World Health Organisation (1965;1977) as the years between the ages of 10 and 20. It has special significance for psychiatry, since it is during this life stage that people with emotional problems appear in appreciable numbers (Whiting, 1981).

Compared with adults, teenagers experience relatively good physical health. However, adolescents expose themselves to very high risk of accidents and violent death, drug and alcohol abuse, pregnancy and sexually transmitted disease (Surgeon General, 1979). The most common physical problems in adolescence include duodenal ulcers, obesity, pregnancy, suicide and substance abuse (Benjamin & Fink, 1976; Friedman, 1989) which are conditions that are, to some extent, the result of affective disorders (Henderson, 1970). Psychological distress and associated problems are among the greatest health risks and special health needs of adolescents (Benjamin & Fink, 1976; Kaplan et al, 1980).

Children do not exhibit affective disorders in the same way or to the same extent as adolescents. Pre-adolescents express distress through anti-social behavior, non-conformity, rebellion against authority, restlessness, withdrawal and psychosomatic complaints (Rutter, 1980; Winokur, 1981; Whiting, 1981). Psychiatrists refer to this as 'masked' depression. Children do not differentiate clearly between physical and psychological health. Good health means feeling good, being happy and strong, and being able to pursue desired activities. Poor health involves not being able to perform desired activities and feeling moody and weak

(Natapoff, 1978). Children also report that their mothers know how they are feeling better than they do. This is because their mothers have learned to recognise irritability, listlessness, crankiness and apathy as cues to illness (Rosenberg, 1979).

During adolescence children learn that only they can know their inner experiences. This is necessary for the recognition and understanding of affective states (Damon & Hart, 1982). Adolescence is a meaningful and distinctive developmental period associated with an upturn in the prevalence of affective disorder (Rutter, 1980). Adolescent depressions 'equal the adult forms in severity, surpass them in self-destructiveness, and still betray a characteristic developmental stamp' (Bemporad, 1978:197).

Suicide is rare before puberty but then increases with age during adolescence (Holinger, 1979; Shaffer & Fisher, 1981). Suicide is generally attributed to depression and a rise in both has been observed in all western nations across all age categories but particularly among those born after 1960 (Murphy & Wetzel, 1980). In contrast with depression, which affects more females, more males are at risk of suicide (Hassan & Carr, 1989). For young Australians aged 15 to 24, males were 3.9 time more likely than females to commit suicide according to 1980 World Health Organisation reports (Lester, 1990). There is a less marked gender difference in suicidal ideation, which was evident in 9.7 percent of the women and 11.7 percent of the men in another sample of young Australian adults (Goldney et al, 1989).

By late adolescence very high levels of psychiatric disorder including anxiety, depression, suicide and suicidal thoughts are evident and well documented (Albert & Beck, 1975; Mechanic & Greenley, 1976; Robbins & Alessi, 1985). In a review of the many studies of the psychological health of United States college students, Offer and Spiro (1987) concluded that 20 percent were psychologically disturbed to some extent. Such reports are consistent with clinical experience (Winokur, 1981).

Adolescence is, therefore, the stage when many emotional health problems develop (Wells, Deykin & Klerman, 1985), and consequently, health habits and coping behaviors are learned (Hansell & Mechanic, 1985). Adolescents are at a critical phase of development and coping with affective disorder is crucial to facilitating a successful transition to adulthood (Blaine & McArthur, 1971; Friedman, 1989).

Disturbance in adolescence has been shown to persist into adulthood (Mitchell, 1980; Doane et al, 1981; Harrington et al, 1990). Rutter (1986) has suggested several ways that minor psychiatric disorder in adolescence affects adult psychological health. Initially, a disorder present in adolescence may persist into adulthood. A disorder during adolescence may also lead to bodily changes that affect later biological functioning and predispose to affective disorders. A disorder may also alter behavior patterns or change family circumstances that later may have an effect on psychological health. Sensitivities or coping strategies may develop that protect or predispose the person to later affective disorder. Self-concept may also be altered by a disorder in adolescence which then affects the future opportunities and environments that are selected or rejected.

Lifetime health behaviors are adopted and health and illness behavior are particularly problematic during adolescence. Adolescence involves the transition from the physical, emotional and social patterns of childhood to those of the adult population. Young people must learn to be responsible for their own health maintenance despite a lack of clear guidelines about how to interpret and cope with physical and emotional symptoms and feelings (Mechanic, 1983). An understanding of how adolescents come to recognise and interpret their symptoms and how they respond to them will show how adult illness behavior patterns are developed and consolidated. Little is known about how health patterns are established in adolescence (Mechanic, 1983) and the literature is particularly sparse on adolescent help-seeking behavior (Ostrov, 1985).

Illness Behavior

Responses to minor psychiatric disorder and adoption of health-related behaviors are part of the process of illness behavior. 'Illness behavior' is a general term coined by Mechanic in 1962 to refer to all human health behavior, in relation to both physical and mental health. Illness behavior concerns the manner in which people monitor their bodies, define and interpret their symptoms, take preventive or remedial action and utilise the health care system (Mechanic, 1982).

Although the major determinants of illness behavior are the symptoms of an illness and their severity (Ingham & Miller, 1982), many studies have demonstrated that it is not only the severity or psychological distress caused by symptoms of physical or psychological illness that causes people to contact medical services. People consult a doctor for only about one in every ten medically significant symptoms they experience (Tuckett, 1976a). Many people suffering from clinically relevant symptoms do not consult a doctor. Furthermore, other people consult a doctor when they are not suffering from any diagnosable illness (Tuckett, 1976a). The rationale for the study of illness behavior is that there are many factors other than illness that determine illness behavior.

The study of illness behavior has become more relevant as the nature of illness in our society has changed (Rosenstock & Kirscht, 1979). In the past acute and infectious diseases were the most prevalent. Such diseases generally had symptoms that were easily recognised, were seen as a problem that was appropriate to take to the doctor, and the symptoms were expected to be cured or alleviated by medical treatment (Stewart & Sullivan, 1982). Today, chronic illness, disabilities, mental health disorders and living problems are the major health concerns for primary care (Field, 1976). Such conditions have symptoms that are not easily recognised and that often have a gradual onset. They are therefore difficult to identify and interpret as something appropriate for medical attention. The decision to consult a doctor for such a condition is generally less urgent so factors other than the illness itself influence this voluntary help-seeking process (Rosenstock &

Kirscht, 1979). A person may interpret their symptoms in any number of ways, each resulting in a different course of action. The symptoms of psychiatric conditions and affective disorders are particularly difficult to interpret; even clinicians may disagree on a diagnosis (Foulds, 1976). People can react in many different ways to such vague symptoms including, attributing their symptoms to environmental factors or stress and trying to cope without professional help, seeing the symptoms as a physical condition and presenting to the doctor with a somatisation of their complaints, or correctly identifying their condition (Katon, Reis & Kleinman, 1984).

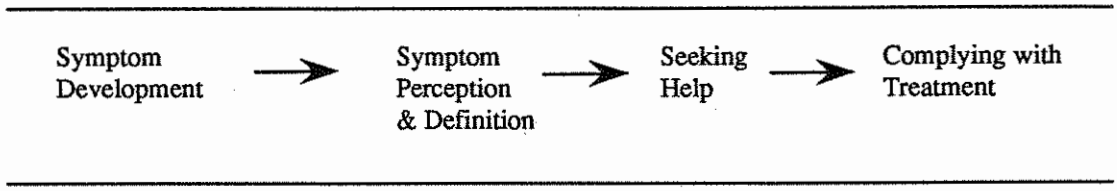
A consequence of the changing nature of illness is that the role of the medical profession is also changing. The primary function of medical services is no longer to diagnose and cure disease (Tuckett, 1976b). Doctors are having to serve the social and psychological as well as the physical needs of their patients (Shuval, 1970). Since people do not consult for all the illnesses they experience, the doctor often needs to understand why any particular episode of illness has warranted consultation. It is frequently the social or psychological circumstances surrounding the patient that make that illness worthy of consultation. In order to provide effective treatment it is as important for the doctor to understand why the patient has chosen this time to consult and this set of symptoms as it is for the doctor to diagnose the condition (Zola, 1973).

Stages of Illness Behavior

The illness behavior process initially involves the recognition of symptoms and the perception that they are, or could become, problematic (Janis & Rodin, 1979). Then there is the definition of those symptoms as being related to some sort of condition that could require medical attention, the action of choosing and contacting a source of help, and finally, complying with that source of help in order to attain a cure or alleviate the symptoms (Tuckett, 1976a; Gross & McMullen, 1983). This process is implicit in most illness behavior research and has been made explicit in conceptual models by Mechanic (1962), Suchman (1965), Aday and

Anderson (1975), Leventhal, Nerenz and Straus (1982) and others. Figure 1.1 presents the stages that are basic elements in all these models of the illness behavior process. These stages often occur concurrently however, and can be very difficult to separate (Igun, 1979; Cleary, Mechanic & Greenley, 1982).

Figure 1.1: Illness Behavior Process.



Models of Illness Behavior

Since the 1950's illness behavior has received considerable research attention. The earliest and perhaps most influential model was based upon the traditional role of doctors treating acute physical illness. Talcott Parsons (1951) conceptualised illness behavior as the adoption of a socially defined sick role appropriate for the diagnosis and cure of disease. He maintained that people recognise that they are symptomatic and enter the sick role, which then temporarily exempts them from normal social duties. The person is expected to find illness undesirable and seek help from a medically competent source. The adoption of the sick role and exemption from social duties is legitimised by a doctor's diagnosis. The patient is expected to cooperate with the doctor in order to be cured and, once cured, to resume normal social activities.

This model can only attempt to explain illness behavior in the case of acute diseases where the symptoms are easily recognised and defined as appropriate for medical intervention in the expectation of a cure. In such cases, Parson's model describes the rational and socially prescribed course of action (Kasl & Cobb, 1966b). However, in cases of chronic illness, disability and mental illness symptoms are often mild, non-disabling and vague (Stewart & Sullivan, 1982).

They are not easily recognised and, even if recognised, may not be seen as being appropriate for medical attention. There is also often stigma attached to the sick role in such cases (Clausen, Pfeffer & Huffine, 1982) which makes people reluctant to adopt it (Erikson, 1957). This stigma makes seeking help for psychological conditions different from seeking help for most other medical problems (Nadler, 1983). People who come to the attention of medical services with such conditions may be offered only partial exemption from normal social duties and expected to participate actively in the process of getting well rather than passively receive treatment (Segall, 1976). The person may even be held partially responsible for becoming psychologically ill and as part of their treatment be expected to learn to live with or actively help to cure the condition (Robbins & Greenley, 1983). In many cases of mental illness as well as chronic illness and disability there is no chance of a complete recovery and return to normal social duties (Segall, 1976).

Parson's model is therefore inappropriate to explain illness behavior in many cases because it is not simply a process of recognising illness and adopting a sick role until recovered. Despite its limitations, the model has provided the research area with valuable concepts such as the notion of a sick role and a normative approach to and social definition of illness.

Suchman's (1965) model of illness behavior is also based on normative and social structural determinants. Suchman maintained that a person progressed through five specific stages of illness behavior: symptom experience, assumption of the sick role, medical care contact, dependent-patient role, and recovery or rehabilitation. Socially determined health orientations directed behavior at each stage (Robinson, 1971). His basic premise is that a person's position in the social structure produces health orientations varying from supportive to non-supportive of modern medicine. Health beliefs range from parochial to cosmopolitan and health orientations from popular to scientific. Membership in a certain social group produces these beliefs and orientations that influence responses to symptoms and health care at various stages of the illness behavior process.

This model has been criticised for being applicable only in highly diverse ethnic populations where differences between social groups are extreme, and has not been effectively replicated in more homogeneous populations (Geertson et al, 1975). The model does, however, emphasise the effect of socio-cultural factors on individual beliefs and shows how these beliefs influence progression through various stages of the illness behavior process.

The Health Belief Model also emphasises the importance of beliefs and attitudes in influencing illness behavior (Rosenstock, 1974). While Suchman's model attempted to explain the origin of such beliefs, the Health Belief Model examines how these beliefs determine preventative health behavior. The model assumes that illness behavior is motivated by a psychological 'readiness to respond'. This readiness is determined by the person's general level of concern for health, the threat posed by the symptoms, and the perceived benefit or value of the action needed to reduce this threat. These factors are weighed against the barriers or cost of the action (Kirscht, 1974a). External motivations in the form of cues or triggers are also proposed to stimulate various health behaviors (Maiman & Becker, 1974). The Health Belief Model provides researchers with a well articulated theory of how beliefs predict behavioral intention, which is the immediate precursor of actual behavior (Kirscht, 1974b). The notion of external cues or triggers to action also provides a useful theoretical construct that has generated a great deal of research into the issue of life events.

The previous three models do not provide an exhaustive review of illness behavior models. They do, however, give an overview of the basic concepts that general theories of illness behavior have provided for research. All three models assume that illness behavior is not simply determined by symptoms. Illness behavior is socially defined and normatively controlled. Socio-cultural factors affect individual beliefs and attitudes, and these beliefs along with externally motivating triggers act at various stages in the illness process to determine behavior.

Approaches to Illness Behavior

Along with these general models of illness behavior, a number of different approaches have been developed specifically to explain utilisation of medical care, or actual help-seeking behavior. These varied approaches have produced a proliferation of research findings that are, however, generally not consistent in either direction or strength (McKinlay, 1972). While a complete review of these findings will not be undertaken, an outline of the main emphasis and major research findings of each approach will be presented. Each approach concentrates on a specific type of explanatory factor: economic, geographic, socio-geographic, organisational, socio-cultural or social-psychological.

The main predictor of utilisation in the economic approach is the cost of medical services. A large body of research undertaken in the United States links family income to service utilisation, with lower income groups underrepresented in the health care system (Anderson, 1963; Asser, 1978). However, when financial barriers are removed, wide variations remain between socio-economic groups in utilisation rates. It has been suggested that differences between these groups may be due to factors other than income and that financial resources are only indirectly associated with utilisation (Scheff, 1966; McKinlay, 1972; Crandall & Duncan, 1981; Ostrove & Baum, 1983; Fischer, Winer & Abramowitz, 1983). Differences in use of professional services due to social class have also diminished since first studied and seem to be less relevant today (Kulka, Veroff & Douvan, 1979; Horwitz, 1987).

Proximity and ease of access to health care form the basis of the geographic approach. Urban dwellers have been found to utilise the health care system more frequently that those in rural areas (Aday & Anderson, 1975). Travel time and access to transportation have also been shown to affect utilisation rates (Aday, 1975). However, again when these factors are held constant, some groups still routinely utilise services less than others (McKinlay, 1972; Snowden, Collinge & Runkle, 1982).

The socio-demographic approach has demonstrated that utilisation is highly related to age, gender, education, religion, ethnicity and socio-economic status (eg: Gourash, 1978; Cleary, Mechanic & Greenley, 1982; Snowden, Collinge & Runkle, 1982). Generally, women, the elderly, whites and those with higher incomes and education are comparatively heavy users of medical goods and services. Religion and ethnic background also influence type of care sought and how often (Goldberg & Huxley, 1980). Although many of these research findings are well established, they tend to be descriptive rather than explanatory. They identify groups that are more or less likely to seek help but do not help understand why this should occur (McKinlay, 1972).

Gender, perhaps more than any other factor from the socio-demographic approach, has generated a considerable amount of research. Women are consistently found to use all types of medical services more often than men, for both physical and mental conditions (Nathanson, 1977; Gove & Swafford, 1981; Gove, 1984; Verbrugge, 1976;1989). Part of this difference is due to real differences in physical health, but part appears to be due to differences in illness perception and help-seeking (Nathanson, 1977; Kessler, Reuter & Greenley, 1979; Kessler, 1981; Cleary, Mechanic & Greenley, 1982; Kandrack, Grant & Segall, 1991).

The organisational approach maintains that different types of bureaucratic structure are related to help-seeking behavior (Wilensky, 1964). Some organisational structures suit some types of clients and inhibit others. This is particularly evident at the interpersonal level, and people are more likely to seek help from those with whom they identify, are familiar and feel comfortable (Abramowitz, Berger & Weary, 1982). This is usually a person similar to oneself. As most medical services are provided by white, upper-income professionals, the people most comfortable with such providers and therefore most likely to consult are other middle-class whites. Many ethnic and sub-cultural groups and people from lower socio-economic classes are alienated from these service providers. They are

therefore less likely to consult, even though they typically have higher illness rates. The analysis of client-agency relationships may prove to be very important in understanding underutilisers and people whose needs are not being adequately met by the health care system (McKinlay, 1972).

The basic premise of the socio-cultural approach is that interpretations of and responses to symptoms are defined by reference group orientations (Zola, 1966;1973). Peoples' social and cultural networks and support systems shape their attitudes to and interpretation of various symptoms, their decision whether to seek help or not, and the type of help sought (Greenley & Mechanic, 1976a). This approach has shown how and why many health-related behaviors vary between different ethnic and sub-cultural groups. While these differences provide important insights into the more macro level determinants of illness behavior, they do not explain why wide variations still remain within various socio-cultural groups (McKinlay, 1972).

The final approach outlined here is the social-psychological approach, which attempts to explain illness behavior at the level of the individual. The major hypothesis is that people perceive symptoms differently and this affects all subsequent illness behavior (McKinlay, 1972). It is the perception of illness rather than any underlying disease process that determines illness behavior (Janis & Rodin, 1979). Various social and psychological factors motivate people through the stages of illness behavior. Factors such as psychological stress, life events, social support, health values and beliefs, and personality traits have all been shown to help explain individual differences in illness behavior (eg: Brown, 1976; Foulds, 1976; Falkner, Fatovich & Winkler, 1984). The advantage of this approach is that it examines how factors operate at the individual level, and can therefore explain variation within as well as between social groups.

Predictors of Help-Seeking Behavior From the Social-Psychological Approach

Individual differences play a fundamental, yet frequently unacknowledged role in the illness behavior process. Most of the research to date employing the other approaches has examined factors at a more macro level of analysis; factors that differentiate people into broad social categories. Examining differences between groups categorised according to age, ethnicity, urbaneness and other social categories is particularly useful for makers of health policy and providers of services, who make decisions on the basis of general social trends. In comparison, the health professionals who deal with individuals require information about how social and cultural forces are manifested at the level of the individual.

People vary in their level of tolerance to stress and discomfort, their knowledge of different illnesses and the health care services available to treat them, and their understanding of their bodies and the way that changes in their bodies affect their personal needs and lifestyle (Mechanic, 1986a). Even feelings of pain are shaped by the social meanings surrounding an illness or injury, and there is no clear relationship between the amount of tissue damage and the degree of pain reported by a patient (Beecher, 1959; Melzack, 1973). Which symptoms are perceived, how they are defined, whether or not help is sought and what type of help, and even the outcome of an illness episode, are all parts of the illness behavior process where individual differences are substantial (Mechanic, 1986a). The personal experience of illness is interpreted according to the individual's unique combination of social, cultural and psychological characteristics.

A major influence in the social-psychological approach has been the work of David Mechanic and his colleagues. They have proposed that certain personality factors play an important and previously unacknowledged role in the illness behavior process. From studying children and adolescents in particular, they hypothesise that certain developmental factors teach children a pattern of internal monitoring and attention to internal feeling states that significantly affects adult illness behavior (Mechanic, 1979a;1980). Developmental experiences socialise

children to direct their attention to internal sensations and to form an inclination to monitor their bodies to varying degrees. Such inward attention is believed to increase the potency of physical and psychological distress and the subsequent prevalence of reported symptoms (Mechanic, 1980). Distress reports are, 'in part, a learned pattern of illness behavior involving an intense focus on internal feeling states, careful monitoring of body sensations and a high level of self-awareness' (Mechanic, 1979:1234). This hypothesis is supported by a large body of research of the effects of introspection and private self-consciousness.

Introspection and Private Self-Consciousness

Introspection and private self-consciousness are two similar conceptualisations of a personality trait of self-attention. Introspection is defined as 'the degree to which diffuse attention is focused inward on oneself or more toward the outside world' (Hansell, Mechanic & Brondolo, 1986:116). This conceptualisation is similar to Carl Jung's (1933) notion of introversion as a generalised tendency to focus attention inward and engage in mental activities. Private self-consciousness is defined as the extent to which a person attends to inner states and feelings related to the self (Buss, 1980). The focus in both private self-consciousness and introspection is on thoughts and feelings specifically about the self, while introversion is a less specific formulation involving only a general orientation toward the internal world of thoughts and ideas (Fenigstein, Scheier & Buss, 1975; Buss, 1980; Mechanic, 1986a).

> Some people constantly think about themselves, scrutinise their behavior and mull over their thoughts to the point of obsessiveness. At the other extreme are persons whose absence of self-consciousness is so complete that they have no understanding of either their own motives or of how they appear to others (Fenigstein, Scheier & Buss, 1975:522).

There has been a great deal of research attention into these two concepts. Private self-consciousness has been employed primarily as an individual difference factor in experimental studies of transient self-attention. A state of heightened

private self-consciousness is believed to be produced when a subject is confronted by a mirror (Pryor et al, 1977). A more stable trait measure of private self-consciousness is also available from a questionnaire. Introspection is a trait measure that has been used in surveys examining various aspects of illness behavior. While private self-consciousness has not often been used in studies outside the laboratory, it has generated a great deal of information about the effects of self-attention. There are basically three well-documented effects of heightened self-attention: greater knowledge, intensified affect and negative consequences.

High levels of private self-consciousness have been shown to lead to greater knowledge of the part of the self to which attention is paid. Evidence for this includes a study showing that people higher on the trait have more articulated self-concepts than those lower on the trait, in terms of describing themselves using more adjectives (Turner, 1978). Greater knowledge of the self also means that self-reports are more in line with actual behavior (Bernstein & Davis, 1982). A higher correlation between self-reports of both sociability (Pryor et al, 1977) and aggression (Scheier, Buss & Buss, 1978) and observer evaluations of sociable and aggressive behavior have been reported for those high compared with those low in private self-consciousness. Subjects high in private self-consciousness also provided self-evaluations that were more congruent with friend's evaluations than those low in the trait (Franzoi, 1983). Another consequence of greater self-knowledge is that people high in private self-consciousness have been shown to rely more on their own information and are, therefore, less susceptible to being misled than those low in self-attention. Studies by Scheier, Carver & Gibbons (1979) demonstrated that subjects high in self-focus relied more on their own sensations and less on environmental expectations or information provided by others.

These studies show that heightened self-awareness results in better knowledge of the self: self-concepts are more articulated and self-reports are more congruent with actual behavior. The implications for illness behavior research are that people with better knowledge of themselves are more likely to be aware of the

existence and nature of any symptoms they experience. They should recognise more readily when they feel different from normal and more accurately examine and report such differences. They may also rely more upon their own interpretation and definition of their internal state.

Another effect of heightened self-attention is increased intensity of reported sensations. When undergraduate men were shown slides of attractive nude women and asked to rate their attractiveness, the men in a mirror condition rated the slides as significantly more attractive than men in a non-mirror condition. The same effect was evident when subjects were divided into high and low self-attention groups according to their score on a private self-consciousness measure. Intensification of sensation has been shown to occur for negative as well as positive sensations. Both high state and trait private self-consciousness was associated with significantly more depression following a negative mood stimulus (Scheier & Carver, 1977). Intensification of affect was further demonstrated by Pennebaker (1982) in his laboratory studies of self-attention and pain ratings. Self-attention was shown to result in more extreme pain ratings and less endurance when subjects immersed their hands in cold water in a cold presser test. Only when subjects were told to detach themselves emotionally from their feelings, and concentrate on something external did pain reports decrease in intensity, and endurance of pain increase.

While self-attention can involve good or bad feelings, the literature shows that it more often leads to feelings of malaise than feelings of well-being (Hansell, Mechanic & Brondolo, 1986). Attention to the self has been shown to increase the prevalence of reported physical and psychological symptoms in a number of surveys (Mechanic, 1983; Hansell & Mechanic, 1985). More symptoms were reported in a subsequent illness inventory when attention was directed to some aspect of bodily functioning (Pennebaker & Skelton, 1978; Pennebaker, 1982). The process of examining thoughts and feelings related to the self leads to social comparisons which make people feel worse about themselves (Duval & Wicklund, 1972). High

scorers on a measure of 'psychological mindedness' (a similar concept to introspection) were more attuned to unpleasant emotions than those lower on this trait. The groups did not differ on their attunement to positive emotions, however (Farber, 1989). Self-blame is another negative consequence of self-focus, as attribution of causality is directed toward the self rather than external agents (Duval & Wicklund, 1973). Being low on the trait of private self-consciousness may be a protective factor against negative self-evaluations. Franzoi (1983) found some evidence for this when he demonstrated that subjects low in private self-consciousness were able to maintain a favorable self-concept, that was discrepant with what significant others thought about them, while those high in the trait could not.

The sensitivity of those who are highly self-attentive seems to make them vulnerable to other peoples' distress as well as their own. People who were highly self-aware were more distressed by adversities affecting significant others while those low in self-awareness were less reactive to the plight of others (Mechanic & Hansell, 1983). The focus on feelings of those who are highly introspective may encourage empathy toward and internalisation of the problems of others.

Both experimental studies of private self-consciousness and non-experimental studies of introspection confirm the negative mental health outcomes of self-attention. Individuals with an introspective orientation report more physical and psychological distress, are more upset by stressful life events and use more medical, psychiatric and other helping services (Greenley & Mechanic, 1976ab; Mechanic, 1982; Mechanic, 1983). To be too aware of feelings and change is itself stressful (Mechanic, 1962). Self-attention may cause or exacerbate negative feelings and symptoms, especially psychological symptoms. It may contribute to stress in times of both personal difficulty and when difficulties confront significant others, and may leave people vulnerable to negative evaluation by other people. Conversely, low introspectiveness may be a protective factor, enabling people to minimise the impact of stress and maintain a positive self-image even when those around them

don't share that opinion.

The ability to think abstractly about the self and the development of self-consciousness occurs during adolescence (Elkind, 1974; Conger, 1977). During the teenage years young people experience rapid physical, social and emotional change. Attention is focused inward in order to make sense of these sensations. A great deal of time is spent preoccupied with the self-examination of one's body, feelings, impulses, ambitions and social roles. This inward attention is necessary to make sense of the changes and new experiences (Mechanic, 1983). Self-consciousness is likely to be at a peak during adolescence, making this life stage an opportune time to study its effects.

The mechanisms by which private self-consciousness or introspection are developed in adolescence are unknown, although they are likely to be a combination of cultural definitions, familial experiences and personal need. Regardless of its developmental course, self-attention is influential in shaping patterns of illness behavior. Those adolescents who develop an orientation toward carefully monitoring their body and feelings will exhibit different illness behavior to those who do not develop such an orientation (Mechanic, 1983).

The emergence of self-attention in adolescence may help explain the rise in emotional distress and symptom reporting that also occurs during this developmental period (Hansell, Mechanic & Brondolo, 1986). While there are cultural and societal norms for the interpretation of symptoms and the appropriate action to be taken for various complaints, these are rarely made explicit and are probably learned by observation of family and peers and by trial and error. Neither the culture nor the family provide clear guidelines as to how to interpret bodily feelings and symptoms. Like all people, adolescents constantly experience a multitude of physical and psychological sensations that are usually transient. Most learn to cope by normalising and ignoring such symptoms while others dwell on them unduly and become hypochondriacal. A few may even fail to act on medically significant

symptoms. Adolescents often impress physicians as psychosomatic due to their uncertainties in conceptualising the many bodily sensations they experience and their inability to differentiate them from genuine health problems (Mechanic, 1983).

At all ages after puberty women report higher introspectiveness and private self-consciousness than men (Buss, 1980; Mechanic, 1983). This may be partly because girls experience physiological changes, and therefore become self-attentive, earlier than boys. Self-attention to bodily changes (and consequent changes in social roles) leads to negative social comparisons, affect intensification and heightened symptom recognition, and these exacerbate psychological and physical symptoms (Simmons et al, 1979). This is more true for girls than boys. Body image is particularly relevant to girls' mental health (Rierdan, Koff & Stubbs, 1986), and a negative self-evaluation is a common response to the unattainable images offered by the media for girls (Saulwick, Weller & Associates, 1987; Burbury, 1987). In contrast, those boys who develop early experience positive social comparisons due to the value attached to strength and athletic ability. Positive evaluations and the use of the maturing body to compete in sports protects early maturing boys from becoming preoccupied with themselves and vulnerable to the negative consequences of high introspectiveness (Mechanic, 1983). While girls become internally preoccupied with how they appear, boys are more outward oriented to what they can do. This may help explain why, from puberty on, girls report more symptoms and engage in more help-seeking behavior.

Introspection and private self-consciousness are likely to influence the illness behavior process at the stages of symptom development and perception. The negative self-evaluation arising from self-attention may cause or exacerbate symptoms. The greater self-knowledge resulting from self-attention may make people more likely to recognise and report any symptoms they are experiencing and the intensification of affect aroused by self-attention may make symptoms more recognisable, promoting a definition of the situation as more severe. Highly introspective people are more likely to define common, everyday, self-limiting and

transient sensations as symptoms (Mechanic, 1986a). Increased perception of symptoms and greater vulnerability to their effects should encourage highly introspective people to seek help for psychological distress.

Extraversion

While introspection has a negative effect on psychological health and happiness and thereby facilitates help-seeking behavior, extraversion has been shown to have a positive effect on mental health (Costa & McCrae, 1980; Hirschfeld et al, 1983; Heaven, 1989). Extraversion was conceptualised by Eysenck (1947) as the opposite of introversion. Extraversion involves an interest and preoccupation with things outside the self rather than within the self. Costa and McCrae (1980) conceptualise extraversion in terms of sociability, tempo, vigor and social involvement.

Although the effects of extraversion on illness behavior have not been studied, it follows that if the internal monitoring of those who are highly self-attentive facilitates the perception of symptoms, then high extraversion should protect against the recognition of mental health problems. Those high in extraversion should be less likely to perceive symptoms and less likely to seek help, because they are not attending to their internal state.

Life Events

Another factor proposed by the social-psychological approach to affect illness behavior is psychological stress in the form of life events. Most of the research into life events has focused on the way life events affect the development of symptoms. The prevailing view is that there is a positive association between life events and physical and mental health problems (Dohrenwend & Dohrenwend, 1974;1981; Finlay-Jones, 1981a; Paykel, 1983a).

Brown et al (1986) found that 91 percent of women with onset of depression (compared with only 23 percent of those without) experienced a severe event in the

26 weeks before onset. Other studies show a significant rise in events preceding onset of depression (Surtees et al, 1986) and conclude that life events have a direct effect on psychological impairment (Andrews et al, 1978; Lin & Dean, 1984;1985). Much of the early research was cross-sectional and retrospective and demonstrated associations between life events and symptoms of quite small magnitude, accounting for less than 10 per cent of the variance. More recent prospective studies have also reported quite small associations. However, despite the small magnitude of the positive results, it is generally accepted that life events do have a debilitating effect on both physical and mental health.

Life event research is fraught with problems and unresolved issues. Fundamentally, there is debate over how to measure life events. Two types of measures are used; event inventories or checklists (eg; Holmes & Rahe, 1967; Sarason, Johnson & Siegal, 1978) and semi-structured interviews (Brown, 1974; Brown & Harris, 1978). While inventories have the advantages of being suitable for self-completion and are efficient in terms of time and people, interviews are more reliable and thorough and many believe are the way measurement of life events should proceed (Paykel, 1983b).

Another issue is whether a sum of the number of events experienced by a subject is a sufficient measure, or whether events need to be weighted according to some criterion. Not all events have an equal impact on health, so there are various dimensions on which they can be weighted. Generally, positive events have been found to be unrelated to health outcome, while negative events are predictive of poor health (Newcomb, Huba & Bentler, 1986). Events have been weighted according to their stressfulness (Paykel, 1983a), the amount of life adjustment they require (Holmes & Rahe, 1967), their desirability (Newcomb, Huba & Bentler, 1981), the amount of change and distress they cause (Tennant & Andrews, 1976), their controllability (Lin & Dean, 1984), and whether they are dependent or independent (Surtees et al, 1986). Added to this is the issue of whether such weights should be derived idiosyncratically from the respondents, or normatively from some

independent group of raters.

Although many researchers insist on the importance of weights, Zimmerman (1983) found a correlation of .94 between consensually weighted and unweighted event sums in a review of 18 studies. Others have also concluded that weights do not significantly increase the association between events and illness and that a simple event count is an adequate predictor (Grant et al, 1978; Ross & Mirowsky, 1979; Lorimer et al, 1979).

Life event measures may also be confounded with other measures in multivariate research. Events have been divided into those that are dependent or independent of an individual's personality (Surtees et al, 1986). Some personality types are thought to 'encourage' dependent events (Tennant & Andrews, 1978; Finlay-Jones, 1981a; Miller et al, 1985).

There is also some evidence that psychological health and life events may be reciprocally causally related. Both Aneshensel and Huba (1984) and Horwood and Fergusson (1986) in well designed prospective studies showed that depression raises the level of subsequently reported life events. The reciprocal causal path from depression to events exhibited a much smaller effect however, than the generally accepted main causal path from life events to depression.

Since much of the early research was cross-sectional and retrospective, it suffered from contamination of event recall by current psychological status. Mood changes have been shown to affect perception of the social environment and those with a more depressed mood are more likely to assess their life negatively (Alloway & Bebbington, 1987). Depressed subjects tend to focus on and recall more negative experiences. Depressed persons have also been found to rate hypothetical events as more stressful than normals and to therefore amplify negative experiences (Brown & Harris, 1978).

Cross-sectional and retrospective studies also suffer from a fall off in the reporting of events (Monroe, 1982), particularly of those events that are less salient

(Funch & Marshall, 1984). This is especially true when event inventories are used, and is less of a problem for well conducted interviews (Brown & Harris, 1982). Prospective studies do not suffer from this problem, and there is some evidence from such studies that it is the three weeks prior to onset that life events pose the most risk (Surtees et al, 1986). Others have found that depression will occur within six months of a precipitating event (Brown & Harris, 1978; Paykel, 1978), and that after time, the effect of the event dissipates gradually (Surtees & Ingham, 1980).

Most of the life event research has focused on adults, but the association between stress and poor health also seems to be evident in adolescents. Life events accounted for 68.7 percent of the variance in depression in one sample of adolescents (Freidrich, Reams & Jacobs, 1982). This is much higher than that found for adults and it was hypothesised that life events may have an even greater impact in adolescence because the psychological state of adolescents is more transitory and reactive. Adolescents experience many stressful events as part of growing up and life events seem to increase during the period from early to late adolescence (Newcomb, Huba & Bentler, 1986). Events that are trivial for adults may be traumatic in adolescence, because young people are having to experimentally negotiate adult roles (Cohen, Burt & Bjorck, 1987).

Females do not appear to be more at risk of life events than males among adolescents (Newcomb, Huba & Bentler, 1986), college students (Lustman, Sowa & O'Hara, 1984), or adults (Perris, 1984). However, most studies that report no gender effect have examined the sum of a number of life events. Concentrating on specific types of events will yield a gender effect (Newmann, 1986).

All of the previous research has focused on the effect of life events on the development of physical or psychological symptoms. Life events have also been shown to have an effect directly on help-seeking behavior. Otto (1979) found that life events had a direct effect on both symptom awareness and medical help-seeking. Verbrugge (1985) and Zola (1972;1973) both conceptualised life events as triggering health care actions. Verbrugge found that undesirable events and negative

mood predicted both symptom days and physician utilisation. Stone, Jandorf and Neale (1986), in replicating this study, found that undesirable events were more important even than psychological mood in predicting physician utilisation. Gortmaker, Eckenrode and Gore (1982) also found that the presence of a stressful event was associated with a doubling of the probability of health care contact on any given day. They concluded that both daily stressors and life events predicted physician utilisation. The types of life events concentrated on in these studies were generally daily hassles and chronic life conditions rather than major discrete life events. The conclusions drawn suggest that minor and transient daily troubles as well as chronic living conditions are more important than major life events in triggering health actions. The concept of daily hassles may be even more relevant than major life events for the experience of stress in adolescence (Groube, 1987).

Mechanic hypothesises that life events affect illness behavior by encouraging introspection (Mechanic, 1983). Life events are discontinuities in the normal flow of activities and encourage thought and appraisal of the self in relation to the event. The greater the discontinuities the greater the self-appraisal and subsequent social comparison. Discontinuities affect illness behavior by encouraging health actions due to the increased perception and salience of symptoms and distress.

Life events, therefore, appear to impact at various stages of the illness behavior process, despite the multitude of contentious issues involved in their research. Not only do they affect the development of symptoms, life events also seem to facilitate the perception of symptoms and trigger health care actions.

Social Support

In parallel with the study of the detrimental effect of life events is the study of social support as a protective factor for health. Once again the emphasis has been on the effect of social support at the very beginning of the illness behavior process, symptom development.

One of the first investigators of social support was Cooley as early as 1909 who looked at people in intimate association and cooperation and termed them a Primary Group. Early sociologists maintained that the dissolution of the Primary Group was detrimental to health. In his classic study of suicide Emile Durkheim (1951) was the first to explore empirically the social correlates of suicide and theorise about the social, psychiatric and physical consequences of inadequate or excessive social integration. Since these early theorists, two major theories of the effect of social support have emerged. Social support is hypothesised to have either a direct effect on health by enhancing health status when sufficient and damaging health when deficient, or an indirect effect on health by buffering or modifying the effects of stress.

In the 1970's three major reviews examined the range of scientific enquiry up until that time. The research reviewed ranged from animal studies to cohort studies with numerous measures of social support and many different disease outcomes. All three reviews concluded that social support had both a direct and an indirect effect on health (Cassel, 1976; Cobb, 1976; Kaplan, Cassel & Gore, 1977).

Since then other researchers have shown support for either the direct or the buffering hypothesis. Cross-sectional studies have demonstrated a direct effect of social support on depression (Billings & Moos, 1981; Barrera, 1981), anxiety (Billings & Moos, 1981; Barrera, 1981), minor psychiatric conditions (Miller & Ingham, 1976; Lin et al, 1979; Morrow, Hoagland & Carnrike, 1981), non-psychotic psychiatric disorder (Silberfeld, 1978; Henderson et al, 1978), somatic symptoms (Miller & Ingham, 1976; Billings & Moos, 1981;1984) and blood pressure (Graham, Kaplan & Cornoni-Huntley, 1978). Prospective cohort studies have also found a direct effect of social support on global mental health (Williams, Ware & Donald, 1981), depression (Gore, 1978; Schaefer, Coyne & Lazarus, 1981), recovery from unipolar depression (Surtees, 1980), psychological distress (Holahan & Moos, 1981; Turner, 1981; Parry & Shapiro, 1986) and physical symptoms (Gore, 1978).

Other studies have shown support for the buffering hypothesis and only find an effect of social support in times of stress (Cobb, 1976; Cassel, 1976; LaRocco, House & French, 1980; Brown et al, 1986; Brown & Harris, 1986). Some researchers have shown evidence of both a direct and a buffering effect (Lin & Dean, 1985).

The measurement of social support is particularly problematic. The range of possible social relationships is vast, extending from the intimacy of a spouse to the impersonality of a commercial transaction (Alloway & Bebbington, 1987). Within each of these relationships, the amount of support given also varies enormously. Social support is thought to be derived from an interpersonal relationship when either affect, affirmation or aid is present (Kahn & Antonucci, 1980). Some people obtain a great deal of social support from their family and friends, while others get very little. Some people have a great many relationships from which to attain support, while others have very few. There are, therefore, two dimensions of social support; the quality and the quantity of social relationships.

There is no generally accepted measure of social support (Alloway & Bebbington, 1987), with most investigations developing a measure specifically for their own research purposes. These various measures include coarse socio-demographic variables used to indicate social isolation or lack of an intimate relationship, measures derived from questions of marital status or living arrangements (Lin et al, 1979; Blazer, 1982), ratings for specific elements in personal networks (Brown, Bhrolchain & Harris, 1975), and specially designed instruments such as the Psychosocial Assets Questionnaire (Nuckolls, Cassel & Kaplan, 1972), the Social Support Questionnaire (Sarason et al, 1983), and the Interview Schedule for Social Interaction (Henderson et al, 1980). Measures of the quantity or content of interpersonal relationships examine the size, frequency and density of social contacts (Broadhead et al, 1983), while the quality of interpersonal relationships is much more difficult to evaluate (Dean & Lin, 1977). Studies comparing quality with quantity generally show that quality is more important to

health outcome than quantity (Blazer, 1982).

Another issue in the social support research is what type of support is effective for maintaining health. Initially, the protective effect of a confiding relationship was proposed (Brown, Bhrolchain & Harris, 1975; Cassel, 1976). Some researchers have found that it is only support from a core person or intimate relationship that is important (Brown et al, 1986), and that the availability of at least one confidante is the most discriminating of social support variables (O'Neil, Lancee & Freeman, 1984; Eisemann, 1984a). However, more diffuse relationships have also been suggested as protective against neurotic symptoms (Miller & Ingham, 1976).

Perception of the adequacy of social support has been shown to be a particularly relevant dimension of social support. Henderson found that it was not the lack of social relationships that was detrimental to psychological health but the perception that they were lacking (Henderson, 1981; Henderson, Byrne & Duncan-Jones, 1981). Other research has confirmed that perceived support is more important than received support (Wethington & Kessler, 1986). This perception may be contaminated by other measures, however. This is particularly true when studying the effects of social support on minor affective disorder since one of the consequences of depression is a negative assessment of the social world. It is difficult to avoid just tapping the current mood of the person, in terms of their assessment of their social network (Alloway & Bebbington, 1987). A major complication for the measurement of social support is the difficulty of obtaining an uncontaminated measure.

Social support also interacts with personality characteristics in many important ways that make its study even more complex. People are the authors of their own social environments and not just passive recipients. Very good or very poor social ties may result partly from the self-esteem, extraversion and neuroticism of a person (Henderson, 1984b). Personality significantly affects social support

(Eisemann, 1984a) and in turn, social support must affect personality, especially self-esteem and introspection (Mechanic, 1978b).

Social support is particularly consequential in adolescence (Wildermuth, 1990) because peer relationships are the standard by which adolescents judge themselves (Mechanic, 1962; Rosenberg, 1965). Adolescence is a time when being included and accepted is of major importance to the formation of one's identity, and this makes the study of social support in adolescence particularly important. Feelings of loneliness peak at adolescence, decrease as people progress through adulthood and then rise again among the elderly (Ostrov & Offer, 1978; Rubenstein, Shaver & Peplau, 1979; Brennan, 1982). Loneliness in adolescence is accompanied by a negative perception of the self, generalised anxiety, depression, self-consciousness and social anxiety, and reduced reports of likability, happiness and life satisfaction (Goswick & Jones, 1982; Moore & Schultz, 1983). Loneliness and inadequate social support are related to inactivity and boredom in adolescents who often cope by watching television and listening to music (Moore & Schultz, 1983). Such activities tend to exacerbate psychological conditions.

A study of 5000 adolescents in the United States, Australia and Ireland showed that 22 percent of boys and 20 percent of girls aged 12 to 16 and 14 percent of boys and 12.3 percent of girls aged 16 to 20 agreed with the statement 'I am so very lonely' (Ostrov & Offer, 1978). Although adolescents have plenty of social contact at school and ample opportunity for forming social relationships, many perceive their social world much more negatively than it really is. Dissatisfaction with the quality rather than the actual availability of social relationships makes lonely adolescents (Goswick & Jones, 1982).

Gender differences have not been evident in studies of adolescent loneliness (Ostrov & Offer, 1978; Goswick & Jones, 1982), nor in studies of social support (Henderson, Byrne & Duncan-Jones, 1981). It is a general perception however, that women have greater affiliative needs than men. Women seem to need to confide and share their lives and feelings, while men are more self-possessed and keep their

emotions to themselves (Westbrook & Viney, 1983). Girls have also been shown to have a greater reliance on intimacy and relationships for self-disclosure than boys (Franzoi & Davis, 1985). Little research has examined differential effects of social support on women and men's well-being although, two studies have reported that there was a negative association between social support and number of symptoms for women, but not men (Miller & Ingham, 1976; Billings & Moos, 1981). Such research suggests that women may rely more on social support or benefit more from such support than men.

Despite problems of measurement and conceptualisation and debate over the direct or indirect effect of social support, it is clear that social support does have consequences for health, in particular mental health (Broadhead et al, 1983). The help-seeking literature shows that those who seek help most often initially consult a friend or family member (Amato & Bradshaw, 1985). Those experiencing psychological distress first seek help from friends and family and only consult professionals after those sources are exhausted (Mitchell & Moos, 1984). The informal social support network is a source of support for those with stress and health problems and those with adequate support networks seek help for their problems within that network.

Those without informal support in the form of friends or family must look elsewhere, and are more likely to seek professional help (Goldberg & Huxley, 1980; O'Neil, Lancee & Freeman, 1984). The physician has been shown to be a form of social support especially for people lacking adequate social ties (Mechanic, 1982; Ben-Sira, 1984). A visit to the general practitioner may be a search for care and emotional support that is not available within a person's social network (Falkner, Fatovich & Winkler, 1984).

Other Factors in the Social-Psychological Approach

Social support, life events and self-attention are three of the basic explanatory factors in the social-psychological approach to illness behavior. All

three factors affect the perception of symptoms. The more symptoms are perceived and made salient, the more likely health actions will occur in response (Ostrove & Baum, 1983). Those who are more self-attentive and who have more stress and discontinuities in the form of life events will be most likely to perceive and act on their symptoms. Those with adequate social support will utilise that support, while those with inadequate support will be more likely to utilise professional services.

Other social, cultural and personality influences manifest in terms of the attitudes, values and beliefs that individuals hold in relation to health matters. The association between attitudes and beliefs and illness behavior is not, however, as strong as theoretically predicted. There is typically a weak and inconsistent association between verbal measures of attitudes and observations of behavior (Fishbein & Ajzen, 1975), and this is evident in the illness behavior research (Snyder & Tanke, 1976). Only very specific health beliefs and attitudes have been found to predict illness behavior in any meaningful way.

Attitudes, Values and Beliefs

The need for specificity has been demonstrated by the research linking beliefs related to the locus of control of events to illness behavior. A review of the effects of locus of control found some evidence of more information seeking and preventative and adaptive health behaviors among those with an internal rather than an external locus of control (Strickland, 1978; Wallston & Wallston, 1978; Krause & Stryker, 1984). However, a more specific formulation of locus of control in relation to health increased the prediction of health-related behavior (Wallston et al, 1976; Wallston, Wallston & DeVillis, 1978).

Specific beliefs such as; belief in preventative care (Cleary, Mechanic & Greenley, 1982), beliefs in the efficacy of care (Becker & Maiman, 1975; Rosenstock & Kirscht, 1979; Crandall & Duncan, 1981), lower inclination to seek care (Greenley & Mechanic, 1976ab), excessive concern with vulnerability to life threatening illness (Murray & Corney, 1988), and beliefs related to the amenability

of psychosocial health conditions to medical treatment (Murray & Corney, 1990) have also been shown to be related to physician use and compliance with treatment (Becker & Maiman, 1975).

Another study found that positive attitudes about the medical system only affected utilisation in combination with symptoms (Sharp, Ross & Cockerham, 1983). This study concluded that the reason such small and inconclusive attitude effects were reported was that attitudes do not have an additive effect, but rather an interactional effect with symptoms.

Some attitudes have also been found to be gender specific. Leaf and Bruce (1987) reported that positive attitudes to services were associated with greater use of mental health services for women while negative attitudes were predictive for men.

A particularly interesting study of the effects of attitudes on help-seeking demonstrated that people who were psychologically disturbed held more negative attitudes to mental illness and treatment than those who were psychologically healthier (Lehtinen & Väisänen, 1978). The most negative attitudes were exhibited by those suffering neurotic conditions. Positive attitudes were associated with perceived need for treatment, and the authors concluded that negative attitudes to treatment were an obstacle to obtaining necessary treatment.

Beliefs and attitudes that are not related to utilisation include trust in physicians (Crandall & Duncan, 1981) and skepticism of medicine (Cleary, Mechanic & Greenley, 1982). Tessler, Mechanic & Dimond (1976) also found that more positive attitudes towards the use of medical services did not enhance the effects of distress on help-seeking. Most non-significant results are not reported however, so it is difficult to determine their extent (Kasl & Cobb, 1966a; Hershey, Luft & Gianaris, 1975).

Research into the effects of attitudes, values and beliefs is therefore generally inconclusive. Diverse attitude and belief measures have produced equally diverse research findings. Although both the social-psychological and socio-cultural

approaches emphasise the theoretical importance of attitudes and values, the research to date does not seem to justify this emphasis. More needs to be done to determine the effects of specific attitudes, values and beliefs on illness behavior as part of the social-psychological approach to illness behavior.

Help-seeking as Coping

Seeking help is a distinct part of the illness behavior process. It is one of the ways of coping with illness (Mayou, 1984). Coping can be defined as the cognitive and behavioral efforts made to master, tolerate or reduce external and internal demands and the conflicts among them (Cohen & Lazarus, 1979). Coping includes a wide variety of responses, of which seeking help is only one.

Help-seeking in the form of utilising informal social support and professional services is a specific type of coping response. It is problem-focused information seeking (Billings & Moos, 1984). Help is sought to come to terms with a particular problem of discomfort (Tessler, Mechanic & Dimond, 1976). Most other forms of coping rely upon the self and internal resources: seeking help is an environmental coping resource.

Most research predicting help-seeking behavior assumes that it is an adaptive process (Miller et al, 1985) and very often does not evaluate its effectiveness. Those studies that have evaluated the effectiveness of help-seeking are ambivalent in their conclusions. Some have shown that help-seeking is effective in reducing emotional distress; others report that it is not.

Informal help-seeking takes place within the social support network. Research into social support shows that such support has a direct effect on psychological distress (Miller & Ingham, 1976; Billings & Moos, 1981) and a buffering effect in times of stress (Brown et al, 1986). The protective effect of both a confiding relationship (Lin & Dean, 1984) and more diffuse social relationships (Brown, Bhrolchain & Harris, 1975) have been established. It seems reasonable to assume that the beneficial effect of social support is through some sort of help

giving, in terms of concern, sympathy, cheering up or distraction by members of the informal social network (Moos & Mitchell, 1982). This help may not always be sought actively, and some people gather support without having to solicit it (Pearlin & Schooler, 1978).

Other research has indicated that actively seeking help from the social network is no more effective than not seeking help (Lieberman & Mullan, 1978). This same research also reported that seeking professional help, in terms of many different professional services, did not reduce psychological distress. It concluded that seeking neither professional nor informal help had adaptive consequences, compared with not seeking help.

In a review of psychotherapy outcome studies, Smith, Glass and Miller (1980) provided evidence that professional therapy was beneficial and that very different therapies were comparable in effectiveness. Other studies have found that psychotherapy moderately helped some people while others got worse (Smith & Glass, 1977). Durlak (1979) showed that there was no difference in the effect of highly trained professional helpers and untrained laypersons. Control groups have also been shown to improve significantly compared with those in treatment (Wills, 1982). It has been suggested that rather than the specific skills of professionals, it is the significant relationship with another person that is important for a positive outcome (Wills, 1982).

In a large scale community survey, Pearlin and Schooler (1978) showed that help-seeking from any source was a less effective coping device than self-reliance. In contrast, Headey & Wearing (1988) reported that instrumental strategies (which included help-seeking) were effective for coping with all types of life events, while other types of coping strategies (relying more on the self) were ineffective or harmful. Miller et al (1985) found that none of eleven coping mechanisms, including seeking professional or informal help, protected against illness inception in reaction to stress.

The research on the effectiveness of help-seeking as a coping method is, therefore, inconclusive. There seems to be very little research on the effects of help-seeking specifically for adolescents. One conclusion from the work of Mechanic and his colleagues is that being in touch with inner feelings is not necessarily adaptive, especially for adolescents (Mechanic and Hansell, 1987a). Research of the negative effects of self-attention suggest that the focus on symptoms that occurs when seeking help is likely to increase, rather than decrease, the discomfort of symptoms. This may make coping in ways that focus on symptoms detrimental rather than helpful. Forms of coping that distract attention from the self may be more adaptive for adolescents.

The Present Study: Help-Seeking for Psychological Problems in Late Adolescence

As Mechanic (1975) has pointed out, the ideal way to study personal responses to psychological disorder is 'to follow on a panel basis a large defined population with access to a definable range of helping services ... Such a study could monitor the occurrence of distress in the population, the processes by which people identify and make sense of unorganised symptoms, and types of help-seeking from alternative agencies available to the population' (p. 400).

The present study aims to do this. Late adolescence is selected as the defined population because there is likely to be considerable minor psychiatric disorder or psychological distress in this age group (Mechanic & Greenley, 1976; Winokur, 1981). The health behavior of adolescents is not well understood, yet has important implications for adult functioning (Friedman, 1989). Some of the theoretically important variables that have been shown to affect help-seeking behavior, such as age and level of education (Gourash, 1978), are also controlled by being held constant in such a defined population.

The help-seeking behavior of this group will first be described. Little is known about how adolescents respond to psychological distress (Mechanic, 1983; Ostrov, 1985). Research suggests that peers are the most important source of

informal support for this age group (DePaulo, 1982; Choquet & Menke, 1989). Seeking professional help is likely to be much less common and restricted to those who are more impaired (Dew et al, 1988; Dew et al, 1991) and have inadequate social support available (Ben-Sira, 1984). Since previous research shows that around 20 percent of adolescents suffer clinically relevant psychiatric distress, it may be that professional services are not adequate to serve this age group (Offer & Spiro, 1987).

Help-seeking is a combination of facilitatory and inhibitory processes (Wills, 1982). The social-psychological approach hypothesises that factors that influence the perception and salience of symptoms are major predictors of help-seeking behavior. A person with emotional problems is in a state of arousal (Schachter & Singer, 1962). Various social and psychological factors make some people more emotionally vulnerable to this arousal than others. Girls are expected to be particularly vulnerable emotionally compared with boys. Gender differences are evident in many of the factors that influence help-seeking, with girls often being higher on vulnerability factors. These factors include the personality trait of introspection or private self-consciousness. Those higher on this trait are more likely to perceive and act in response to symptoms (Mechanic, 1982). They may also be more distressed by life events. Life events are conceptualised as discontinuities that increase the salience of symptoms and trigger health care actions (Mechanic, 1983; Verbrugge, 1985). Social support is both a source of help for those with adequate networks and a facilitator of professional help-seeking when it is deficient (Mitchell & Moos, 1984). Several attitudes and values are also hypothesised to increase the salience of symptoms and the emotional vulnerability of persons, thereby facilitating help-seeking. Attitudes and values specific to health and psychological illness are measured in line with research showing that only specific health attitudes and beliefs predict illness behavior (Fishbein & Ajzen, 1975; Wallston & Wallston, 1978). In particular, fear of stigma attached to

psychological problems, value attached to physical and mental health, concern with health, and attitude to psychological illness are hypothesised to affect adolescent help-seeking in response to minor psychiatric disorder.

The present research extends the usual predictive analysis of help-seeking behavior by also examining whether seeking either informal or professional help is adaptive for coping with psychological distress. Very little research has assessed which coping mechanisms are most effective for adolescents, but it has been hypothesised that coping behaviors where the emphasis is on talking about symptoms may be particularly maladaptive for adolescents.

Conclusion

By describing to whom adolescents turn for emotional support, what makes them decide to utilise such support, and whether this support is actually beneficial, this thesis provides a more thorough account of adolescent illness behavior than much previous work. Adolescent illness behavior in response to mental health is poorly understood (particularly in an Australian context), yet adolescence is a time when illness behaviors are being learned and when health interventions may be most effective. It is necessary to understand what services adolescents will use, who are most and least likely to use them, and whether these services meet their needs. In the next chapter, the method designed to address these issues will be described.

Chapter 2

Research Design and Methodology

Due to the dynamic nature of illness behavior, a longitudinal and prospective design is imperative for the study of adolescent responses to minor psychiatric disorder (Mechanic, 1986a). There have been many cross-sectional studies of help-seeking behavior, but these studies have been severely limited by their measures being collected retrospectively and at only one point in time. To gain a better understanding of an ongoing process of illness behavior longitudinal data are crucial (Mechanic, 1989). Longitudinal data serves several purposes. Obviously it allows behavior to be assessed over time rather than only observing static behavior at one point, providing a more reliable measure of the behavior. Furthermore, where the dependent measure of interest is a process such as help-seeking, the nature of this process can be observed as it changes over time. The prospective nature of the method is also important. Retrospective reports are fraught with problems, including selective memory, recall bias and confounding of measures (Ostrove & Baum, 1983; Mechanic, 1989). Following a sample of respondents over a period of time and limiting their recall to a specific short period minimises these problems.

Pilot Study

A pilot study served several functions. First, measures that were integral to the research for which there were no suitable instruments available from the literature had to be developed and tested. Second, the pilot study was used to eliminate some of the many factors theoretically expected to influence help-seeking. Those factors considered to be theoretically relevant, but which failed to impact upon the dependent measures in the pilot study, were excluded from the main study. Third, the pilot study was used to examine and refine administration procedures which were costly. Finally, the pilot study produced estimates of the response rates

for follow-up data, thereby determining the feasibility of using follow-up mail-out questionnaires in the main study.

The sample for the pilot study comprised 218 Year 11 and 12 students from a government College in the ACT. As all college students are required to take English, respondents were selected from English classes to obtain a representative, random sample of the school population. Table 2.1 presents the College student population and sample by gender and year at college.

Table 2.1: College Student Population and Sample by Gender and Year at College.

	Female			Male			Total		
	Pop	Sample	%	Pop	Sample	%	Pop	Sample	%
Year 11	202	51	25.2	141	21	14.9	343	72	21.0
Year 12	193	70	36.3	147	76	51.7	340	146	42.9
Total	395	121	30.6	288	97	33.7	683	218	31.9

The longitudinal design in the pilot study involved two waves of data collection; Wave 1 was the initial contact and testing and Wave 2 was the follow-up. Respondents were initially contacted and completed Wave 1 of the survey in October 1984, shortly before they finished school for the year. Wave 1 testing consisted of a large battery of self-report questionnaires that were completed in class time at the school. The Wave 2 follow-up of the pilot study was administered in February 1985. It consisted of a smaller battery of self-report questionnaires that were mailed to each respondents's home address where the questionnaire was completed and returned by mail to the researcher.

The questionnaire administered at Wave 1 contained the measures listed below. The follow-up mail-out questionnaire was much briefer and included only measures of symptoms, help-seeking and life events, which were identical to those used at Wave 1.

1) Socio-demographic variables were age, sex, year at college, ethnic background, religion and socio-economic status.

2) Symptoms were measured using the 12-item General Health Questionnaire (Goldberg, 1972) and the anxiety and depression scales of the Delusions-Symptoms-States Inventory (Bedford, Foulds & Sheffield, 1976). These instruments, apart from being well established measures of minor psychological distress, have been used successfully in the Australian culture (Tennant, 1977; Duncan-Jones & Henderson, 1978; Winefield et al, 1989).

3) Perceived mental health status was measured with an item taken from the University of Newcastle Faculty of Medicine's Survey of the Social and Emotional Development of Adolescents (1983).

4) The help-seeking measure was developed for this study as no suitable instrument was available at this time. A large table with problem categories along one axis and sources of help along the other was piloted, the intention being to refine this procedure into a measure of help-seeking for the main study.

5) The life events measure was a composite of several different life event questionnaires, which had been used extensively with a Canberra population (Henderson, Byrne & Duncan-Jones, 1981), combined with some adolescent daily hassles which emerged as important from discussions with adolescents.

6) Three indicators of health attitudes and values were taken. Health value was measured by modifying an instrument developed by Wallston et al (1976) in which the four most important of Rokeach's (1973) 12 terminal values were ranked. The rank given to health indicated its value to the respondent. The Health Locus of Control Scale (Wallston et al, 1976) was

used to determine whether respondents had an internal or external locus of control in relation to health. Attitude to psychological illness was assessed by six items from the Social Distance Index (Brockman & D'Arcy, 1978). Those items that had greatest face validity for adolescents were selected.

7) Social support was assessed by scales to measure the availability of attachment, availability of friendship, and availability of a frank and confiding relationship scales from the Interview Schedule for Social Interaction (Henderson et al, 1980). This instrument was developed for an Australian population.

8) Several personality factors were included in the pilot test. Introspection was measured by the Introspection Scale (Hansell & Mechanic, 1985) and private self-consciousness by the Self-Consciousness Scale (Fenigstein, Sheier & Buss, 1975). The wording of this scale was slightly altered to suit an Australian community sample rather than the American college student sample for which it was developed (Duncan-Jones & Goodchild, 1983). A great deal of research has employed the Self-Consciousness Scale while the Introspection Scale was developed specifically for an adolescent sample. Both instruments were piloted to compare their suitability for the main study. Neuroticism and Extraversion scales were taken from the Eysenck Personality Inventory (Eysenck & Eysenck, 1964).

Several of these measures were either changed considerably or omitted altogether after analysing the pilot data. The Health Locus of Control Scale (HLC) was omitted from the main study. In addition to taking a substantial amount of time to complete, the results of the pilot data showed that none of the HLC scales appeared to predict symptom reports or help-seeking behavior. The Health Locus of Control Scale was replaced by a measure relating more to health beliefs than locus of control (Harris, Linn & Pollack, 1984). This measure was provided by the Illness Behavior Questionnaire (Pilowsky & Spence, 1983). From this instrument items

were selected that appeared on face validity to measure beliefs related to concern with health, fear of illness, faith in doctors, personal behavior when ill, history of how significant others react when ill, and fear of stigma attached to being psychologically ill.

The Eysenck Personality Inventory (Eysenck & Eysenck, 1964) was shortened considerably as its length and some of its items were the cause of much comment from students in the pilot study. A 16-item version was developed by Paul Duncan-Jones (1984) and shown to be as reliable as the full instrument.

Both the private self-consciousness scale and the Introspection Scale were retained because the pilot data did not provide sufficient reason to choose one over the other.

The help-seeking measure was substantially revised for the main study. It was changed to a series of 'yes/no' questions covering those categories of help-seeking that were most frequently endorsed in the pilot study data.

The life event checklist was shortened slightly for the main study by deleting those life events that were never experienced in the pilot study data. Furthermore, it was noted previously that there has been considerable controversy in the literature over the use of weighted or unweighted life event measures. Generally, comparisons of weighted versus unweighted scores have concluded that weights do not improve the effect of life events. It was decided to address this issue using the current data before finalising the life event measure. A small survey was carried out to obtain distress ratings for the life events assessed here from the population being studied. A sample of 79 Year 12 students (41 males, 38 females) at a Canberra College were asked to take five minutes at the beginning of an English class to rate each of the 45 life events on a 4-point scale from 'not at all distressful' to 'very distressful'. An average of these weights was then applied to the life event items in the main study and the weighted and unweighted measures were compared. Two-tailed t-tests revealed that there was no difference between the weighted and unweighted

measures at any of the five time points. Pearson product moment correlations of over .95 were obtained for the weighted and unweighted life event scales at each of the five time points. This concurs with previous research reporting that correlations of over .90 are found between weighted an unweighted indexes (Lorimor et al, 1979; Zimmerman, 1983) and that the two types of scales have identical results. For these adolescents the use an unweighted sum of events was appropriate.

Finally, as well as selecting and refining the measures to be used in the main study, the pilot study showed that the follow-up mail-out format was suitable for collecting longitudinal data in the main study. Mail-out surveys have been shown to be successful in following up respondents in other surveys (Martin & Monk, 1982; Cartwright, 1986; Hansell, Mechanic & Brondolo, 1986). In the pilot study data, of the 218 students first tested, 186 (or 85.3 percent) returned the one follow-up mail-out questionnaire. Those who did not return the follow-up did not differ significantly from those who did on any of the measures at Wave 1.

Main Study

Sample

In 1985 there were 15 Canberra colleges with Year 12 students. These schools are listed in Table 2.2. The principals of these schools were initially contacted by a letter from the researcher informing them of the study. Following this letter each principal was phoned to solicit the participation of his or her school. Ten of the 15 Canberra Colleges agreed to participate. Table 2.2 also presents the student population of each college by gender and the sample drawn from those colleges that agreed to participate in the study. The population figures were correct as of July 1, 1985 (ACT Schools Authority, 1985).

A total of 715 students commenced the study in Wave 1. This was 20.0 percent of the total College population including those schools not participating in the survey and 27.7 percent of the participating Colleges. The sample was generally

representative of the Canberra Year 12 population, with the exception of the Catholic schools, as no Catholic boys' schools agreed to participate in the study.

Table 2.2: Student Enrollment at July 1, 1985[a] by College, Gender and Number of Students Sampled from Participating Schools.

	Female			Male			Total		
	Pop	Sample	%	Pop	Sample	%	Pop	Sample	%
Government Colleges									
Copland	152	52	34.2	201	28	13.9	353	80	22.7
Dickson	253	40	15.8	255	44	17.3	508	84	16.5
Erindale	92	32	34.8	116	20	17.2	208	52	25.0
Hawker	175	0		180	0		355		0
Narrabundah	170	26	15.3	141	25	17.7	311	51	14.4
Phillip	197	51	25.9	202	32	15.8	399	83	20.8
Stirling	238	51	21.4	157	22	14.0	395	72	18.2
SWOW	3	3	100.0	2	2	100.0	5	5	100.0
Catholic Boys' Colleges									
Daramalan	0			152	0		235	0	
St Edmunds	0			157	0		157	0	
Marist	0			155	0		155	0	
Catholic Girls' Colleges									
St Clare's	172	124	72.1	0			172	124	72.1
Merici	96	0		0			96	0	
Private Colleges									
Boys' Grammar	0			120	114	95.0	120	114	95.0
Girls' Grammar	108	49	45.4	0			108	49	45.4
Total Colleges									
Goverment	1279	255	19.9	1255	173	13.8	2534	427	16.9
Non-Gov't	459	173	37.7	584	114	19.5	1043	287	27.5
Total	1738	428	24.6	1839	287	15.6	3577	715	20.0
Total Participating Colleges									
Government	1105	255	23.1	1074	173	16.1	2179	428	19.6
Non-Gov't	280	173	61.8	120	114	95.0	400	287	71.8
Total	1385	428	30.9	1194	287	24.0	2579	715	27.7

[a]The population figures were correct as of July 1, 1985 (ACT Schools Authority, 1985).

Canberra is a unique city in many ways (see Henderson et al, 1979 for a discussion of the characteristics that distinguish Canberra from other Australian cities). The unique characteristics relevant to this study include the high retention rate to Year 12 in Canberra schools. In 1985 the retention rate was 77.1 percent in Canberra which compared with 41.7 percent in New South Wales and 46.4 percent in Australia as a whole (Australian Bureau of Statistics, 1985). This enabled Year 12 school leavers to be studied without undue concern over omitting those who did not continue their studies to the Year 12 level.

Another unique characteristic of Canberra is the relatively homogeneous population in terms of socio-economic status, education and other socio-demographic factors (Henderson et al, 1979). While there is, of course, still variance on these factors, it is not as large as in other Australian cities. This characteristic helped to minimise some of the extraneous variance in the measures.

In the current sample, 80 percent (n=571) of the respondents were born in Australia or New Zealand. This compares with 87.2 percent of the 15-19 year old group in the 1986 Census (Australian Bureau of Statistics, 1986). A further 6 percent (n=44) were born in the United Kingdom or Ireland which compares with 3.9 percent in the Census. Another 6 percent were from Asia compared with 3.6 percent in the Census. Less than 2 percent were from any other continent. For the respondents' parents, 68 percent of mothers and 64 percent of fathers were born in Australia or New Zealand, 13 percent of mothers and 13 percent of fathers were born in the United Kingdom or Ireland, 5 percent of mothers and 7 percent of fathers were born in Northern Europe, 7 percent of mothers and 7 percent of fathers were born in Southern Europe, and 5 percent of mothers and 5 percent of fathers were born in Asia. The vast majority of the sample was therefore of Australian English-speaking background. The sample was not obviously different from the 15-19 year age group in the 1986 Census (Australian Bureau of Statistics, 1986).

Design

An extended version of the two wave pilot test design was used in the main study. Wave 1 of the main study involved contacting and administering a large battery of questionnaires to the student sample prior to them finishing school in October 1985. Waves 2 to 5 each involved the mailing of a smaller follow-up questionnaire to the respondents at their home addresses. These follow-ups were mailed out at 12 week intervals in January, April, July, and October 1986.

A control group was added in the main study to examine retest effects. Approximately 10 percent of the sample was randomly selected (by having an identification number ending in zero) to receive only the final follow-up questionnaire at Wave 5. When the rest of the sample was sent the other three follow-up questionnaires, the control group was sent a reminder letter instead, that they were required to sign and return to the researcher. This was done so that a current address was confirmed for each member of the control group at each follow-up. Table 2.3 presents the design for the main study.

Table 2.3: Design of the Main Study.

Wave 1	Wave 2	Wave 3	Wave 4	Wave 5
group survey at school	mail-out 1	mail-out 2	mail-out 3	mail-out 4
October 1985	January 1986	April 1986	July 1986	October 1986
Control group received: questionnaire	reminder letter	reminder letter	reminder letter	questionnaire

Administration of Wave 1

During the month of October 1985 the researcher administered Wave 1 of the survey at the 10 colleges that agreed to participate. The administration procedure shown to be successful in the pilot test was followed as closely as possible, although restrictions imposed by some of the participating schools meant that the method varied somewhat in the sampling procedure. At five of the Colleges a random sample was obtained from English classes, as in the pilot test. This was the preferred sampling procedure, but unfortunately was not possible in all of the schools. In two of the Colleges the entire Year 12 population present on that day was included in the sample. In the final three Colleges the students were informed of the survey and requested to volunteer to participate. This was the least satisfactory of the sampling methods but was unavoidable due to the type of access to students allowed by the principals of these schools.

Once the students were assembled in a group to participate in the study, the same administration format was followed by the researcher in all schools. The researcher was introduced to each class or group by a teacher who then left the room. This was done to stress the confidentiality and independence of the study. The researcher then briefly explained the nature of the study: that it was a survey of the health and lifestyle of school leavers, assured the students of the anonymity and confidentiality of their responses, and asked the students to read and complete a contract (presented in Appendix I) stating that they would voluntarily comply with all components of the research. The students were also required to complete a form of contact names and addresses (presented in Appendix II) for the follow-ups, and to acknowledge and retain the change of address form (presented in Appendix III) that they were to return to the researcher should they move during subsequent waves of the survey. The students then spent the remainder of the 50 minute period completing the questionnaire. This was then handed to the researcher before they left the class.

Administration of Waves 2 to 5

The pilot test procedure was also followed at each of the four follow-up surveys in Waves 2 to 5 of the main study. Initially, a questionnaire and a stamped return envelope were mailed to each respondent's home address. Mailing out of the questionnaires at each wave was staggered over a two week period, with approximately 70 questionnaires mailed each week day. If a questionnaire was not returned within two weeks of mailing, the respondent was phoned to find out if they had received the questionnaire and to check the accuracy of the address. If they had received the questionnaire they were reminded to complete and return it. If they had moved and could be located, another questionnaire was mailed to their new address. If, after a further two weeks, a questionnaire was still not returned, this procedure was repeated. Those respondents for whom a current address could not be found were excluded from the remainder of the study. If a questionnaire was returned later than six weeks from first mailing it was excluded from the study, as this was beyond the time frame allotted to each follow-up. This method was repeated for each of the four follow-up waves of data collection.

Measures

The following measures were obtained at Wave 1 (a copy of the questionnaire used to obtain each measure is provided in Appendix IV):

1) Socio-demographic variables were age, sex, ethnic background, religion, and socio-economic status.

2) Symptoms were indicated by the 12-item General Health Questionnaire (Goldberg, 1972) and the anxiety and depression scales from the Delusions-Symptoms-States Inventory (Bedford, Foulds & Sheffield, 1976).

3) Perceived mental health status was measured with an item taken from the University of Newcastle Faculty of Medicine's Survey of the Social and Emotional Development of Adolescents (1983).

4) Help-Seeking was a question modified from the pilot data.

5) The life event instrument was similarly developed from the pilot study. At Waves 1 and 2 the respondents were also provided with a blank space where they could write down anything else important or distressing that had happened to them. This provided more qualitative evidence of the salient life events for these adolescents.

6) Health value was measured by adapting an instrument from Wallston et al (1976) and using values from Rokeach (1973), attitude to psychological illness by six items adapted from the Social Distance Index (Brockman & D'Arcy, 1978), and illness behavior by the Illness Behavior Questionnaire (Pilowsky & Spence, 1983).

7) Social Support was indexed by the availability of attachment, friendship, and frank and confiding relationship scales from the Interview Schedule for Social Interaction (Henderson et al, 1980). An item measuring loneliness was taken from the University of Newcastle Faculty of Medicine's Survey of the Social and Emotional Development of Adolescents (1983).

8) The personality traits of private self-consciousness, introspection and extraversion were assessed by the Private Self-Consciousness scale of the Self-Consciousness Scale (Fenigstein, Scheier & Buss, 1975) with wording adapted for an Australian community sample by Duncan-Jones and Goodchild (1983), the Introspection Scale (Hansell & Mechanic, 1985), and a 16-item version of the Eysenck Personality Inventory (Eysenck & Eysenck, 1964; adapted by Duncan-Jones, 1984).

At each of the four follow-up mail-outs, symptoms, perceived mental health status, help-seeking and life events were again measured, providing data for these measures at all five times points. To obtain longitudinal data on the other measures, additional instruments were included at each follow-up. Table 2.4 presents the measures that were obtained at each wave. At Wave 2 no additional measures were

taken, and only symptoms, perceived mental health status, help-seeking and life events were measured. At Wave 3 social support and loneliness measures were added. Wave 4 included attitude to psychological illness, private self-consciousness and introspection measures. The final follow-up in Wave 5 added measures of extraversion and illness behavior.

Table 2.4: Measures Taken at Each Wave.

Wave 1	Wave 2	Wave 3	Wave 4	Wave 5
	Mail-Out 1	Mail-Out 2	Mail-Out 3	Mail-Out 4
Socio-demographic Variables				
Symptoms	Symptoms	Symptoms	Symptoms	Symptoms
Help-Seeking	Help-Seeking	Help-Seeking	Help-Seeking	Help-Seeking
Perceived Mental Health Status	Perceived Mental Health Status	Perceived Mental Health Status	Perceived Mental Health Status	Perceived Mental Health Status
Life Events[a]	Life Events[a]	Life Events	Life Events	Life Events
Health Value				
Attitude to Psychological Illness			Attitude to Psychological Illness	
Illness Behavior				Illness Behavior
Social Support		Social Support		
Loneliness		Loneliness		
Private Self-Consciousness			Private Self-Consciousness	
Introspection			Introspection	
Extraversion				Extraversion

[a]More qualitative evidence of adolescent life events were elicited along with the event checklist.

Conclusion

A pilot test was used to refine measures and procedures for the main study. Results of the pilot test indicated that a mail-out survey was an appropriate way to proceed to obtain longitudinal data. In the main study, there were five waves of data collection, each 12 weeks apart. The first wave comprised group testing of the adolescents while still at school, and the subsequent waves were mail-outs to the respondent's homes. Measures were repeatedly collected at each wave, with symptoms, perceived mental health status, life events and help-seeking measured at each wave. A control group was included in the design to examine retest effects.

The next chapter statistically describes each of the measures taken at each wave. It also describes this sample of adolescents in terms of the hypothesised predictors of help-seeking; socio-demographic variables, symptoms, perceived mental health status, life events, health attitudes, values and beliefs, social support and the personality traits of extraversion, private self-consciousness and introspection.

Chapter 3

Description of Sample and Measures

A description of the sample and basic descriptive statistics for each of the measures are provided in this chapter. The response rates for the follow-up mail-out questionnaires are presented and differences between those respondents who did and who did not complete all four follow-ups are examined. Significant differences between these groups limit the conclusions that can be drawn from the longitudinal data. The control group, who received only the final mail-out questionnaire, is compared with the rest of the sample in the main study to examine whether retest effects had a significant impact on the longitudinal data. Descriptive statistics for each of the variables measured are then presented. These statistics are used to assess whether the measures chosen were reliable and stable indicators of the constructs. Gender was expected to significantly affect several variables, so the gender effect for each measure is presented. Changes in the measures over time are also examined along with the interrelationships of the independent variables.

Response Rates

Attrition is a major problem of both panel data and mail-out surveys (Lievesley & Waterton, 1985). In a review of response rates in panel data, Cordray and Polk (1983) conclude that '...when the panel calls for multiple contact waves, and passes through major life transitions such as leaving high school and entering either college or adult work roles, and where direct contact is maintained with respondents, the common experience suggests that the loss rate will be somewhere between ten and twenty percent at the minimum' and that '...loss rates in the 40 to 50 percent range are not uncommon' (p.221). In the present survey most of these factors are relevant; the data is panel data most of which was collected by mail survey and the respondents were passing through the major life transition of leaving high school.

In the main study, 715 students were initially involved in the survey. Of these, 77 (10 percent) were placed in the control group to receive only the final follow-up questionnaire at Wave 5, leaving 638 to respond to all four follow-up mail-outs. Table 3.1 provides the response rates for each follow-up and for the control group.

Table 3.1: Response Rates for Main Study.

Wave	Number of Respondents	Number of Possible Respondents	Percent
Wave 2	523	638	82
Wave 3	404	638	63
Wave 4	409	638	64
Wave 5	401	638	63
Control Group	52	77	67

The response rates attained for the follow-ups in this survey compare favorably with those reviewed by Cordray and Polk (1983). However, in a panel study, attrition is not a linear event. For example, in the current study, some people may have responded at the second and fourth wave, but not at the third and fifth. Respondents remained on the mailing list even though they had not returned the previous mail-out. This maximised the response rate for each individual mail-out. The number of students who returned all four follow-up mail-outs was 339. There was, therefore, a complete data set available for 53.1 percent of the sample (excluding the control group).

Respondent loss is generally not random (Cordray & Polk, 1983). To determine the extent of response bias in the present study, those who complied with the entire survey by completing all four follow-up questionnaires were compared with non-compliers who did not return a complete data set. Two-tailed independent t-tests and Chi-Square tests were used to compare compliers with non-compliers on

each of the measures taken at Wave 1. Those who did and did not comply with the survey differed on a number of measures. Respondents with complete data sets were more likely to be female (X^2=30.68, p<.001), with 62.6 percent of the girls and 40.4 percent of the boys returning complete data sets; have fewer life events (t=2.33, p<.05), with mean life event scores of 4.04 for compliers and 4.61 for non-compliers; be less extraverted (t=2.59, p<.01), with mean extraversion scores of 4.85 for compliers and 5.26 for non-compliers; be more introspective (t=-2.34, p<.05), with mean introspection scores of 41.98 for compliers and 40.34 for non-compliers; have less fear of the stigma attached to being psychologically ill (t=2.73, p<.01), with mean fear of stigma scores of 1.88 for compliers and 2.20 for non-compliers; and finally, to be more likely to have engaged in help-seeking from friends and family, but not from professional services (see Table 3.2).

Table 3.2: Help-Seeking Differences in Number of Respondents.

	Number With Complete Data (n=339)	Number With Incomplete Data (n=299)	Chi-Square
From Friends:			
No help-seeking	115	130	
Help-seeking	224	169	6.13*
From Family:			
No Help-seeking	221	232	
Help-seeking	118	67	11.87***
From Professionals:			
No Help-seeking	303	277	
Help-seeking	36	22	2.04 ns

statistically significant at *p<.05 **p<.01 ***p<.001

The measures that were shown by the bivariate analyses to be significantly associated with compliance were entered in a logistic regression analysis as predictors of compliance. Table 3.3 presents the parameter estimates for the predictors of compliance. Gender, extraversion, life events and help-seeking from family emerged as significant predictors in the multivariate analysis. Because all the predictors were intercorrelated some of the variables that attained significant effects in the bivariate analyses did not retain these effects in the multivariate model.

Table 3.3: Parameter Estimates for the Predictors of Compliance.

Measure	b	SE
gender	.78***	.18
stigma	-.50	.31
life events	-2.40*	1.20
introspection	.65	.59
extraversion	-.99**	.34
help-seeking (friends)	-.02	.20
help-seeking (family)	.49*	.19

statistically significant at *p<.05 **p<.01 ***p<.001

A profile of those respondents who did not comply with the entire survey showed them as males, as being more extraverted, as having more life events, and as being less likely to share problems with their family. Such people may be less concerned about their own mental health and mental health in general and, as a result, be uninterested in a survey of mental health and therefore less compliant.

In conclusion, the sample for the first wave of cross-sectional data differs from the complete longitudinal sample in systematic ways and these differences must be kept in mind when examining the longitudinal data. In general, the longitudinal data are biased toward girls and those who are more interested in their own mental health.

Control Group

A control group was included in the design to test for retest effects in the longitudinal data. Repeated testing of the rest of the sample may have affected their responses on the questionnaire. The control group received only the final follow-up mail-out questionnaire at Wave 5. The response rate for the control group is presented in Table 3.1 and is comparable with the response rates for the remainder of the sample. To determine whether the control group differed from the rest of the sample, and whether retest effects were therefore a problem, two-tailed independent t-tests were used to compare the respondents in the control group with those in the rest of the sample on all the measures at both Wave 1 and Wave 5. Confirming that there were no biases in the selection of the control group, no significant differences were found for any measure between the control group and the repeatedly tested group at Wave 1.

At Wave 5 there was a significant difference between the control group and the remainder of the sample on only one measure; the life event scale ($t=-4.81$, $p<.001$). Respondents in the control group reported significantly more life events, with a mean score of 5.26 life events, compared with 2.78 life events for the rest of the sample. A possible reason for this difference is the time interval considered for endorsing life events. The control group may have been less constrained in their time frame. While those in the rest of the sample were instructed to consider only the time period since they had last completed a questionnaire (3 months ago), the control group did not have such a salient reference point at Wave 5. Even though they were instructed to consider only the past three months, like the rest of the sample, they did not have the reference point of the previous mail-out and so may have included life events over a longer period of time. This seems a more likely explanation for this difference than it being a true retest effect, given that there are no significant differences on any of the other measures. Retest effects do not appear to be a major problem for the longitudinal data for those measures for which retest effects could be examined (not all measures were retested at Wave 5).

Description of Measures and Sample

The following section provides descriptive statistics for each of the measures, and describes this sample of adolescents in terms of each of the major predictors. Gender and time effects for each measure are also examined. The mean, standard deviation, Cronbach alpha reliability coefficient (Cronbach, 1951) and number of cases are presented for each measure in Table 3.4.

Table 3.4: Scale Statistics for Measures.

Wave	mean	standard deviation	Cronbach alpha reliability	n
Socio-economic status				
Wave 1	6.62	2.77	.70	601
Availability of frank and confiding relationships				
Wave 1	2.74	1.15	.60	715
Wave 3	2.71	1.16	.63	403
Availability of attachment				
Wave 1	5.99	1.73	.65	714
Wave 3	6.06	1.78	.71	403
Availability of friendship				
Wave 1	3.69	1.73	.70	715
Wave 3	3.57	1.72	.71	402
Attitude to Psychological Illness				
Wave 1	4.04	1.57	.64	710
Wave 4	4.26	1.58	.66	401
Fear of Stigma				
Wave 1	2.00	1.45	.64	714
Wave 5	1.58	1.40	.70	453
Health Concern				
Wave 1	1.38	1.68	.66	714
Wave 5	1.21	1.79	.75	453

continued ...

Note. These scale statistics were computed on the total sample obtained at each wave. The means presented in subsequent tables, where measures are compared over time, were computed for the longitudinal sample only (those who completed all five waves) so that comparisons could be made over time. This accounts for differences in the means presented here and in subsequent tables.

Table 3.4: Continued.

Wave	mean	standard deviation	Cronbach alpha reliability	n
Life Events				
Wave 1	4.38	3.21		715
Wave 2	3.81	3.11		523
Wave 3	3.63	2.74		404
Wave 4	3.33	2.92		409
Wave 5	3.07	3.06		453
Extraversion				
Wave 1	5.03	2.00	.64	713
Wave 5	5.21	2.07	.69	453
Introspection				
Wave 1	41.31	8.91	.91	715
Wave 4	43.64	8.80	.90	409
Private Self-Consciousness				
Wave 1	34.12	9.34	.77	715
Wave 4	35.57	8.93	.78	409
General Health Questionnaire				
Wave 1	2.45	2.91	.85	714
Wave 2	1.86	2.64	.87	523
Wave 3	1.69	2.44	.85	404
Wave 4	2.39	2.90	.88	409
Wave 5	2.04	2.81	.88	452
Depression				
Wave 1	3.14	3.47	.84	715
Wave 2	2.21	2.94	.84	521
Wave 3	1.70	2.32	.80	403
Wave 4	2.53	2.99	.82	409
Wave 5	2.19	3.13	.86	453
Anxiety				
Wave 1	3.56	3.27	.79	715
Wave 2	2.61	2.73	.76	521
Wave 3	2.22	2.37	.72	403
Wave 4	3.20	3.28	.81	409
Wave 5	2.47	2.95	.82	453
Perceived mental health status				
Wave 1	.99	.93		715
Wave 2	.83	.82		521
Wave 3	.78	.87		403
Wave 4	.87	.90		409
Wave 5	.78	.90		453

Socio-Demographic Measures

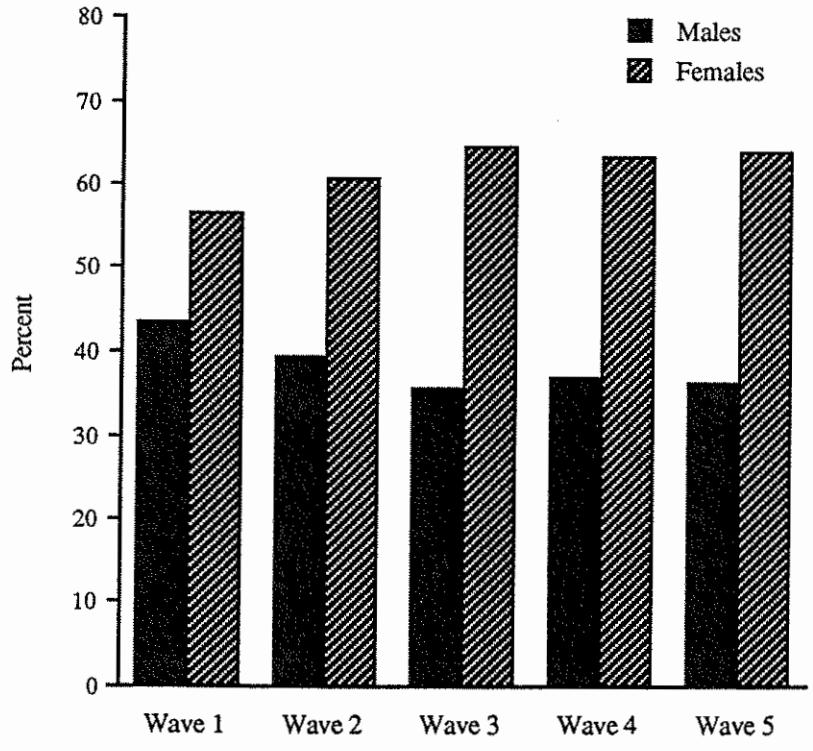
Age

The mean age of the respondents at Wave 1 was 17.4 years and their ages ranged from 16 to 19 years. Mature-age students older than 19 were excluded from the study because they were no longer adolescents.

Gender

The full sample at Wave 1 consisted of 311 (44 percent) males and 404 (56 percent) females. The greater number of females was due to the inclusion of an all girl Catholic school without the inclusion of an all boy Catholic school. Figure 3.1 presents the percentage of the sample who were male and female at each wave. Girls considerably outnumbered boys at each time. The follow-up waves include a greater proportion of females compared with males because girls were more likely to comply by responding to the follow-up questionnaires.

Figure 3.1: Percentage of the Sample Who Were Male and Female at Each Wave.



Socio-Economic Status

Socio-economic status was measured by combining items indicating father's occupation, father's education and mother's education. This yielded a scale that could range from 0 to 10 with a higher score indicating higher socio-economic status. The mean level of socio-economic status was 6.62 (scale statistics are presented in Table 3.4). Table 3.5 shows that the sample was generally quite high in socio-economic status with 20 percent sample scoring at the highest level, indicating that the father worked in a professional occupation and both the mother and father had a university or equivalent education. Only 1 percent of the sample scored at the lowest level where the father was unemployed and both father and mother did not complete high school. The socio-economic status of this sample was, therefore, comparable with the 1986 Census data which shows that socio-economic status is generally high in the ACT (Australian Bureau of Statistics, 1986).

Table 3.5 also shows considerable missing data for the socio-economic status measure. This occurred because one of the items that made up the measure (mother's education) was inadvertently omitted from the questionnaire for an entire school of 114 female respondents. Given the homogeneity of the Canberra population and the significant proportion of missing data, socio-economic status was not included in subsequent analyses.

Table 3.5: Distribution of Socio-Economic Status Scores.

	SES Score	n	percent
father unemployed, father and mother did not complete high school	0	9	1.3
	1	21	2.9
	2	27	3.8
	3	31	4.3
	4	48	6.7
	5	76	10.6
	6	73	10.2
	7	51	7.1
	8	88	12.3
	9	31	4.3
father professional, father and mother completed university	10	146	20.4
	missing	114	15.9

Social Support

Availability of Social Support

Three measures of social support were attained from the availability of frank and confiding relationships (AVFC), availability of attachment (AVAT), and availability of friendship (AVFR) scales from the Interview Schedule for Social Interaction (Henderson et al, 1980). Frank and confiding relationships were measured by a 4-item scale yielding a possible score between 0 and 4, attachment was measured by an 8-item scale yielding a possible score between 0 and 8, and availability of friendship was measured by a 6-item scale yielding a possible score between 0 and 6. For each scale a higher score indicated more availability of social support.

Scale statistics for these measures are presented in Table 3.4. Each scale was shown to be a reliable measure by high Cronbach alpha reliability coefficients[1] of 0.60 for frank and confiding relationships, 0.65 for attachment, and 0.70 for friendship at Wave 1. Duncan-Jones (1981) reported alpha reliabilities of 0.71, 0.64 and 0.54 for attachment, friendship and frank and confiding relationships, respectively.

Most studies of social support show that adolescents have ample social contact (Goswick & Jones, 1982). Henderson et al (1980) gave a mean of 6.10 for availability of attachment in their 18 to 24 year old age group[2]. This compares with mean scores of 5.99 at Wave 1 and 6.06 at Wave 3 obtained in this sample. Means of 2.74 for frank and confiding relationships and 3.69 for friendship at Wave 1 also indicate that availability of social support was quite high.

Overall, for these adolescents, there was considerable availability of social support. At Wave 1, only 5.9 percent reported no availability of frank and confiding

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1 . Statistics will be presented for Wave 1 measures unless there is some variation at retesting.

2 . Comparable means were not given for availability of friendship and availability of frank and confiding relationships, as these scales were subsequently developed by Duncan-Jones (1981).

relationships. For attachment and friendship, only 2.1 and 3.1 percent, respectively reported no availability. This contrasts with 30.1 percent reporting the most availability of attachment, and more than 50 percent reporting the most availability of both frank and confiding relationships and friendship at Wave 1. The same pattern was also evident at Wave 3.

Henderson et al (1980) reported significant gender differences in social support. Differences were found between males and females in these data for availability of attachment ($F=44.62$, $p<.001$) and availability of frank and confiding relationships ($F=14.10$, $p<.001$), but not availability of friendship. Table 3.6 presents the mean social support scores by gender and wave. This shows that girls had more availability of both attachment and frank and confiding relationships at each wave.

Henderson et al (1980) also reported that social support was quite stable over time with product-moment correlations of more than 0.85 between 'true scores' over 4, 8 and 12 month periods. The product-moment correlations presented here in Table 3.6 for each of the social support measures over 9 months are much lower (these are not 'true scores' as there is no correction for measurement error, however). A repeated measures analysis of variance revealed no significant differences in the mean scores over time, indicating that social support was relatively stable for the group as a whole.

Table 3.6: Mean Social Support Scores by Gender and Wave.

	Male	Female	Total
Availability of frank and confiding relationships			
Wave 1	2.52	2.86	2.75
Wave 3	2.36	2.87	2.70
	r=.57***	r=.37***	r=.49***
Availability of attachment			
Wave 1	5.32	6.30	5.98
Wave 3	5.16	6.48	6.05
	r=.63***	r=.43***	r=.57***
Availability of friendship			
Wave 1	3.64	3.68	3.67
Wave 3	3.41	3.56	3.51
	r=.55***	r=.56***	r=.56***

statistically significant at ***p<.001

The availability of social support scales were also significantly intercorrelated when measured at the same time. These high correlations are due, in part, to the scales sharing some items. Availability of frank and confiding relationships is particularly highly correlated with the other two availability measures. These intercorrelations are presented in Table 3.7. Only one measure of social support, availability of frank and confiding relationships, was selected to be used as the measure of availability of social support for the analyses of help-seeking behavior. It was anticipated that availability of frank and confiding relationships specifically, rather than more general social support in terms of friendship and attachment, would be most relevant to help-seeking. Other studies have shown that a confiding relationship is a protective factor against illness (Brown, Bhrolchain & Harris, 1975; Miller & Ingham, 1976) and confiding support has been found to discriminate users and non-users of services (Greenley, Mechanic & Cleary, 1987).

Table 3.7: Intercorrelations of Social Support Scales.

	Frank & Confiding	Attachment
Wave 1		
Attachment	.57	
Friendship	.79	.40
Wave 3		
Attachment	.64	
Friendship	.78	.44

all statistically significant at $p<.001$

Loneliness

One item in the questionnaire measured whether the respondents felt lonely or not. Table 3.8 shows the proportion of respondents who reported feeling lonely at Waves 1 and 3. At both times the majority of the sample reported feeling lonely, which supports findings of other research of adolescent loneliness (Ostrov & Offer, 1978; Goswick & Jones, 1982). Adolescence has been shown to be the stage of life when feelings of loneliness are at a peak (West, Kellner & Moore-West, 1986;

Wildermuth, 1990). Most of this group of young adults experienced feelings of loneliness, despite having plenty of social support available, which is also typical of adolescents. Gender differences are generally not found for reports of loneliness (Ostrov & Offer, 1978; Hansell, Mechanic & Brondolo, 1986; West, Kellner & Moore-West, 1986). This was confirmed in this sample by a non-significant Chi-Square test which showed that there was no difference between the number of boys and girls who reported feeling lonely at either time.

Loneliness can be situational or chronic (Wildermuth, 1990). For these adolescents, loneliness was shown to be significantly correlated over a 6 month period, indicating that such feelings are quite stable. However, a Chi-Square analysis revealed that the number who reported feeling lonely differed significantly over time (X^2=.24, p<.001), with fewer respondents reporting feeling lonely at the second time point. Loneliness generally declines slowly over time as people mature (Wildermuth, 1990).

Table 3.8: Proportion of Respondents Reporting Feeling Lonely by Gender and Wave.

	Male	Female	Total
Wave 1	.65	.69	.68
Wave 3	.57	.63	.61
	r=.30***	r=.36***	r=.34***

statistically significant at ***p<.001

Attitude, Value and Belief Measures

Attitude to Psychological Illness

Attitude to psychological illness was measured by 6 items adapted from the Social Distance Index (Brockman & D'Arcy, 1978). Possible scores could range from 0 to 6, with higher scores indicating a more positive attitude to psychological illness, in terms of accepting closer social distance with those who are

'psychologically ill'. An alpha reliability of 0.64 at Wave 1 (presented in Table 3.4) shows that the scale exhibited good internal consistency.

Most of the respondents expressed a positive attitude to psychological illness, with 64 percent of the sample scoring between 4 and 6 on the scale. Only 16 percent expressed a negative attitude by scoring between 0 and 2. Although there is no directly comparable data available because this scale was adapted for the present purposes, Brockman and D'Arcy (1978) reported that younger people generally had more positive attitudes to mental illness.

Brockman and D'Arcy (1978) and Taylor and Dear (1981) found that attitude to mental illness was not related to gender. In the current data, a slightly different measure yielded a significant gender by time interaction in a repeated measures analysis of variance ($F=6.82$, $p<.01$). An examination of the means presented in Table 3.9 reveals that boys' attitudes became significantly more positive over time while the girls' attitudes were relatively stable. The Pearson product-moment correlations also indicate that the girls' attitudes were more stable over time than the boys'. By Wave 4 the boys had significantly more positive attitudes than the girls. Repeated exposure to a questionnaire on mental health may have positively altered these boys' attitudes. This could not be confirmed, however, because attitude to psychological illness was not measured at Wave 5 when the control group was retested.

Table 3.9: Mean Attitude to Psychological Illness Scores by Gender and Wave.

	Male	Female	Total
Wave 1	4.02	4.12	4.09
Wave 4	4.51	4.15	4.27
	r=.45***	r=.60***	r=.54***

statistically significant at ***p<.001

Health Value

Value placed on health, both mental and physical, was measured by adapting a procedure from Wallston et al (1976) and rating 12 of Rokeach's (1973) terminal values. Health could be rated as a respondent's first, second, third or fourth most important value or not rated at all (not included in the respondent's first four values). Table 3.10 presents the number of respondents who valued health at each level. These data were then dichotomised into those who highly valued their health (included health in their first four values) and those who did not highly value their health (did not include health in their first four values).

Less than half the respondents (43 percent) did not highly value their health and 14 percent rated health as their first value. The only concept more highly valued than health was friendship. The data show that good health was highly valued by these adolescents, despite the fact that most had experienced few health problems.

Wallston et al (1976) found no gender difference in value placed on health. This was supported in the present data by a non-significant Chi-Square test comparing males and females who did and did not highly value health. Adolescent boys and girls do not differ in the proportion who highly value their health.

Health value was only measured at Wave 1 as these values have been shown to be stable over time (Braithwaite & Scott, 1991).

Table 3.10: Health Value Ratings.

	Number of Respondents	Percent
Health rated as:		
first value	98	13.8
second value	123	17.3
third value	99	13.9
fourth value	86	12.1
not included in first four values	305	42.9

Illness Behavior

The Illness Behavior Questionnaire (Pilowsky & Spence, 1983) was developed to investigate abnormal illness behavior and designed to elicit inappropriate health responses. While the scales as a whole, developed for use with adults, were not particularly appropriate for an investigation of adolescent help-seeking behavior, many of the items had face validity that appeared to measure relevant health behavior and beliefs.

The factor structure of the Illness Behavior Questionnaire in this adolescent sample was investigated in some detail using latent trait modeling (binary factor analysis). Following the work of Goldberg et al (1987) all 35 items were initially subjected to exploratory modeling using a robust form of latent trait analysis based on the work of McDonald (1985) and incorporated in the NOHARM II computer program.

Although the factor structure of the complete set of 35 items was obscure, it was possible to fit a three-factor model to a subset of the items. A one-factor model gave a Goodness of Fit (GF) of 0.771 and a Root Mean Square of Residuals (RMS) of 0.137-001. A two-factor model gave a GF of 0.738 and RMS of 0.131-001, a three-factor model gave a GF of 0.757 and RMS of 0.134-001, and a four-factor model gave a GF of 0.732 and a RMS of 0.130-001. This suggested that a three-factor model would best fit the data.

A three-factor model was then fitted to the 24 items with significant factor loadings from the exploratory model. This gave a GF of 0.439 and RMS of 0.954-002. The three-factor model consisted of one orthogonal and two correlated factors. The orthogonal factor was composed of items 31 to 35 and was labeled fear of stigma attached to being psychologically ill. Of the two correlated factors, one consisted of items 1 through 10, which were items related to fear of disease and worry about health, and was labeled health concern. The other correlated factor consisted of items 16 to 19 and 21 to 25, which were items about how difficult a person was as a patient and how they expected to be treated by others when ill, and

was labeled behavior when ill. This last factor was very difficult to interpret, however. There were also no hypotheses relating it to help-seeking behavior and so it will not be further considered. Fear of the stigma attached to psychological illness and health concern seemed to be particularly relevant dimensions of illness behavior in terms of predicting help-seeking (Amato & Bradshaw, 1985).

The fear of stigma scale yielded a possible score between 0 and 5 with a higher score indicating more fear. This scale exhibited good internal consistency with an alpha reliability coefficient of 0.64 at Wave 1. Table 3.4 presents the scale statistics.

There was no strong modal trend in fear of stigma for these adolescents. No fear of stigma was reported by 16.9 percent of the sample at Wave 1 and 28.0 percent at Wave 5, while a great deal of fear was reported by 18.6 percent and 11.7, respectively. A repeated measures analysis of variance revealed a significant effect of both gender and time. An examination of the mean scores presented in Table 3.11 reveals that girls exhibited less fear of stigma attached to psychological illness than boys ($F=45.52$, $p<.001$) and that fear of stigma decreased significantly over time ($F=21.56$, $p<.001$).

Table 3.11: Mean Fear of Stigma Scores by Gender and Wave.

	Male	Female	Total
Wave 1	2.52	1.58	1.88
Wave 5	2.18	1.27	1.56
	r=.54***	r=.62***	r=.63***

statistically significant at ***p<.001

Scores on the health concern scale could range between 0 and 10 with a higher score indicating greater concern with health. The scale statistics presented in Table 3.4 show that this scale also exhibited high internal consistency with a scale reliability of 0.66 at Wave 1.

Table 3.4 also shows that the health concern scores were generally very low, with a mean of 1.38 at Wave 1 and 1.21 at Wave 5, for the full sample available at each time. About half the sample (41.4 percent at Wave 1 and 50.3 percent at Wave 5) reported no concern about their health on this scale. Table 3.12 presents the mean health concern scores (for the longitudinal sample) by gender and wave. Like health value, there was no gender difference in health concern. Another measure of health concern in adults found that women exhibited greater health concern than men (Hibbard & Pope, 1983). A repeated measures analysis of variance did reveal a significant time effect, however ($F=4.30$, $p<.05$). Mean health concern scores decreased significantly over time, showing that there was less concern with health 12 months later. Health concern was also significantly correlated over time, indicating that those who were more concerned with their health at Wave 1 were also more concerned with their health later.

Table 3.12: Mean Health Concern Scores by Gender and Wave.

	Male	Female	Total
Wave 1	1.06	1.48	1.34
Wave 5	1.00	1.17	1.11
	r=.57***	r=.55***	r=.55***

statistically significant at ***p<.001

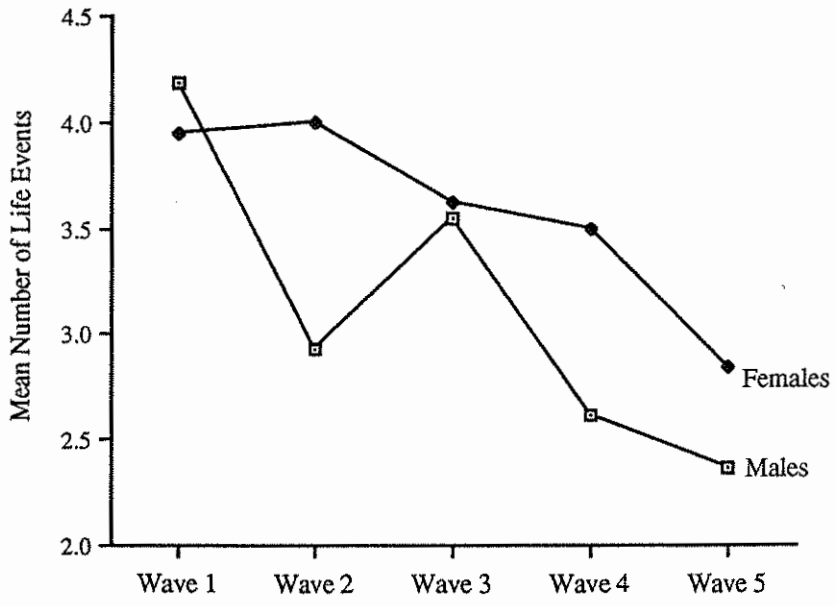
Life Events

A sum of the number of life events endorsed on a checklist of 45 events comprised the life event measure. That adolescents are constantly under considerable stress due to their stage in the life cycle (Bruns & Geist, 1984) was confirmed for this group of young people. Very few adolescents experienced no life events at all at each time; 7.8 percent at Wave 1, 12 percent at Wave 2, 8.7 percent at Wave 3, 13 percent at Wave 4, and 15.9 percent at Wave 5. The majority of the

sample experienced 1 to 5 life events at each wave.

Previous research of adolescent life events has not found gender differences in total scores although there are obviously differences for individual events (Newcomb et al, 1981;1986). In the present study, a repeated measures analysis of variance revealed a significant gender by time interaction ($F=5.12$, $p<.001$). Girls reported significantly more life events than boys at Waves 2 and 5, while gender differences were non-significant at all other Waves.

Figure 3.2: Mean Life Event Scores by Gender and Wave.



The number of life events were also significantly intercorrelated over time. These correlations are presented in Table 3.13. Those adolescents who reported more life events at one time point also reported more life events at each of the other times over the 12 months.

Table 3.13: Intercorrelations of Life Event Scores Over Time.

	Wave 1	Wave 2	Wave 3	Wave 4
Wave 2	.37			
Wave 3	.26	.53		
Wave 4	.24	.41	.56	
Wave 5	.32	.45	.40	.52

all statistically significant at p<.001

Personality Measures

Extraversion

Extraversion was measured using a shortened 8-item version of the extraversion scale from the Eysenck Personality Inventory (Eysenck & Eysenck, 1964; adapted by Duncan-Jones, 1984). This version was found to be a valid and reliable instrument for an Australian general population (Duncan-Jones, 1984). The shortened version yielded a possible score between 0 and 8, with a higher score indicating greater extraversion. A Cronbach alpha reliability coefficient of 0.64 for the shortened version at Wave 1 compares favorably with an alpha of 0.72 obtained for the full instrument which was used in the pilot test. Duncan-Jones (1984) reported an alpha reliability coefficient of 0.67 for the shortened version in an Australian adult population.

In general, this sample of adolescents was high on the trait of extraversion. At Wave 1 only 12.2 percent had very low scores of 2 or less and 26.5 percent had very high scores on the trait of 6 or more. This was confirmed by comparing the mean extraversion score of 15.19 for the pilot group (using the full instrument) with

the norm of 13.44 reported for 20-year old students by Eysenck and Eysenck (1964). The mean of 13.40 reported by Duncan-Jones (1984) for the full instrument for an Australian adult population was also lower than the mean score in the pilot group. For the shortened version, Australian adults exhibited a mean of 3.93, which was less than the means of 5.03 and 5.21 reported respectively at Waves 1 and 4 for these adolescents.

Eysenck and Eysenck (1964) also reported that men generally score higher than women on the extraversion scale. In contrast, a repeated measures analysis of variance revealed that while these adolescent girls and boys were significantly different in their level of extraversion ($F=5.58$, $p<.05$), it was the girls who were significantly more extraverted than boys (see Table 3.14).

The analysis of variance also revealed that there was a significant change in extraversion scores over time ($F=8.48$, $p<.01$), with mean extraversion levels increasing over the 12 months. In one of the few other studies reporting changes in extraversion over time, Duncan-Jones (1984) also found an increase over 8 months. Respondents remained at a similar relative level, however, as evidenced by a Pearson product moment correlation coefficient of 0.70 for the adolescents measured here. Duncan-Jones found a similar level of stability ($r=.79$) for Australian adults.

Table 3.14: Mean Extraversion Scores by Gender and Wave.

	Male	Female	Total
Wave 1	4.47	5.03	4.85
Wave 5	4.78	5.27	5.11
	r=.64***	r=.72***	r=.70***

statistically significant at ***p<.001

Introspection

Introspection was measured using the Introspection Scale (Hansell & Mechanic, 1985), which consists of 12 items and yields a possible score between 0 and 60. Higher scores indicate greater introspection. The scale statistics in Table 3.4 show that this scale exhibited a very high reliability with a Cronbach alpha of 0.91 at Wave 1. This compares with reliability coefficients of 0.90 (Hansell, Mechanic & Brondolo, 1986) and 0.85 (Hansell & Mechanic, 1985) reported for other late adolescent samples.

Introspection scores were normally distributed in these adolescents, as has been found in other adolescent samples (Hansell & Mechanic, 1985). Mean scores were also similar to those reported by Mechanic and Hansell (1987a) for American adolescents. The mean introspection score for 16 year old Americans was 39.75 and for 17 and 18 year olds was 40.70. For these Australian adolescents the mean was 41.31 at Wave 1.

Girls generally report greater introspectiveness than boys (Mechanic & Hansell, 1987a), and a repeated measures analysis of variance revealed a significant gender effect in the current sample ($F=5.11$, $p<.05$). An examination of the means in Table 3.15 shows that girls were significantly more introspective than boys at both time points. Although changes in introspection over time have seldom been investigated empirically, introspectiveness is believed to increase during adolescence. In these data both boys and girls were more introspective 8 months later ($F=27.59$, $p<.001$). A high Pearson product moment correlation between scores over time also shows that those adolescents who were relatively high on the trait at one time were also high at the second measurement.

Table 3.15: Mean Introspection Scores by Gender and Wave.

	Male	Female	Total
Wave 1	40.30	42.78	41.98
Wave 4	42.58	44.25	43.71
	r=.72***	r=.75***	r=.74***

statistically significant at ***p<.001

Private Self-Consciousness

The private self-consciousness scale from the Self-Consciousness Scale (Fenigstein, Scheier & Buss, 1975) comprises 10 items and yields a possible score between 0 and 60. The higher the score the greater is private self-consciousness. Table 3.4 presents the scale statistics. The alpha reliability coefficient of 0.77 attained at Wave 1 is comparable with the reliability of 0.79 reported when the scale was constructed.

Like introspection, the private self-consciousness scores are normally distributed. The norms for American college students give a mean of 39.9 for females and 38.85 for males (note: these means have been rescored out of 60 rather than 40 to compare with the current data). These means are slightly higher than the mean of 34.12 found at Wave 1 in this Australian adolescent sample.

Unlike introspection, private self-consciousness does not usually exhibit a gender effect. In both American (Franzoi, 1983) and Australian (Duncan-Jones & Goodchild, 1983) samples, no gender effect has been found. Similarly, a repeated measures analysis of variance revealed no gender effect in the present data.

The analysis of variance did reveal a significant change in private self-consciousness over time ($F=6.77$, $p<.01$). Table 3.16 presents the mean private self-consciousness scores by gender and wave. Again, like introspection, private self-consciousness increased over the 8 month period and was greater at Wave 4 than at Wave 1.

Table 3.16: Mean Private Self-Consciousness Scores by Gender and Wave.

	Male	Female	Total
Wave 1	33.35	35.19	34.59
Wave 4	34.46	36.13	35.59
	r=.77***	r=.71***	r=.73***

statistically significant at ***p<.001

Comparison of Introspection and Private Self-Consciousness

Private self-consciousness and introspection are both measures of the same concept of self-attention, or internal monitoring of thoughts and feelings related to the self. In these data the two measures were strongly related, with highly significant Pearson correlation coefficients of 0.74 at Wave 1 and 0.76 at Wave 4. To simplify subsequent analyses, it was decided to concentrate on one measure. Although both scales were shown to be reliable and valid measures, private self-consciousness was chosen to be reported in the analyses of help-seeking behavior. The primary reason for choosing private self-consciousness over introspection was that the introspection measure used in this study has been superseded by a revised version (Hansell, Mechanic & Brondolo, 1986). It should be noted, however, that the effects of the introspection measure were also tested and similar results to those obtained with the private self-consciousness measure emerged.

Minor Psychiatric Disorder

Minor psychiatric disorder was assessed by three different indices; the 12-item General Health Questionnaire (Goldberg, 1972) and the anxiety and depression scales of the Delusions Symptoms States Inventory (Bedford, Foulds & Sheffield, 1976).

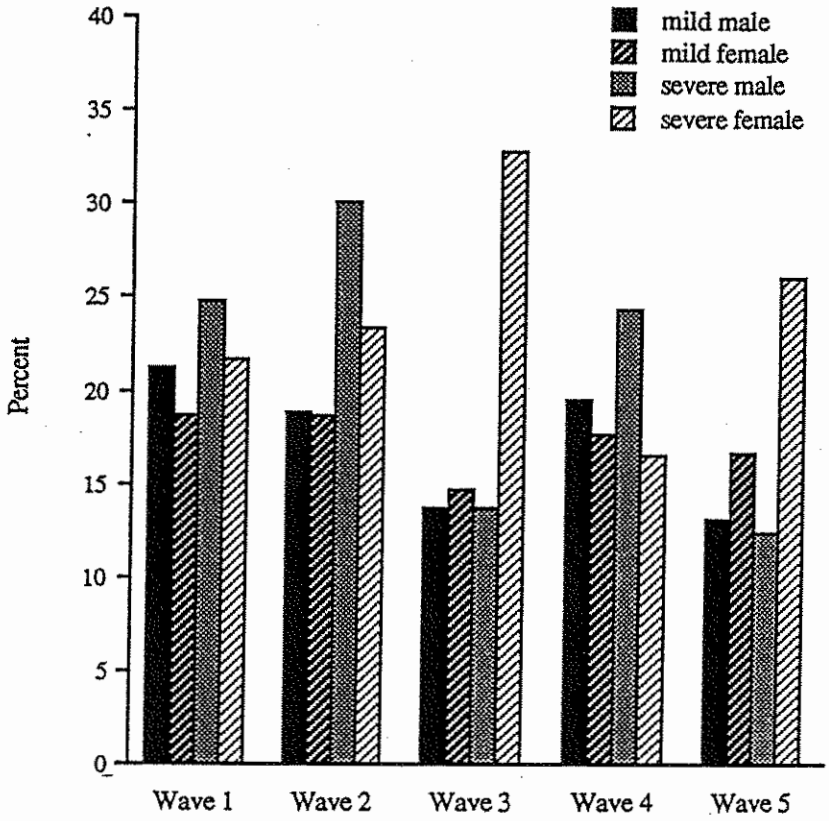
General Health Questionnaire

The 12-item GHQ yields a score with a possible range between 0 and 12 with high scores indicating a high probability of being a psychological 'case'. The scale shows good internal consistency, as evidenced by Cronbach's alpha reliability coefficients of over .80 at all time points (see Table 3.4). The GHQ, including the 12-item version, has been shown to be a reliable and valid instrument for measuring psychological distress in many varied populations (eg; Duncan-Jones & Henderson, 1978; Goldberg, 1981; Banks, 1983; D'Arcy & Siddique, 1984) including Australian adolescents (Winefield et al, 1989).

The GHQ score can be used to compute case rates or as an index of the severity of neurotic impairment (Duncan-Jones & Henderson, 1978; Goldberg, 1981). Case rates are computed from the scale score as follows: a score of 0 or 1 indicates a 'normal', a score of 2 or 3 indicates a mild case, and a score between 4 and 12 inclusive indicates a severe case (Goldberg, 1972). Using 2 or more as the definition of a case, Goldberg (1981) reports misclassification rates between 12.1 percent and 14.5 percent, and Tennant (1977) reports a misclassification rate of 10 percent when validating the instrument in an Australian population. A much higher misclassification rate of 27 percent was reported when validating the 12-item instrument for a young community sample in Britain (Banks, 1983).

Figure 3.3 shows the male and female case rates, both mild and more severe cases, at each time point. A large proportion of the respondents were classified as cases at each time point. At Wave 1 nearly half (47.6 percent) the sample were cases and over a quarter of the sample (27.7 percent) were cases at the more severe cut-off point. These prevalence rates are much higher than comparative rates, including both mild and severe cases, for Australian adult community samples. In the Gosford-Wyong and Illawarra areas, case rates of 25.7 percent and 22.4 percent, respectively, were found for those aged 15 and over (Shiraev & Armstrong, 1978). In Sydney adult samples, Klugman (1975) reported a prevalence of 24 percent for males and 36 percent for females and Andrews, Schonell & Tennant (1977) reported an overall rate of 24 percent. Adult rates in the Canberra community were somewhat higher, with Henderson et al (1979) reporting the prevalence rate for males in Canberra as 30.7 percent and for females as 30.4 percent. These rates are closer to those attained in this Canberra adolescent sample. In another Canberra sample of unemployed youth between 15 and 25, a much higher rate of 55.9 percent was found (Finlay-Jones & Eckhardt, 1982). Canadian adolescents were shown to have case rates of 29.6 percent for boys and 36.8 percent for girls (D'Arcy & Siddique, 1984). These Canberra adolescents, while exhibiting considerable psychological distress, are not unusually high in psychiatric morbidity for their age.

Figure 3.3: GHQ Case Rate by Gender and Wave.



A respondents' total score on the GHQ reflects the level of psychological impairment (Tennant, 1977). Table 3.17 presents the mean GHQ scores by gender and time.

Table 3.17: Mean GHQ Scores by Gender and Wave.

	Male	Female	Total
Wave 1	1.98	2.54	2.36
Wave 2	1.31	2.28	1.97
Wave 3	1.07	1.87	1.61
Wave 4	1.80	2.65	2.38
Wave 5	1.47	2.13	1.92

Both Figure 3.3 and Table 3.17 suggest that females have a higher case rate and more symptoms than males at most time points. The GHQ does not always yield a significant gender effect, unlike other measures of neurotic symptoms. In Australian adult samples some studies, like those of Finlay-Jones and Burvill (1977), Klugman (1975) and Shiraev and Armstrong (1978), have found that females were significantly more likely to be cases, while Henderson, Byrne and Duncan-Jones (1981) and Andrews, Schonell and Tennant (1977) found no significant gender differences. No gender difference in symptoms was found for South Australian adolescents (Winefield et al, 1989), but in Canadian adolescents the gender difference was substantial, with girls more distressed than boys (D'Arcy & Siddique, 1984). There does not seem to be an obvious pattern to the emergence of a gender difference. For example, using the 30-item instrument with adolescents while Winefield et al (1989) found no gender difference in an Australian sample, both Finlay-Jones and Eckhardt (1982) in Australia and D'Arcy and Siddique (1984) in Canada reported substantial differences. Gender differences were evident in both mean scores and case rates.

In the present data the gender difference was examined for case rates and mean scores. Chi-Square analyses on each of the 2x2 (gender x case rate) tables at each wave showed that girls were more often classified as a case than the boys at Waves 2 and 3 but not at Waves 1, 4 or 5. When only severe cases were considered, the girls were more often cases at all four mail-outs but not at Wave 1. Table 3.18 presents the Chi-Square statistics. Analysis of the mean scores, rather than case rates, using a repeated measures analysis of variance, showed that the main effect for gender was significant ($F=12.81$, $p<.001$), indicating that, in terms of symptom level, girls had significantly more symptoms than boys.

Table 3.18: Chi-Square Statistics for GHQ Case Rates by Gender.

	All Cases	Severe Cases Only
Wave 1	0.55	2.36
Wave 2	14.83***	8.91**
Wave 3	8.77**	5.27*
Wave 4	1.15	4.12*
Wave 5	3.10	5.40*

statistically significant at *p<.05 **p<.01 ***p<.001

The mean GHQ scores also appear to vary considerably over time. Psychological distress was most prevalent at Wave 1 and Wave 4. Wave 1 of the survey occurred in October just prior to the respondents leaving school and Wave 4 was in July of the following year. Distress peaked prior to finishing school and in the winter of the following year. The repeated measures analysis of variance confirmed that the mean GHQ scores were significantly different over the five time points by revealing a significant main effect for time ($F=7.51$, $p<.001$). An analysis of contrasts for repeated measures showed that each time point was significantly different from its subsequent time point. Other research has shown that the GHQ is generally not stable, but tends to show a decline in scores over time. Henderson et al (1981) and Tennant (1977) both report this decrease in symptoms over time, with more people moving from ill to well than in the opposite direction. In the present group of adolescents, this trend was also evident, but less consistent. While both the mean scores and overall case rates declined over time, there was a sharp decrease in psychological distress from Wave 1 to Wave 2, a lesser decrease from Waves 2 to 3, then a sharp rise at Wave 4, and another decrease at Wave 5.

Both the case rates and mean scores were significantly correlated over time, however, indicating that those who were distressed at one time were also more likely to be distressed at another. Table 3.19 presents the intercorrelations of the scale scores. It is interesting to note that the correlations are not higher for adjacent points in time than for longer time intervals. Other research suggests that people have a relatively stable level of symptoms (Duncan-Jones et al, 1990).

Table 3.19: Autocorrelations Over Time for GHQ Scale Scores.

	Wave 1	Wave 2	Wave 3	Wave 4
Wave 2	.38			
Wave 3	.26	.36		
Wave 4	.30	.34	.43	
Wave 5	.33	.47	.44	.47

all statistically significant at p<.001

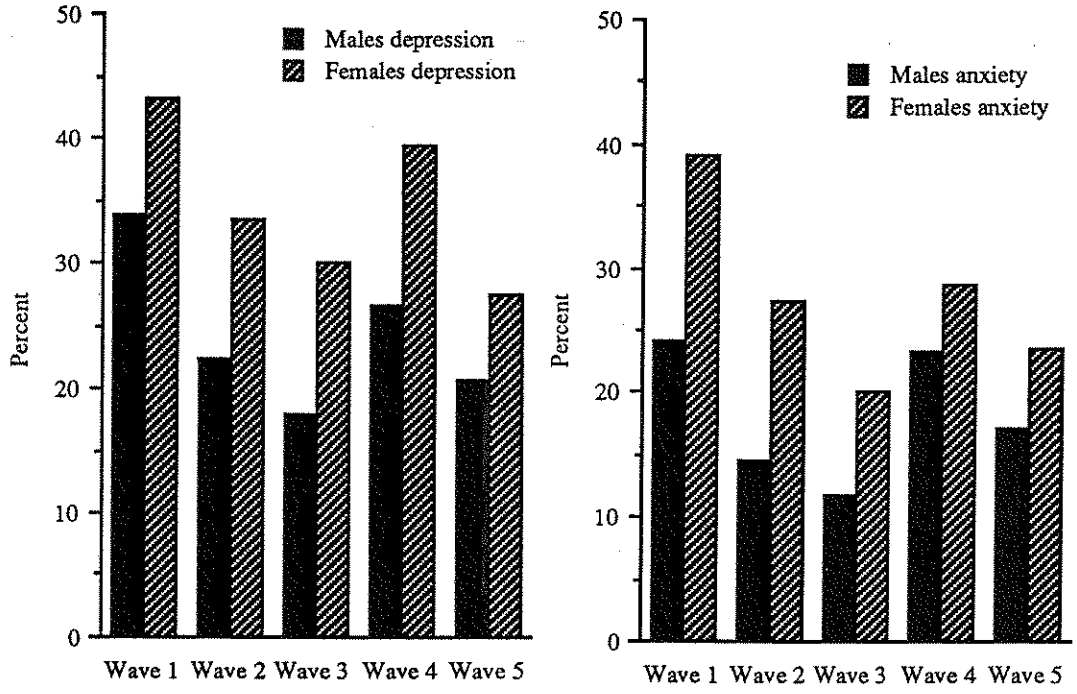
DSSI Depression and Anxiety

The pattern of prevalence shown by the GHQ symptom scores was generally supported by the two other symptom measures. Both depression and anxiety were measured by 7-item scales yielding a possible score between 0 and 21, with higher scores indicating more symptoms. Like the GHQ, the DSSI/sAD exhibited good internal consistency with alpha reliability coefficients of .84 for depression and .79 for anxiety at Wave 1 (see Table 3.4). The DSSI/sAD has been used less widely than the GHQ and has not been validated in as many populations (Morey, 1985). However, both Braithwaite (1990) and Henderson et al (1981) have validated its use with Australian adult populations.

A case on each these scales is indicated by a score of 4 or more (Bedford, Foulds & Sheffield, 1976). In developing the DSSI/sAD, Bedford, Foulds and Sheffield (1976) gave case rates for a sample of normal hospital personnel of 5 percent for men and 6 percent for women for anxiety, and 5 percent for both men and women for depression. In the adolescent sample studied here, the case rates were considerably higher. For anxiety, rates ranged from 17.9 to 33.8 percent for boys and 27.7 to 43.1 percent for girls. For depression, rates ranged from 11.7 to 24.1 percent for boys and 23.5 to 39.1 percent for girls. Figure 3.4 presents the case rates by gender and time. Another Canberra study, with an adult rather than adolescent population, reported case rates for anxiety of 15.8 percent for men and 16.1 percent for women, and for depression of 7 percent for men and 12.6 percent

for women (Henderson, Byrne & Duncan-Jones, 1981). While these case rates are somewhat higher than the 'norms' provided by Bedford, Foulds and Sheffield (1976), they are still less than half those found in this adolescent sample.

Figure 3.4: Depression and Anxiety Case Rates by Gender and Wave.



The gender effect in psychological distress was expected to be most pronounced for depression. That women report substantially more depression than men in all age groups has been well documented in the literature (Rosenfield, 1980; Murphy, 1986). This effect is not always present for anxiety. Henderson, Byrne and Duncan-Jones (1981), for example, did not find a significant gender effect for anxiety in their study of Canberra adults, although there was a strong gender effect for depression.

Figure 3.4 suggests that females had higher case rates than males for both depression and anxiety at all five time points. Chi-Square analyses of each of the 2x2 (gender x case) tables at each wave revealed that these differences were significant at Waves 1, 2 and 3 for depression and at the first four waves for anxiety. At other times, the gender difference was in the expected direction but did not reach significance. These Chi-Square statistics are presented in Table 3.20.

Table 3.20: Chi-Square Statistics for Depression and Anxiety Case Rates by Gender.

	Depression	Anxiety
Wave 1	17.98***	6.40*
Wave 2	11.93***	7.47**
Wave 3	4.58*	7.22**
Wave 4	1.33	6.78**
Wave 5	2.61	2.68

statistically significant at *p<.05 **p<.01 ***p<.001

Like the GHQ, the DSSI/sAD scores can also be interpreted as an index of symptom severity (Foulds, 1976). When mean DSSI/sAD scores, rather than case rates, are inspected, the females still exhibit higher scores for both depression and anxiety than males at all time points. These means are presented in Table 3.21. A repeated measures analysis of variance confirmed that there was a significant gender effect for both depression ($F=18.45$, $p<.001$) and anxiety ($F=24.82$, $p<.001$).

Change in DSSI/sAD scores over time has not generally been examined. For these adolescents, mean depression and anxiety scores appeared to vary over time with a pattern similar to those exhibited by the GHQ scores. This was confirmed by a significant main effect for time in the analysis of variance for both depression ($F=15.90$, $p<.001$) and anxiety ($F=19.75$, $p<.001$). Like the GHQ scores, there was a steady decline in both anxiety and depression symptoms until Wave 4, when there was a sharp increase in morbidity, and then another decline at Wave 5.

Table 3.21: Mean Depression and Anxiety Scores by Gender and Wave.

	Male	Female	Total
Depression:			
Wave 1	1.99	3.56	3.05
Wave 2	1.41	2.64	2.25
Wave 3	1.06	2.02	1.71
Wave 4	1.97	2.65	2.43
Wave 5	1.45	2.36	2.07
Anxiety:			
Wave 1	2.67	3.78	3.42
Wave 2	1.50	2.90	2.45
Wave 3	1.44	2.50	2.16
Wave 4	2.18	3.58	3.13
Wave 5	1.69	2.69	2.37

Although the mean scores generally declined over time, those respondents who were distressed at one time point were also more likely to be psychologically distressed at another time. Table 3.22 presents the intercorrelations over time for both depression and anxiety. Again, as for the GHQ scores, the correlations for adjacent time points do not seem to be consistently higher than the correlations over longer periods of time. The autocorrelations for anxiety and depression are even high than those for GHQ symptoms. Levels of anxiety and depression seem to be relatively stable.

Table 3.22: Autocorrelations Over Time for Depression and Anxiety Scale Scores.

	Wave 1	Wave 2	Wave 3	Wave 4
Depression:				
Wave 2	.55			
Wave 3	.43	.56		
Wave 4	.42	.47	.57	
Wave 5	.46	.51	.53	
Anxiety:				
Wave 2	.51			
Wave 3	.41	.53		
Wave 4	.32	.44	.50	
Wave 5	.34	.51	.49	.56

all statistically significant at $p<.001$

Comparison of Symptom Measures

The three different symptom measures of the 12-item GHQ and DSSI depression and anxiety scales were highly intercorrelated when measured at the same time. They were also significantly, but less highly, intercorrelated over time. Table 3.23 presents the intercorrelations of these scales within and over time. Adolescents with more symptoms on one scale were likely to have a higher symptom score on each of the other scales within and over time. This pattern of correlations suggests that all three measures are tapping a similar construct of psychological distress.

Table 3.23: Intercorrelations of Symptom Scales.

	Wave 1			Wave 2			Wave 3			Wave 4			Wave 5	
	GHQ	Dep	Anx	GHQ	Dep	Anx	GHQ	Dep	Anx	GHQ	Dep	Anx	GHQ	Dep	Anx
Wave 1															
GHQ															
Depression	.68														
Anxiety	.61	.69													
Wave 2															
GHQ	.38	.42	.41												
Depression	.41	.55	.43	.75											
Anxiety	.35	.45	.51	.74	.78										
Wave 3															
GHQ	.26	.29	.21	.36	.39	.32									
Depression	.30	.43	.22	.33	.56	.39	.67								
Anxiety	.29	.38	.41	.44	.48	.53	.58	.61							
Wave 4															
GHQ	.30	.30	.31	.34	.30	.29	.43	.34	.38						
Depression	.38	.42	.30	.36	.47	.36	.42	.57	.44	.65					
Anxiety	.24	.29	.32	.43	.36	.44	.26	.31	.50	.61	.61				
Wave 5															
GHQ	.33	.32	.27	.47	.35	.38	.44	.32	.44	.47	.37	.42			
Depression	.36	.46	.31	.47	.51	.45	.42	.53	.49	.37	.53	.41	.76		
Anxiety	.34	.35	.34	.50	.53	.51	.30	.32	.49	.38	.41	.56	.63	.67	

all statistically significant at $p<.001$

The three symptom measures revealed the same pattern of results: that there was considerable psychological distress in this adolescent sample, that this distress was more common in girls than boys, and that those who were distressed at one time were more likely to be distressed at another time. All three measures showed the

same pattern of variation in mean scores over time. One measure, the GHQ, was chosen for the subsequent analyses because it had been more widely used than the DSSI, it had been validated and used extensively in Australia populations (Duncan-Jones & Henderson, 1978), and the 12-item version had been used with an Australian adolescent population (Winefield et al, 1989).

Perceived Mental Health Status

Perceived mental health status was measured by a single item rating emotional health on a 5-point scale. Although single item measures have been criticised as narrow indicators of broader concepts (Ware, 1976), this measure is commonly used in the literature to assess both physical and mental health perception, and frequently shows construct validity in its relationships with other theoretically important variables (Frankel & Nuttall, 1984). Perceived physical health status has been assessed more often than perceived mental health status (Mossey & Shapiro, 1982; Cleary, Mechanic & Greenley, 1982), but similar strong effects are expected for mental health perception. Descriptive statistics for the perceived mental health status item are presented in Table 3.4 and Table 3.24 presents the percentage of respondents who endorsed each category of perceived mental health status.

Table 3.24: Percentage of Males and Females Who Endorsed Each Category of the Perceived Mental Health Status Measure by Wave.

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
No Problems	44.1	29.7	48.5	31.9	61.8	37.1	51.3	31.3	53.7	35.6
Minor	43.7	42.8	39.3	47.0	25.0	40.9	32.0	45.9	30.5	42.9
Mild	6.4	17.6	9.7	15.5	11.8	16.2	12.7	15.4	12.2	13.5
Moderate	4.5	8.7	2.4	5.7	0.7	5.4	2.7	6.6	3.7	7.3
Severe	1.3	1.2	0.0	0.0	0.7	0.4	1.3	0.8	0.0	0.7

From Table 3.24 it is evident that females perceive their mental health more negatively than males. This was confirmed by a repeated measures analysis of variance which revealed a significant main effect for gender ($F=29.70$, $p<.001$). Females more negatively perceived their mental health status than males at each of the five time points. This gender difference in metal health recognition was reported from four large-scale surveys by Kessler, Brown and Broman (1981). They concluded that not only do women have more psychological distress than men, but that they are also more likely to recognise this distress.

As expected, perceived mental health status was very highly correlated with the symptom measures. These intercorrelations, both within and across time, are presented in Table 3.25. A number of trends are evident from this table. The size of the correlations between perceived mental health and the symptom measures appears to be much the same for each symptom measure. That is, the correlation between perceived mental health and the GHQ is similar to that between perceived mental health and either depression or anxiety, when all the variables are measured at the same time. This is further evidence that all three symptom measures are tapping an underlying construct of minor psychological disorder, and that perception of mental health is based on these general feelings of distress.

Another trend in the intercorrelations is that perceived mental health status and symptoms correlate more highly when measured at the same time than at different time points. It was anticipated that current symptoms would most affect current mental health definition, as other cross-sectional studies have shown (Kessler, Brown & Broman, 1981). The intercorrelations over time are also quite high, however, and seem to be relatively stable; not varying in strength depending on the time interval between the measures. This suggests that, over time, there is a relatively stable relationship between symptoms and perceived health status. Symptom chronicity or a stable level of underlying psychological disturbance may account for this relationship (Duncan-Jones et al, 1990).

Table 3.25: Intercorrelations of Perceived Mental Health and Symptoms.

	Perceived Mental Health Status				
	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5
Wave 1					
GHQ	.59	.27	.27	.28	.24
Depression	.58	.30	.27	.29	.30
Anxiety	.57	.40	.29	.30	.27
Wave 2					
GHQ	.34	.58	.38	.26	.33
Depression	.34	.56	.39	.31	.40
Anxiety	.38	.58	.40	.32	.40
Wave 3					
GHQ	.17	.33	.52	.35	.36
Depression	.23	.36	.52	.40	.41
Anxiety	.33	.48	.59	.46	.46
Wave 4					
GHQ	.30	.30	.34	.63	.37
Depression	.31	.35	.43	.65	.48
Anxiety	.30	.42	.36	.61	.43
Wave 5					
GHQ	.28	.36	.34	.32	.59
Depression	.31	.40	.39	.40	.60
Anxiety	.33	.46	.40	.37	.59

all statistically significant at $p<.001$

Also like the symptom measures, the mean mental health perception scores were shown by the analysis of variance to be significantly different over time ($F=5.37$, $p<.001$). Showing the same pattern as the symptom scores, mental health perception scores declined steadily from Wave 1 through to Wave 4, where they rose sharply, and subsequently declined again at Wave 5. Mental health perception, in general, became more positive over time.

Mental health perception scores were also significantly intercorrelated over time. Respondents tended to rate their mental health in a similar manner at different time points. Assessments of physical health status have also shown that such perception is relatively stable in adolescents (Mechanic & Hansell, 1987b). Table 3.26 presents the intercorrelations of perceived mental health status over time.

Table 3.26: Intercorrelations Over Time of Perceived Mental Health Status.

	Wave 1	Wave 2	Wave 3	Wave 4
Wave 2	.43			
Wave 3	.35	.51		
Wave 4	.39	.41	.48	
Wave 5	.35	.53	.47	.46

all statistically significant at $p<.001$

Interrelationships Among Measures

Most of the measures just described have been shown in previous research to be correlated with each other to some extent. This can cause difficulties in interpreting their individual effects predicting help-seeking behavior. Table 3.27 presents the intercorrelations of all the predictors of help-seeking. It shows that many of the variables were significantly correlated, although most of these correlations were quite small.

The largest correlation was between the GHQ symptom measure and perceived mental health status. While the distinction between symptom reports and mental health definition was theoretically important, it was difficult to distinguish these concepts empirically. The symptom and perceived mental health status measures also exhibited the same pattern of intercorrelations with the other predictors. This was further evidence of their strong association. They were both significantly correlated with gender, availability of frank and confiding relationships, loneliness, health concern, life events, extraversion and private self-consciousness. Most of these associations support previous findings in the literature.

Table 3.27: Intercorrelations of Measures.

		1	2	3	4	5	6	7	8	9	10	11
1.	Symptoms (GHQ)											
2	Gender	.09**										
3.	Availability of frank and confiding relationships	-.22***	.11*									
4.	Loneliness	.29**	.04	-.19***								
5.	Attitude toward psychological illness	.00	.02	.08*	-.03							
6.	Health value	-.06	.02	.04	.03	-.05						
7.	Health concern	.22***	.09**	-.00	.13***	-.08*	.06					
8.	Fear of stigma	.05	-.31***	-.35***	.09**	-.14***	.02	.02				
9.	Life events	.25***	-.07*	-.05	.15***	.10**	-.02	.11**	-.03			
10.	Extraversion	-.12***	.11**	.37***	-.19***	.08*	.04	-.00	-.21***	.05		
11.	Private self-consciousness	.27***	.13***	-.02	.21***	.14***	-.12***	.15***	-.12**	.16***	-.02	
12.	Perceived mental health status	.59***	.18***	-.19***	.23***	.07*	-.07*	.17***	.01	.20***	-.10**	.32***

statistically significant at *p<.05 **p<.01 and ***p<.001

Multicollinearity

The problem of multicollinearity occurs when there is a substantial correlation between a set of independent variables. The high correlation between the GHQ and perceived mental health status scores, as well as their similar pattern of intercorrelation with other variables, indicated that such a problem may exist between these measures.

The possible multicollinearity of these two independent variables presented a problem of including both variables in the same analysis. The partial coefficients of highly correlated variables analysed simultaneously are reduced (Cohen & Cohen, 1983). Because both variables are explaining the same portion of *Y* variance, they cannot make substantially unique contributions. Interpretation of the partial coefficients in simultaneous regression analyses may therefore be misleading.

There are several ways to deal with multicollinearity problems. If the shared variance of the correlated variables is of interest, they may be combined into a single index and treated as a latent variable. Alternatively, the variables that are less important theoretically may be dropped from the analysis and only the most important or causally antecedent variable considered. If the contribution of each variable is of interest, a hierarchical procedure may be used.

In the present case it was considered inappropriate to combine the measures of symptoms and perceived mental health into a single index as this would detract from the interpretability of the GHQ symptom score and totally confound any differences between symptoms and perception of mental health. These differences were of interest and were therefore examined using a hierarchical procedure. As mental health perception was expected to be causally antecedent to symptoms, it was entered into the analyses after symptoms, to determine whether perception had a unique contribution to the explanation of help-seeking behavior beyond that which it shared with symptoms.

Other Interrelationships

Symptoms and recognition of poor mental health status were also significantly related to less availability of frank and confiding relationships and more feelings of loneliness. These associations support the research that poor social support is detrimental to mental health (Brown et al, 1986) and also that one of the consequences of minor affective disorder may be a negative assessment of the social world (Alloway & Bebbington, 1987). The adolescents who were more psychologically distressed had less social support and felt lonelier than those who were not distressed. Adolescents with more life events were also more symptomatic and perceived their mental health as more negative. The relationship between mental health and life events is also well established, for adolescents (Freidrich, Reams & Jacobs, 1982; Groube, 1987) as well as adults (Paykel, 1983a). Those who are depressed may also more negatively assess their life in terms of life events (Alloway & Bebbington, 1987). That mental health is confounded with both social support and life events is not a problem in these data as it is the effect of these variables on help-seeking, rather than symptom development, that is of interest.

Of the attitude, belief and value measures, mental health was only significantly related to health concern. Those with more mental health problems had greater concern with their health. There is no comparable data for the measure of health concern used here, although the relationship between symptoms and health concern may be a function of the hypothesised interaction of health status and attention to health. Greater concern with health may make people more likely to notice symptoms, and development of symptoms may also encourage a focus on and concern with health.

Symptoms and perceived mental health status were also positively associated with private self-consciousness in the current sample. Mechanic and Hansell (1983) reported a correlation of .40 between psychological distress and introspection in another adolescent sample. A large body of research also shows that high private

self-consciousness increases the salience and discomfort of psychological symptoms and those high on the trait are, therefore, more likely to perceive themselves as having poor mental health (eg; Scheier & Carver, 1977;1981). In contrast to the effect of private self-consciousness, extraversion was negatively associated with symptoms and perceived health status in these adolescents. Other research has also reported that those high in extraversion are generally happier and more satisfied with their lives (Costa & McCrae, 1980; Heaven, 1989). Private self-consciousness and extraversion were unrelated to each other, showing that they are not opposites.

Sociability is an important component of extraversion (Eaves & Eysenck, 1975; Costa & McCrae, 1980) and a positive relationship between the two has previously been reported (Henderson et al, 1980). In the present data, availability of social support was positively related to extraversion. Both extraversion and availability of frank and confiding relationships were negatively related to loneliness. Loneliness is related to poor interpersonal skills and those who are more outgoing and have more friends are less likely to suffer feelings of loneliness (Eisemann, 1984b; Wildermuth, 1990).

In contrast, loneliness correlated positively with life events and private self-consciousness. Adolescents with more life stress and who were more self-attentive were more likely to feel lonely. In another adolescent sample, loneliness and private self-consciousness were not found to be correlated (Franzoi & Davis, 1985), although other research has shown that time spent alone has negative consequences for adolescents (Csikszentmihalyi & Larson, 1984). The hypothesised relationship of life events, as discontinuities encouraging self-attention (Mechanic, 1983), and such attention resulting in a negative appraisal of the social world (Alloway & Bebbington, 1987), may account for this pattern of interrelationships.

Life events were shown to be positively associated with private self-consciousness in these data. This relationship was also reported by Hansell, Mechanic and Brondolo (1986) for their measure of introspection. The causal nature of the relationship cannot be determined, but it may be that discontinuities facilitate

self-attention and appraisal (Mechanic, 1983).

The major correlate of the attitude, belief and value measures was private self-consciousness. High private self-consciousness was associated with more positive attitudes to psychological illness, lower health value, greater concern with health, and less fear of the stigma attached to psychological illness. Except for the relationship with health value, this pattern of correlations supports the argument that self-attention makes mental health more salient. This results in a more positive approach to mental health problems, including less fear of stigma in disclosing one's own mental health status and willingness to accept closer social distance with those with psychological problems. The negative relationship of private self-consciousness with health value does not support this view, however. It is contrary to the hypotheses that those higher on the trait of private self-consciousness should place less value on their health than those lower on the trait.

The positive relationship between life events and both attitude to psychological illness and health concern also suggest that discontinuities and self-appraisal may encourage more concern with personal health and a more positive attitude to mental health problems.

Extraversion was most strongly related to fear of stigma, as was availability of frank and confiding relationships. Those who have more social support and who are more outgoing and socially confident may be more trusting of the confidantes in their social network, and so, have less fear of any stigma attached to their mental health status than those who are less secure socially.

Finally, the attitude, belief and value measures were generally not strongly associated. Only fear of stigma and attitude to psychological illness were highly correlated. Not surprisingly, greater fear of the stigma attached to psychological illness was associated with an attitude of preferring more social distance from those with psychological illness. This relationship may be due to fears of contagion of the stigma of mental illness (Kirmayer, 1989).

Conclusion

From the preceding description of the measures and sample, several important findings emerge. Fundamentally, all the measures were shown to be reliable indicators of their constructs. In terms of these measures, this group of Australian adolescents were found to be typical of adolescents in general, where comparisons could be made. They suffered from a high level of psychiatric morbidity and experienced a relatively constant level of life stress. They had a great deal of available social support, although the majority still reported feeling lonely. While they generally highly valued their health, they were less concerned with personal health problems, indicating the lack of major health concerns at this age. As evident in many younger people, they had positive attitudes to psychological illness and were little concerned about the stigma of such illness. For the personality measures of extraversion, private self-consciousness, and introspection their scores were normally distributed, as personality traits are expected to be within a normal population.

Consistent with previous research, girls were higher on many of the measures than the boys. The most well documented of the gender differences supported by the data, was that girls experienced greater psychological distress than boys and also more negatively perceived their mental health status. Girls were also higher in extraversion, introspection, and availabilty of frank and confiding relationships. They were lower than boys only on the measure of fear of stigma. Since girls have also been shown in previous research to be more likely to seek help, it will be interesting to determine whether gender differences in these measures account for some of the gender difference in help-seeking behavior.

Symptoms are expected to be the primary predictors of help-seeking behavior and most of the other predictors were shown here to be significantly related to symptoms, confirming that variables such as life events and social support are important in the development of symptoms. To predict help-seeking the unique effect of each of these variables must be established, as it is their effect on help-

seeking beyond their influence through symptom development that is of interest here. Such intercorrelations can be a problem in multivariate research, however only the strength of the relationship between the measures of symptoms and perceived mental health status indicate a possible multicollinearity problem.

Finally, the longitudinal data showed that most of the measures fluctuated significantly over time. While all the measures were strongly autocorrelated over time, indicating that people remained at the same level relatively, mean levels changed significantly for all the measures except social support. Other studies have also found that social support is stable, but personality measures and symptom measures change (Henderson, Byrne & Duncan-Jones, 1981; Duncan-Jones et al, 1990). This is believed to be due largely to social desirability, because the movement is generally from 'ill' to 'well' in terms of symptom scores and toward the mean level for personality measures (Henderson, Byrne & Duncan-Jones, 1981). In the present data, adolescents became less symptomatic, more extraverted, more introspective or privately self-conscious, less lonely, had fewer life events, and expressed more positive attitudes to psychological illness (for boys), less concern about health, and less fear of the stigma attached to psychological illness. All of these changes seem to be in the direction of more socially desirable responses. While the symptom, life event and personality measures may have been expected to change, it is interesting that the attitude and belief measures also changed in the direction of more socially desirable responses. The control group, who were retested only at Wave 5 on measures of symptoms, help-seeking, life events and illness behavior, also exhibited the same pattern of change, with the exception of the life event measure. It would appear that these retest effects operate over both longer (12 months for the control group) and shorter periods of time.

The next chapter will continue the descriptive statistics by describing the dependent measure of help-seeking and examining the interrelationship of help-seeking, gender and symptoms.

Chapter 4

Description of Help-Seeking

The help-seeking behavior of Australian adolescents in response to psychological problems has seldom been investigated. Most data have been collected on American college student populations or adult samples. Very little is known about how health patterns are established in adolescence (Mechanic, 1983). This chapter provides a description of the help-seeking behavior of this adolescent sample in terms of who they talk to about emotional problems. Because symptoms and gender have been shown to be the primary determinants of help-seeking, the frequency of different types of help-seeking are discussed in terms of symptoms and gender differences. Changes in the pattern of help-seeking behavior over time are also examined.

Help-seeking Behavior

The dependent measure of help-seeking behavior was assessed by an item asking whether help had been sought for a psychological problem from a variety of sources. The possible sources were friend, family member, general practitioner, mental health service, alternative mental health service, and educational source. Table 4.1 presents the frequency of endorsement for each of the help-seeking sources at each time point.

The most striking result from this table is a great deal of help-seeking from friends. About 60 percent of the sample sought help from friends at each of the five time points. There was also a considerable amount of help-seeking from family, with about 30 percent of the sample seeking help from family at any time. However, very little help was sought from any of the professional services. Between 5 and 10 percent sought professional help of any type over the 12 months. This confirmed previous research showing that adolescents, in particular, seldom use professional

services and rely almost entirely upon their social support network for emotional support (O'Neil, Lancee & Freeman, 1984). They rarely utilise professional services, even when distressed (Whitaker et al, 1990). These Australian adolescents exhibited the usual help-seeking behavior of turning to friends and, to a lesser extent, family, for help when they were suffering from a psychological condition. The findings were stable across the five time points that data were collected. Another study of adolescent disclosure of suicidal thoughts also emphasised the importance of the peer group, with friends confided in more often than others (Choquet & Menke, 1989). Older adolescents, in particular, have been shown to prefer to seek help from friends, while younger adolescents and adults are more likely to seek help from family members (DePaulo, 1982).

Since there was so little help-seeking from any of the professional sources, the four different sources of professional help were combined into one category. Other measures of professional help-seeking have also combined various types of professional help into a single category (eg; Lieberman & Mullan, 1978). The frequencies for this combined professional help category are presented in the last column of Table 4.1. There were subsequently three measures of help-seeking behavior. Each of these was a dichotomous variable indicating whether help was sought from friends or not, whether help was sought from family or not, and whether help was sought from a professional source or not.

Table 4.1: Frequency of Help-Seeking Behavior by Source of Help, Gender and Wave.

	Friend	Family	General Practitioner	Mental Health Service	Alternative Health Service	Educational Service	Total Prof
Wave 1							
Male	133	73	2	3	3	12	20
	(42.8)	(23.5)	(0.6)	(1.0)	(1.0)	(3.9)	(6.1)
Female	306	141	19	9	8	26	62
	(75.7)	(34.9)	(4.7)	(2.2)	(2.0)	(6.4)	(11.9)
Total	439	214	21	12	11	38	82
	(61.4)	(29.9)	(2.9)	(1.7)	(1.5)	(5.3)	(11.5)
Wave 2							
Male	84	45	2	5	1	7	15
	(40.8)	(21.8)	(1.0)	(2.4)	(0.5)	(3.4)	(5.8)
Female	216	115	6	1	2	14	23
	(68.1)	(36.3)	(1.9)	(0.3)	(0.6)	(4.4)	(6.9)
Total	300	160	8	6	3	21	38
	(57.4)	(30.6)	(1.5)	(1.1)	(0.6)	(4.0)	(6.5)
Wave 3							
Male	59	24	1	4	1	4	10
	(41.0)	(16.7)	(0.7)	(2.8)	(0.7)	(2.8)	(4.9)
Female	174	103	8	1	1	6	16
	(67.2)	(39.8)	(3.1)	(0.4)	(0.4)	(2.3)	(5.8)
Total	233	127	9	5	2	10	26
	(57.8)	(31.5)	(2.2)	(1.2)	(0.5)	(2.5)	(5.5)
Wave 4							
Male	64	36	1	0	1	2	4
	(42.7)	(24.0)	(0.7)	(0.0)	(0.7)	(1.3)	(2.7)
Female	191	93	6	6	2	9	23
	(73.7)	(35.9)	(2.3)	(2.3)	(0.8)	(3.5)	(8.5)
Total	255	129	7	6	3	11	27
	(62.3)	(31.5)	(1.7)	(1.5)	(0.7)	(2.7)	(6.4)
Wave 5							
Male	75	33	1	1	1	6	9
	(45.7)	(20.1)	(0.6)	(0.6)	(0.6)	(3.7)	(4.9)
Female	211	105	11	3	1	2	17
	(73.0)	(36.3)	(3.8)	(1.0)	(0.3)	(0.7)	(5.5)
Total	286	138	12	4	2	8	26
	(63.1)	(30.5)	(2.6)	(0.9)	(0.4)	(1.8)	(5.3)

Note. Row percentages in brackets.

The three different help-seeking measures - help-seeking from friends, family, and professionals - could be combined into a scale of help-seeking from less to more institutionalised help-seeking behavior, or alternatively, treated as three distinct types of help-seeking behavior. Other studies of help-seeking have shown that most of those who sought professional help had sought help first from the informal social support network (Horwitz, 1978), suggesting that there is a progression to professional help-seeking.

If most of those who sought help from a family member had also sought help from a friend, and most of those who sought help from a professional had also sought help from a friend or a family member, a scale of help-seeking progressing toward professional help was an option. Although the data showed a general trend in this direction, there was evidence of substantial deviation. A considerable proportion of help-seekers had not sought help from the 'previous' level in the help-seeking progression. Table 4.2 presents the percentage of the sample who had not sought help from the 'previous' help-seeking level at each wave. At most waves, at least 15 percent of the help-seekers did not endorse the 'previous' level of help-seeking. This indicated that there was no progressive scale of help-seeking behavior, and that seeking help from friends, family and professionals were substantively different.

Table 4.2: Percentage of Sample Who Did Not Seek Help From 'Previous' Help Level at Each Wave.

	'Previous' Help Level									
	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5	
	Friend	Family	Friend	Family	Friend	Family	Friend	Family	Friend	Family
Help Level:										
Family	16.8		20.0		19.7		14.7		16.7	
Professional	17.9	50.7	23.5	23.5	18.2	36.4	3.8	46.2	50.0	75.0

Scale reliability analyses confirmed that there was no reliable scale of help-seeking behavior. Cronbach alpha reliability coefficients ranged from 0.22 to 0.44 across the five waves. This lack of a strong common help-seeking dimension was further supported by the intercorrelations presented in Table 4.3. While most of the correlations were significant they were quite small. As expected, the two measures of informal help-seeking were more highly intercorrelated than either was with seeking professional help. Obviously there were similarities between the two measures of informal help-seeking, while professional help-seeking was distinctive.

Table 4.3: Intercorrelations Between Help-Seeking Measures.

		Friend	Family
Wave 1			
	Family	.29***	
	Professional	.14***	.14***
Wave 2			
	Family	.30***	
	Professional	.10*	.26***
Wave 3			
	Family	.31***	
	Professional	.12***	.17***
Wave 4			
	Family	.32***	
	Professional	.18***	.12**
Wave 5			
	Family	.28***	
	Professional	-.06	-.03

statistically significant at *p<.05 **p<.01 ***p<.001

Help-seeking, Gender and Symptoms

Another dominant feature of Table 4.1 is that girls appeared to engage in more help-seeking behavior than boys. This was especially true of informal help-seeking from friends and family. Such a gender difference is controversial in the literature. Some studies report a direct effect of gender on help-seeking (Greenley & Mechanic, 1976a; Kessler, Brown & Broman, 1981), while others maintain that this

effect is due to a gender difference in symptoms or to methodological problems (Gove & Swafford, 1981; Williams et al, 1986; Tousignant, Brosseau & Tremblay, 1987; Leaf & Bruce, 1987).

In the present data, girls were shown to exhibit significantly more help-seeking from friends and from family at all five waves. This gender difference was also evident for professional help-seeking, but only attained significance at Waves 1 and 4. Table 4.4 presents the Chi-square statistics showing the significance of the gender differences for each type of help-seeking at each wave.

Table 4.4: Chi-square Statistics for Gender Differences in Help-seeking From Each Source of Help by Wave.

	Friend	Family	Professional
Wave 1	80.63***	10.94***	6.89**
Wave 2	38.22***	12.25***	0.26
Wave 3	26.07***	22.88***	0.16
Wave 4	39.08***	6.23*	5.42*
Wave 5	33.45***	12.98***	0.09

statistically significant at *p<.05 **p<.01 ***p<.001

Some of the literature suggests that such gender differences in help-seeking behavior are due to gender differences in symptom levels. Because girls experience greater psychological distress, they are more likely to seek help. Table 4.5 shows the proportion of boys and girls seeking help from each source at each wave by symptom level. From this table it is clear that the gender difference in help-seeking was most evident for seeking help from friends. Regardless of the level of symptoms, girls more than boys sought help from their friends. There was some evidence of a gender difference in seeking help from family also, but this appeared to be restricted to those who were non-symptomatic. Girls without symptoms were more likely to seek help from their family than boys. When only those who were symptomatic were considered, however, the gender difference in help-seeking from family seldom attained significance. For professional help-seeking, the gender

difference rarely attained significance. Professional help-seeking was so rare that girls and boys were equally unlikely to seek professional help. The gender difference seems to be more a function of the type of help sought, rather than level of distress. It is certainly not due to girls seeking help more than boys at higher levels of distress. Level of psychological distress does not account for gender differences in help-seeking. There are factors other than symptoms that explain boys' and girls' differential propensity to seek informal help for psychological problems.

Not only did psychological symptoms not account for the gender difference in help-seeking, symptoms did not predict help-seeking to the extent expected. This was particularly evident by the substantial proportion of adolescents who were not symptomatic by any criteria who reported that they had sought help (see Table 4.5). This was especially true for seeking help from friends. The vast majority of girls and a considerable proportion of boys indicated they had sought help from friends for an emotional problem, when they had no symptoms of psychological distress. This trend was somewhat less evident for help-seeking from the family, although there were still some who sought family help when they were not psychologically distressed, and others who were symptomatic who did not seek help from their family. Symptoms were most important for professional help-seeking. Very few adolescents sought professional help who did not have symptoms. However, professional help-seeking was so rare that 90-95 percent of those with symptoms had not sought professional help. Symptoms did not appear to be the primary predictors of seeking help, particularly informal help-seeking. There are other factors that are facilitating the decision to seek informal help and inhibiting professional help-seeking.

Table 4.5: Proportion Who Sought Help at Each Wave by Gender and Symptom Level.

	Source of Help					
	Friend		Family		Professional	
	Males	Females	Males	Females	Males	Females
Wave 1						
GHQ						
No symptoms (0/1)	.39	.71***	.17	.28*	.05	.07
Mild Symptoms (2/3)	.42	.76***	.33	.41	.03	.09
Moderate or Severe (4+)	.58	.86***	.36	.45	.11	.23
DSSI Scales						
No Depression (0-3)	.40	.71***	.20	.32**	.04	.06
Depression (4+)	.52	.83***	.33	.39	.12	.20
No anxiety (0-3)	.33	.67***	.20	.29*	.05	.05
Anxiety (4+)	.62	.87***	.30	.43*	.09	.21**
Wave 2						
GHQ						
No symptoms (0/1)	.38	.71***	.21	.38**	.05	.10
Mild Symptoms (2/3)	.50	.77**	.21	.31	.07	.14
Moderate or Severe (4+)	.48	.91***	.33	.41	.19	.20
DSSI Scales						
No Depression (0-3)	.39	.74***	.22	.36**	.04	.08
Depression (4+)	.50	.85***	.30	.39	.20	.23
No anxiety (0-3)	.39	.74***	.21	.38***	.04	.09
Anxiety (4+)	.48	.83***	.28	.36	.13	.18
Wave 3						
GHQ						
No symptoms (0/1)	.39	.77***	.25	.41**	.04	.09
Mild Symptoms (2/3)	.47	.87***	.21	.31	.10	.21
Moderate or Severe (4+)	.50	.85*	.00	.41**	.08	.18
DSSI Scales						
No Depression (0-3)	.42	.78***	.24	.39**	.05	.13
Depression (4+)	.23	.81***	.23	.36	.12	.13
No anxiety (0-3)	.39	.78***	.21	.38**	.06	.07
Anxiety (4+)	.46	.85***	.35	.40	.04	.27*
Wave 4						
GHQ						
No symptoms (0/1)	.32	.72***	.22	.39**	.03	.10
Mild Symptoms (2/3)	.57	.92***	.21	.37	.04	.05
Moderate or Severe (4+)	.34	.91***	.21	.36	.10	.19
DSSI Scales						
No Depression (0-3)	.39	.78***	.23	.36*	.03	.08
Depression (4+)	.34	.85***	.17	.43**	.09	.22
No anxiety (0-3)	.37	.77***	.21	.36**	.04	.10
Anxiety (4+)	.40	.85***	.22	.42*	.07	.16

gender difference statistically significant at *p<.05 **p<.01 ***p<.001

continued ...

Table 4.5: Continued.

	Source of Help					
	Friend		Family		Professional	
	Males	Females	Males	Females	Males	Females
Wave 5						
GHQ						
No symptoms (0/1)	.44	.75***	.22	.43***	.05	.08
Mild Symptoms (2/3)	.34	.71**	.34	.29	.03	.12
Moderate or Severe (4+)	.50	.98***	.20	.34	.05	.26*
DSSI Scales						
No Depression (0-3)	.42	.76***	.24	.41**	.04	.08
Depression (4+)	.46	.93***	.29	.31	.11	.22
No anxiety (0-3)	.42	.76***	.26	.40*	.05	.08
Anxiety (4+)	.44	.90***	.21	.36	.06	.21

gender difference statistically significant at *p<.05 **p<.01 ***p<.001

Help-seeking Over Time

A final point in this preliminary look at help-seeking behavior is how stable help-seeking behavior was over time. Did those people who sought help at one point in time also tend to seek help from the same source at another point. This is an issue that has not often been examined in the literature. Although some studies have looked at propensity to seek help as an attitudinal measure (Kessler, Reuter & Greenley, 1979; Tijhuis, Peters & Foets, 1990), they have not shown how this relates to actual behavior.

Table 4.6 presents the autocorrelations over time of the three help-seeking measures. This shows that seeking help from friends and seeking help from family were quite highly correlated over time. Seeking professional help was sometimes significantly correlated and other times uncorrelated. Those correlations that were significant were due to the behavior of very few people. The overall pattern of correlations suggests that informal help-seeking is a more stable behavior than professional help-seeking. Those adolescents who sought help from their friends or family at one time were likely to seek such help again. Professional help-seeking

was a more variable behavior. Informal help-seeking may be a more general coping mechanism, which is readily available and often relied upon to deal with life's myriad problems. Professional help-seeking is a rare occurrence resorted to only when absolutely necessary.

Table 4.6: Autocorrelations of Help-seeking Measures Over Time.

	Wave 1	Wave 2	Wave 3	Wave 4
Friends				
Wave 2	.41***			
Wave 3	.40***	.39***		
Wave 4	.36***	.38***	.39***	
Wave 5	.29***	.36***	.42***	.48***
Family				
Wave 2	.32***			
Wave 3	.30***	.39***		
Wave 4	.27***	.37***	.40***	
Wave 5	.29***	.38***	.32***	.47***
Professional				
Wave 2	.22***			
Wave 3	.06	.32***		
Wave 4	.02	.13**	.08	
Wave 5	.23***	.07	.16**	.08

statistically significant at *p<.05 **p<.01 ***p<.001

Help-seeking behavior may have been affected by the time of testing. For example, at Wave 1 the respondents were in the process of completing school, which has been shown to be very stressful in terms of symptom scores. A peak in symptom scores was also evident at Wave 4. A repeated measures analysis of variance of each of the help-seeking measures over the five time points was used to compute Cochran's Q statistic (Cochran, 1950). This statistic determined whether the proportion of 'yes' responses to seeking help was consistent over time. For each of the measures, help-seeking from friends (Q=9.87, df=4 ns), help-seeking from family (Q=2.40, df=4 ns), and professional help-seeking (Q=9.37, df=4 ns), the proportion of respondents seeking help at each time point was not significantly different. This indicated that the level of help-seeking was comparable at each time

and there were no factors differentially influencing help-seeking, not even level of minor psychiatric morbidity, which did vary significantly over the five waves.

Conclusion

This preliminary look at adolescent help-seeking behavior showed that the vast majority of help-seeking for psychological problems took place with friends and to a lesser extent, family members. The peer group was the primary source of help, confirming the change in orientation during adolescence from the family to peers (DePaulo, 1982; Choquet & Menke, 1989). Professional help-seeking was so rare that, given the high level of psychiatric morbidity, more professional help may have been warranted, and professional services may not be meeting the needs of these adolescents (Offer & Spiro, 1987). Professional help-seeking was understandably a less stable coping reaction over time, while seeking help from friends and family was a well established pattern of coping with emotional problems for many young people. Girls, in particular, were more likely than boys to respond to psychological problems by talking to their informal network; they were more likely than boys to share their emotional distress (Good, Dell & Mintz, 1989). Gender especially accounted for help-seeking from friends. For professional help-seeking the gender difference was not significant. While other studies have reported that women utilise professional services more than men (Nathanson, 1977; Verbrugge, 1989), this was not evident for adolescents responding to psychological problems. The professional response was equally rare in both boys and girls. Symptoms also did not seem to predict help-seeking behavior to the extent suggested by the literature (Hourani & Khlat, 1986). It is clear that there are factors other than symptoms that facilitate all types of help-seeking behavior for adolescents responding to psychological problems. The next chapter will present some other factors that are hypothesised to influence help-seeking, beyond the effects of gender and symptoms.

Chapter 5

Analytical Procedure for Predicting Help-Seeking

Help-seeking behavior is not adequately explained by symptoms and gender, and a range of other variables have been proposed to influence seeking help. In this chapter, theoretical considerations guide the development of a set of hierarchical models to predict adolescent help-seeking. The analytical procedure for predicting help-seeking behavior is also described here, prior to applying the procedure in the next three chapters. This procedure involves the use of logistic regression procedures because the dependent measures of help-seeking are binary and skewed. As the theoretical models are applied to both the cross-sectional and longitudinal data, descriptions of these sub-sets of data are also presented.

Theoretical Models

Symptoms and their severity are the primary determinants of help-seeking behavior (Ingham & Miller, 1982;1986; Hourani & Khlat, 1986). They are not the only determinants, however (Tuckett, 1976ab), and the previous chapter showed that many symptomatic respondents did not seek help, while other non-symptomatic respondents did seek help. It was, therefore, of primary interest to determine what, apart from the distress of symptoms, facilitates and inhibits help-seeking.

In the present theoretical models, the effects of factors that focus attention on symptoms and make mental health a more salient concern were considered. Those respondents who were higher on attributes that increased their sensitivity to distress were expected to be more likely to seek help (Mechanic, 1989). The effects of these attributes were estimated in hierarchical regression analyses. Each variable, or group of variables, was added to the analysis in a predetermined order. The order that variables were entered into the analyses is presented in Table 5.1. The aim was to ascertain the effect of one set of variables, net of the variables entered in previous

models. Because symptoms were theoretically antecedent to all other variables, they were entered first in Model 1. In this way, the effect of symptoms was statistically controlled, and the direct effects of the other variables, beyond their effect through symptoms, could be established (Robbins & Greenley, 1983).

Table 5.1: Hierarchical Models of the Theoretical Predictors of Help-Seeking.

	Variables Included in Model
Model 1)	Psychological Distress - Symptoms
Model 2)	Socio-demographic - Gender
Model 3)	Social support -
	Frank and confiding relationship
	Loneliness
Model 4)	Health attitudes and values -
	Attitude to psychological illness
	Health value
Model 5)	Health beliefs -
	Concern about health
	Fear of stigma
Model 6)	Stress - Life events
Model 7)	Personality -
	Private self-consciousness
	Extraversion
Model 8)	Recognition - Negatively perceived mental health status
Interactions estimated after final main effects model:	
Model 9)	Life events and private self-consciousness
Model 10)	All possible gender interactions

The next most important theoretical predictor of help-seeking was gender. A consistent predictor of help-seeking in the literature, gender was shown, in the previous chapter, to be related to help-seeking from friends and family, but less strongly to professional help-seeking. Gender was entered in the second model, after symptoms.

Since gender could only be causal in one direction, an argument could be made for adding it first. However, what was of interest here was the effect of other variables after symptoms were controlled. Much of the effect of gender on help-

seeking has been shown to operate indirectly through gender differences in symptoms. Estimating the effect of gender after the effect of symptoms was statistically controlled indicated its unique contribution to the explanation of help-seeking behavior.

Gender differences were pervasive among the predictor variables. Chapter 3 showed that boys and girls were not only different on measures of psychological symptoms, but also on social support, fear of stigma, extraversion, and perceived mental health status. Rather than estimate separate models for boys and girls, all of the possible gender interactions with the predictors were entered simultaneously in Model 10. This was a conservative test of possible differences between boys and girls in the effects of the predictor variables on help-seeking behavior.

After the effects of symptoms and gender were statistically controlled, the social support variables were added to the equation in Model 3. This was one of the few instances where the hypothesised effect of a variable was expected to behave differently for informal and professional help-seeking, with availability of support expected to predict help-seeking from friends and family, while lack of availability predicted professional help-seeking. Social support was measured in terms of availability of a frank and confiding relationship, a concept similar to Brown and Harris' (1978) notion of a confidant. In the present study, it was hypothesised that the availability of someone close to confide in was necessary in order to utilise informal support from friends or family. The effect of a confiding relationship was hypothesised to have the opposite effect on professional help-seeking. Because health care providers can serve as sources of support for those lacking strong social ties (Ben-Sira, 1984; Falkner, Fatovich & Winkler, 1984; Sherbourne, 1988), it was predicted that those respondents for whom close social support was less available would be more likely to seek professional help.

Feeling lonely was an aspect of social support expected to facilitate all three types of help-seeking. Time spent alone has been shown to encourage self-appraisal

and thereby increase the salience of mental health (Mechanic, 1983). Being alone is almost always a negative experience for adolescents (Csikszentmihalyi & Larson, 1984). It encourages self-reflection which draws attention to symptoms of psychological distress and encourages the need to find ways of coping. Greater feelings of loneliness were, therefore, predicted to facilitate all types of help-seeking.

In the fourth model, attitudes and values were included, after controlling for symptoms, gender and social support. Kadushin (1962;1969), Suchman (1965) and Zola (1966) maintain that attitudes and values from different socio-cultural backgrounds affect decisions to seek care. The consequences of holding negative attitudes and values to health care have been shown to have small effects on health care utilisation (Anderson, 1963; Mechanic, 1979b). In the present study, attitudes and values related to the salience of personal health were selected for analysis. A more positive attitude to psychological illness was predicted to increase the likelihood of help-seeking by indicating a greater acceptance of psychological problems and therefore, a greater willingness to disclose personal problems to others. Higher health value indicated salience of health and sensitivity to health matters, and a subsequent greater likelihood to respond in terms of help-seeking (Hourani & Khlat, 1986).

Other studies have shown that the effects of attitudes and values are only operative in combination with symptoms predicting utilisation only for those with higher symptom scores (Sharp, Ross & Cockerham, 1983). This hypothesis was tested using the data for those respondents who were symptomatic.

More specific beliefs tapping health concern and fear of the stigma attached to psychological illness were included in Model 5. Concern about health, like health value, was expected to reflect the degree that mental health was salient, attended to and subsequently responded to. Fear of stigma has been suggested as a motive for avoiding help-seeking (Amato & Bradshaw, 1985; Amato & Saunders, 1985). Those with greater fear of being stigmatised by psychological disorder were

predicted to be less likely to attend to their mental health and report distress to others.

The previous five models control for symptoms, gender, social support, attitudes, values and beliefs. These variables were entered first into the models so that they were statistically controlled when determining whether the effects of life events, personality, and perception, entered in models 6 to 9, added anything more to the prediction of help-seeking. These were the variables of primary theoretical interest.

The sum of life events, included in Model 6, tapped external sources of stress in the form of discontinuities in the flow of everyday life. Life events were expected to trigger help-seeking actions (Mechanic 1962;1982; Mechanic & Hansell, 1983; Verbrugge, 1985). These discontinuities were predicted to cause both reappraisal of the self and subsequent awareness of mental health problems, leading to the seeking of help.

The personality variables of private self-consciousness and extraversion were entered into the regression equation in Model 7. A large body of literature has shown that being high on the trait of private self-consciousness and more likely to internally monitor oneself increases the awareness and salience of symptoms (Mechanic, 1980; Carver & Scheier, 1981). Thus, higher private self-consciousness was predicted to increase the likelihood of help-seeking responses.

Those high in private self-consciousness are also more likely to dwell on and be upset by life events (Greenley & Mechanic, 1976b; Mechanic & Hansell, 1983; Suls & Fletcher, 1985). This suggested a possible interaction between life events and private self-consciousness, with those high in private self-consciousness being more likely to seek help in response to life events. Those lower in internal monitoring would be expected to be less affected by events and not feel the need for assistance. This interaction was estimated in Model 9 of the hierarchical regression procedure.

The effect of extraversion on help-seeking has not previously been assessed. However, if a preoccupation with the internal world of the self facilitates help-seeking, then a more outward and social orientation should have the opposite effect and inhibit help-seeking. Extraversion and private self-consciousness were uncorrelated in this sample, confirming that being an extravert and being high on private self-consciousness are not mutually exclusive. However, the effect of extraversion was hypothesised to be the opposite of that for private self-consciousness due to their different orientations to the world.

In the final main effects model, Model 8, perceived mental health status was added to the regression equation. Perception or recognition of poor mental health has been proposed as the immediate precursor of help-seeking behavior (Hourani & Khlat, 1986). Negatively perceived mental health was expected, therefore, to predict all types of help-seeking. It was of particular interest to determine whether negative health perception had a significant effect on help-seeking after the effect of symptoms was already accounted for. At the same time, it was possible that health perception was so confounded with the self-report measure of symptoms that an additional effect of perception could not be established.

The theoretical models were applied to all three types of help-seeking behavior. In general the same factors and basic processes were expected to apply to all types of help-seeking (Wills, 1982). The only hypothesis that was different over the sources of help was that for availability of frank and confiding relationships. Overall, little previous research has focused on differences between help-seeking from friends, family and professional sources. This study offers an opportunity to empirically examine the similarities and differences between sources of informal and professional help.

Sub-Samples

To estimate the theoretical models of help-seeking, four different sub-samples were selected from the data. These were defined in terms of being either cross-sectional or longitudinal data, and respondents with either mixed symptom states, including both symptomatic and non-symptomatic respondents, or only respondents with symptoms.

The first sub-sample consisted of all those respondents with no missing data at Wave 1 of the study. This provided a sample of 705 respondents, excluding ten of the original 715 respondents who had missing data on any of the measures. This sample was the largest and most representative, avoiding the attrition problems of the longitudinal data set. This sub-sample was used to estimate those who sought help at Wave 1. Variables that predicted help-seeking in these analyses were seen as facilitators of help-seeking, in that they encouraged help-seeking regardless of level of psychological distress. A score of one on the dependent measure indicated that help had been sought at Wave 1 and a score of zero indicated that help had not been sought.

In the second sub-sample, respondents who were symptomatic at Wave 1 were selected. Being symptomatic was defined as having a score of 2 or more on the GHQ (Goldberg, 1972). 'Normal' responses by this criterion were thus excluded. This left 337 (48 percent) of the original 705 respondents. All of this group had a reason for help-seeking in terms of symptoms, and it was of theoretical interest to determine why they did not seek help (Amato & Bradshaw, 1985). Variables that were significant predictors in these analyses were interpreted as inhibitors of help-seeking, in that they discouraged people from seeking help when their distress level indicated that perhaps it was warranted. The scoring of the dependent measure was reversed for this sub-sample because those who did not seek help were predicted. A score of one on the dependent measure for this sub-sample indicated that help had not been sought at Wave 1 and a score of zero indicated that help had been sought.

The third sub-sample came from the longitudinal data. It included all those respondents who completed all five waves of the study and had no missing data. This comprised 334 respondents, or 47.4 percent of the total number of respondents present at Wave 1. It has already been noted in Chapter 3 that the longitudinal sample differed from the original cross-sectional sample on some variables due to non-random attrition. Specifically, the longitudinal sample was biased toward girls and those who were more interested in mental health. The longitudinal sub-sample was used to predict those who frequently sought help over the 12 months of the study. Frequent help-seeking was defined as seeking help 4 or 5 times. This provided a more reliable measure of help-seeking behavior than the assessment of only one incident of help-seeking measured at Wave 1. Variables were again interpreted as facilitators of help-seeking if they predicted frequent help-seeking behavior. A score of one on the dependent measure for this sub-sample indicated that help had been sought frequently over the 12 months of the study and a score of zero indicated that help had not been sought frequently.

The final sub-sample also came from the longitudinal data, but comprised only those respondents who were symptomatic. Again the criterion was a score of 2 or more on the GHQ, but this score could be attained at any one of the five time points over the 12 months. The respondents included in this sub-sample were, therefore, those who were symptomatic on at least one occasion over the period of the study. This included 263 respondents, or 78.7 percent of the longitudinal sample. It was of interest to predict those who never sought help during the 12 months, even though they were symptomatic at some time, and determine the factors that inhibited seeking help over time. A score of one on the dependent measure for this sub-sample indicated that help had never been sought over the 12 months of the study and a score of zero indicated that help had been sought at some time.

For the two sub-samples where help-seeking over time was predicted, average levels of the predictor variables that were measured at all five waves were

used. This meant that average GHQ scores, average life events, and average perceived mental health status scores over the 12 months of the study were used to predict those who frequently sought help and those with symptoms who never sought help. This follows the work of Henderson, Byrne and Duncan-Jones (1981) using averaged indices over time. They conclude that although there are drawbacks to using this strategy, an analysis that took account of all points in time, while technically feasible, would be extremely complex (p. 167). Wave 1 measures were used for the other predictors. Personality traits, attitudes, values and beliefs are generally stable, with the underlying level of a trait changing only very slowly, although observed levels may fluctuate due to measurement error or genuine fluctuations about an individual's base rate.

Statistical Procedure

Each of the dependent help-seeking measures was a binary variable. When a dependent variable is binary and the responses are not split relatively evenly between the two categories, logit analyses must be chosen to avoid violating parametric assumptions (Tabachnick & Fidell, 1989). In the present data, the split for help-seeking from friends was roughly 60/40 at each time point, and for help-seeking from family the split was in the order of 30/70. For analysing these types of help-seeking Ordinary Least Squares regressions could have been used, as Cleary and Angel (1984) have done. For seeking professional help, however, the split hovered around 7/93 across the five time points of data collection. The Ordinary Least Squares regression method was inappropriate for the analysis of professional help-seeking. Logistic regression procedures were used, therefore, to estimate the models predicting the probability of seeking each type of help. The models were fitted using the statistical computing package GLIM (Baker & Nelder, 1978).

In the logistic regression analyses, a likelihood ratio test was used to compare two nested models. A nested model is where the terms in one model are included in the other. The likelihood ratio test used here was the difference in deviance between

the two models (also known as the G^2 statistic). This test determined whether the addition of a variable, or group of variables, added significantly to the explanation of the dependent measure. For individual level binary data there is no equivalent to the coefficient of determination as a way of testing the goodness of fit of the model (McCullagh & Nelder, 1983).

Initially, a baseline log likelihood model was estimated, including only the intercept as the independent variable. The theoretical predictors were then added to this baseline model in the order presented in Table 5.1. Since all the models evaluated were nested, it was possible to determine whether the addition of a variable, or group of variables, added significantly to the prediction of help-seeking, compared with the previous model. The difference in deviance scores between the current and subsequent models has approximately a Chi-square distribution with degrees of freedom equal to the difference in the number of terms in the models. If this deviance difference was significant, then the addition of the variable, or group of variables, explained significantly more of the variation in the dependent variable. The change in deviance score was used, therefore, to determine whether the addition of each of the models in Table 5.1 explained significantly more of the variation in help-seeking behavior.

Conclusion

Due to the skewed and binary nature of the dependent help-seeking variables, hierarchical logistic regression procedures were chosen to estimate the theoretical models predicting help-seeking behavior. Sub-sets of the sample were selected to examine help-seeking both cross-sectionally and over the 12 months of the study. In the next three chapters, the theoretical models will be used to predict both those who sought help and those who were symptomatic but did not seek help. Chapter 6 examines help-seeking from friends, Chapter 7 analyses help-seeking from family members, and Chapter 8 applies the analytical procedure to predicting help-seeking from professionals.

Chapter 6

Help-Seeking from Friends

The most common form of help-seeking for these adolescents, both boys and girls, was seeking help from friends. In this chapter the theoretical models hypothesised to predict help-seeking behavior are estimated predicting help-seeking from friends. All four sub-sets of data were used. Cross-sectionally at Wave 1 and over the 12 months of the study, the facilitators of help-seeking and inhibitors of help-seeking in those with symptoms were examined.

Seeking Help From Friends at Wave 1

The bivariate relationships between the dependent help-seeking measures and the hypothesised predictors were first examined for the cross-sectional data collected at Wave 1 of the survey. Table 6.1 presents both the proportion of respondents who sought help and the proportion of those with symptoms who did not seek help, within categories of the independent variables. For presentation purposes the continuous independent variables were divided into categories, according to theory where possible. For example, the GHQ was divided into three groups; a score of 0 or 1 indicated no psychological impairment, a score of 2 or 3 indicated mild problems, and a score of 4 or more indicated moderate or severe problems (Goldberg, 1972). For many of the independent measures there was no such theoretical guidance, however. The frequency distributions of these measures were examined and they were divided into groups modally.

As a measure of association, the Pearson Chi-Square statistic was used. Help-seeking from friends appeared to be related to all the predictors except health value, which did not attain a significant Chi-Square statistic. Symptoms, gender (being female), a positive attitude to psychological illness, greater health concern, less fear of stigma, greater availability of frank and confiding relationships, feelings

of loneliness, more life events, higher private self-consciousness, higher extraversion, and more negatively perceived mental health status were all associated with seeking help from friends. The effect of extraversion was also significant, but in the opposite direction to that predicted. Rather than inhibiting help-seeking, greater extraversion appeared to facilitate seeking help from friends.

When the sample was truncated to include only those with symptoms, the same variables also predicted not seeking help from friends. Exceptions were symptoms and loneliness. Once a respondent was considered a case, level of symptoms and feelings of loneliness did not further affect help-seeking. All the other variables were again significantly related to help-seeking, except health value which was, as before, unrelated to seeking help from friends. Those who were symptomatic but did not seek help were more likely to be males, have less health concern, more fear of the stigma attached to psychological illness, less availability of frank and confiding relationships, fewer life events, lower private self-consciousness, lower extraversion, and more positively perceived mental health.

These bivariate effects were also estimated in a logistic model. For each of the hypothesised predictors the change in deviance score from the null model confirmed the results of the Chi-Square analyses. Because so many of the predictors were significantly correlated with symptoms (see Table 3.27) these effects were reestimated statistically controlling for the effect of symptoms. Each effect that significantly predicted help-seeking on its own remained significant when the effect of symptoms was statistically controlled. This showed that it was not an association with symptoms alone that could account for differences between these bivariate effects and the following analyses of the multivariate models.

Table 6.1: Proportion of Help-Seekers and Those With Symptoms Who Did Not Seek Help Within Categories of the Independent Variables.

	Proportion Who Sought Help at Wave 1	Proportion of Those With Symptoms Who Did Not Seek Help at Wave 1
Total:	.62 (705)	.33 (337)
Gender:	***	***
male	.43 (308)	.52 (142)
female	.76 (397)	.19 (195)
Symptoms:	**	ns
none (GHQ 0-1)	.57 (368)	- (0)
mild (GHQ 2-3)	.61 (140)	.39 (140)
moderate (GHQ 4+)	.71 (197)	.29 (197)
Attitude to psychological illness:	*	*
negative (0-1)	.56 (52)	.49 (37)
neutral (2-4)	.58 (344)	.35 (147)
positive (5-6)	.67 (309)	.27 (153)
Health concern:	***	**
none (0-1)	.56 (461)	.39 (198)
mild (2-5)	.70 (227)	.27 (124)
moderate (6+)	.94 (17)	.07 (15)
Health value:	ns	ns
no	.62 (304)	.30 (158)
yes	.61 (401)	.36 (179)
Fear of stigma:	***	***
no (0-1)	.75 (299)	.16 (134)
some (2-3)	.60 (275)	.32 (124)
lots (4-5)	.33 (131)	.65 (79)
Availability of frank and confiding relationship:	***	***
no (0)	.30 (41)	.69 (32)
some (1-2)	.52 (207)	.42 (109)
lots (3-4)	.69 (457)	.32 (196)
Loneliness:	**	ns
no	.53 (247)	.36 (78)
yes	.66 (458)	.32 (259)
Life events:	***	*
none (0)	.45 (53)	.61 (13)
(1-2)	.56 (181)	.38 (74)
(3-5)	.59 (244)	.36 (115)
(6-8)	.71 (152)	.24 (86)
(9+)	.75 (75)	.26 (49)
Private self-consciousness:	***	***
low (5-24)	.40 (102)	.63 (27)
medium (25-44)	.63 (506)	.33 (250)
high (45-60)	.78 (76)	.22 (60)

Pearson's Chi-Square statistically significant at *p<.05 **p<.01 ***p<.001

continued ...

Note. Number of respondents in brackets.

Table 6.1: Continued.

	Proportion Who Sought Help at Wave 1	Proportion of Those With Symptoms Who Did Not Seek Help at Wave 1
Extraversion:	***	***
low (0-2)	.48 (87)	.55 (49)
medium (3-5)	.57 (292)	.37 (153)
high (6-8)	.69 (325)	.21 (135)
Perceived health status:	***	***
no problems (0)	.46 (250)	.52 (54)
minor (1)	.65 (307)	.37 (156)
mild (2)	.77 (9)	.24 (78)
moderate (3)	.88 (49)	.12 (40)
severe (4)	.78 (9)	.22 (9)

Pearson's Chi-Square statistically significant at *p<.05 **p<.01 ***p<.001

Predicting Those Who Sought Help

At Wave 1 the majority of the sample (61.4 percent) sought help from friends. Parameter estimates for the multivariate theoretical models of help-seeking behavior (presented in Table 5.1) applied to predicting seeking help from friends are presented in Table 6.2. The inclusion of variables follows the hierarchy presented in Table 5.1. All the models contributed significantly to the explanation of seeking help from friends, with the exception of the model including attitudes and values.

In the first model, symptoms were shown to significantly predict help-seeking from friends in the direction predicted, with more symptoms increasing the probability of seeking help. The change in deviance from the base model was highly significant. Symptoms retained their significant effect in all of the models except Model 7. The inclusion of perceived mental health status, which was highly correlated with symptoms (Pearson r=.59), caused the effect of symptoms to become non-significant. The possibility of a multicollinearity problem between these variables was mentioned earlier (p.100), and appears to be confirmed by this result. Symptoms and perceived mental health status were competing to explain a similar portion of variance in help-seeking from friends.

The addition of gender in Model 2 added significantly to the regression equation when symptoms were already present. The change in deviance from Model 1 was quite substantial (74.6). This provides evidence of a gender difference in seeking help from friends, after adjusting for psychological distress. The effect was in the direction predicted, with girls more likely than boys to seek help. Gender retained a strong significant effect in each of the models. Because gender differences were so pervasive in the data, it was further hypothesised that the overall main effects model may have been different for boys and girls. This was tested by including all possible gender interactions in Model 10. The change in deviance adding all possible gender interactions was not significant. The main effects model was, therefore, similar for both boys and girls.

The inclusion of the social support variables in Model 3 attained a significant change in deviance from Model 2, and remained significant over all the models. Both availability of frank and confiding relationships and feelings of loneliness were significant predictors in the directions hypothesised. Greater availability of frank and confiding relationships predicted talking to friends about emotional problems, as did sometimes or often feeling lonely. Feelings of loneliness and having support available were not mutually exclusive and both exhibited a direct effect on help-seeking.

The attitude and value variables in Model 4 did not attain a significant change in deviance from Model 3. Attitude to psychological illness was not a significant predictor of help-seeking in this model, although the bivariate analyses showed a significant direct effect (see Table 6.1). Its effect was no longer significant after adjusting for symptoms, gender and social support. Attitude to psychological illness was significantly correlated with availability of frank and confiding relationships (see Table 3.27), and this association may account for its bivariate effect. Health value was shown to be unrelated to help-seeking from friends in both the bivariate and multivariate analyses. Higher health value did not facilitate help-seeking.

The addition of the more specific health belief measures, health concern and fear of the stigma attached to being psychologically ill, did attain a significant change in deviance when entered in Model 5. Both health concern and fear of stigma predicted help-seeking from friends in the hypothesised directions, with greater concern and greater fear increasing the probability of seeking help.

Life events were included at Model 6, and were shown to add significantly to the equation and predict help-seeking from friends in the expected direction. More life events increased the probability of seeking help for an emotional problem from friends.

The personality variables of private self-consciousness and extraversion both contributed significantly to the explanation of help-seeking when entered at Model 7. Private self-consciousness predicted seeking help in the expected direction, with those higher on the trait more likely to seek help. The hypothesised interaction of private self-consciousness and life events, estimated in Model 9, was not significant. The effect of private self-consciousness, therefore, did not depend on the level of life events. Extraversion was significant in the opposite direction to that hypothesised. Rather than those high in extraversion being less likely to seek help, they were significantly more likely to seek help from friends. Extraversion and availability of frank and confiding relationships were very highly correlated (see Table 3.27), and the more sociable behavior of extraverts in general may account for their greater likelihood to discuss personal problems with friends.

In the final main effects model (Model 8), all the hypothesised predictors were significant with the exception of symptoms, attitude to psychological illness and health value. Symptoms were unrelated to help-seeking in the final model because their effect was carried by perceived mental health status, while general health attitudes and values were unrelated to seeking help from friends. Gender, availability of frank and confiding relationships, fear of stigma, private self-consciousness, perceived mental health status, health concern, loneliness and

extraversion were all significant predictors of help-seeking from friends in the final multivariate model.

These analyses revealed that there were multiple facilitators of seeking help from friends at Wave 1. Psychological symptoms were undeniably important, however, perception of mental health status appeared to be a stronger predictor than symptoms. Those respondents who had more symptoms and who realised that their mental health status was poor were most likely to seek help from their friends for psychological problems. Regardless of level of psychological distress, girls were more likely to seek help than boys. Neither symptoms nor recognition of symptoms as a problem explained why girls sought help more than boys. None of the other emotional vulnerability factors explained the gender difference either, and gender remained highly significant in the final multivariate model. Specific health beliefs tapping fear of the stigma attached to psychological illness and concern about personal health also predicted help-seeking, but more general health attitudes and values were unrelated to seeking help from friends. Having more availability of frank and confiding relationships understandably predicted talking to friends about emotional problems, as did feeling lonely. With these more obvious determinants of help-seeking controlled, greater vulnerability to emotional problems as evidenced by more life events and higher private self-consciousness further explained this type of help-seeking behavior. Contrary to hypotheses, higher extraversion did not appear to protect against this vulnerability, as those higher on the trait were also more likely to share personal problems with friends, possibly due to their more sociable behavior in general.

Table 6.2: Parameter Estimates for the Logit Models of the Proportion of Respondents Who Sought Help From Friends.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
constant	.18	-.53	-2.14	-2.47	-1.48	-1.81	-3.62	-3.63
	(.10)	(.13)	(.34)	(.38)	(.46)	(.47)	(.62)	(.63)
GHQ	.12***	.12***	.14***	.14***	.13***	.11**	.08*	.00
	(.03)	(.03)	(.03)	(.03)	(.04)	(.04)	(.04)	(.04)
gender		1.39***	1.33***	1.34***	1.08***	1.18***	1.14***	1.03***
		(.17)	(.17)	(.17)	(.18)	(.18)	(.19)	(.19)
avfc			.46***	.45***	.33***	.34***	.29**	.33***
			(.08)	(.08)	(.09)	(.09)	(.09)	(.09)
loneliness			.55**	.56**	.57**	.52**	.48*	.46*
			(.18)	(.19)	(.19)	(.19)	(.20)	(.21)
attitude				.10	.09	.07	.04	.02
				(.05)	(.06)	(.06)	(.06)	(.06)
health value				-.11	-.13	-.11	-.02	-.00
				(.17)	(.18)	(.18)	(.19)	(.19)
health concern					.21***	.20***	.18**	.18**
					(.06)	(.06)	(.06)	(.06)
stigma					-.35***	-.34***	-.32***	-.33***
					(.07)	(.07)	(.07)	(.07)
life events						.10***	.09**	.08**
						(.03)	(.03)	(.03)
extraversion							.11*	.12*
							(.05)	(.05)
private self-consciousness							.05***	.04***
							(.01)	(.01)
perceived health status								.53***
								(.13)
Deviance	920.4	845.7	806.1	802.2	764.3	752.5	728.6	712.4
df	703	702	700	698	696	695	693	692
Change from previous model:								
Deviance	19.0***	74.6***	39.6***	3.9	37.9***	11.8***	23.9***	16.1***
df	1	1	2	2	2	1	2	1

coefficient statistically significant at *p<.05 **p<.01 ***p<.001

Note. Standard errors are in parentheses.
For models 3,4,5 and 7 the effect of each variable was also estimated individually rather than as a group. The same pattern of significance was attained.
Models 9 and 10, including the interaction terms, are not included in the table because their addition did not attain a significant change in deviance from the main effects model.

Predicting Those With Symptoms Who Did Not Seek Help

Nearly half the Wave 1 sample (47.8 percent) scored 2 or more on the General Health Questionnaire and were, therefore, considered symptomatic or cases. A considerable number of these, 112 or 33.2 percent, did not seek help from their friends. It was of interest to determine whether the same factors that were shown to facilitate help-seeking also operated, in the opposite direction, to inhibit help-seeking when symptoms indicated it was warranted.

Table 6.3 presents parameter estimates for the theoretical models of help-seeking applied to predicting those with symptoms who did not seek help. All the models added significantly to the prediction of help-seeking, although fewer predictors emerged as significant in the final model compared with the previous analysis predicting seeking help. Variables that were shown to be facilitators of help-seeking in the previous sub-sample, but were not inhibitors of help-seeking in those with symptoms were loneliness, health concern and life events.

Loneliness became non-significant in the bivariate analyses when only those with symptoms were considered. Loneliness was significantly correlated with symptoms and the distinction between a case and non-case on the GHQ accounted for the facilitative effect of feeling lonely predicting help-seeking. When only those with symptoms were considered, feeling lonely no longer impacted on help-seeking.

Life events attained a significant change in deviance when entered in Model 6, but were not significant in the next model. This contrasted with their effect predicting seeking help where they were significant in the final model. Their multivariate effect predicting those with symptoms who did not seek help became non-significant with the addition of the personality measures, particularly private self-consciousness with which it was significantly correlated.

The health concern measure also behaved differently between the analyses of help-seekers and those with symptoms who did not seek help. While it was highly significant in all the models predicting seeking help, its effect became non-significant with the addition of life events predicting those with symptoms who did

not seek help. For this sub-sample the effect of health concern appeared to be indirectly through its association with life events.

The more general attitude and value variables also varied in their effect as inhibitors rather than facilitators of help-seeking. The attitude and value variables did attain a significant change in deviance predicting those with symptoms who did not seek help, while they were unrelated to help-seeking in the previous sub-sample. Only attitude to psychological illness exhibited a significant parameter estimate, however, showing that a more negative attitude to psychological illness inhibited seeking help. This effect was not significant after life events were added to the regression equation, indicating that the effect of attitude to psychological illness was, like that of health concern, indirectly through life events.

In the final model predicting those with symptoms who did not seek help, fear of stigma, gender, availability of frank and confiding relationships, extraversion, private self-consciousness and perceived mental health status were significant. These variables were also significant predictors of those who sought help and appear to act both as facilitators of help-seeking and as inhibitors of help-seeking for those with symptoms. Symptoms were again less relevant than perceived mental health status when predicting those who did not seek help. Psychological health was still important, however, even when everyone was symptomatic to some degree. The gender difference was also still evident, and boys were less likely to seek help than girls. Greater fear of the stigma attached to psychological illness and not having a frank and confiding relationship available also inhibited help-seeking from friends. When the effects of symptoms, social support, health attitudes and values were statistically controlled, being lower on the personality traits of extraversion and private self-consciousness further inhibited seeking help from friends.

Several other variable that were significant predictors of seeking help: life events, loneliness and health concern, were not significant predictors of those with symptoms who did not seek help in the final model. The effects of these variables

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Several other variable that were significant predictors of seeking help: life events, loneliness and health concern, were not significant predictors of those with symptoms who did not seek help in the final model. The effects of these variables

were more as facilitators than inhibitors of help-seeking. General health attitudes and values were again shown to be mostly unrelated to seeking help from friends.

Table 6.3: Parameter Estimates for the Logit Models of the Proportion of Those With Symptoms Who Did Not Seek Help From Friends.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
constant	-.02	.61	2.41	2.93	1.56	1.98	3.75	3.83
	(.24)	(.28)	(.50)	(.61)	(.73)	(.76)	(.99)	(1.01)
GHQ	-.15**	-.12*	-.19***	-.19**	-.16**	-.16*	-.15*	-.08
	(.05)	(.05)	(.06)	(.06)	(.06)	(.06)	(.06)	(.07)
gender		-1.44***	-1.32***	-1.36***	-1.04***	-1.12***	-1.08***	-.95**
		(.25)	(.26)	(.27)	(.28)	(.29)	(.30)	(.30)
avfc			-.59***	-.60***	-.45***	-.46***	-.36**	-.38**
			(.11)	(.11)	(.12)	(.12)	(.13)	(.13)
loneliness			-.10	-.17	-.24	-.18	-.13	-.13
			(.31)	(.32)	(.34)	(.35)	(.36)	(.36)
attitude				-.18*	-.18*	-.16	-.12	-.08
				(.08)	(.09)	(.08)	(.09)	(.09)
health value				.48	.48	.45	.33	.30
				(.27)	(.28)	(.29)	(.29)	(.30)
health concern					-.16*	-.15	-.15	-.16
					(.08)	(.08)	(.09)	(.09)
stigma					.43***	.42***	.41***	.43***
					(.10)	(.10)	(.11)	(.11)
life events						-.10*	-.07	-.06
						(.04)	(.04)	(.04)
extraversion							-.17*	-.18*
							(.08)	(.08)
private self-consciousness							-.04*	-.04*
							(.02)	(.02)
perceived health status								-.41*
								(.18)
Deviance	418.4	383.0	352.0	343.7	321.6	316.2	304.5	299.1
df	335	334	332	330	328	327	325	324
Change from previous model:								
Deviance	10.2***	35.4***	31.0***	8.3*	22.1***	5.4*	11.7**	5.4*
df	1	1	2	2	2	1	2	1

coefficient statistically significant at *p<.05 **p<.01 ***p<.001

Note. Standard errors are in parentheses.
For models 3,4,5 and 7 the effect of each variable was also estimated individually rather than as a group. The same pattern of significance was attained.
Models 9 and 10, including the interaction terms, are not included in the table because their addition did not attain a significant change in deviance from the main effects model.

Help-Seeking Over Time

To examine help-seeking over the entire twelve months of the study, the number of times each respondent sought help from friends over the five waves that data were collected was calculated. These data are presented in Table 6.4. Of the 334 respondents who completed a questionnaire at all five waves, nearly half (48.7%) sought help from friends four or five times and were considered frequent help-seekers. In contrast, very few respondents (11.7 percent) did not seek help at all from their friends over this period. Of the total longitudinal sample, 263 (or 78.7 percent) were symptomatic; that is, scored 2 or more on the GHQ, on at least one occasion. Help-seeking from friends was so prevalent that only 18 (or 6.8 percent) of those who were symptomatic never sought help from friends. It was of interest to examine why so many respondents nearly always sought help and a few never did.

Table 6.4: Number of Times Help Was Sought Over the Five Waves.

Number of Times Help Was Sought	Number of Respondents	Percentage of Respondents
0	39	11.7
1	43	12.9
2	41	12.3
3	48	14.4
4	62	18.6
5	101	30.2

Table 6.5 presents the proportion of those who sought help frequently, and the proportion of those with symptoms at any time who never sought help, broken down by categories of the independent variables. Frequently seeking help was related to all the predictors except health concern, health value and loneliness. Symptoms, gender (being female), a positive attitude to psychological illness, less fear of stigma, greater availability of frank and confiding relationships, more life events, higher private self-consciousness, higher extraversion, and more negatively

perceived mental health status were all associated with frequent help-seeking from friends. When the sample was truncated to include only those who were symptomatic at any time, never seeking help was similarly related to gender (being male), symptoms (fewer), a negative attitude to psychological illness, more fear of stigma, fewer life events, less private self-consciousness, and more positive mental health status. Never seeking help was, like frequently seeking help, unrelated to health concern, health value, and loneliness. Unlike frequently seeking help it was also unrelated to availability of frank and confiding relationships and extraversion.

The results of each of the Chi-Square analyses were confirmed with logistic regression procedures. To control for the influence of symptoms, the effect of each variable was reestimated with symptoms included in the model. Significant bivariate effects remained unchanged when symptoms were statistically controlled.

Table 6.5: Proportion of Frequent Help-Seekers and Those With Symptoms Who Never Sought Help Within Categories of the Independent Variables.

	Proportion Who Frequently Sought Help Over 12 Months	Proportion With Symptoms Who Never Sought Help Over 12 Months
Total:	.49 (334)	.07 (263)
Gender:	***	***
male	.20 (108)	.15 (79)
female	.62 (226)	.03 (184)
Symptoms:	***	***
none (GHQ 0-1)	.28 (128)	.19 (57)
mild (GHQ 2-3)	.56 (124)	.05 (124)
moderate (GHQ 4+)	.69 (82)	.01 (82)
Attitude to psychological illness:	*	*
negative (0-1)	.50 (26)	.16 (25)
neutral (2-4)	.41 (157)	.07 (123)
positive (5-6)	.57 (151)	.04 (115)
Health concern:	ns	ns
none (0-1)	.46 (217)	.08 (162)
mild (2-5)	.54 (110)	.04 (94)
moderate (6+)	.71 (7)	.14 (7)
Health value:	ns	ns
no	.54 (132)	.08 (111)
yes	.45 (202)	.06 (152)
Fear of stigma:	**	**
no (0-1)	.57 (150)	.01 (113)
some (2-3)	.47 (134)	.10 (107)
lots (4-5)	.28 (50)	.14 (43)
Availability of frank and confiding relationship:	*	ns
no (0)	.23 (17)	.13 (15)
some (1-2)	.43 (99)	.11 (85)
lots (3-4)	.53 (218)	.04 (163)
Loneliness:	ns	ns
no	.43 (109)	.09 (68)
yes	.52 (225)	.06 (195)
Life events:	***	**
none (0)	1.00 (5)	.25 (4)
(1-2)	.28 (119)	.16 (77)
(3-5)	.50 (166)	.03 (139)
(6-8)	.73 (38)	.03 (37)
(9+)	.80 (6)	.00 (6)

Pearson's Chi-Square statistically significant at *p<.05 **p<.01 ***p<.001

continued ...

Note. Number of respondents in brackets.

Table 6.5: Continued.

	Proportion Who Frequently Sought Help Over 12 Months	Proportion With Symptoms Who Never Sought Help Over 12 Months
Private self-consciousness:	***	***
low (5-24)	.23 (47)	.23 (26)
medium (25-44)	.50 (233)	.06 (190)
high (45-60)	.65 (54)	.00 (47)
Extraversion:	*	ns
low (0-2)	.34 (50)	.14 (42)
medium (3-5)	.46 (138)	.07 (108)
high (6-8)	.56 (146)	.03 (113)
Perceived health status:	***	***
no problems (0)	.21 (116)	.20 (103)
minor (1)	.61 (167)	.03 (154)
mild (2)	.72 (3)	.02 (4)
moderate (3)	.75 (8)	.00 (8)
severe (4)	- (0)	- (0)

Pearson's Chi-Square statistically significant at *p<.05 **p<.01 ***p<.001

Predicting Those Who Sought Help Frequently

Nearly half the longitudinal sample were frequent help-seekers. The theoretical models of help-seeking behavior applied to predicting these people are presented in Table 6.6. Like predicting help-seekers at Wave 1, all the models significantly added to the explanation of help-seeking with the exception of the attitude and value variables.

The addition of average symptom scores over the 12 months in Model 1 attained a highly significant change in deviance, as did current symptoms predicting help-seeking at Wave 1. More symptoms facilitated help-seeking. The effect again became non-significant with the addition of perceived mental health status. The multicollinearity of these variables has already been discussed.

Gender, entered in Model 2, was again a strong predictor of help-seeking. Being female predicted frequently seeking help regardless of level of symptoms. The gender effect was consistent with the addition of each of the other variable groups, indicating that none of the other predictors explained the difference between

boys and girls. The addition of all possible gender interactions did not attain a significant change in deviance, showing that the main effects model was, as in the previous sub-samples, appropriate for both boys and girls.

The inclusion of the social support variables in Model 3 attained a significant change in deviance from the model containing symptoms and gender. Only the parameter estimate for availability of frank and confiding relationships was significant, however, and its effect was not consistent across the multivariate analyses. Availability of social support became non-significant with the addition of the health belief variables in Model 5, and was not significant in the final model. This contrasted with its effect predicting help-seeking at Wave 1 where it was highly significant in the final model. Although the social support measure was relatively stable over time, this suggests that a current assessment of social support is necessary to predict help-seeking. Similarly, current feelings of loneliness predicted seeking help at Wave 1, but were not related to frequent help-seeking over time. Feelings of loneliness were shown in Chapter 3 to be more transient, and again a current assessment appears most relevant.

The general health attitudes and values measured by attitude to psychological illness and health value did not attain a significant change in deviance from Model 3. This confirmed the findings of the cross-sectional data that they were unrelated to seeking help from friends.

More specific health beliefs in terms of concern about health and fear of stigma attached to psychological illness did attain a significant change in deviance, and were again shown to be related to help-seeking more strongly than general health attitudes. Only fear of stigma exhibited a significant parameter estimate, however. Less fear of stigma facilitated frequent help-seeking, and this effect was significant throughout the models. Concern about health had neither a significant bivariate nor a significant multivariate effect predicting frequent help-seeking, whereas it had a strong and consistent multivariate effect predicting help-seeking at Wave 1. Concern about health was not stable over time and a current assessment

may be necessary for an effect predicting help-seeking.

The inclusion of life events in Model 6 attained a significant change in deviance from the previous model, and retained this effect in the final model. More average life events over the 12 months predicted frequent help-seeking from friends, as more current life events predicted help-seeking at Wave 1.

When the personality variables were included in Model 7, they attained a highly significant change in deviance from Model 6, due to the significant effect of private self-consciousness. The interaction of private self-consciousness and life events was non-significant, so the main effect of high private self-consciousness facilitating help-seeking was not dependent on level of life events. Higher private self-consciousness was again highly predictive of seeking help from friends. Extraversion was unrelated to frequently seeking help, as evidenced by non-significant bivariate and multivariate effects. This contrasted with its significant effect predicting seeking help at Wave 1. While extraversion facilitated current help-seeking it did not affect frequent help-seeking from friends over time.

In the final model predicting frequent help-seeking behavior, gender, private self-consciousness, life events, fear of stigma, and perceived mental health status were significant. These variables were also significant in the cross-sectional data. Those who frequently sought help from their friends over the 12 months of the study were, therefore, those who had higher average symptom scores and, perhaps more importantly, more negatively perceived mental health status on average over the 12 months. It was also girls who were more likely to frequently seek help from friends than boys. More average life events over the 12 months, and higher private self-consciousness also facilitated help-seeking.

Variables that did not predict frequently seeking help that did predict help-seeking at Wave 1 were loneliness, health concern, and extraversion. The effect of availability of frank and confiding relationships was evident but less strong over time, and a more current assessment of social support may be necessary. Attitude to

psychological illness and health value were unrelated to facilitating help-seeking either at Wave 1 or over time.

Table 6.6: Parameter Estimates for the Logit Models of the Proportion of Respondents Who Sought Help Frequently From Friends.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
constant	-.79	-1.95	-2.88	-3.00	-2.11	-2.57	-4.92	-4.89
	(.18)	(.28)	(.49)	(.58)	(.66)	(.69)	(.95)	(.97)
GHQ	.38***	.34***	.39***	.38***	.41***	.33***	.29**	.16
	(.07)	(.08)	(.08)	(.08)	(.09)	(.09)	(.09)	(.11)
gender		1.75***	1.63***	1.63***	1.44***	1.48***	1.63***	1.40***
		(.28)	(.28)	(.28)	(.29)	(.30)	(.32)	(.33)
avfc			.31**	.31**	.22	.20	.19	.22
			(.12)	(.12)	(.13)	(.13)	(.14)	(.14)
loneliness			.09	.11	.21	.12	.02	.01
			(.28)	(.28)	(.29)	(.30)	(.32)	(.32)
attitude				.05	.04	.04	-.02	-.02
				(.08)	(.08)	(.08)	(.08)	(.08)
health value				-.15	-.15	-.13	.07	.07
				(.26)	(.27)	(.27)	(.28)	(.29)
health concern					-.04	-.06	-.11	-.11
					(.08)	(.08)	(.08)	(.09)
stigma					-.28**	-.28**	-.22*	-.23*
					(.10)	(.10)	(.11)	(.11)
life events						.22**	.21**	.20**
						(.07)	(.08)	(.08)
extraversion							.03	.06
							(.07)	(.07)
private self-consciousness							.07***	.06***
							(.02)	(.02)
perceived health status								.64*
								(.27)
Deviance	428.5	384.6	377.7	376.9	368.7	359.9	341.9	336.1
df	332	331	329	327	325	324	322	321
Change from previous model:								
Deviance	34.3***	43.9***	36.8*	0.9	8.1*	8.9**	17.9***	5.8*
df	1	1	2	2	2	1	2	1

coefficient statistically significant at *p<.05 **p<.01 ***p<.001

Note. Standard errors are in parentheses.
For models 3,4,5 and 7 the effect of each variable was also estimated individually rather than as a group. The same pattern of significance was attained.
Models 9 and 10, including the interaction terms, are not included in the table because their addition did not attain a significant change in deviance from the main effects model.

Predicting Those With Symptoms Who Never Sought Help

Help-seeking from friends was so pervasive in this adolescent sample that very few of those with symptoms (6.8 percent) never sought help from friends. The behavior of this small group was unusual, given the overwhelming trend towards talking to friends about psychological problems.

Table 6.8 presents the parameter estimates for the theoretical models of help-seeking applied to predicting those with symptoms who never sought help from friends. Many of the variables that attained significant bivariate effects (shown in Table 6.6) did not retain these effects when predicting so few people in the multivariate models.

The effect of symptoms remained significant across all the multivariate models with fewer symptoms predicting those who never sought help. Of interest was the finding that perceived mental health status did not attain a significant change in deviance when included at Model 8; the effect of symptoms retained its significance over that of recognition. In each of the previous multivariate analyses, the addition of perceived mental health status was significant and caused the effect of symptoms to become non-significant. In this sub-sample the reverse occurred. This is believed to be a statistical anomaly resulting from the multicollinearity of these variables. In this case, symptoms happened to retain their significance, which caused perceived mental health status to be non-significant in the final model.

As in all the previous sub-samples, gender attained a significant change in deviance when entered at Model 2, and retained this effect through to the final model. Boys were more likely than girls to never seek help. The significance of the gender interactions could not be estimated for this sub-sample. Because so few people were being predicted, the regression model could not reach convergence with so many predictors.

The addition of the social support variables at Model 3 did not attain a significant change in deviance. While the parameter estimate for availability of

frank and confiding relationships did reach significance when first entered, with less availability inhibiting help-seeking, this effect became non-significant in Model 5 with the addition of the health belief variables. Social support was negatively correlated with fear of the stigma attached to psychological illness, and in this sub-sample its effect on help-seeking was indirectly through this fear. Feelings of loneliness measured at Wave 1 were again unrelated to help-seeking over time.

The attitude and value variables were further confirmed as being unrelated to help-seeking from friends in this sub-sample. Also non-significant were the more specific health belief variables. Although the parameter estimate for fear of stigma was significant when first entered, it did not retain its significance in the final model.

The inclusion of life events attained a significant change in deviance, with fewer life events predicting never seeking help when first added to the regression equation, but did not retain this significance in the final model.

The personality variables attained a highly significant change in deviance at Model 7, and this was due to the effect of private self-consciousness alone. Lower private self-consciousness predicted never seeking help, and this effect was still highly significant in the final model. The interaction of private self-consciousness and life events was, as previously, non-significant. Extraversion was unrelated to predicting those with symptoms who never sought help.

Only three variables retained a significant effect in the final model predicting those with symptoms who never sought help from their friends over the 12 months. These were symptoms, gender and private self-consciousness. These three variables significantly predicted help-seeking in all the sub-samples. The small group of people who never sought help from their friends were most likely to be boys, those with fewer symptoms and lower private self-consciousness. Several other variables, that were significant predictors in the previous sub-sample of frequent help-seekers, were significant predictors when first entered into the multivariate analyses, but did not retain these effects in the final model predicting those who never sought help from friends. These were availability of frank and confiding relationships, fear of

stigma, and life events. The health attitude and value measures and health concern were unrelated to never seeking help for those with symptoms.

Table 6.7: Parameter Estimates for the Logit Models of the Proportion of Respondents With Symptoms Who Never Sought Help From Friends.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
constant	-.91	-.16	1.13	2.75	.72	1.63	7.31	7.51
	(.46)	(.53)	(.93)	(1.19)	(1.47)	(1.57)	(2.46)	(2.54)
GHQ	-.97**	-.96**	-1.08**	-1.19***	-1.20***	-1.04**	-1.09*	-.98*
	(.29)	(.31)	(.33)	(.35)	(.35)	(.36)	(.43)	(.45)
gender		-1.48**	-1.32*	-1.57**	-1.22*	-1.11	-2.22**	-1.75*
		(.54)	(.55)	(.58)	(.62)	(.64)	(.82)	(.87)
avfc			-.46*	-.51*	-.36	-.37	-.47	-.57
			(.23)	(.24)	(.25)	(.26)	(.31)	(.33)
loneliness			-.06	.17	.09	.21	.44	.31
			(.57)	(.59)	(.62)	(.66)	(.75)	(.76)
attitude				-.26	-.24	-.24	-.01	.04
				(.15)	(.16)	(.17)	(.19)	(.19)
health value				-.85	-.72	-.64	-1.31	-1.45
				(.55)	(.58)	(.59)	(.73)	(.75)
health concern					.07	.14	.35	.34
					(.19)	(.20)	(.23)	(.24)
stigma					.55*	.52*	.30	.34
					(.25)	(.26)	(.29)	(.29)
life events						-.48*	-.41	-.37
						(.23)	(.25)	(.25)
extraversion							-.29	-.29
							(.19)	(.19)
private self-consciousness							-.14**	-.14**
							(.04)	(.04)
perceived health status								-1.01
								(.75)
Deviance	114.0	105.9	102.0	96.3	90.7	85.5	69.7	67.9
df	261	260	258	256	254	253	251	250
Change from previous model:								
Deviance	17.3***	8.1**	3.9	5.7	5.6	5.2*	15.8***	1.9
df	1	1	2	2	2	1	2	1

coefficient statistically significant at *p<.05 **p<.01 ***p<.001

Note. Standard errors are in parentheses.
For models 3,4,5 and 7 the effect of each variable was also estimated individually rather than as a group. The same pattern of significance was attained.
Models 9 and 10, including the interaction terms, are not included in the table because their addition did not attain a significant change in deviance from the main effects model.

Facilitators and Inhibitors of Seeking Help From Friends

Four variables emerged as the strongest and most consistent predictors of help-seeking from friends: psychological distress (as evidenced by symptoms and perceived mental health status), gender, private self-consciousness, and fear of stigma. These variables were significant in the final multivariate analyses for most of the sub-samples.

Symptoms of psychological distress were, as expected (Ingham & Miller, 1982; Mechanic, 1983), one of the foremost predictors of help-seeking from friends. Adolescents with more psychological symptoms were likely to talk to friends about their psychological problems, while those with fewer psychological symptoms did not seek help from their friends. Even when the samples were truncated to include only those with symptoms, the level psychological distress, as indicated by number of symptoms, still predicted help-seeking behavior. Symptoms were, therefore, both a facilitator and an inhibitor of help-seeking; having more symptoms predicted seeking help and having fewer symptoms inhibited help-seeking in those who were cases.

The relationship between symptoms and perceived mental health status further illuminates the effect of psychological health on help-seeking. These two variables were, as expected, very highly correlated. Perception of mental health status was strongly associated with reported symptom level. Most of the help-seeking literature posits that symptoms must be perceived before they can be acted upon. Perception forms the basis of definition of mental health status, and it is the definition of health status, rather than reports of specific symptoms, that predicts health actions in terms of seeking help from friends. In each sub-sample the inclusion of perceived mental health status caused the effect of symptoms to become non-significant. The only exception was in the sub-sample of those with symptoms at some time over the 12 months, but who never sought help from a friend, where symptoms retained significance over perceived mental health status, in the final

multivariate model. In general, however, recognition of poor mental health was more important than symptom reports predicting talking to friends about personal problems.

Much previous research on illness behavior has demonstrated that symptoms are not the only, or even most consistent, predictor of help-seeking (Tuckett, 1976a), and the present data confirm this. For minor mental health problems, psychological distress seems to be a significant but a small part of the cause of help-seeking from friends. Other variables were equally important predictors of help-seeking behavior.

Gender was shown to be the most consistent predictor of help-seeking from friends. Girls were more likely to seek help at Wave 1, and were also more likely to be frequent help-seekers over the 12 months. Boys, even when symptomatic, were less likely to seek help at Wave 1, and were most likely to have never sought help from friends over the 12 months. These results support research with adults showing that women seek help from informal sources more than men (Horwitz, 1977).

Some research suggests that the reason girls are more likely to seek help is that they exhibit greater psychological distress (Gove, 1984). While the girls in this sample did show greater minor psychiatric disorder than boys, this was not the only reason for their greater help-seeking. Gender attained a strong effect predicting help-seeking even after level of symptoms was controlled. The direct effect of gender did not alter when included in a multivariate model accounting for the effect of symptoms. Regardless of the level of symptoms, girls still sought help from their friends for a psychological problem more than boys.

Other researchers maintain that girls are more likely to seek help because they are more likely to perceive their emotional distress (Kessler, Brown & Broman, 1981). In these data the inclusion of perceived mental health status did not reduce the gender effect. Gender retained a highly significant effect even when recognition of mental health was controlled. For seeking help from friends, girls seem to confide their psychological problems more than boys, regardless of level of psychological distress or perception of this distress.

As well as gender and psychological health, the personality trait of private self-consciousness had a strong and consistent effect predicting seeking help from friends. Being high on this trait facilitated help-seeking, while being low on the trait inhibited help-seeking in those with symptoms. Self-attention was hypothesised to be one of the major predictors of seeking help (Greenley & Mechanic, 1976a; Mechanic, 1982;1983) and a possible cause of the gender difference in help-seeking. Being more attentive to the self was shown to increase emotional vulnerability to psychological problems and facilitate attempts to cope, in terms of seeking help from friends for both boys and girls. It did not explain the gender difference, however, and it was not a difference in propensity to be self-attentive that accounted for girls confiding psychological problems to their friends more than boys.

The final variable to exhibit a consistent effect as both a facilitator and an inhibitor of help-seeking was fear of the stigma attached to psychological illness. Less fear of stigma facilitated help-seeking from friends, while more fear inhibited help-seeking even for those with symptoms, although this effect was indirectly through an association with private self-consciousness over time. Displaying appropriate behavior within the peer group is a preoccupation of adolescents. The significant effect of fear of stigma suggests that some young people believed that displaying psychological distress was inappropriate and feared that it may invite stigmatisation within their social circle. For others it was more acceptable to share personal problems as an expression of friendship. Because the peer group is such an important influence in adolescence, self-presentation and fear of stigma is a real concern.

Having more problems to talk about in the form of more life events exhibited a strong effect as a facilitator of help-seeking from friends. Those with more life events were more likely to talk to their friends about problems, even after the effect of psychological distress was controlled. This supports the hypothesis that life events not only affect the development of symptoms, but also directly affect seeking

help (Otto, 1979; Gortmaker, Eckenrode & Gore, 1982; Verbrugge, 1985), although the direct effect on help-seeking is not as strong. The association of life events with development of symptoms meant that life events acted more as facilitators of help-seeking. When only those with symptoms were considered, the effect of life events was attenuated somewhat, so that lack of life events were less of an inhibitor of help-seeking for those for whom it was warranted.

It was further hypothesised that life events may have been more salient for those adolescents high in private self-consciousness (Mechanic, 1989). The data did not support this hypothesis, as the interaction between private self-consciousness and life events was non-significant in each sub-sample. Both private self-consciousness and life events exhibited direct effects on help-seeking, and these effects were not moderated by levels of the other variable.

The variables related to social behavior were shown to have a greater impact when measured at the same time as help-seeking. Understandably, having support available encouraged its use (Amato & Bradshaw, 1985), but the effect of social support in the form of confiding relationships, which was measured at Wave 1, was not as strong predicting help-seeking over time. While its effect was significant when first entered in the multivariate models, it did not retain this significance in the final models. This was despite availability of frank and confiding relationships being shown to be quite stable, with mean levels not differing significantly from Wave 1 to Wave 4. It nevertheless exhibited a stronger effect at the time that it was measured. While mean levels of available support did not vary over time, the nature or quality of this support may have changed. The type of confidantes available after leaving school may have been newer and less open to sharing personal problems.

Feelings of loneliness did vary significantly over time, with fewer feeling lonely at the second testing. At both times, however, the majority of the sample reported feeling lonely. Adolescents often feel lonely regardless of having a great deal of available support (Goswick & Jones, 1982). Those who felt lonely at Wave 1 were more likely to talk to their friends about psychological problems, but this was

the only time that loneliness attained a significant effect. In all other sub-samples, loneliness was unrelated to seeking help from friends.

Also only significant at Wave 1 and related to social support was the effect of extraversion. This effect was, however, contrary to hypotheses. Very few previous studies have examined the effect of extraversion on help-seeking. It was hypothesised that if high private self-consciousness and its concomitant internal monitoring facilitated help-seeking, then high extraversion should protect against a preoccupation with internal thoughts and thereby inhibit help-seeking. This hypothesis was not supported by the data for help-seeking from friends. Higher extraversion was shown to facilitate rather than inhibit help-seeking. The effect was not strong, however, and while the direct effect of extraversion was significant in all four sub-samples, its multivariate effect was only significant when predicting help-seeking at Wave 1. In general, other variables were more relevant in predicting help-seeking from friends than extraversion. Extraversion was related to both gender, with girls being higher on the trait than boys, and to availability of frank and confiding relationships, with those with more availability being higher on the trait. The relationship of extraversion to other variables included in the theoretical models may partly explain the unexpected effect. It may also be simply that those who are more extraverted are more likely to talk to friends in general, including talking about psychological problems.

Concern about health exhibited also a significant direct effect on help-seeking for the cross-sectional, but not the longitudinal data. Health concern decreased significantly over the 12 months of the study, and concern measured at Wave 1 did not predict help-seeking over time. Only current health concern appeared to be relevant to seeking help. Health concern also acted more as a facilitator than an inhibitor of help-seeking. Because of its relationship with symptoms, analysing only those who were cases reduced its effect.

Consistent with the conclusions of other analyses of the effect of attitudes

predicting behavior (Snyder & Tanke, 1976), the more general attitude and value variables measured here were shown to have small and inconsistent effects predicting help-seeking from friends. Contrary to the suggestion of Sharp, Ross and Cockerham (1983), these weak effects did not improve when only those with symptoms were analysed. While attitude to psychological illness had a small direct effect in each of the sub-samples, this effect was non-significant when the effects of some of the other predictors were statistically controlled. Health value did not show a relationship to help-seeking from friends in any of the analyses. While this group of adolescents generally had positive attitudes to psychological illness and did value their health, these variables did not discriminate between those who did and did not seek help from friends.

Conclusion

The theoretical models were shown to apply particularly well to predicting help-seeking from friends. Most of the hypothesised predictors attained significant bivariate effects in the expected directions, and many of these effects were retained in the multivariate models. In particular, more help-seeking from friends was consistently related to the vulnerability factors of more psychological distress, especially recognition of this distress, being female, higher private self-consciousness, and less fear of the stigmatising consequences of admitting to psychological illness. Greater discontinuity in terms of more life events also facilitated help-seeking. The general health attitudes and values were unrelated to seeking help, while more specific health beliefs related to fear of stigma, and to some extent concern with health encouraged talking to friends about emotional problems. Social support had the greatest effect on help-seeking at the same time that it was measured. Talking to friends about psychological problems was most evident for those adolescents who were distressed, had problems, and had a group of friends who accepted and encouraged attention to problems and sharing of distress.

Chapter 7

Help-Seeking from Family

Seeking help from family members was the next most common form of help-seeking after seeking help from friends. In this chapter the theoretical models hypothesised to predict help-seeking were applied to help-seeking from family. The same format used in the previous chapter of examining the bivariate effects followed by the multivariate models of the hypothesised predictors over the four sub-samples will again be followed. A very different pattern of predictors emerged compared with that for seeking help from friends.

Seeking Help From Family at Wave 1

The bivariate relationships between the proportions of both those who sought help and those with symptoms who did not seek help and the predictor variables are presented in Table 7.1. As in the previous chapter, the continuous independent variables were divided into categories for the purpose of presentation.

Those who sought help from family members were more likely to be girls, to have more symptoms, greater concern with their health, more availability of frank and confiding relationships, higher private self-consciousness, and more negatively perceived mental health status. Seeking help from family was not related to attitude to psychological illness, health value, fear of stigma, loneliness, life events, or extraversion.

When the sample was truncated to include only those with symptoms, a different pattern emerged. None of the measures were significantly related to family help-seeking, with the exception of availability of frank and confiding relationships. Those who were unlikely to seek help when symptomatic were those without close intimate relationships.

These effects were confirmed in a logistic model. For each of the hypothesised predictors the change in deviance score from the null model confirmed the results of the Chi-Square analyses. These bivariate effects did not vary when included in a multivariate model controlling for the effect of symptoms.

Table 7.1: Proportion of Help-Seekers and Those With Symptoms Who Did Not Seek Help Within Categories of the Independent Variables.

	Proportion Who Sought Help at Wave 1	Proportion of Those With Symptoms Who Did Not Seek Help at Wave 1
Total:	.30 (705)	.63 (337)
Gender:	**	ns
male	.24 (308)	.68 (142)
female	.35 (397)	.58 (195)
Symptoms	***	ns
none (GHQ 0-1)	.23 (368)	- (0)
mild (GHQ 2-3)	.37 (140)	.63 (140)
moderate (GHQ 4+)	.38 (197)	.62 (197)
Attitude to psychological illness:	ns	ns
negative (0-1)	.40 (52)	.62 (37)
neutral (2-4)	.28 (344)	.61 (147)
positive (5-6)	.30 (309)	.64 (153)
Health concern:	**	ns
none (0-1)	.27 (461)	.65 (198)
mild (2-5)	.34 (227)	.62 (124)
moderate (6+)	.65 (17)	.33 (15)
Health value:	ns	ns
no	.31 (304)	.63 (158)
yes	.29 (401)	.62 (179)
Fear of stigma:	ns	ns
no (0-1)	.30 (299)	.63 (134)
some (2-3)	.32 (275)	.60 (124)
lots (4-5)	.26 (131)	.66 (79)
Availability of frank and confiding relationship:	**	***
no (0)	.07 (41)	.91 (32)
some (1-2)	.30 (207)	.66 (109)
lots (3-4)	.32 (457)	.56 (196)
Loneliness:	ns	ns
no	.26 (247)	.67 (78)
yes	.32 (458)	.61 (259)

Pearson's Chi-Square statistically significant at *p<.05 **p<.01 ***p<.001

continued ...

Note. Number of respondents in brackets.

Table 7.1: Continued.

	Proportion Who Sought Help at Wave 1	Proportion of Those With Symptoms Who Did Not Seek Help at Wave 1
Life events:	ns	ns
none (0)	.23 (53)	.77 (13)
(1-2)	.29 (181)	.61 (74)
(3-5)	.29 (244)	.63 (115)
(6-8)	.33 (152)	.63 (86)
(9+)	.33 (75)	.59 (49)
Private self-consciousness:	**	ns
low (5-24)	.19 (102)	.67 (27)
medium (25-44)	.31 (506)	.62 (250)
high (45-60)	.38 (76)	.62 (60)
Extraversion:	ns	ns
low (0-2)	.36 (87)	.67 (49)
medium (3-5)	.25 (292)	.65 (153)
high (6-8)	.32 (325)	.57 (135)
Perceived health status:	***	ns
no problems (0)	.19 (250)	.70 (54)
minor (1)	.34 (307)	.63 (156)
mild (2)	.43 (9)	.55 (78)
moderate (3)	.35 (49)	.62 (40)
severe (4)	.33 (9)	.67 (9)

Pearson's Chi-Square statistically significant at *p<.05 **p<.01 ***p<.001

Predicting Those Who Sought Help

At Wave 1, 29.9 percent of the sample sought help from their family. Table 7.2 presents the parameter estimates and change in deviance scores for the theoretical models applied to predicting help-seeking from family.

As was the case predicting help-seeking from friends, adding symptoms to the null model attained a highly significant change in deviance score. Those respondents with higher symptom levels were more likely to seek help from their family. Again, the significance of this effect was gradually diminished with the addition of other variables until, with perceived health status, it became non-significant. The mental health perception measure itself did not attain a significant change in deviance when entered at Model 8. It did exhibit a highly significant direct effect in the expected direction, with more poorly perceived mental health

facilitating help-seeking, but when it was included with symptoms and other variables affecting emotional vulnerability, mental health perception did not add to the prediction of help-seeking from the family. Neither symptoms nor recognition of poor mental health were significant in the final model. This provides some evidence that other variables may be more important than psychological health predicting talking to family about personal problems, but is also a result of both mental health measures competing to explain the same portion of variance in help-seeking.

The effect of gender remained consistently significant in all the models. Girls were significantly more likely than boys to seek help from family members. The addition of all possible gender interactions was non-significant, resulting in the same main effects model being used for both boys and girls.

The inclusion of the social support variables after symptoms and gender yielded a significant deviance. Confirming the bivariate results, only availability of frank and confiding relationships exhibited a significant parameter estimate, however. Greater availability of frank and confiding relationships facilitated help-seeking from the family. Loneliness did not make a significant contribution to family help-seeking.

Like predicting help-seeking from friends, the general health attitude and value measures, entered in Model 4 were again unrelated to help-seeking, this time from the family. However, for family help-seeking, the more specific health beliefs of health concern and fear of stigma also did not attain a significant change in deviance. The significant bivariate effect of health concern was shown by the multivariate models to be due to its relationship with private self-consciousness. Generally, health attitudes, values and beliefs did not impact on seeking help from family.

Life events were also unrelated to family help-seeking in both the bivariate and multivariate analyses. While the discontinuity of life events facilitated talking to friends, they did not prompt talking to family.

For the personality variables included at Model 7, only the effect of private self-consciousness was significant, with those higher on this trait more likely to seek help from family. The interaction of private self-consciousness and life events was non-significant, indicating that the effect of private self-consciousness was not moderated by level of life events. Extraversion was shown by both the multivariate and bivariate tests to be unrelated to help-seeking from family.

In the final model of help-seeking from family, only three of the hypothesised predictors emerged as significant: availability of frank and confiding relationships, private self-consciousness and gender. Those who sought help from their family at Wave 1 were most likely to be those with more confidantes, girls, and those who were more self-attentive. These factors also facilitated talking to friends about problems, and may be factors that encourage expression of feelings in general. More variable conditions, such as life events, did not prompt family help-seeking. Talking to family about personal problems seems to be a coping strategy used regardless of circumstances like level of discontinuity and psychological distress. Health beliefs, attitudes and values similarly did not vary propensity to use family as a source of help. Vulnerability to psychological problems does not appear to be a major cause of family help-seeking. There are other factors that facilitate turning to one's family for support.

Table 7.2: Parameter Estimates for the Logit Models of the Proportion of Respondents Who Sought Help From Family.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
constant	-1.11	-1.38	-2.16	-1.81	-2.09	-2.11	-3.07	-3.06
	(.11)	(.15)	(.31)	(.37)	(.45)	(.46)	(.59)	(.59)
GHQ	.10***	.09***	.11***	.11***	.09**	.09**	.07*	.04
	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.04)
gender		.50**	.43*	.44*	.46*	.47*	.44*	.40*
		(.17)	(.17)	(.17)	(.18)	(.18)	(.19)	(.19)
avfc			.24**	.25**	.26**	.26**	.30***	.31***
			(.08)	(.08)	(.08)	(.08)	(.09)	(.09)
loneliness			.16	.16	.13	.13	.00	-.00
			(.19)	(.19)	(.19)	(.19)	(.20)	(.20)
attitude				-.09	-.07	-.07	-.10	-.11
				(.05)	(.05)	(.05)	(.06)	(.06)
health value				-.08	-.10	-.10	-.01	-.00
				(.17)	(.17)	(.17)	(.17)	(.18)
health concern					.11*	.11*	.09	.09
					(.05)	(.05)	(.05)	(.05)
stigma					.05	.05	.07	.07
					(.07)	(.07)	(.07)	(.07)
life events						.00	.00	-.00
						(.03)	(.03)	(.03)
extraversion							-.05	-.05
							(.05)	(.05)
private self-consciousness							.04***	.04***
							(.01)	(.01)
perceived health status								.17
								(.11)
Deviance	847.6	839.1	829.6	826.9	821.6	821.6	805.7	803.4
df	703	702	700	698	696	695	693	692
Change from previous model:								
Deviance	12.9***	8.5**	9.5**	2.7	5.3	0.0	15.9***	2.3
df	1	1	2	2	2	1	2	1

coefficient statistically significant at *p<.05 **p<.01 ***p<.001

Note. Standard errors are in parentheses.
For models 3,4,5 and 7 the effect of each variable was also estimated individually rather than as a group. The same pattern of significance was attained.
Models 9 and 10, including the interaction terms, are not included in the table because their addition did not attain a significant change in deviance from the main effects model.

Predicting Those With symptoms Who Did Not Seek Help

Vulnerability to psychological problems was even less evident as an inhibitor of family help-seeking in those with symptoms. Of the 337 respondents who were cases at Wave 1, 62.3 percent did not seek help from their family. These people were poorly accounted for by the predictors considered here.

Table 7.3 presents the parameter estimates predicting those with symptoms who did not seek help. Only one of the models attained a significant change in deviance from its previous model. This was Model 3, adding the social support variables to the regression equation. Of the social support variables, only availability of frank and confiding relationships attained a significant parameter estimate. Lacking frank and confiding relationships inhibited help-seeking from the family for those with symptoms.

The hypothesised models were, therefore, inadequate to explain inhibitors of family help-seeking. While the facilitators of family help-seeking were shown to be gender, availability of frank and confiding relationships, and private self-consciousness, only social support also predicted help-seeking for those with symptoms. Only having no one to confide in inhibited talking to family about psychological problems.

Table 7.3: Parameter Estimates for the Logit Models of the Proportion of Those With Symptoms Who Did Not Seek Help From Family.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
constant	.55	.75	1.90	1.72	2.23	2.23	2.56	2.58
	(.23)	(.26)	(.46)	(.52)	(.66)	(.66)	(.80)	(.80)
GHQ	-.01	.00	-.02	-.02	-.01	-.01	-.01	.01
	(.04)	(.04)	(.04)	(.04)	(.05)	(.05)	(.05)	(.05)
gender		-.45	-.33	-.33	-.41	-.41	-.41	-.36
		(.23)	(.24)	(.24)	(.26)	(.26)	(.26)	(.26)
avfc			-.32**	-.33**	-.36***	-.36***	-.37**	-.38**
			(.10)	(.10)	(.11)	(.11)	(.11)	(.12)
loneliness			-.35	-.35	-.31	-.31	-.28	-.28
			(.29)	(.29)	(.29)	(.29)	(.29)	(.30)
attitude				.05	.02	.02	.03	.04
				(.07)	(.07)	(.07)	(.08)	(.08)
health value				.03	.07	.07	.05	.04
				(.23)	(.23)	(.23)	(.24)	(.24)
health concern					-.07	-.07	-.07	-.07
					(.06)	(.06)	(.06)	(.06)
stigma					-.11	-.11	-.11	-.11
					(.09)	(.09)	(.09)	(.09)
life events						.00	.00	.01
						(.04)	(.04)	(.04)
extraversion							.03	.03
							(.06)	(.06)
private self-consciousness							-.01	-.01
							(.01)	(.01)
perceived health status								-.14
								(.14)
Deviance	446.5	442.7	431.0	430.5	427.6	427.6	426.6	425.7
df	335	334	332	330	328	327	325	324
Change from previous model:								
Deviance	0.0	3.7	11.7**	0.5	2.9	0.0	1.0	0.9
df	1	1	2	2	2	1	2	1

coefficient statistically significant at *p<.05 **p<.01 ***p<.001

Note. Standard errors are in parentheses.
For models 3,4,5 and 7 the effect of each variable was also estimated individually rather than as a group. The same pattern of significance was attained.
Models 9 and 10, including the interaction terms, are not included in the table because their addition did not attain a significant change in deviance from the main effects model.

Help-Seeking Over Time

The number of times help was sought from family over the entire 12 months of the study is presented in Table 7.4. This shows that only 18 percents of the respondents were frequent help-seekers from their family, when defined as those who sought help 4 or 5 times. Considerably more of the sample did not seek help at all from their family over this period. Of the total longitudinal sample with symptoms, 80 (or 30.4 percent) never sought help from their family for a psychological problem. The trend for seeking family help was the opposite to that for friends, with the majority of respondents never talking to their family about personal problems.

Table 7.4: Number of Times Help Was Sought Over the Five Waves.

Number of Times Help Was Sought	Number of Respondents	Percentage of Respondents
0	117	35.0
1	70	21.0
2	56	16.8
3	31	9.3
4	36	10.8
5	24	7.2

Table 7.5 presents the proportion of those who sought help frequently and the proportion of those with symptoms who never sought help from their family within categories of the independent variables. Frequently seeking family help was related to symptoms, gender (being female), greater health concern, higher private self-consciousness, and more negatively perceived mental health status. These variables also predicted family help-seeking at Wave 1. In contrast with the cross-sectional data, frequently seeking family help was unrelated to availability of frank and confiding relationships. It was similarly unrelated to loneliness, attitude to psychological illness, health value, fear of stigma, life events, and extraversion.

When only those with symptoms at any time were considered, a similar pattern of significance emerged with never seeking family help related to gender (being male), less health concern, fewer life events, and more positively perceived mental health status, and unrelated to loneliness, attitude to psychological illness, health value, fear of stigma, extraversion, and private self-consciousness. Only the effects of social support and symptoms differed as inhibitors and facilitators of family help. Symptoms were no longer related to seeking help when only those who were cases were considered, while social support became a significant correlate.

All the previous bivariate effects were unchanged when estimated using logistic regression procedures and when estimated after controlling for the effects of symptoms.

Table 7.5: Proportion of Frequent Help-Seekers and Those With Symptoms Who Never Sought Help Within Categories of the Independent Variables.

	Proportion Who Frequently Sought Help Over 12 Months	Proportion With Symptoms Who Never Sought Help Over 12 Months
Total:	.19 (334)	.30 (263)
Gender:	**	***
male	.08 (108)	.46 (79)
female	.23 (226)	.24 (184)
Symptoms:	*	ns
none (GHQ 0-1)	.11 (128)	.37 (57)
mild (GHQ 2-3)	.22 (124)	.26 (124)
moderate (GHQ 4+)	.23 (82)	.33 (82)
Attitude to psychological illness:	ns	ns
negative (0-1)	.31 (26)	.28 (25)
neutral (2-4)	.13 (157)	.32 (123)
positive (5-6)	.20 (151)	.30 (115)
Health concern:	***	*
none (0-1)	.12 (217)	.37 (162)
mild (2-5)	.24 (110)	.20 (94)
moderate (6+)	.86 (7)	.14 (7)
Health value:	ns	ns
no	.21 (132)	.31 (111)
yes	.16 (202)	.30 (152)
Fear of stigma:	ns	ns
no (0-1)	.18 (150)	.28 (113)
some (2-3)	.16 (134)	.34 (107)
lots (4-5)	.24 (50)	.28 (43)
Availability of frank and confiding relationship:	ns	**
no (0)	.12 (17)	.47 (15)
some (1-2)	.15 (99)	.41 (85)
lots (3-4)	.20 (218)	.23 (163)
Loneliness:	ns	ns
no	.16 (109)	.34 (68)
yes	.19 (225)	.29 (195)
Life events:	ns	ns
none (0)	.20 (5)	.50 (4)
(1-2)	.16 (119)	.36 (77)
(3-5)	.19 (166)	.30 (139)
(6-8)	.16 (38)	.22 (37)
(9+)	.50 (6)	.00 (6)

Pearson's Chi-Square statistically significant at *p<.05 **p<.01 ***p<.001

continued ...

Note. Number of respondents in brackets.

Table 7.5: Continued.

	Proportion Who Frequently Sought Help Over 12 Months	Proportion With Symptoms Who Never Sought Help Over 12 Months
Private self-consciousness:	*	ns
low (5-24)	.06 (47)	.31 (26)
medium (25-44)	.18 (233)	.33 (190)
high (45-60)	.26 (54)	.21 (47)
Extraversion:	ns	ns
low (0-2)	.28 (50)	.19 (42)
medium (3-5)	.15 (138)	.37 (108)
high (6-8)	.17 (146)	.28 (113)
Perceived health status:	***	*
no problems (0)	.05 (116)	.43 (103)
minor (1)	.22 (167)	.27 (154)
mild (2)	.35 (3)	.29 (4)
moderate (3)	.38 (8)	.00 (8)
severe (4)	- (0)	- (0)

Pearson's Chi-Square statistically significant at *p<.05 **p<.01 ***p<.001

Predicting Those Who Sought Help Frequently

Table 7.6 presents the parameter estimates for the theoretical models applied to predicting frequently seeking family help, which was characteristic of 18 percent of the longitudinal sample. Frequently seeking help shared some similarities with seeking help at Wave 1, but also exhibited differences.

Like predicting seeking help at Wave 1, symptoms were significant in the earlier models predicting frequent help-seeking, but not in the final multivariate model. In this case, however, it was the effect of health concern, rather than the effect of perceived mental health status, that caused the effect of symptoms to become non-significant. For frequent help-seeking from family, concern about personal health was more relevant than level of psychological distress.

In contrast with Wave 1, perceived mental health status did attain significance in the final model. More poorly perceived mental health status on average predicted frequently seeking help, controlling for all other predictors. Consistently defining mental health as poor encouraged greater reliance on family.

Gender attained a significant change in deviance when included at Model 2, with girls again more likely to seek help than boys. However, the addition of perceived mental health status caused the gender effect to become non-significant. For frequently seeking help the gender effect appeared to be explained by the greater propensity of girls to define their mental health status as poor. A gender difference in recognition, rather than symptom levels, explained the gender difference in help-seeking. Once again, the same main effects model was appropriate for both boys and girls, since the addition of all the gender interactions was non-significant.

The effect of perceived mental health status also accounted for the effects of the personality variables. While the addition of private self-consciousness and extraversion was significant at Model 6, their effects were no longer significant in the final model. Both high private self-consciousness and low extraversion facilitated help-seeking, but through their effects encouraging recognition of poor mental health. In this model the effect of extraversion was as hypothesised for the first time, with high extraversion protecting against help-seeking. It was, however, assessment of negative mental health status that directly predicted help-seeking.

The social support variables did not attain a significant change in deviance when entered at Model 3, which confirmed their non-significant bivariate effects. This was at odds with the cross-sectional effect of availability of a confidante. However, when some of the variance in help-seeking was suppressed by the inclusion of other variables, having frank and confiding relationships available became a significant predictor, and was significant in the final model. At both Wave 1 and over time having more confidantes facilitated help-seeking in the final models. In contrast, loneliness was unrelated to frequently seeking family help, as it was to seeking help at Wave 1.

The general health attitude and value variables were also unrelated to help-seeking behavior, while the more specific health beliefs did attain a significant change in deviance at Model 5. Like the cross-sectional analyses, it was health concern, rather than fear of stigma, that facilitated help-seeking. Stigma did not

seem to be seem as a problem within the private world of the family, but greater concern with personal health increased vulnerability to psychological problems and facilitated seeking family help.

Life events did not trigger help-seeking over time and were confirmed as ineffective in prompting talking to family about personal problems. The discontinuities caused by adolescent problems did not trigger family help-seeking.

In the final model predicting frequently seeking help from the family, only three variables emerged as significant. Greater concern with personal health, more poorly perceived mental health, and greater availability of frank and confiding relationships increased the likelihood of frequently seeking help from the family over this 12 month period. Having someone to confide in and greater awareness and concern with psychological health prompted often seeking family help. It was, however, girls and those who were more self-attentive who were most likely to be aware of poor mental health. None of the other vulnerability factors encouraged reliance on the family as a source of help.

Table 7.6: Parameter Estimates for the Logit Models of the Proportion of Respondents Who Sought Help Frequently From Family.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
constant	-1.97	-2.67	-3.30	-3.09	-4.08	-3.94	-4.85	-4.82
	(.22)	(.37)	(.61)	(.71)	(.86)	(.88)	(1.12)	(1.14)
GHQ	.20**	.16*	.18*	.17*	.09	.12	.09	-.09
	(.07)	(.07)	(.07)	(.07)	(.08)	(.09)	(.09)	(.11)
gender		1.03**	.94*	.93*	1.07**	1.07*	1.13**	.79
		(.39)	(.39)	(.39)	(.41)	(.42)	(.42)	(.44)
avfc			.20	.22	.27	.27	.37*	.43*
			(.14)	(.14)	(.16)	(.16)	(.17)	(.17)
loneliness			.12	.14	.00	.02	-.17	-.21
			(.33)	(.33)	(.35)	(.35)	(.36)	(.37)
attitude				-.02	.02	.02	.00	-.00
				(.09)	(.09)	(.09)	(.10)	(.10)
health value				-.25	-.28	-.29	-.15	-.14
				(.30)	(.31)	(.31)	(.32)	(.32)
health concern					.27**	.27**	.25**	.26**
					(.09)	(.09)	(.09)	(.09)
stigma					.21	.21	.22	.20
					(.12)	(.12)	(.12)	(.13)
life events						-.06	-.03	-.05
						(.08)	(.08)	(.08)
extraversion							-.17*	-.16
							(.08)	(.08)
private self-consciousness							.04*	.03
							(.02)	(.02)
perceived health status								.90**
								(.30)
Deviance	306.3	298.0	295.9	295.2	282.1	281.6	272.9	263.5
df	332	331	329	327	325	324	322	321
Change from previous model:								
Deviance	8.3**	8.3**	2.1	0.7	13.2**	0.51	8.6*	9.4**
df	1	1	2	2	2	1	2	1

coefficient statistically significant at *p<.05 **p<.01 ***p<.001

Note. Standard errors are in parentheses.
For models 3,4,5 and 7 the effect of each variable was also estimated individually rather than as a group. The same pattern of significance was attained.
Models 9 and 10, including the interaction terms, are not included in the table because their addition did not attain a significant change in deviance from the main effects model.

Predicting Those With Symptoms Who Never Sought Help

About a third (30.4 percent) of the symptomatic longitudinal sample never sought help from their family. Table 7.7 presents the parameter estimates for the theoretical models predicting never seeking help from family. Very few factors emerged as significant predictors, consistent with the analysis of non-help-seekers at Wave 1.

Never seeking help over time was related only to gender and social support. At Wave 1 not seeking help was related only to social support. Not having anyone to confide in seems to be the major inhibitor of family help-seeking in those with symptoms.

Over time, however, it was also boys more than girls who never sought help. It would appear that some boys may have a predisposition to never confide in their family, that is not evident when only one episode of help-seeking is considered.

None of the other factors considered here predicted not talking to family about personal problems. Factors other than those related to emotional vulnerability to psychological problems inhibit using the family as a source of support.

Table 7.7: Parameter Estimates for the Logit Models of the Proportion of Respondents With Symptoms Who Never Sought Help From Family.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
constant	-.55	-.05	1.09	1.11	1.63	1.84	2.56	2.51
	(.23)	(.28)	(.50)	(.60)	(.71)	(.73)	(.99)	(.99)
GHQ	-.11	-.06	-.11	-.11	-.08	-.04	-.01	.04
	(.08)	(.08)	(.09)	(.09)	(.09)	(.09)	(.10)	(.11)
gender		-.94**	-.72*	-.73*	-.82*	-.81*	-.99**	-.85*
		(.29)	(.30)	(.30)	(.32)	(.33)	(.34)	(.37)
avfc			-.37**	-.37**	-.40**	-.39**	-.46***	-.48***
			(.12)	(.12)	(.13)	(.13)	(.14)	(.14)
loneliness			-.26	-.26	-.20	-.17	-.02	-.03
			(.32)	(.32)	(.33)	(.33)	(.34)	(.34)
attitude				.00	-.02	-.02	.01	.01
				(.08)	(.09)	(.09)	(.09)	(.09)
health value				-.05	-.02	-.03	-.20	-.21
				(.29)	(.29)	(.29)	(.31)	(.31)
health concern					-.17	-.16	-.15	-.15
					(.10)	(.10)	(.10)	(.10)
stigma					-.11	-.11	-.13	-.12
					(.11)	(.11)	(.12)	(.12)
life events						-.09	-.11	-.11
						(.08)	(.08)	(.08)
extraversion							.15	.14
							(.08)	(.08)
private self-consciousness							-.03	-.03
							(.02)	(.02)
perceived health status								-.28
								(.29)
Deviance								
	321.1	310.7	301.4	301.4	296.7	295.3	288.8	287.9
df	261	260	258	256	254	253	251	250
Change from previous model:								
Deviance								
	2.0	10.4**	9.3**	0.3	4.7	1.4	6.5*	0.9
df	1	1	2	2	2	1	2	1

coefficient statistically significant at *p<.05 **p<.01 ***p<.001

Note. Standard errors are in parentheses.
For models 3,4,5 and 7 the effect of each variable was also estimated individually rather than as a group. The same pattern of significance was attained.
Models 9 and 10, including the interaction terms, are not included in the table because their addition did not attain a significant change in deviance from the main effects model.

Facilitators and Inhibitors of Seeking Help From Family

Of the variables analysed here, very few emerged as predictors of help-seeking from the family. The only variable that consistently predicted this type of help-seeking was social support. Availability of frank and confiding relationships facilitated both current help-seeking and frequently seeking help over the 12 months, while lack of such availability inhibited help-seeking for those with symptoms, both currently and over time. Since this variable assessed the availability of someone in the personal network, either family or friend, to discuss emotional problems with, it would be unusual if it did not predict the utilisation of such a person. Other facets of sociability in terms of loneliness and extraversion were generally not related to seeking family help, however. It was not greater loneliness or more sociability that encouraged confiding in family.

A gender difference was also evident in help-seeking from family. Girls were more likely to seek help at Wave 1 and boys were most likely to never seek help when they were symptomatic. At Wave 1, however, the effect of gender was confounded with the definition of a case on the GHQ, and was not evident when only those with symptoms were considered. Over time, however, boys were shown to have a greater propensity than girls to avoid talking to their family about psychological problems, even when they were suffering from psychological distress. Like confiding in friends, girls were more likely to express their problems to their families than boys. Boys seem to be more likely to keep psychological problems to themselves.

Symptoms were not as strongly related to seeking help from the family as expected; they were certainly not the primary predictors. Perceived mental health status appeared to be somewhat more important than symptoms, and generally caused the significant effects of symptoms to become non-significant. Both symptoms and perceived mental health status were, however, only significant in predicting seeking help when those who were non-symptomatic were included. These variables no longer attained significant effects for those with symptoms. This

indicates that it was only in the distinction between those who were cases and non-cases, that level of symptoms affected seeking help from family. When only distressed adolescents were analysed, level of symptoms did not further predict seeking help.

The personality variable of private self-consciousness, while strongly related help-seeking from friends, was not consistently related to family help-seeking. Its effect was mostly as a facilitator of family help and lack of private self-consciousness did not inhibit help-seeking in those who were symptomatic. Private self-consciousness appeared to encourage family help-seeking only at low symptom levels, and possibly through its effect facilitating recognition of symptoms.

Specific health beliefs, related to concern with health, also had some facilitatory effect on help-seeking at low levels of symptoms. Greater health concern increased vulnerability to low levels of distress. Fear of stigma did not affect confiding in family, as adolescents probably perceive that family generally accept you as you are, and stigma operates within the public rather than private domain (Kirmayer, 1989). The more general health and attitude measures of attitude to psychological illness and health value were unrelated to help-seeking, from family as well as friends.

Also unrelated to family help-seeking were life events. Life events were hypothesised to trigger health care actions (Verbrugge, 1985), but this hypothesis was not supported predicting family help-seeking. Family help-seeking did not appear to be related to level of stress or discontinuity in the form of more life events. While the problems experienced by these adolescents were a strong reason for talking to friends, they were not a reason for confiding in family. Those who talk to their family seem to do so regardless of their level of problems.

Conclusion

Factors related to greater vulnerability to psychological problems were generally poor predictors of family help-seeking. Only having someone to confide

in exhibited a consistent predictive effect. Symptoms, gender, private self-consciousness and health concern also had some facilitating effect, but mainly at low symptom levels. It was in the distinction between those who were and were not cases of psychiatric illness that these vulnerability factors operated to facilitate help-seeking. Lack of these vulnerability factors did not inhibit seeking help in those with symptoms. In the private world of the family other factors more related to family dynamics, including the warmth and openness of family relationships and the encouragement of communication (Cooper, Holman & Braithwaite, 1983), may lead to confiding. The two sources of informal help, from peers and from family exhibited quite different predictive patterns, possibly due to their public/private distinction. The next chapter will analyse whether the predictors of professional help-seeking are different again, since this type of help-seeking is distinct from both types of informal help.

Chapter 8

Help-seeking from Professionals

Professional help-seeking was the least common form of help-seeking. Very few of these adolescents sought any type of professional help for a psychological problem. In this chapter the theoretical models are used to determine whether emotional vulnerability to psychological problems predicted seeking professional help.

Seeking Professional Help at Wave 1

Table 8.1 presents the proportion of those who sought professional help and the proportion of those with symptoms who did not seek professional help at Wave 1 of the survey, within categories of the independent variables. Respondents with more symptoms, girls, those with less availability of frank and confiding relationships, feelings of loneliness, greater health concern, more life events, higher private self-consciousness, and more negatively perceived mental health status were more likely to seek professional help. Professional help-seeking was not related to attitude to psychological illness, health value, fear of stigma, or extraversion. These categorical effects were confirmed for the scale scores in a logistic model. The effects were then reestimated after controlling for symptoms. The effects of availability of frank and confiding relationships, loneliness, and private self-consciousness became non-significant when the effect of symptoms was controlled. This indicated that the effects of these variables on professional help-seeking were indirectly through their association with symptoms. The effects of gender, health concern, life events and perceived mental health status did not change, and remained significant even when estimated in an equation including symptoms.

When the sample was truncated to include only those with symptoms, fewer effects emerged as significant. Boys, and those with fewer symptoms, less health

concern, and more positively perceived mental health status were less likely to seek help when symptomatic. Some of these effects were not supported by the logistic regression analyses, however, and these inconsistencies are indicated in Table 8.1. The Chi-Square analysis showed that the effect of health concern was significant, while in the logistic model the change in deviance from the null model was non-significant. Conversely, the effect of life events was non-significant in the Chi-Square analysis, but the change in deviance from the null model in the regression analysis was highly significant (change in deviance with 1 df was 7.7, $p<.01$). The different conclusions derived from the Chi-Square and logistic models result from differences in the data used. The Chi-Square analyses were based on categorical data, while the regressions were performed on the scale scores. The scales were collapsed into categories so that the nature of the effects could be presented in a table. The regression analyses provide a better estimate of the true association between the dependent and independent variables, since they include all the information contained in the scale scores (Walsh, 1987).

Table 8.1: Proportion of Help-Seekers and Those With Symptoms Who Did Not Seek Help Within Categories of the Independent Variables.

	Proportion Who Sought Help at Wave 1	Proportion of Those With Symptoms Who Did Not Seek Help at Wave 1
Total:	.10 (705)	.87 (337)
Gender:	**	**
male	.06 (308)	.93 (142)
female	.12 (397)	.83 (195)
Symptoms:	***	**
none (GHQ 0-1)	.06 (368)	- (0)
mild (GHQ 2-3)	.06 (140)	.94 (140)
moderate (GHQ 4+)	.17 (197)	.83 (197)
Attitude to psychological illness:	ns	ns
negative (0-1)	.11 (52)	.84 (37)
neutral (2-4)	.09 (344)	.89 (147)
positive (5-6)	.10 (309)	.86 (153)
Health concern:	***	*[a]
none (0-1)	.06 (461)	.90 (198)
mild (2-5)	.14 (227)	.85 (124)
moderate (6+)	.41 (17)	.67 (15)
Health value:	ns	ns
no	.08 (304)	.88 (158)
yes	.10 (401)	.87 (179)
Fear of stigma:	ns	ns
no (0-1)	.10 (299)	.87 (134)
some (2-3)	.09 (275)	.87 (124)
lots (4-5)	.09 (131)	.89 (79)
Availability of frank and confiding relationship:	*	ns
no (0)	.19 (41)	.81 (32)
some (1-2)	.12 (207)	.84 (109)
lots (3-4)	.07 (457)	.90 (196)
Loneliness:	**	ns
no	.05 (247)	.92 (78)
yes	.12 (458)	.86 (259)
Life events:	**	ns[b]
none (0)	.06 (53)	.85 (13)
(1-2)	.04 (181)	.93 (74)
(3-5)	.10 (244)	.89 (115)
(6-8)	.13 (152)	.86 (86)
(9+)	.16 (75)	.78 (49)

Pearson's Chi-Square statistically significant at *p<.05 **p<.01 ***p<.001

continued ...

Note. Number of respondents in brackets.
[a] The effect of health concern was not significant in the logistic model.
[b] The effect of life events was significant in the logistic model.

Table 8.1: Continued.

	Proportion Who Sought Help at Wave 1	Proportion of Those With Symptoms Who Did Not Seek Help at Wave 1
Private self-consciousness:	*	ns
low (5-24)	.05 (102)	1.00 (27)
medium (25-44)	.09 (506)	.86 (250)
high (45-60)	.16 (76)	.85 (60)
Extraversion:	ns	ns
low (0-2)	.13 (87)	.86 (49)
medium (3-5)	.10 (292)	.86 (153)
high (6-8)	.09 (325)	.90 (135)
Perceived health status:	***	***
no problems (0)	.04 (250)	.93 (54)
minor (1)	.06 (307)	.94 (156)
mild (2)	.14 (9)	.86 (78)
moderate (3)	.40 (49)	.65 (40)
severe (4)	.44 (9)	.56 (9)

Pearson's Chi-Square statistically significant at *p<.05 **p<.01 ***p<.001

Predicting Those Who Sought Help

At Wave 1, 67 (or 9.5 percent of the sample) sought help from a professional source. Table 8.2 presents the parameter estimates and change in deviance scores for the theoretical models applied to predicting the minority of adolescents who sought professional help.

Symptoms were highly significant predictors of professional help-seeking when entered in the first model. They retained their significance until the final model, when the addition of perceived mental health status caused the effect of symptoms to become non-significant. The mental health perception measure itself attained a highly significant change in deviance when added at Model 8. This effect has been consistently evident throughout the help-seeking analyses. Negatively perceived mental health was highly predictive and more relevant than GHQ symptom reports predicting help-seeking from a professional source.

The addition of perceived mental health status also caused the effect of gender to become non-significant. While gender exhibited a significant bivariate

effect, with girls more likely to seek professional help than boys, and was significant in most of the multivariate models, it was not significant in the final model. This indicated that once mental health perception was taken into account, the gender difference was no longer apparent. Negatively perceived mental health was more important predicting professional help-seeking than being female. The effects of both being female and having more symptoms were, therefore, manifested through more negatively perceived mental health. As in the analyses of informal help-seeking, the same main effects model was appropriate for both boys and girls.

Life events attained a significant change in deviance score when entered at Model 6, which confirmed their hypothesised effect as a trigger of professional care. The more problems and discontinuities encountered in everyday life, the more likely professional help was resorted to.

Concern with health also predicted professional help-seeking. When included in Model 5, it alone of the health belief variables attained a significant parameter estimate. Greater concern with health facilitated professional help-seeking. As in the previous analyses predicting informal help-seeking, the more general attitude and value variables were unrelated to professional help-seeking. Specific beliefs related to fear of the stigma attached to psychological illness were also not related to the decision to seek professional help. The effect of stigma seems to be restricted to the more public domain of help-seeking from friends.

The addition of the personality variables did not attain a significant change in deviance predicting professional help-seeking. While private self-consciousness exhibited a significant bivariate effect on professional help-seeking, this effect was shown by the multivariate models to be indirect through symptoms. When the effect of symptoms was controlled, private self-consciousness was no longer significant. Extraversion was unrelated to professional help-seeking in both the bivariate and multivariate models.

Both the social support variables of availability of frank and confiding relationships and feelings of loneliness were also unrelated to professional help-

seeking, after the effect of level of symptoms was statistically controlled. The social support variables did not attain a significant change in deviance when included in the multivariate analysis. Lack of confiding relationships and feeling lonely affected professional help-seeking indirectly through their association with greater psychological distress.

In the final model predicting professional help-seeking only perceived mental health status, health concern and life events were significant. Having more reasons to utilise professional help in terms of more psychological distress and more life problems facilitated turning to professional support. Recognition of poor mental health carried the effects of more symptoms and being female. In turn, symptoms appeared to account for the effect of some of the other variables predicted to increase emotional vulnerability to psychological distress such as private self-consciousness, lack of social support, and loneliness. Lack of social support did not directly encourage the use of professional care as a source of support, but rather affected level of symptoms. Again only specific health beliefs, related to greater concern with personal health, prompted help-seeking behavior. From this cross-sectional model, however, it cannot be determined whether such greater concern was a cause or consequence of professional help-seeking.

Table 8.2: Parameter Estimates for the Logit Models of the Proportion of Respondents Who Sought Help From Professionals.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
constant	-2.88	-3.24	-3.15	-3.41	-3.38	-3.78	-4.41	-4.45
	(.20)	(.27)	(.47)	(.60)	(.71)	(.74)	(.92)	(.94)
GHQ	.20***	.19***	.15***	.15***	.13**	.10*	.09*	-.02
	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.05)
gender		.62*	.67*	.66*	.56	.69*	.67*	.49
		(.29)	(.29)	(.29)	(.30)	(.31)	(.31)	(.32)
avfc			-.16	-.17	-.24	-.23	-.23	-.19
			(.11)	(.11)	(.12)	(.12)	(.13)	(.14)
loneliness			.54	.52	.49	.44	.39	.33
			(.35)	(.35)	(.35)	(.35)	(.35)	(.36)
attitude				.03	.05	.03	.01	-.01
				(.08)	(.09)	(.09)	(.09)	(.09)
health value				.34	.33	.30	.34	.41
				(.28)	(.28)	(.28)	(.28)	(.29)
health concern					.21**	.20**	.19**	.20**
					(.07)	(.07)	(.07)	(.07)
stigma					-.06	-.04	-.03	-.05
					(.10)	(.10)	(.11)	(.11)
life events						.09*	.09*	.09*
						(.04)	(.04)	(.04)
extraversion							-.01	.01
							(.07)	(.08)
private self-consciousness							.02	.01
							(.02)	(.02)
perceived health status								.70***
								(.17)
Deviance	416.3	411.5	406.5	404.9	395.5	389.9	388.0	370.7
df	703	702	700	698	696	695	693	692
Change from previous model:								
Deviance	26.4***	4.8*	5.0	1.6	9.4**	5.6*	2.0	17.2***
df	1	1	2	2	2	1	2	1

coefficient statistically significant at *p<.05 **p<.01 ***p<.001

Note. Standard errors are in parentheses.
For models 3,4,5 and 7 the effect of each variable was also estimated individually rather than as a group. The same pattern of significance was attained.
Models 9 and 10, including the interaction terms, are not included in the table because their addition did not attain a significant change in deviance from the main effects model.

Predicting Those With Symptoms Who Did Not Seek Help

Of those with symptoms at Wave 1, the vast majority (87.2 percent) did not seek professional help. Less than 13 percent of those with symptoms sought professional help. Table 8.3 presents the parameter estimates for the theoretical models applied to predicting these people. The inhibitors of professional help-seeking were shown to operate indirectly through recognition of mental health status.

Perceived mental health status was the only variable to attain significance in the final model. Its inclusion caused the previously significant effects of symptoms, gender and life events to become redundant. Less psychological distress, being male and fewer life events were associated with more positively perceived mental health and it was this perception that inhibited help-seeking in those with symptoms. Recognition of mental health status was the predominant inhibitor as well as the predominant facilitator of professional help-seeking.

None of the other variables attained a significant change in deviance when added to the regression equation. For the social support, attitude and value, psychological fears and personality measures, the multivariate analyses confirmed their non-significant direct effects, and showed that they were not inhibitors of professional help.

Table 8.3: Parameter Estimates for the Logit Models of the Proportion of Those With Symptoms Who Did Not Seek Help From Professionals.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
constant	3.27	3.69	3.43	3.41	3.35	3.97	3.79	4.00
	(.38)	(.45)	(.67)	(.79)	(.92)	(.99)	(1.19)	(1.22)
GHQ	-.25***	-.23***	-.21***	-.21***	-.20**	-.18**	-.18**	-.10
	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.07)
gender		-.80*	-.85*	-.84*	-.79	-.95*	-.96*	-.83
		(.39)	(.39)	(.39)	(.41)	(.42)	(.42)	(.43)
avfc			.12	.12	.16	.11	.08	.06
			(.14)	(.14)	(.15)	(.15)	(.16)	(.16)
loneliness			-.12	-.11	-.09	-.09	-.09	-.07
			(.49)	(.49)	(.49)	(.50)	(.50)	(.51)
attitude				.02	.01	.03	.02	.03
				(.11)	(.11)	(.11)	(.11)	(.12)
health value				-.11	-.10	-.03	-.02	-.09
				(.34)	(.35)	(.35)	(.35)	(.36)
health concern					-.08	-.06	-.06	-.06
					(.08)	(.09)	(.09)	(.09)
stigma					.03	-.01	-.00	-.00
					(.13)	(.13)	(.13)	(.14)
life events						-.11*	-.11*	-.10
						(.05)	(.05)	(.05)
extraversion							.07	.06
							(.09)	(.10)
private self-consciousness							-.00	.00
							(.02)	(.02)
perceived health status								-.50*
								(.21)
Deviance	238.3	233.7	232.8	232.7	231.8	227.0	226.4	220.3
df	335	334	332	330	328	327	325	324
Change from previous model:								
Deviance	19.0***	4.6*	0.9	0.1	1.0	4.7*	0.6	6.2*
df	1	1	2	2	2	1	2	1

coefficient statistically significant at *p<.05 **p<.01 ***p<.001

Note. Standard errors are in parentheses.
For models 3,4,5 and 7 the effect of each variable was also estimated individually rather than as a group. The same pattern of significance was attained.
Models 9 and 10, including the interaction terms, are not included in the table because their addition did not attain a significant change in deviance from the main effects model.

Help-Seeking Over Time

Of the 334 respondents who completed all five questionnaires and comprised the longitudinal sample, none sought professional help five times, and only one respondent sought help four times. There was, therefore, only one person classified as a frequent help-seeker. It is interesting to note that this person was a girl with a very high average GHQ score of 9/12. Only 24.6 percent of the sample sought professional help at any time during the five waves. The vast majority of these adolescents never sought professional help. Table 8.4 presents the number of times professional help was sought.

The theoretical models were applied, therefore, to predicting those who sought any professional help over the 12 months, rather than frequent help-seekers, and also to predicting those with symptoms at any time who never sought professional help.

Table 8.4: Number of Times Help Was Sought Over the Five Waves.

Number of Times Help Was Sought	Number of Respondents	Percentage of Respondents
0	252	75.4
1	52	15.6
2	20	6.0
3	9	2.7
4	1	0.3
5	0	0.0

Table 8.5 presents the proportion of those who sought professional help and the proportion of those with symptoms who never sought professional help, within categories of the independent variables. Seeking professional help was directly related to more symptoms, greater health concern, feelings of loneliness, more life events, higher private self-consciousness, and more negatively perceived mental health. The significance of the Chi-Square tests was supported by logistic regression

analyses estimating the direct effects of each variable. When the logistic effects were reestimated controlling for the effect of symptoms, the effects of loneliness and private self-consciousness became non-significant, and the effect of health value, which did not exhibit a significant direct effect, became significant.

When the sample was truncated to include only those with symptoms at any wave, an identical pattern of significance predicted those who never sought help. Those who never sought professional help had fewer symptoms, lower health concern, did not report feeling lonely, had fewer life events, less private self-consciousness, and more positively perceived mental health status. These effects were attained with both the Chi-Square and regression analyses. After the effect of symptoms was statistically controlled, again the effects of loneliness and private self-consciousness became non-significant, while the previously non-significant effect of health value attained significance. The effects of feeling lonely and high private self-consciousness were, therefore, through their association with more symptoms, while when some of the variance in help-seeking was suppressed by symptoms, value placed on health became relevant.

Table 8.5: Proportion of Help-Seekers and Those With Symptoms Who Never Sought Help Within Categories of the Independent Variables.

	Proportion Who Sought Help Over 12 Months	Proportion With Symptoms Who Never Sought Help Over 12 Months
Total:	.25 (334)	.73 (263)
Gender:	ns	ns
male	.18 (108)	.80 (79)
female	.27 (226)	.70 (184)
Symptoms:	***	***
none (GHQ 0-1)	.14 (128)	.88 (57)
mild (GHQ 2-3)	.22 (124)	.78 (124)
moderate (GHQ 4+)	.45 (82)	.55 (82)
Attitude to psychological illness:	ns	ns
negative (0-1)	.27 (26)	.72 (25)
neutral (2-4)	.25 (157)	.73 (123)
positive (5-6)	.24 (151)	.73 (115)
Health concern:	***	**
none (0-1)	.18 (217)	.80 (162)
mild (2-5)	.33 (110)	.65 (94)
moderate (6+)	.71 (7)	.29 (7)
Health value:	ns	ns
no	.20 (132)	.77 (111)
yes	.27 (202)	.70 (152)
Fear of stigma:	ns	ns
no (0-1)	.24 (150)	.73 (113)
some (2-3)	.22 (134)	.76 (107)
lots (4-5)	.32 (50)	.67 (43)
Availability of frank and confiding relationship:	ns	ns
no (0)	.35 (17)	.67 (15)
some (1-2)	.27 (99)	.71 (85)
lots (3-4)	.22 (218)	.75 (163)
Loneliness:	**	*
no	.15 (109)	.82 (68)
yes	.29 (225)	.70 (195)
Life events:	***	***
none (0)	.20 (5)	.75 (4)
(1-2)	.11 (119)	.88 (77)
(3-5)	.27 (166)	.72 (139)
(6-8)	.50 (38)	.51 (37)
(9+)	.67 (6)	.33 (6)

Pearson's Chi-Square statistically significant at *p<.05 **p<.01 ***p<.001

continued ...

Note. Number of respondents in brackets.

Table 8.5: Continued.

	Proportion Who Sought Help Over 12 Months	Proportion With Symptoms Who Never Sought Help Over 12 Months
Private self-consciousness:	**	**
low (5-24)	.13 (47)	.92 (26)
medium (25-44)	.23 (233)	.74 (190)
high (45-60)	.41 (54)	.60 (47)
Extraversion:	ns	ns
low (0-2)	.34 (50)	.67 (42)
medium (3-5)	.20 (138)	.76 (108)
high (6-8)	.25 (146)	.73 (113)
Perceived health status:	***	***
no problems (0)	.09 (116)	.93 (103)
minor (1)	.26 (167)	.73 (154)
mild (2)	.49 (3)	.54 (4)
moderate (3)	.75 (8)	.25 (8)
severe (4)	- (0)	- (0)

Pearson's Chi-Square statistically significant at *p<.05 **p<.01 ***p<.001

Predicting Those Who Sought Professional Help Over Time

Table 8.6 presents the parameter estimates for the theoretical models applied to predicting any professional help-seeking over the 12 months. There were 82 respondents (24.6 percent of the longitudinal sample) who sought professional help at all over the study period. The significance of the predictive models shared many similarities with predicting professional help-seeking at Wave 1, but also exhibited some interesting differences.

The greatest difference was that there was no gender effect evident over time. Girls were not more likely than boys to seek professional help over the 12 months, although they were more likely to seek professional help at Wave 1. This difference is a result of the inconsistency in the gender effect for professional help-seeking. In Chapter 4 it was shown that girls were significantly more likely to seek professional help than boys at Waves 1 and 4. It is interesting to note that these were also the times of greatest psychological distress. The previous cross-sectional analyses showed that the difference in professional help-seeking between boys and girls at

Wave 1 operated through girls' greater perception of this distress, rather than higher level of distress. At Waves 2,3 and 5 the gender difference in professional help-seeking was evident, but not significant. The average effect of gender over time was, therefore, not significant. The gender interactions were again non-significant, so the same models were applied to both boys and girls.

Another difference for professional help-seeking over time was that health value emerged as significant in the multivariate models, although it was non-significant in the bivariate tests. This was the first time that health value attained a significant effect in any of the analyses of the predictors of help-seeking. After some of the variance in professional help-seeking over time was suppressed by symptoms, higher health value prompted seeking professional help. For professional help-seeking at Wave 1, health concern rather than health value predicted help-seeking. These two variables were uncorrelated (see Table 3.27). While health concern also significantly predicted help-seeking over time when first entered into the multivariate models, it became non-significant with the inclusion of the personality variables. The effect of health concern on any professional help-seeking over the study period was indirectly through private self-consciousness. In contrast, after other emotional vulnerability factors were controlled, having a higher health value predicted seeking professional help at all over time. Value placed on health may have become more salient prompting professional care after these adolescents left school and began to have more adult concerns.

Another variation between predicting professional help-seeking at Wave 1 and over the five time points, was that private self-consciousness and the interaction of private self-consciousness and life events were significant in the final model of professional help-seeking over time. The main effect of private self-consciousness was directly related to help-seeking over time, whereas it operated indirectly through symptoms at Wave 1. Its effect was less confounded with average symptom levels. When measured at the same time, higher private self-consciousness facilitated the

existence and reporting of symptoms, and through this association affected professional help-seeking. The significant interaction of private self-consciousness and life events showed that high private self-consciousness had a stronger predictive effect at low levels of life events. Being higher on the trait made fewer life events more salient as a trigger to professional help-seeking. Life events themselves exhibited a significant main effect on professional help-seeking, with more events prompting the use of professional help. Overall, both high private self-consciousness and more life events facilitated seeking professional help, but high private self-consciousness enhanced the effect of low levels of discontinuities.

The other variables of social support, extraversion, attitude to psychological illness, and fear of stigma, which were unrelated to professional help-seeking at Wave 1, were also unrelated to seeking professional help over the 12 months. The effect of loneliness again operated through its association with symptoms.

In the final model of professional help-seeking (Model 9), health value, perceived mental health status, life events, private self-consciousness and the interaction of life events and private self-consciousness were significant. Those who sought professional help at any time over the 12 months were most likely, according to this model, to have higher health value, more negatively perceived mental health, higher private self-consciousness and more life events, and for those with fewer life events, higher private self-consciousness. Seeking professional help was facilitated at all times by having greater psychological distress and more problems - tangible reasons to turn to professional support.

Table 8.6: Parameter Estimates for the Logit Models of the Proportion of Respondents Who Sought Help From Professionals.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
constant	-1.95	-2.09	-2.56	-3.10	-3.26	-3.81	-5.08	-5.05	-7.57
	(.22)	(.29)	(.51)	(.65)	(.75)	(.80)	(1.05)	(1.07)	(1.65)
GHQ	.36***	.35***	.33***	.37***	.33***	.24**	.22**	.07	.11
	(.07)	(.07)	(.07)	(.08)	(.08)	(.08)	(.08)	(.10)	(.10)
gender		.23	.22	.29	.25	.27	.32	.02	-.04
		(.30)	(.31)	(.32)	(.33)	(.34)	(.36)	(.37)	(.37)
avfc			.03	.01	-.01	-.05	-.03	-.01	.03
			(.12)	(.12)	(.13)	(.13)	(.14)	(.14)	(.14)
loneliness			.59	.53	.49	.40	.33	.31	.27
			(.33)	(.33)	(.34)	(.35)	(.35)	(.36)	(.36)
attitude				.02	.03	.05	.00	-.01	.02
				(.08)	(.09)	(.09)	(.09)	(.09)	(.10)
health value				.73*	.75*	.78*	.91**	.92**	.90**
				(.30)	(.31)	(.31)	(.32)	(.32)	(.32)
health concern					.19*	.17*	.15	.16	.15
					(.08)	(.08)	(.08)	(.08)	(.08)
stigma					-.00	.00	.04	.02	.01
					(.11)	(.11)	(.11)	(.12)	(.12)
life events						.22**	.24**	.22**	.91**
						(.07)	(.08)	(.08)	(.35)
extraversion							-.02	.00	.00
							(.08)	(.08)	(.08)
private self-consciousness							.04*	.03	.10**
							(.02)	(.02)	(.04)
perceived health status								.75**	.68*
								(.28)	(.28)
interaction of life events and psc									-.02*
									(.01)
Deviance									
	341.9	341.3	337.8	331.6	326.1	316.5	311.6	304.1	299.1
df	332	331	329	327	325	324	322	321	320
Change from previous model:									
Deviance									
	30.5***	0.6	3.4	6.2*	5.5	9.6**	4.9	7.5**	5.0*
df	1	1	2	2	2	1	2	1	1

coefficient statistically significant at *p<.05 **p<.01 ***p<.001

Note. Standard errors are in parentheses.
For models 3,4,5 and 7 the effect of each variable was also estimated individually rather than as a group. The same pattern of significance was attained.
Model 10, including the gender interaction terms, is not included in the table because their addition did not attain a significant change in deviance from the main effects model.

Predicting Those With Symptoms Who Never Sought Help

Of those who were symptomatic at some point over the twelve months, the overwhelming majority, 73 percent, never sought professional help. Table 8.7 presents the parameter estimates for the theoretical models applied to predicting these people. An almost identical pattern of estimates was obtained predicting those with symptoms who never sought help as exhibited in the previous analysis predicting those who sought any professional help over the 12 months. The same factors both facilitated professional help-seeking and inhibited it in those with symptoms. Only the main effect of private self-consciousness did not retain significance when only those with symptoms were considered.

In the final model predicting never seeking professional help, health value, perceived mental health status, life events, and the interaction of life events and private self-consciousness were significant. Those who never sought professional help even though they were symptomatic at some time were those adolescents who were less distressed and less emotionally vulnerable to their psychological problems due to lower health value. They more positively perceived their mental health, had fewer life events, and for those with more life events, lower private self-consciousness. The social support and health attitude and belief measures were neither inhibitors nor facilitators of professional help over time.

Table 8.7: Parameter Estimates for the Logit Models of the Proportion of Respondents With Symptoms Who Never Sought Help From Professionals.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
constant	2.11	2.24	2.80	3.37	3.39	4.01	5.16	5.21	9.19
	(.28)	(.35)	(.59)	(.74)	(.83)	(.89)	(1.21)	(1.25)	(2.13)
GHQ	-.40***	-.39***	-.39***	-.43***	-.39***	-.32**	-.29**	-.15	-.18
	(.08)	(.08)	(.09)	(.09)	(.10)	(.10)	(.10)	(.11)	(.12)
gender		-.22	-.17	-.24	-.17	-.19	-.30	.01	.07
		(.34)	(.35)	(.36)	(.38)	(.39)	(.40)	(.43)	(.43)
avfc			-.06	-.04	.00	.04	.04	.02	-.04
			(.13)	(.14)	(.15)	(.15)	(.15)	(.16)	(.16)
loneliness			-.55	-.48	-.46	-.40	-.36	-.36	-.27
			(.38)	(.39)	(.39)	(.30)	(.41)	(.41)	(.42)
attitude				-.02	-.04	-.06	-.02	.00	.03
				(.09)	(.09)	(.10)	(.10)	(.10)	(.11)
health value				-.74*	-.79*	-.82*	-.94**	-.98**	-1.01**
				(.33)	(.34)	(.34)	(.35)	(.36)	(.36)
health concern					-.19*	-.16	-.15	-.17	-.17
					(.09)	(.09)	(.09)	(.09)	(.09)
stigma					.05	.06	.02	.04	.06
					(.12)	(.12)	(.13)	(.13)	(.13)
life events						-.23**	-.24**	-.22**	-1.20**
						(.08)	(.08)	(.08)	(.42)
extraversion							.03	.02	.02
							(.08)	(.08)	(.09)
private self-consciousness							-.03	-.03	-.13
							(.02)	(.02)	(.05)
perceived health status								-.76*	-.74*
								(.31)	(.31)
interaction of life events and private self-consciousness									.03*
									(.01)
Deviance	279.2	278.8	279.5	271.0	266.2	257.2	254.4	248.2	241.0
df	261	260	258	256	254	253	251	250	249
Change from previous model:									
Deviance	27.6***	0.4	2.3	5.5	4.8	9.0**	2.8	6.2*	7.3**
df	1	1	2	2	2	1	2	1	1

coefficient statistically significant at *p<.05 **p<.01 ***p<.001

Note. Standard errors are in parentheses.
For models 3,4,5 and 7 the effect of each variable was also estimated individually rather than as a group. The same pattern of significance was attained.
Model 10, including the gender interaction terms, is not included in the table because their addition did not attain a significant change in deviance from the main effects model.

Facilitators and Inhibitors of Professional Help-Seeking

The major predictors of professional help-seeking were symptoms and subsequently perceived mental health status, and life events. Of these, mental health perception was predominant.

Perceived mental health status was the most consistent predictor of professional help-seeking in all the sub-samples. Negatively perceived mental health facilitated professional help-seeking, and more positively perceived mental health inhibited professional help-seeking in those with symptoms. In each sub-sample, the inclusion of recognition of poor mental health caused the previously significant effect of symptoms to become non-significant. This again suggests, like the results for seeking help from friends, that it was the perception of poor mental health, rather than level of reported symptoms, that was influential in encouraging help-seeking.

Perceived mental health status also relegated the effect of gender to non-significance. The gender difference was only evident at Wave 1, however, and was not significant over time. At Wave 1 girls were more likely to seek professional help while boys were less likely to seek help even when symptomatic. The gender difference in help-seeking was less consistent for professional help-seeking than informal help-seeking. When it was evident, these analyses show that girls, and those with more symptoms were most likely to negatively define their mental health, and it was this perception that affected the decision to seek professional help. Other research has also concluded that the recognition of mental health problems accounts for the gender difference in professional help-seeking in both late adolescents (O'Neil, Lancee & Freeman, 1985) and adults (Verbrugge, 1976; Kessler, Brown & Broman, 1981).

Perceived mental health status also carried the effect of life events at Wave 1 for those with symptoms. In all the other sub-sample life events exhibited a significant direct effect. More life events in the previous three months predicted help-seeking at Wave 1, and fewer life events inhibited help-seeking for those with

symptoms. These effects were also evident for average levels of life events over the 12 months predicting any professional help-seeking over time. Life events, as discontinuities, increased emotional vulnerability to psychological distress and directly facilitated seeking professional help. Fewer problems were a reason to avoid professional help.

The main effect of life events over time was moderated by a significant interaction with private self-consciousness. This was the only time that this interaction was significant; when predicting professional help-seeking over time. The interaction showed that the effect of private self-consciousness was most evident at low levels of life events. This suggests that adolescents with many life events seek professional help regardless of their level of self-attention, but for those with fewer life events, high private self-consciousness increases sensitivity to these discontinuities and prompts help-seeking.

Lack of social support did not prompt professional help-seeking as hypothesised. Those adolescents who did not have friends and family to confide in did not take their problems to a source of professional help. Professional help-seeking was so rare that only those with considerable psychological distress and many problems were likely to utilise such help. More minor distress was kept to oneself if there was no one close with whom to share it.

While the effects of the attitude and value variables were generally non-significant, health value did attain a significant effect predicting professional help-seeking over time, after some of the variance in help-seeking was suppressed by the effect of symptoms. When level of symptoms was controlled, having a higher health value predicted those who sought professional help at some time over the 12 months. This effect was not evident predicting those who sought help at Wave 1, however. It may be that as these adolescents matured into adult roles, the value of good health became more salient and prompted seeking professional solutions to psychological problems. The effect of more specific health beliefs in terms of concern with health was still more consistent than that of health value.

Conclusion

Factors increasing the salience of health and emotional vulnerability to personal problems predicted professional help-seeking to some extent, although the effects of recognition of poor mental health and life events were paramount. Vulnerability factors were shown to account poorly for help-seeking from the family, but be highly predictive of talking to friends about psychological problems. In general, those who were more emotionally vulnerable were most likely to talk to friends, somewhat more likely to talk to professionals, but no more likely to confide in their family. Table 8.8 presents a summary of the major multivariate predictors of each type of help-seeking.

The most consistent predictors of seeking help from friends were recognition of poor mental health, being female, fear of stigma and high private self-consciousness. These characteristics facilitated talking to friends about emotional problems while their opposites inhibited such help-seeking in those with symptoms. These predictors suggest that help-seeking from friends is a function, not only of vulnerability to psychological problems, but also of the type of peer group to which the adolescent belongs. Girls, and those who are more self-attentive and less fearful of exposing themselves probably share their problems with others similar to themselves. In such a peer group, sharing problems and distress may be a way of consolidating friendships and expressing oneself. For boys and those who are less interested in themselves and less willing to invite stigma, the peer group may discourage and punish seeking help. Seeking help from friends is form of public exposure that is more acceptable for some groups than others.

In contrast, the family is a more private arena. Emotional vulnerability did not prompt family help-seeking to a great extent. Family help-seeking may be a consequence of established patterns of family communication and the closeness of familial relationships. Some adolescents may come from families where sharing problems is encouraged and supported, while others may be more isolated in the family unit and keep their problems to themselves or confide in friends.

Professional help-seeking was understandably the most problem driven type of help. Recognising mental health problems and having many disruptive life events best explain those few who resort to professional help.

Beyond these predictors showing which factors encourage different types of help-seeking, a further consideration is whether any of these sources of help were effective in coping with emotional distress for these young people. Whether talking to friends, family or professionals was adaptive in terms of reducing subsequent psychological distress is addressed in the next chapter.

Table 8.8: Summary of the Main Multivariate Predictors of Each Type of Help-Seeking.

	Wave 1		Over 12 Months	
Source of Help	Facilitators	Inhibitors	Facilitators	Inhibitors
Friends	perceived mental health (symptoms)	perceived mental health (symptoms)	perceived mental health (symptoms)	symptoms (perceived mental health)
	gender	gender	gender	gender
	social support	social support		
	loneliness			
	health concern			
	fear of stigma	fear of stigma	fear of stigma	
	life events		life events	
	extraversion	extraversion		
	private self-consciousness	private self-consciousness	private self-consciousness	private self-consciousness
Family			perceived mental health (gender)	
	gender			gender
	social support	social support	social support	social support
			health concern	
	private self-consciousness (symptoms)			
Professionals	perceived mental health (symptoms gender)	perceived mental health (symptoms gender life events)	perceived mental health (symptoms)	perceived mental health (symptoms)
	health concern		health value	health value
	life events		life events	life events
			private self-consciousness	
			interaction psc and life events	interaction psc and life events

Note. Variables in brackets indirectly affected help-seeking through the non-bracketed variable.

Chapter 9

Help-Seeking as Coping

In the previous chapters it was demonstrated that most adolescents sought help from their friends when they were experiencing psychological problems. Many also sought help from their family, but very few sought professional help. Those who sought help were more likely to be suffering from psychological distress, in terms of GHQ symptoms, than those who did not seek help. Seeking help from either the informal social network or a professional service can be viewed as an attempt to cope with such distress.

A further and final consideration in this analysis of adolescent help-seeking behavior was whether seeking help from any source - friends, family or professionals - was an effective form of coping with psychological distress. This chapter examines the longitudinal data to determine whether help-seeking behavior was effective in reducing psychological distress.

Help-Seeking as Coping

Most studies predicting help-seeking behavior implicitly assume that such behavior is beneficial and that help-seeking from whatever source is an effective means of coping. Justifying this assumption is not without difficulties. First, studies of the efficacy of social support in mediating the effect of life events have not produced unequivocal results. Second, studies measuring professional mental health treatment outcomes also report contradictory results. Some studies show that seeking professional help is beneficial in terms of mental health, while others show that it is ineffective, or even harmful.

The effectiveness of coping strategies can be determined by how they prevent emotional distress (Pearlin & Schooler, 1978). In these data, this was operationalised in terms of reduction in number of GHQ symptoms three months

later in the subsequent wave. Table 9.1 presents the difference in mean GHQ scores between waves for those who sought each type of help at the previous wave. A positive difference indicated that there was an improvement in mean number of symptoms, while a negative score showed that there were more symptoms at the subsequent wave. The results were mixed; at times there was a significant improvement in mean symptom levels (particularly from Wave 2 to Wave 3), but at other times the differences were not significant. Source of help did not appear to influence the differences in mean symptom levels over time, suggesting that no source of help was more beneficial than another.

Table 9.1: Differences in Mean GHQ Scores Between Waves According to Help-Seeking Behavior at Previous Wave.

Source of Help at First Wave	Difference in Symptoms Wave 1 to 2	Wave 2 to 3	Wave 3 to 4	Wave 4 to 5
Friend	.30	.58**	-.51*	.68**
Family	.86**	1.10***	-.24	.44
Professional	.64	2.40**	.00	1.00

Two-tailed t-test statistically significant at *p<.05 **p<.01 ***p<.001

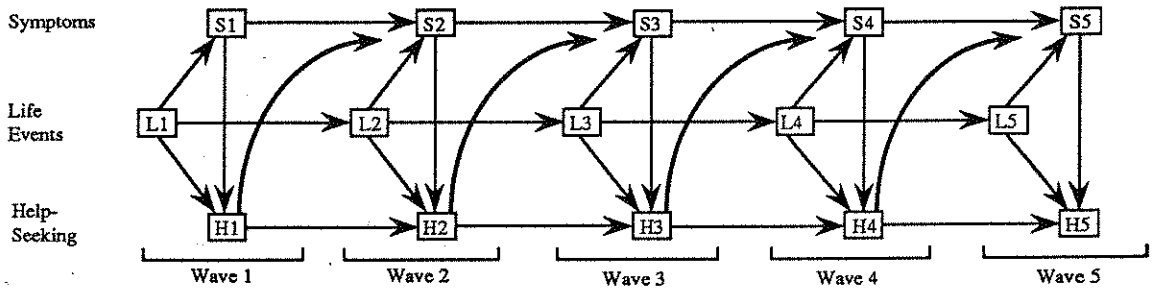
These results did not control for the effects of any other variables, however. The previous chapters and the research literature show that gender, prior symptom level, and life events all impact on both help-seeking and psychological distress. These variables, therefore, needed to be controlled before the real effect of help-seeking on subsequent symptoms could be established.

Model of Adolescent Help-Seeking Behavior

It was necessary to develop a general statistical model to control for the effect of the other theoretically important variables of gender, previous symptom level, current life events, and previous help-seeking, while assessing the effect of help-seeking on symptoms. The first model developed for this purpose is presented in Figure 9.1. The single headed arrows represent the hypothesised major causal

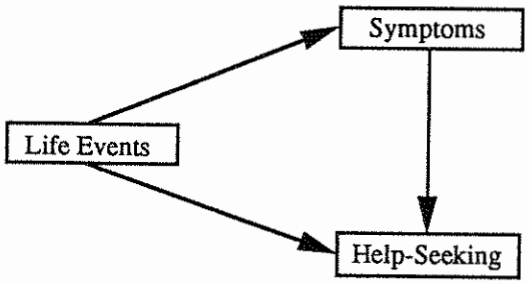
relationships, both within and over time, with the direction of the arrows showing the direction of causal influence. These arrows represent the partial regression coefficients holding constant the effects of all other variables in the model. The auto-regressive paths, controlling for previous levels of a variable, are not shown in this model, however, for reasons of clarity (they are presented separately in Figure 9.3).

Figure 9.1: Initially Hypothesised Causal Model of Help-Seeking.



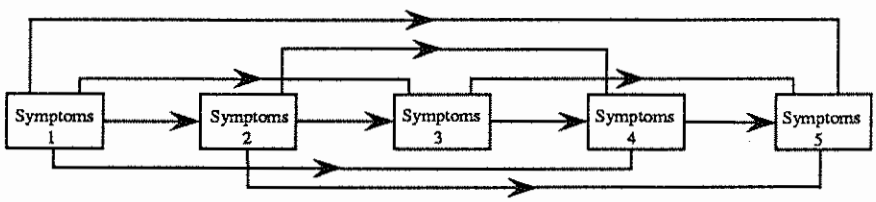
The model made several assumptions at the cross-sectional level about the relationships between the constructs measured at the same time. The model of the within time only effects is presented in Figure 9.2. The cross-sectional model assumed that life events were causally antecedent to both symptoms and help-seeking, even though they were measured at the same time. These hypotheses derive, in part, from the stress-illness literature, and from the previous predictive analyses which showed that life events directly predicted help-seeking behavior, even after the effect of symptoms had been statistically controlled. The direction of causality in this model was that life events affected both symptoms and help-seeking. There could also be causal paths from help-seeking and symptoms to life events. These reciprocal causal paths were not identified, however, to be consistent with the work of Aneshensel and Huba (1984), Horwood and Fergusson (1986), and Newcomb, Huba and Bentler (1986).

Figure 9.2: Cross-Sectional Model of Within Time Causal Relationships.



One of the main strengths of longitudinal causal models is the ability to control for prior levels of dependent variables while assessing the impact of hypothesised explanatory variables (Aneshensel & Huba, 1984; Aneshensel, Frerichs & Huba, 1984). The across time causal model, therefore, identified auto-regressions between the repeated measures of each of the constructs that were measured at all five waves. These paths were not shown in the full model for reasons of clarity. An example of these auto-regressions for one construct (symptoms) is presented in Figure 9.3. Identifying these paths controlled for prior levels of symptoms, life events and help-seeking, while assessing the impact of each independent variable on the current level of the dependent variable (Aneshensel & Huba, 1984).

Figure 9.3: Auto-Regressive Paths Across Time to Control for Prior Levels of a Variable.



Apart from the auto-regressions, the only other relationship across time identified in the causal model presented in Figure 9.1 is a lagged effect between help-seeking and symptoms (indicated by a bold curved arrow). This was the causal path of theoretical interest which was used to assess whether, after controlling for previous symptoms, previous help-seeking behavior and current life events, help-seeking three months prior affected current symptoms.

A path indicating a causal relationship between symptoms and help-seeking three months later was not identified. Symptoms were predicted to have a more immediate effect, prompting current help-seeking behavior. Other research has shown that effects over longer periods of time are generally non-significant when there are effects over shorter periods of time (Aneshensel & Huba, 1984).

Gender was the final variable to be included in the model. Previous analyses showed that, in these data, there were highly significant gender differences evident in symptoms and in help-seeking from friends and family, while the gender effect was non-significant for life events and minimal for professional help-seeking. Because the effect of gender was so pervasive for help-seeking from friends and family, the models testing the efficacy of these types of help-seeking were estimated separately for boys and girls. The small number of professional help-seekers made this impossible for professional help-seeking. Boys and girls were therefore analysed together and gender was included in the model with a causal path to both symptoms and help-seeking at Wave 1 for professional help.

Analysis of the Effectiveness of Seeking Help

Analyses were conducted using the computer package EQS (Bentler, 1985) to estimate the coefficients, standard errors and goodness of fit statistics for these models. Appendix V presents an outline of this approach as applied to these data. It may be appropriate to note that the package LISREL (Jöreskog & Sörbom, 1983) may equally well have been used to estimate the modeling statistics.

Table 9.2 presents the goodness of fit statistics for the initially hypothesised model presented in Figure 9.1. The model was tested separately for girls and boys who sought help from friends and who sought help from family. A model for boys and girls combined was used for those who sought professional help.

Table 9.2: Statistics of Goodness of Fit for Model Presented in Figure 9.1.

Source of Help		Chi-Square (df)	Normed Index	Non-normed Index
Help-seeking from friends				
	Males	69.66 (56)	.86	.94
	Females	84.34 (56)**	.91	.94
Help-seeking from family				
	Males	61.14 (56)	.86	.97
	Females	77.26 (56)*	.92	.95
Help-seeking from professionals		146.76 (69)***	.89	.89

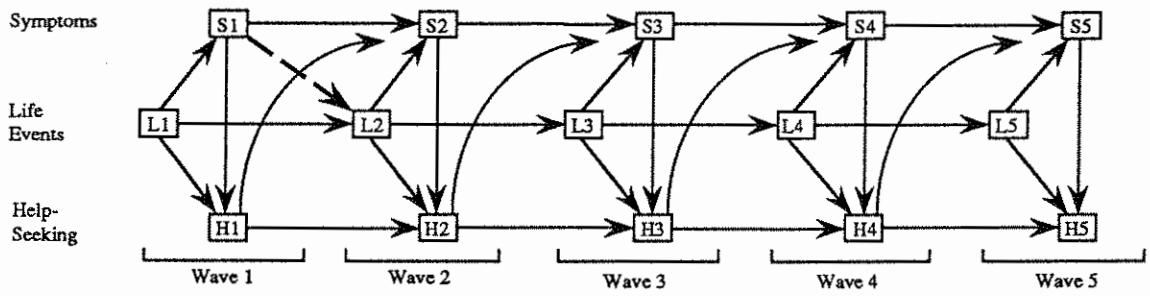
statistically significant at *p<.05 **p<.01 ***p<.001

A reasonable fit was attained by the model in most cases. For the male sub-samples, the Chi-Square statistic was non-significant, for models predicting help-seeking from both friends and family, indicating that the model adequately described the data. The goodness of fit indices supported this, with a non-normed index of 0.94 for help-seeking from friends and 0.97 for help-seeking from family. The goodness of fit indices showed that for girls seeking help from friends and family, the models were also a reasonable fit, although the Chi-Square statistics were significant. For professional help-seeking, however, the Chi-Square statistic was highly significant, and a non-normed fit index under 0.90 also indicated that the hypothesised structure was not the best fit for the data.

To obtain a better fit over all the sources of help, the standardised residuals were inspected to see where the model could be modified. A large standardised residual between symptoms at Wave 1 and subsequent life events, in most of the sub-samples, suggested freeing a lagged path from symptoms to subsequent life

events. Although reciprocal causal paths between life events and symptoms have not generally been identified in previous causal models of symptoms and life events, they have been acknowledged as likely (Aneshensel & Huba, 1984). Kessler (1982) suggested that the reciprocal effects between life events and symptoms would be lagged if there was less than a year between waves. The revised model of help-seeking, therefore, included a path from symptoms at Wave 1 to subsequent life events at Wave 2. This lagged path from symptoms to life events was only included over one time period, and not at each time period as might be expected. The standardised residuals and goodness of fit indices only supported the need for one such path. This was a result of the strong autocorrelations of symptoms and life events over time. The auto-regressive paths between the life event measures carried the relationship between psychological distress and more reported life events, making multiple links over time unnecessary. Figure 9.4 presents the revised model (again without showing the auto-regressive paths for clarity). The additional path from symptoms to life events is indicated by a bold dashed line.

Figure 9.4: Revised Causal Model of Help-Seeking.



The revised model was reestimated for help-seeking from friends (separately for males and females), family (separately for males and females), and professionals (with male and female data combined), and was shown to be a significantly better fit to the data than the initial model. The change in Chi-Square between two nested models is also a Chi-Square test with degrees of freedom equal to the difference in degrees of freedom between the two models. A significant change in Chi-Square indicates a better fit. Table 9.3 presents the goodness of fit statistics for the revised model as well as the change in Chi-Square from the initial model. The new model was a good fit to the data in all cases, except perhaps professional help-seeking. For this type of help-seeking, the Chi-Square statistic was still highly significant, although the two fit indices indicated that the model was a reasonable fit. Because none of the standardised residuals were greater than 2, and it made little sense substantively to free further paths, the revised model was assumed to be an adequate fit for professional help-seeking also.

Table 9.3: Goodness of Fit Statistics for Revised Model.

Source of Help		Chi-Square (df)	Change in Chi-Square	Normed Index	Non-normed Index
Help-seeking from friends					
	Males	62.35 (55)	7.31 (1)**	.864	.934
	Females	74.92 (55)*	9.42 (1)*	.924	.957
Help-seeking from family					
	Males	54.85 (55)	6.29 (1)*	.860	.969
	Females	62.61 (55)	14.65 (1)***	.930	.972
Help-seeking from Professionals		112.84 (68)***	33.92 (1)***	.898	.902

statistically significant at *p<.05 **p<.01 ***p<.001

The revised model presented in Figure 9.4 was, therefore, accepted as an adequate fit to the data, for all three types of help-seeking and both males and females. Appendix VI presents the regression coefficients for each of the paths estimated in the model for each sub-sample. Most of the hypothesised paths

exhibited significant coefficients. A more parsimonious model could have been developed by dropping the few non-significant paths, but developing a parsimonious model was not of primary interest here. Other independent variables were included in the model as controls. What was of primary interest was the effect of help-seeking on subsequent symptoms. A model that was a good fit and controlled for possible spuriousness in the relationship between help-seeking and symptoms was all that was required.

The paths of interest here were those from help-seeking to subsequent symptoms. The sign and significance of the coefficients for these paths indicated how help-seeking affected subsequent psychological symptoms, after controlling for the other variables in the model. The coefficients for these paths are presented in Table 9.4. The paths from help-seeking to subsequent symptoms were non-significant, with three exceptions. The only significant paths were evident in the sub-sample of girls who sought help from friends, where the path from help-seeking at Wave 1 to symptoms at Wave 2 was significant, in the sub-sample of girls who sought family help, where the path from help-seeking at Wave 3 to symptoms at Wave 4 was significant, and for both boys and girls who sought professional help, where the path from help-seeking at Wave 1 to symptoms at Wave 2 was significant. For the girls only, help-seeking from friends at Wave 1 was related to significantly more symptoms at Wave 2, as was seeking professional help for both boys and girls at Wave 1. The only time that help-seeking had a positive effect on mental health outcome was for the girls seeking help from family at Wave 3. In all other cases, previous help-seeking did not impact on subsequent symptoms; it neither increased nor decreased subsequent psychological distress.

Table 9.4: Summary of Direct Effects of Help-Seeking on Subsequent Symptoms.

Source of Help	Dependent Variable	Independent Variable	*B*	se
Friends				
Males	Symptoms 2	Help-seeking 1	-.16	(.40)
	Symptoms 3	Help-seeking 2	.15	(.35)
	Symptoms 4	Help-seeking 3	-.21	(.41)
	Symptoms 5	Help-seeking 4	-.31	(.41)
Females	Symptoms 2	Help-seeking 1	.91**	(.35)
	Symptoms 3	Help-seeking 2	-.04	(.35)
	Symptoms 4	Help-seeking 3	-.56	(.38)
	Symptoms 5	Help-seeking 4	.38	(.33)
Family				
Males	Symptoms 2	Help-seeking 1	.77	(.63)
	Symptoms 3	Help-seeking 2	-.28	(.35)
	Symptoms 4	Help-seeking 3	-.24	(.47)
	Symptoms 5	Help-seeking 4	.07	(.37)
Females	Symptoms 2	Help-seeking 1	-.31	(.36)
	Symptoms 3	Help-seeking 2	-.23	(.31)
	Symptoms 4	Help-seeking 3	-.82*	(.32)
	Symptoms 5	Help-seeking 4	.03	(.33)
Professionals				
	Symptoms 2	Help-seeking 1	.93*	(.55)
	Symptoms 3	Help-seeking 2	-.34	(.50)
	Symptoms 4	Help-seeking 3	-.94	(.60)
	Symptoms 5	Help-seeking 4	.12	(.52)

statistically significant at *p<.05 **p<.01 ***p<.001

Another way to estimate the effect of help-seeking on subsequent symptoms was to reestimate the model excluding the paths from help-seeking to symptoms. If the change in Chi-Square between the models including and not including these paths was non-significant, it could be concluded that the paths were not needed to explain the data. Table 9.5 presents the change in Chi-Square when the model was reestimated without the paths from help-seeking to subsequent symptoms. In each case the change in Chi-Square between the models was non-significant. This indicated that excluding these paths did not significantly affect the fit of the model. This was further evidence that help-seeking had no effect, let alone an adaptive coping effect, on subsequent psychological distress.

Table 9.5: Change in Chi-Square Statistic Between Models With and Without Causal Paths from Help-Seeking to Subsequent Symptoms.

Source of Help	Change in Chi-Square (df)
Friends	
Males	1.26 (4)
Females	7.83 (4)
Family	
Males	2.90 (4)
Females	6.69 (4)
Professionals	5.18 (4)

Seeking Help as Effective Coping

These analyses present evidence that the help-seeking behavior used by these adolescents to cope with their psychological problems did not alleviate their distress. The ineffectiveness of help-seeking in this regard was evident at each of the four different time periods over 12 months. Neither professional help nor seeking help from the informal social support network of friends and family was effective in coping with psychological problems.

Only girls seeking help from their family at Wave 4 experienced a significant reduction in psychological symptoms three months later. This was the only time there was a positive effect of any type of help-seeking, once life events and prior level of symptoms and help-seeking were controlled. At all other times such help-seeking was ineffective. The girls who sought help from their friends at Wave 1, and both boys and girls who sought professional help at Wave 1, were actually in significantly worse mental health three months later.

Therefore, over a period of three months, and controlling for previous symptoms, help-seeking and current life events, none of the help-seeking actions of these adolescents were adaptive in terms of coping with psychological problems. These results support other evidence that seeking help is often ineffective in terms of mental health outcome (Pearlin & Schooler, 1978; Lieberman & Mullan, 1978;

Miller et al, 1985).

Other research shows that not all social support is beneficial. Social relationships entail costs as well as benefits and there is evidence that negative social experiences may have a more potent effect on mental health than positive experiences (Rook, 1984). One of the 'costs' of seeking help for psychological problems from friends and family may be reciprocal listening to their problems. This may serve to exacerbate distress through sensitivity to the problems of others. Being high on the trait of private self-consciousness has been shown to increase sensitivity to the adversities of others (Mechanic & Hansell, 1983). Private self-consciousness was shown to be particularly predictive of seeking help from friends for these young people. This suggests a scenario of close friends sharing their psychological problems and reinforcing each others' distress.

Furthermore, the type of support offered by the social network may not act to reduce distress. A study by Mattlin, Wethington and Kessler (1990) found that supporters often offered interpretations of interpersonal problems that were more distressing, and such support resulted in greater anxiety. Sharing a problem and concentrating on all its possible ramifications may amplify distress. Much social support may operate in this way and increase rather than reduce emotional arousal. Mechanic has suggested that, particularly for adolescents, types of support that concentrate on problems and feelings worsen distress, by reinforcing an overconcern with the self and self-appraisal (Mechanic & Hansell, 1987a). Social support in terms of listening to problems and sharing one's own experiences keeps the focus on the self and one's problems, and this seems to be maladaptive.

Professional therapies also often involve a focus on feelings and the self. Traditional psychotherapy, in particular, concentrates almost solely on analysing and appraising the client's life, feelings and relationships. This may account for research findings that much professional help is ineffective in improving mental health (Pearlin & Schooler, 1978; Miller et al, 1985). For those few adolescents in this

sample who sought professional help over a 12 month period, professional help did not reduce their emotional distress three months later. Again, concentrating on the self and appraising one's feelings may increase rather than decrease emotional arousal.

This discussion has assumed that the reduction of emotional arousal is evident in terms of levels of psychological symptoms. It may be that seeking help does help, but that this help is not reflected in levels of distress, which may even be relatively stable and represent a characteristic level of disorder in a person (Duncan-Jones et al, 1990). Help-seeking may, however, affect some of the other consequences of psychological problems. For example, a boy who has broken up with his girlfriend, failed an exam, and been kicked out of the football team would probably be highly distressed. Talking to friends may not reduce this distress, but it might put it in perspective and leave him feeling worthwhile as a person and with hope that things will improve. In contrast, a boy who did not share his distress may be at greater risk of suicide or a drunk driving charge. So, while seeking help does not seem to reduce psychological symptoms, it may have other very important consequences for the health and well-being of adolescents.

Conclusion

While these analyses did not show that those who sought help became significantly worse, they certainly did not get better, in terms of level of psychological symptoms. Seeking help in ways that involved ruminating over psychological problems was not an adaptive coping mechanism for adolescents dealing with psychological problems. None of the sources of help that adolescents turn to - friends, family and, rarely, professionals - helped them to reduce their emotional distress. This has considerable implications for the understanding of adolescent help-seeking behavior. In the next and final chapter, these implications will be discussed.

Chapter 10

Discussion

This study has established that a considerable proportion of Australian adolescents suffer from minor psychiatric disorder. Most cope with psychological problems by turning to friends for support and many also confide in their family. Very few resort to professional intervention to deal with their distress. Greater vulnerability to emotional problems was shown to best predict those who sought help from friends and to also predict professional help-seeking, but did not account for seeking help from family. None of these types of help were shown to be effective in reducing subsequent psychological distress, however. Before discussing the implications of these findings, some of the study's limitations should be acknowledged.

Some Limitations of the Present Study

To understand a dynamic process such as illness behavior longitudinal and prospective designs are imperative (Mechanic, 1986a). Much of the previous research regarding help-seeking behavior has been cross-sectional, making it impossible to separate stages of the illness behavior process. Longitudinal designs do not always provide the answers, however. In this study, the stages of recognition, definition and action could not be distinguished. Having a period of three months between measurements was too far apart for such detection. Many of these processes probably occur simultaneously or in very rapid succession (Igun 1979; Cleary, Mechanic & Greenley, 1982). The only way to observe these stages and to determine which factors operate most strongly at each particular stage would be the daily recording of peoples' thoughts, feelings and attributions regarding their state of health. Such daily diaries may start to show the links between symptom development, recognition, definition and action. The process of illness behavior is a

subtle definitional and interactional process (Mechanic, 1979b) that is too dynamic and personal to be elicited by survey data obtained at isolated points in time.

The longitudinal predictive models of help-seeking also suffered because of the nature of the particular design. Different time points were not directly comparable because not all variables were measured at each time. Only symptoms, mental health perception, help-seeking and life events were measured at every wave. Each other variable was measured at Wave 1 and one other time. This was done to make the mail-out questionnaires less lengthy to encourage compliance, but it had its costs. All the measures could only be directly compared at Wave 1. At no other time was a current assessment of every measure available. The cross-sectional models could not, therefore, be confirmed with data from other waves. Furthermore, while many of the variables were expected to be stable over time, most of the predictors were shown to change significantly. A latent variable design with multiple measures of each construct is needed to determine whether this change is due to measurement error as some researchers suggest (Henderson, Byrne & Duncan-Jones, 1981), or real change in respondents' characteristics.

The selection of the sample and the design controlled for or minimised the effects of some of the many theoretical predictors of help-seeking, such as level of education, age, and access to professional care. That so many varied predictors of help-seeking have been proposed in the literature reflects 'the richness of the context in which people make decisions about seeking medical help' (Ostrove & Baum, 1983:124). Few of these factors have been shown to predict utilisation accurately all the time and it is not possible to cover adequately all the possible predictors. Selecting variables from one particular conceptual approach provides a way to categorise and assess the impact of some of the many explanatory factors. The social-psychological approach offers variables to account for individual differences, and individual perceptions of illness are a primary determinant of illness behavior (Janis & Rodin, 1979). Adopting one approach excludes other potential predictors,

however. In the current data, the predictive models revealed that emotional vulnerability factors did not account for help-seeking from the family. Variables related to family relationships and dynamics, while beyond the scope of this study, provide another approach to pursue.

There are similarly a wide range of coping behaviors that people employ to deal with psychological problems, and it is not possible to define them all (Pearlin & Schooler, 1978). Help-seeking is just one coping strategy and was concentrated on in this design. Concentrating on other possible coping strategies may provide a better understanding of the reasons for avoiding help-seeking by uncovering the coping behaviors that are used instead. Amato and Bradshaw (1985) provide an excellent list of reasons to delay help-seeking, many of which are coping strategies other than seeking help. This would be particularly useful to determine what boys do in response to psychological problems, since many of them do not seek help.

A score card of utilisation provides no understanding of why services are used and what health means (Kandrack, Grant & Segall, 1991). The current help-seeking measure, on its own, acted much like a score card as it did not identify the problem for which help was sought or the meaning of the problem within the adolescent's lifestyle. A more qualitative approach, allowing the elicitation of meanings and interpretations of problems (Popay, 1992), would have provided greater insight into emotional problems and adolescent coping strategies.[1]

Despite these limitations, the study did provide considerable insight into the prevalence of and coping responses to psychological problems in a sample of Australian adolescents. In particular, the design enabled an assessment of the prevalence of minor psychiatric disorder in school leavers, showed what sources they turned to for help, which characteristics predicted utilising each type of support, and whether these help-seeking strategies were effective means of coping with psychological problems.

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[1] Spiroto et al (1991) examine a wider range of common problems in young people and the various coping strategies they adopt.

Prevalence of Minor Psychiatric Disorder

The prevalence of minor psychiatric disorder was shown to be very high in this group of late adolescents. It was highest at the first time of testing just prior to the respondents completing their secondary schooling, and was considerably lower when tested at three monthly intervals in the subsequent year. Finishing school and embarking on an adult life seemed to be a difficult time involving considerable depression, anxiety and generalised psychological distress. While this is commonly believed, it has seldom been investigated empirically, although one study of final year students in the United States also found greater psychological distress prior to finishing school (Donovan et al, 1986). One girl summed up the concerns of many students by offering the comment at the end of the first mail-out questionnaire (second wave of data collection):

> I believe that many of the emotional problems I have been experiencing over the last few months are caused by the transition between school life and adulthood. After leaving school I went through a period of confusion self-doubt and self-analysis despite the fact that I did very well at school and was accepted into university. I was also very lonely even though I still had close friends with whom I could share deeply. The reasons behind this crisis, in my case anyway, are a fear of growing up, of having to take responsibility for myself and of having to make decisions that will profoundly affect my future.

Others had similar comments:

> Departing from friends at school and starting a permanent job has made me worry, lonely, scared, and what to do next with myself. Leaving school is like departing from life.

While finishing school was a time of considerable distress, the case rates for minor psychiatric disorder over the subsequent 12 months were quite variable. Another sample of Australian adolescents leaving school also showed variation over time in symptom scores (Winefield et al, 1989). Psychiatric disorder is episodic and it is normal for symptoms to fluctuate due to changing conditions, although people have a characteristic base rate of 'neurotic' symptoms (Duncan-Jones et al, 1990). While variability is expected, these results show a similar pattern to that evident in other prospective studies. A general decline with time in GHQ scores has been

noted in adult community samples (Henderson, Byrne & Duncan-Jones, 1981; Goodchild & Duncan-Jones, 1985). This is believed to be due to change in response style with repeated testing, with respondents presenting themselves more favorably over time. The greatest change occurs between the first and second testing, and after that there is more stability in symptom scores (Henderson, Byrne & Duncan-Jones, 1981). The data here showed a similar trend; the greatest decline in GHQ scores was from Wave 1 to 2 and after that there was less variability. The control group, who were only retested once at Wave 5, did not differ significantly from the rest of the respondents on symptom measures at that time, confirming that the greatest retest effect is between first and second testing.

For these adolescents, the case rate dropped considerably from Wave 1 to Wave 2, declined more gradually until Wave 4 when there was a sharp rise, then fell again at the final mail-out. This pattern was evident for each of the three measures of psychological distress. That all three instruments showed the same pattern suggests there may be real variability in minor psychiatric disorder at this time of life. Finishing school was clearly very distressing. The next peak occurred in the winter of the following year and may be related to some kind of seasonal affective disorder. Further longitudinal studies of the mental health of community samples of adolescents, which include a clinical or psychiatric interview, could illuminate seasonal and life cycle variations in morbidity.

Despite the variability in case rates over time, 20 to 30 percent of these adolescents suffered from some sort of minor psychiatric disorder at any time. A similar proportion of both South Australian (Winefield et al, 1989) and Canadian adolescents (D'Arcy & Siddique, 1984) were shown to suffer from psychological distress, indicating that such a high prevalence rate is usual for adolescents. These rates are generally higher than those reported for community samples of adults and confirm that adolescence is a time when emotional needs are paramount. Parents, teachers and others dealing with adolescents are often ignorant of the extent of

emotional distress in this age group and see it as a 'normal' part of growing up (Davis, 1992). While its prevalence does suggest that emotional distress is very common, it is still painful and has far reaching consequences. Suicide is the second most common cause of death in young Australian males (Davis, 1992). Other serious consequences of adolescent affective disorder include substance abuse, antisocial behavior, and psychiatric disorder in adulthood. Many emotional, physical and social problems in adulthood have their origins in adolescent emotional distress. Distress in this age group needs to be taken seriously and not merely seen as an adolescent 'phase'.

For these adolescents, more girls than boys were found to suffer from minor affective disorder. This supports the findings of most other studies of gender differences in mental health (Jorm, 1987). More girls experienced minor affective disorder than boys at all times in their first year out of school. Many varied research designs have attempted to understand the reasons adolescent girls and women are more vulnerable to minor psychiatric disorder, particularly depression. This study did not attempt to account for gender differences in morbidity, but rather concentrated on what male and female adolescents did in responses to psychological disorder.

Help-Seeking for Psychological Problems

The emphasis in this study was on responses to psychological distress in terms of help-seeking behavior. For both boys and girls, help-seeking responses were very clearly directed toward friends rather than any other sources of help. About sixty percent sought help for psychological problems from their friends, thirty percent from their family, and five to ten percent from professionals, at each of the five time points over the 12 months. People generally rely more on their informal social support network than professionals (Amato & Bradshaw, 1985), and late adolescents in particular rely mostly on their peers (DePaulo, 1982; Tinsley, de St Aubin & Brown, 1982; Choquet & Menke, 1989).

Professional services were very rarely consulted. Since between 20 and 30 percent of these young people were cases at the more severe cutoff level of the GHQ, it would appear that professional services were underutilised in terms of need. Of the professional services that were consulted, the educationally based services such as teachers and school counselors were used most frequently. Teachers are in a unique position to interact with many adolescents (Cormack, Pols & Christie, 1992). Professional help-seeking dropped by half after the adolescents finished school, largely due to a decline in the use of educational helping services. For those who went on to higher education such sources of help were still available, but for those working or unemployed this major source of professional help was lost. Other types of professional services were rarely used, with only about four percent visiting their family doctor, a psychologist, psychiatrist or any other professional care provider for help with a psychological problem. Even those with moderate to severe psychological distress rarely sought professional help. Adolescents, as a rule, did not take their psychological problems to professional services.

Differences Between the Types of Help

Social-psychological factors that increased emotional vulnerability to psychological problems by encouraging a focus on the self and personal health were hypothesised to facilitate all types of help-seeking. Adolescents high on these factors were expected to be more emotionally vulnerable and, therefore, more likely to need to cope by seeking help for their psychological problems. Most of these factors were shown to account for individual differences in help-seeking from friends. Professional help-seeking was also related to some of the factors, but seeking help from family was unrelated to most of the theoretical predictors. Seeking help from friends, family and professionals were confirmed as three distinct types of coping, with different prompts to action, rather than a progression from less to more serious help-seeking behavior.

Seeking help from friends was shown to be facilitated by greater psychological distress, being female, availability of social support, fearing stigma, more life events, higher private self-consciousness and more negatively perceived mental health status. The presence of these attributes encouraged help-seeking, while their absence inhibited help-seeking among those with symptoms. Being more emotionally vulnerable because of factors that increased attention to the self and the salience of mental health seemed to encourage talking to friends about personal problems. Friends were by far the preferred source of help for such problems and being emotionally vulnerable to personal problems facilitated their use.

Professional help-seeking was the least used source of help and was best predicted by psychological distress and perceived mental health status, health concern, and life events. Those who were more emotionally vulnerable to personal distress due to symptoms of minor psychiatric disorder, greater concern with their health, and discontinuities in the form of life events were most likely to seek professional help. The other factors did not appear to discriminate those who did and did not seek professional help. While emotional vulnerability was therefore relevant to some extent, there are obviously other factors that prompt professional help-seeking.

One of these factors may be that these adolescents, who were mostly under 18 and living at home for the duration of the study, still had much of their illness behavior controlled by their parents. Other research has not been able to distinguish professional help-seekers on many psychosocial variables and suggested that significant others recommend professional help (Dew et al, 1988). In the case of adolescents it is probably parents who determine professional help-seeking.

> I have been very depressed and my parents took me to the doctor who has sent me to a psychiatrist. I don't know why I'm depressed - everything is just hopeless. I guess one good thing is that I'm a good one for your survey!

It may be that factors related more to the health behavior of parents better predicts professional help-seeking for adolescents. Labeling of mild forms of deviance is a

means of social control (Kirmayer, 1989). Parents may use medical consultation as a form of control when the behavior of their children becomes unacceptable to them. Professional help-seeking seemed to be the most problem driven source of help. When psychological problems manifest in ways that concern parents, professional help may become an option.

Furthermore, the symptom measures taken here may not reflect the types of psychological distress that are taken to professionals for treatment. At Wave 1, 35 percent of those who sought professional help were not cases as identified by the GHQ. Minor mental health problems of depression and anxiety may be considered such a pervasive and 'normal' part of adolescence that it is only more extreme mental health problems, in terms of acting out or more risky behaviors (Mechanic, Angel & Davies, 1991), that are dealt with by professionals. The questionnaires did not elicit exactly the type of personal problem for which help was sought. This information would have been valuable determining the actual reasons for consultation, and whether only specific types of psychological problems were considered appropriate to take to a professional service.

Factors other than those considered here were also more relevant predicting seeking help from family members. Only availability of a frank and confiding relationship consistently predicted family help-seeking in these theoretical models. Understandably, having someone within the family to talk to consistently predicted utilising family sources of help. Help-seeking specifically from the family has not often been studied, and when it has, it has usually been a spouse that has been concentrated on as the source of help (Brown & Harris, 1978; Brown et al, 1986). Most adolescents obviously do not have such a relationship. Some research suggests that the role of parents is as important as confidantes (Aro, Hänninen & Paronen, 1989). Factors related more to family dynamics, including parental warmth and conflict with parents (Franzoi & Davis, 1985) may be most relevant for adolescents deciding whether to confide their personal problems to a family member. Some families may encourage expressions of distress, while others expect a more stoic

approach to personal problems. Some families may be empathetic toward adolescent problems, while others become argumentative and confrontational. Gender roles may also be evident, with expressions of distress more acceptable from girls than boys. The gender difference was evident to some extent for family help-seeking, with girls more likely to confide in their family than boys. Family closeness has been shown to be an important component of self-esteem in adolescence (Cooper, Holman & Braithwaite, 1983). Being able to confide in family may be particularly relevant in making an easy transition to adulthood. Good communication between adolescents and their parents is often cited and commonly believed to be necessary to produce healthy, happy and competent young adults (Noller & Patton, 1990).

The discussion so far has examined general differences between the three types of help-seeking. Help-seeking from friends was most related to vulnerability to emotional problems. Seeking professional help appeared to be more problem focused and parental intervention was suggested as an important factor. Family help-seeking was least related to emotional vulnerability factors and may be more a function of family closeness and communication. The discussion will now focus on the specific effect of each of the hypothesised predictors of help-seeking.

Predictors of Help-Seeking

Psychological Distress

Symptoms were hypothesised as the obvious primary predictors of all types of help-seeking (Ingham & Miller, 1982;1986; Hourani & Khlat, 1986). The results suggested that symptom status was less important than might have been assumed, being only moderately related to help-seeking. A substantial number of adolescents with no measured psychological distress sought help from friends and family. Five to ten percent of those with no symptoms sought professional help. For those adolescents who did experience psychological distress, the majority did not seek help from family or professionals and many did not seek help from friends.

Although symptoms remained a significant predictor in most of the multivariate models for each type of help-seeking, other more important predictors emerged. The central notion of much illness behavior research, that factors other than symptoms account for help-seeking behavior, was strongly supported.

One of the most influential factors other than symptoms was perceived mental health status. While this variable is highly related to symptoms, it is conceptually broader than symptoms. The perception of mental health status seemed to predict help-seeking more strongly than actual symptom reports. The addition of perception of mental health status in the final multivariate models almost always added significantly to the model and often caused the effect of symptoms to become non-significant, showing that perception had an effect beyond that of self-reports of psychological distress. Perception of mental health status encompasses two elements that are not necessarily part of a symptom measure: recognition of symptoms and the definition of having a problem. As asserted by Kadushin (1969), people do not go to a psychiatrist because they are really sick but because they think they're sick. This seems to apply to all help-seeking, not just professional help-seeking. Many of the models of illness behavior hypothesise that there is a progression from symptoms to recognition of symptoms, then definition of a problem, and that it is the stages of recognition and definition that predict health actions (Gross & McMullen, 1983; Kirmayer, 1989).

It is, however, difficult to separate the processes of symptom development, recognition and definition. Particularly for minor affective disorders there is no objective and subjective disorder. Psychological distress is the subjective reality (Popay, 1992); the symptoms are the disease and the disease is the symptoms (Goldberg, 1981). The step to negatively perceived mental health status depends on the labeling and interpretation of symptoms. Symptoms may be ignored, acknowledged and responded to without specific labeling, labeled as a transient state, or defined as a chronic state or problem (Kirmayer, 1989). It is also difficult

using self-report measures of symptoms to avoid total confounding of the symptom measure and health perception. There must already be some level of recognition and perception for the symptoms to be reported on a self-report questionnaire. This type of design cannot fully address the distinction between mental health perception and symptoms. However, the consistent pattern of results showing that perception of mental health status overshadowed the effect of symptom reports indicates that the distinction between symptoms and perception of mental health problems is an important avenue of further study.

Gender

While the gender difference in mental health was not a focus of this study, the gender difference in help-seeking behavior was an important consideration. Why there is a gender difference in help-seeking behavior is a major issue in the research area (McMullen & Gross, 1983). The literature has offered two main explanations of this difference which could be tested using these data. The data did not support either of the major hypotheses, that the gender difference is due to differences in levels of distress (Gove, 1984) or differences in recognition of symptoms (Kessler, Brown & Broman, 1981). Differences in mental health perception did not seem to account for the gender difference in help-seeking. Rarely did the addition of perceived mental health status cause the gender effect to become non-significant in the multivariate models. Only for professional help-seeking (which exhibited a weaker gender effect) did perceived mental health status account for much of this effect. In general, girls were more likely to engage in all help-seeking behavior than boys, regardless of their perception of their mental health status. The gender difference was even more poorly accounted for by level of reported psychological symptoms. Although the girls did report more symptoms than boys, the gender difference in help-seeking did not vary when level of symptoms was controlled. At the same level of symptoms, girls still sought help more than boys. While girls had both more psychological distress and were more

likely to define their mental health as poor, they were still more likely to seek help than boys even when these variables were controlled.

The gender effect in help-seeking was also not explained by any of the other predictors analysed here. Variables affecting emotional vulnerability to psychological problems did not explain girls' greater propensity to seek help. Girls were shown to be higher than boys on the trait of extraversion, have more availability of confiding relationships, and less fear of the stigma attached to psychological illness. These variables were strongly related to help-seeking from friends, where the gender difference in help-seeking was most evident. They did not explain the gender difference, however, and gender was still a highly significant predictor after these factors were controlled.

It is interesting to note that the gender difference was most pronounced for seeking help from friends. The peer group is particularly important in adolescence and it is through the peer group that much of an adolescent's self-esteem is generated (Rosenberg, 1965). In the search for autonomy and adult identity the peer group takes a stronger role as the authority of parents is diminished (Rigby, 1990). Expressing emotion and confiding problems has a very different effect for boys and girls within the peer group. For girls, discussing problems with friends probably serves to consolidate friendships by encouraging intimacy. Admitting to psychological problems does not detract from a girl's image because female norms allow girls to express and amplify emotion (Briscoe, 1982). In contrast, boys are expected to restrict emotion and admitting to and discussing such problems probably has a negative effect on peer relations (Good, Dell & Mintz, 1989). Norms of appropriate masculinity discourage expression and sharing of emotion (Lewis & Lewis, 1977; Cunningham, 1990). The Australian culture, in particular, has been described as a 'hard' culture, especially for men, who are expected to be tough, suppress their emotion, and avoid feminine qualities such as compassion (Patience, 1992). Men have been shown to deny depression and hide it from others (Warren, 1983). This lack of expression of emotion may partly account for the higher suicide

rate in young males, when it is females who report higher rates of mental distress. While girls acknowledge and share their problems, males suppress their distress until they decide to cope in a violently masculine way (suicide). 'Young males are the victims of violence, illness and death, including suicide, at levels that lead almost to the conclusion that maleness itself might be viewed as pathogenic' (Patience, 1992:14).

Thus, the stigmatising consequences of admitting distress may be a greater threat to the self-esteem of boys than girls in their peer relations. For boys to be held in esteem by their peers, sharing psychological problems with friends is probably not adaptive (Warren, 1983) while for girls it enhances friendships. The gender difference in help-seeking from friends is, therefore, more likely to be a result of gender norms and peer group socialisation processes, rather than related to variables that affect the level of perception and salience of symptoms. Regardless of their emotional vulnerability, boys are less likely to admit distress while girls are more likely to share emotions with friends.

These processes operate less for seeking help from the family or a professional. Other studies have shown that the gender difference in help-seeking is less pronounced when seeking help outside the peer group (Warren, 1983). Stigma and embarrassment are most feared from the peer group. Concern about expressing emotion (Good, Dell & Mintz, 1989), the amount of stigma, embarrassment and intimacy associated with confiding a problem (Amato & Saunders, 1985), and perceived threat to self-esteem (Fisher, Nadler & Whitcher-Alagna, 1982;1983) have all been shown to be associated with less help-seeking behavior. In these data, greater fear of the stigma attached to psychological illness consistently predicted seeking help from friends, but was not related to other types of help-seeking. Less fear facilitated seeking help from friends and more fear inhibited seeking help among those with symptoms. These results were further evidence of the importance of the peer group in adolescence. The stigma of psychological illness was only

relevant when deciding whether to confide within the public arena of the peer group; it was not a consideration deciding to confide within the more private worlds of family and professionals. Those who feared the stigma attached to psychological illness did not want to talk to their friends about a psychological problem and possibly provoke stigmatising reactions. This conceptualisation suggests that fear of stigma affects help-seeking through the perceived consequences of confiding a psychological problem, rather than by affecting the salience of health, as originally hypothesised. Adolescents probably correctly perceive that family and professionals are less likely than their peers to stigmatise them for a psychological condition.

Self-Attention

It was hypothesised that differences in self-attention might also account for some of the gender difference in help-seeking. Other research has shown that girls are more likely than boys to self-focus and that this affects their vulnerability to negative emotions (Ingram et al, 1988). In these data, girls were not higher on the trait of private self-consciousness than boys, although they were somewhat higher on the trait of introspection. When either of these variables was included in the multivariate models predicting help-seeking, the gender effect did not vary, indicating that differences in self-attention did not account for gender differences in help-seeking. Hypothesised interactions between gender and private self-consciousness were also non-significant indicating that the effect of private self-consciousness was not different for boys and girls. Differences in the tendency to self-focus do not account for girls' greater help-seeking.

Private self-consciousness did exert a main effect on help-seeking for both boys and girls. It had a strong and consistent effect particularly predicting help-seeking from friends. It had a less consistent, but still significant, effect predicting help-seeking from family. It did not predict professional help-seeking at Wave 1 but did interact with life events to predict professional help-seeking over time. Overall, the hypothesis was supported that greater self-focus and internal monitoring (as

indicated by high private self-consciousness) facilitate help-seeking, particularly informal help-seeking. Those adolescents who were more internally oriented were more likely to talk to their friends and family about personal problems. This effect was evident regardless of the actual level of psychological distress experienced and generally regardless of perceived mental health status. Self-focused attention resulted in more action taken in regard to symptoms.

It was also hypothesised that level of private self-consciousness would influence the effect of life events (Mechanic & Hansell, 1983; Suls & Fletcher, 1985). Those high in private self-consciousness were expected to be more susceptible to environmental inducers of stress in the form of life events, although it was admitted that qualitative evidence for this theoretical hypothesis was so far weak (Mechanic, 1989). These data showed little evidence to support the hypothesis. Those high in private self-consciousness were generally not more strongly affected by life events. There was some evidence that at low levels of life events those high in private self-consciousness were more likely to seek professional help over time. Apparently being high on the trait made low average levels of life events more salient. This effect was neither strong nor consistent, however, and was only evident for predicting professional help-seeking over time. It seems more likely, from these data, that private self-consciousness and life events independently facilitate help-seeking behavior.

Life Events

Life events were hypothesised to promote help-seeking behavior due to the discontinuities they cause in the flow of daily activities. Such discontinuity was expected to result in attention to and reappraisal of the self and increased vulnerability to the effects of psychological distress (Mechanic, 1983). For these young people, life events were strongly related to the decision to seek professional help, with more life events facilitating help-seeking and fewer life events inhibiting help-seeking in those with symptoms. For help-seeking from friends the effects of

life events seemed to be mainly as facilitators. Life events were unrelated, however, to seeking help from the family even in the bivariate tests.

The results for professional help-seeking support much previous research that stress in the form of life events directly affects utilisation (Tessler, Mechanic & Dimond, 1976; Gortmaker, Eckenrode & Gore, 1982). Having many problems encourages seeking help as well as greater psychological distress. Other studies have shown an effect of life events and daily hassles directly affecting physician utilisation for physical problems (Otto, 1979; Gortmaker, Eckenrode & Gore, 1982; Verbrugge, 1985; Stone, Jandorf & Neale, 1986). Not surprisingly, this effect is also evident for consulting for psychological problems. Having more problems in everyday life, and many difficulties to mull over and become distressed about, facilitates the step to professional help.

Having more life events also facilitated talking to friends. More hassles, problems and discontinuities provided reasons to confide in friends. Lack of problems did not, however, inhibit talking to friends. Adolescents still confided in their friends, even when they had fewer discontinuities in life to trouble them. Friends were the source of so much confiding that lack of events did not inhibit sharing psychological problems.

The most interesting finding is that the effect of life events varied over the different types of help-seeking, and were unrelated to talking to family about personal problems. Many adolescent problems may be of a nature that young people feel they cannot confide in their family. In the life event inventory used here, some of the individual life events were directly related to family problems (such as 'there was domestic violence in your home' and 'parents discovered that you were drinking, smoking, taking drugs or engaging in sexual behavior'). It is understandable that these problems did not encourage confiding in family. Many of the other events on the inventory tapped events that may be more likely to be hidden from than shared with family (for example; 'began sexual activity', 'had trouble with the police'). Many of the troubles and hassles that adolescents experience are

either related to family, or considered inappropriate to share with family. Families may not be open to sharing such problems, and when these problems do come to the notice of family (especially parents), conflict may arise. Many adolescents probably do their best to avoid such conflict by keeping many of their problems out of the family domain. Older adolescents, in particular, are moving away from the dominance of their parents toward greater autonomy. Many of the respondents expressed the desire for freedom from parental intervention in their lives:

> Unable to enter Uni or CCAE and therefore more tension at home and more arguments with parents about future plans, still no freedom to do or make my own decisions.

Social Support

One of the life events most frequently endorsed over the 12 months was 'separation from a close friend'. Many of the respondents commented on either themselves or a friend moving away.

> Closest friend moved to Sydney, leaving me with little to do and no one to talk to.

> Leaving school is pretty hard to cope with - out in the real world all alone. Also friends all doing different things and not as close.

The social support of these adolescents was likely to be fluctuating, with people moving to begin their adult lives. Leaving secondary school and all the social relationships available there made this sample particularly vulnerable to changes in the nature of the social support network. Embarking on various new adult roles meant the disruption of old social relationships and the beginning of new ones. The social support measure of availability of frank and confiding relationships was shown to be quite stable over a 6 month period after leaving school, however. While social support has previously been found to be stable (Henderson et al, 1980), it appears from the respondents' comments that the measure was not sensitive enough to tap real changes in close friendships. Availability of social support in the form of a frank and confiding relationship was very high for this group of adolescents. Only six to seven percent lacked a confiding relationship. Social support was found to be

most influential predicting seeking help from the family. Family confidantes were probably the most stable of confiding relationships, with contact with family probably easier to maintain through the transitions occurring after leaving school. For other close relationships, based on friendship ties, many established long-term friendships of school life may have been disrupted by transitions to adult roles, and new friendships begun. Although these new friendships may have offered similar opportunities for sharing problems, because they were less established and less comfortable relationships, they may not have been relied on to the same extent as old school friends. Furthermore, most young people were going their separate ways; to different universities, new jobs, other cities, and the opportunities for daily close contact with friends, as experienced while still at school, were not longer there. So, while patterns of confiding in family members may have been less disrupted by transitions after finishing school, friendships were undergoing qualitative change. As other research has concluded, it is the perceived quality of social relationships that is important for mental health (Henderson, Byrne & Duncan-Jones, 1981).

Social support was not related to professional help-seeking. In contrast to informal help-seeking, it was predicted that lack of adequate social support would prompt professional help-seeking, because health providers can be a source of support for those without strong social ties (Ben-Sira, 1984; Falkner, Fatovich & Winkler, 1984). This prediction came from studies of help-seeking for chronic and physical illness, and in such cases the professional may serve as a source of otherwise unavailable support. Professional services were not used when support was lacking for minor psychological disorder. Another study found that confiding social support was not related to use of mental health services when symptoms were controlled (Greenley, Mechanic & Cleary, 1987). In these data it was not symptoms that negated the effect. Professional help-seeking was very rare and the problems that most of these adolescents were encountering were perhaps not amenable to professional help in the absence of help from friends and family. Most problems

mentioned at the end of the questionnaires involved relationships with partners, for example:

> Our school formal turned out to be a really depressing event because my boyfriend spent the entire evening with another girl.

first jobs, worries about university, friends moving away, and various minor annoyances,

> I was very upset about not getting a place at ANU where a lot of my friends got places. So I am now running around finalizing a study program at CCAE. I have also lost contact with a lot of my friends from school.
>
> Had to leave home because I got accepted into a University that is very far from family.
>
> I broke up with a boyfriend of 18 months standing 4 or 5 weeks ago. Three of my closest friends moved to Sydney to study including one who has been the closest for several years. I am in a very boring job with little chance of getting out in the near future due to staff shortages.
>
> Am in England: Am a bit homesick.
>
> Started work at an insurance type firm working in a close knitted group - not fitting in quite unhappy at work but sticking it out hoping for the tension to lift and to be accepted.
>
> I'm just really frustrated and uptight but I don't know why. Maybe there is just lots of little reasons.

Most of these problems would not be taken seriously in the adult world, although they assumed great significance for these adolescents. Other work has shown that events that adults see as trivial are of great concern to young people (Cohen, Burt & Bjork, 1987). Taking such personal problems to a stranger and a professional was not seen as appropriate by these young people, even if they had no one else to talk to. Adolescents may rightly perceive that, in the adult world of professional help, these problems may be viewed as merely an inevitable part of growing up, and therefore not worthy of attention. Most adolescents talked to their friends, rather than anyone else, because their problems were best understood and shared by others with similar experiences and reactions.

Loneliness was found to be generally unrelated to help-seeking in any of the multivariate models. It was hypothesised that greater loneliness would facilitate

self-appraisal and subsequent help-seeking. The measure here was of reported feelings of loneliness rather than time spent alone, however. Actual time spent alone may be more relevant to negative self-monitoring (Hansell & Mechanic, 1985). It is having the time to introspect that causes the negative consequences of being alone. Feelings of loneliness were very pervasive in this sample with 60 to 70 percent reporting feeling lonely. Most adolescents felt lonely at times, despite having ample social interaction. Some adolescents may have spent a great deal more time alone, and experienced more entrenched and overwhelming feelings of loneliness. The measure used here may not have tapped the depths of loneliness, created by greater solitude, needed to prompt help-seeking.

> I'm lonely and have been for some time. I get depressed and sometimes think of suicide. I enjoy filling out these tests a lot, as I can "talk" when I fill them out.

Attitudes, Values and Beliefs

As in much previous research the attitude, belief and value measures attained only weak and inconsistent predictive effects (Anderson, 1963). Attitude to psychological illness was particularly unproductive. It was unrelated to any type of help-seeking. Attitudes related to the preferred social distance from psychologically ill people did not affect personal help-seeking. Attitudes toward others who are psychologically ill did not impact on the salience of personal mental health.

Health value was also generally unrelated to help-seeking. It never attained a significant direct effect and was only significant predicting professional help-seeking over time in the multivariate models after some of the variance caused by symptoms was suppressed. It was hypothesised that those who valued their health more highly would be more likely to monitor and attend to their psychological health and act in response to it. While health was quite highly valued by many of these adolescents, those who differed in their value did not behave differently in terms of help-seeking. Higher health value did not increase vulnerability to psychological problems. Such a global value does not seem to indicate the salience of mental health.

Health concern was a more specific measure of the salience of health, by measuring worry about health and fears of being ill. It was, therefore, more predictive of help-seeking than health value. Health concern exhibited some effect predicting all three types of help-seeking. These effects were not consistent over the different sub-samples, however, and health concern seemed to act more as a facilitator of help-seeking than an inhibitor in those with symptoms. Adolescents who expressed more concern about their health were more likely to talk to friends, family and professionals than those who had less concern. This measure did seem to tap specific health beliefs that were related to more help-seeking. Being more concerned and worried about health matters made these adolescents more attentive to their emotional health, more emotionally vulnerable and, therefore, more likely to talk about their psychological problems.

Help-Seeking as Coping

Those who were more emotionally vulnerable were more likely than others to seek help from their friends, somewhat more likely to seek professional, help but no different in their propensity to seek family help. Presumably the adolescents who sought each type of help did so believing that it would alleviate their emotional distress and enable them to cope with their psychological problems. There is some evidence to show that beliefs in the efficacy of help predicts help-seeking (Becker & Maiman, 1975; Rosenstock & Kirscht, 1979; Crandall & Duncan, 1981). Much of the help-seeking literature does not measure the actual effectiveness of seeking help, however. If the goal of seeking help for a psychological problem is the reduction of psychological distress (Pearlin & Schooler, 1978), then whether help-seeking is an effective form of coping should be addressed. This study furthered the usual predictive nature of many help-seeking studies by also determining the effectiveness of the help sought.

Over each of four time intervals of three months, those adolescents who sought any type of help were in no better mental health than those who did not seek

help, controlling for initial level of psychological symptoms. Help-seeking was shown to be unrelated to mental health three months later. Given the limitations of the measures and the possibility that three months is perhaps too long an interval to determine the effect of help-seeking, this is still quite a disturbing finding. The study did not assess the use of any other type of coping mechanisms, but the finding that symptoms were highly intercorrelated at five time points over the 12 months indicates that most of those who were symptomatic at one time were still symptomatic later on. Any other coping mechanisms employed by these adolescents would appear to be fairly ineffective also.

While many studies have found that social support has a direct effect on mental health, few report that it has a buffering effect in times of stress (Alloway & Bebbington, 1987). Social support has generally been found to be ineffective in reducing anxiety and depression in response to life events or chronic difficulties (Lieberman & Mullan, 1978; Mattlin, Wethington & Kessler, 1990). The present study similarly found that seeking help from the social support network did not alleviate psychological distress. Although friends were often sought as a source of help for psychological problems and family were also fairly frequently used, these help-seeking episodes did not appear to be effective in reducing emotional disturbance.

Professional help-seeking was similarly ineffective. Professional help in adolescence is rarely evaluated, but several studies of professional treatment for adults also report little positive change (Smith & Glass, 1977; Lieberman & Mullan, 1978; Miller et al, 1985).

Why neither informal nor professional consultation helped in coping with psychological problems is a matter for speculation. While the exact form of help that was attained from the help-seeking episodes was not determined in this study, it is likely that it was problem and feeling focused. Mechanic and colleagues have shown that talking about and focusing on psychological problems is distressing for

many adolescents and a maladaptive means of coping with minor psychiatric disorder. Focusing on symptoms and internal feelings results in greater psychological distress (Hansell & Mechanic, 1985; Mechanic & Hansell, 1987a). An overconcern with the self and one's mental health is dysfunctional, and forms of coping that reinforce this overconcern are ineffective in reducing distress. Talking about psychological problems to any source, either professional or informal, reinforces this maladaptive overconcern which acts to reinforce symptoms rather than alleviate them (Mechanic, 1986a).

> Around Christmas I was really calm because I had started a job and loved the people I worked with - I didn't think much about ME.

Implications for Dealing with Psychological Distress in Adolescence

That focusing on problems and feelings is not adaptive for coping with psychological distress has important implications for the treatment of adolescents, particularly those who are highly introspective and very focused on their mental health. Many counseling and other psychotherapeutic relationships are based on traditional intrapsychic theories that focus on inner concerns, images and feelings. Talking to friends and family also involves such a focus. This type of help-seeking may exacerbate the problems of adolescence by reinforcing an already dysfunctional overconcern with the self (Hansell, Mechanic & Brondolo, 1986). Adolescents and highly introspective people may benefit more from counselling designed to distract attention from the self and thereby prevent the negative spiral into depressive mood and low self-esteem. Counseling that establishes realistic aspirations and graded mastery experiences to increase self-esteem and inhibit self-absorption would be more adaptive. Emotionally vulnerable people who are overconcerned with themselves need to be provided appropriate cognitive schema to interpret their perceptions in realistic and less intense and negative ways. Ways of self-talk that reduce emotional arousal and emphasise positive cognitions have been shown to be effective therapy for adolescents (Hains & Szyjakowski, 1990). It is obviously unrealistic to try to eliminate a personality trait like introspection, and

introspectiveness does have adaptive and creative results. However, adolescents need to learn to self-monitor so that it is a positive growing experience, through recognition of negative cognitions and prevention of the vicious circle of self-denigration.

Adolescents also need reassurance that the way they are feeling is normal and not deviant; that it can be changed and they are not trapped within self-obsession. While adolescent emotional distress should not be normalised by being ignored by parents, teachers and health care workers, it should be treated in ways that do not label it as deviant. Young males particularly need to be encouraged to share their distress and learn to deal with their feelings in constructive ways.

This research showed that adolescents do not use the available professional services. They rely instead on their friends and family. However, the type of skills they need to learn to deal with their emotions are not available from informal support. These skills need to be accessible in forms that adolescents will use. One avenue of such support is teachers. School-based services were used more than other professional services, and teachers are in a position to be aware of and in contact with those who are distressed. Teachers lack the authority to take action, however (Cormack, Pols & Christie, 1992), despite the fact that cognitive therapies would be ideal in a school situation (Hansell, Mechanic & Brondolo, 1986). Davis (1992) goes so far as to suggest that screening for depression could be used in schools to identify those who need early interventions to prevent their decline into suicide or substance abuse.

As far back as 1977, research on adolescent mental health needs was concluding that more outreach type services with peer counselling, walk-in and hotline services dealing with the complete range of adolescent problems including drug problems, venereal disease, pregnancy as well as mental health needs was needed (Nuttall et al, 1977). A more recent report by the National Health and Medical Research Council in 1992 has drawn the same conclusions. Once again therapies such as group therapies and peer counselling are proposed to harness the

considerable influence of peers, and the need for units that deal with the whole adolescent, with all their physical, emotional and social problems in ways that they are not labeled as deviant.

Conclusion

The latest Australian report on adolescent mental health showed that less than 5 percent of the mental health budget is spent on adolescent services. It was concluded that there were five major impediments to the provision of adequate services: lack of age specialised services, no multimodal intervention and lack of coordination between services, discontinuities in care, too few properly trained professionals to deal specifically with adolescents, and treatment of disturbed adolescents as if they have few rights and little autonomy (Waters, Molony & Vandenberg, 1992). The findings of the present research suggest an overriding problem - current help-seeking habits of adolescents.

Many adolescents are quietly disturbed in terms of minor psychiatric disorder and need to be helped before they either act out or their unhappiness accompanies them into adulthood (Ostrov, 1985). The emotional vulnerability adolescents experience by focusing on their health and internal feelings seems to encourage talking to friends and to some extent consulting professionals, but does not facilitate family help-seeking. Their present coping strategies in terms of help-seeking do not appear to be effective in alleviating psychological distress. More effective therapies need to be determined along with ways of enabling adolescents to utilise them. Even when more appropriate services are provided, adolescents need to be encouraged to use them. Perhaps if services were more effective and adolescents could see that there are alternatives to just talking about problems, they would be used more often. Psychological problems are real concerns for many adolescents; 'Some teenagers are cut off from their means for personal achievement and for enriching the community with their contribution' (Patience, 1992), and research and practice in the mental health needs of adolescents must find ways to reach these young people and empower their progress to adulthood.

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Appendices

Appendix I

Contract

CONTRACT

I .....
(full name)
agree to participate in a survey conducted by the National Health and Medical Research Council Social Psychiatry Research Unit and the Department of Sociology, Research School of Social Sciences, both at the Australian National University.

I understand that the survey will include questions about my physical and psychological health, personality and life experiences.

I also understand that I will receive further questionnaires, by mail, in JANUARY, APRIL, JULY and OCTOBER of next year. I agree to complete **ALL** these questionnaires and return them quickly to the researchers. I also agree to **INFORM THE RESEARCHERS OF ANY CHANGE IN MY ADDRESS** so that they can send me these questionnaires.

I am assured by the researchers that all the information obtained from me will be kept **STRICTLY CONFIDENTIAL.**

Signed: .....

Dated: .....

Appendix II

Name and Address Form

I.D. NUMBER: .....

So that we can send you your follow-up questionnaires, would you please fill in the following information. It will be kept STRICTLY CONFIDENTIAL.

MR / MS (please circle)

SURNAME .....

GIVEN NAMES: .....

ADDRESS: .....

.....

.....
suburb city postcode

PHONE NUMBER: .....

Is this your parent's home address? YES NO
(please circle)

Would you also provide the following information for someone, not living with you at present, who would know where to contact you if you've moved from the address you've given above.

MR / MS (please circle)

SURNAME .....

GIVEN NAMES: .....

ADDRESS: .....

.....

.....
suburb city postcode

PHONE NUMBER: .....

What relationship is this person to you? .....

Appendix III

Change of Address Form

If you change your address please fill in the following information and send it to:

DEBRA RICKWOOD
SOCIAL PSYCHIATRY RESEARCH UNIT
P.O. BOX 4
A.N.U.
CANBERRA CITY, 2601

MR / MS (please circle)

SURNAME .....

GIVEN NAMES: .....

ADDRESS: .....

.....

.....
suburb city postcode

PHONE NUMBER: .....

or phone Debbie Rickwood on 493894 or 492741 during working hours

Appendix IV

Measures

1) **Socio-Demographic Measures:**

First of all, we'd like you to answer a few background questions. Please answer **ALL** the questions by either circling the appropriate number or filling in the blanks.

1. What is your age?

   1. 16 years
   2. 17 years
   3. 18 years
   4. 19 years
   5. 20 years
   6. other .....
      (please specify)

2. Are you
   1. MALE
   2. FEMALE

3. Where were you born?

   1. AUSTRALIA/NEW ZEALAND
   2. UK OR IRELAND
   3. NORTHERN EUROPE
   4. SOUTHERN EUROPE
   5. ASIA
   6. AFRICA
   7. USA/CANADA
   8. LEBANON/IRAN
   9. DON'T KNOW
   10. OTHER .....

4. How old were you when you came to live in Australia (if you were not born in Australia)?

   1. less than 1 year old
   2. 1 - 5 years old
   3. 6 - 10 years old
   4. 11 - 15 years old
   5. 16 - 20 years old
   9. I was born in Australia

5. Where were your parents born?

MOTHER:	FATHER:
1. AUSTRALIA/NEW ZEALAND	1. AUSTRALIA/NEW ZEALAND
2. UK OR IRELAND	2. UK/IRELAND
3. NORTHERN EUROPE	3. NORTHERN EUROPE
4. SOUTHERN EUROPE	4. SOUTHERN EUROPE
5. ASIA	5. ASIA
6. AFRICA	6. AFRICA
7. USA/CANADA	7. USA/CANADA
8. LEBANON/IRAN	8. LEBANON/IRAN
9. DON'T KNOW	9. DON'T KNOW
10. OTHER	10. OTHER .....

6. Which of the following **best describes** your parent's employment? (if you do not live with your parents, then describe the employment of whoever is supporting you at the moment) The exact job may not be listed but circle the category that comes closest.

MOTHER (please circle)	FATHER (please circle)	
1	1	PENSIONER / HOMEMAKER (homemaker, unemployed, retired, full-time student, invalid pensioner, etc)
2	2	PROFESSIONAL / TECHNICAL / MANAGERIAL (doctor, teacher, chemist, engineer, chemist, lawyer, clergy, architect, administrator, manager, technician, computer programmer, journalist, politician, etc)
3	3	TRADESMAN (carpenter, plumber, mechanic, electrician, tailor, etc)
4	4	LABOURER / TRANSPORT / PRODUCTION (builder's labourer, bus driver, taxi driver, truck driver, factory worker, foreman, farmer, miner, telecom worker, postal worker, etc)
5	5	COMMUNITY SERVICE (fireman, policeman, hospital orderly, barber, sportsman, photographer, armed forces, undertaker, etc)
6	6	SALES WORKER / CLERICAL (shop-keeper, cashier, insurance, real estate, salesman, shop assistant, clerical assistant, book-keeper, typist, etc)

7. From the following list, which best describes the level of education your parents completed?

MOTHER	FATHER	
1.	1.	Left school before age 15
2.	2.	Completed high school
3.	3.	Completed a trade or technical course
4.	4.	Completed a university or CAE course
5.	5.	Don't Know

2) **Symptom Measures:**

12-Item General Health Questionnaire (Goldberg, 1972)

We would now like to know if you have had any medical complaints, and how your health has been in general, **OVER THE PAST FOUR WEEKS.** Please answer all the questions by underlining the answer which you think most nearly applies to you.

PLEASE READ EACH QUESTION CAREFULLY

HAVE YOU RECENTLY:

1. BEEN ABLE TO CONCENTRATE ON WHATEVER YOU'RE DOING?	Better than usual	Same as usual	Less than usual	Much less than usual
2. LOST MUCH SLEEP OVER WORRY?	Much more than usual	Rather more than usual	No more than usual	Not at all
3. FELT THAT YOU ARE PLAYING A USEFUL PART IN THINGS?	Much less useful	Less useful than usual	Same as usual	More so than usual
4. FELT CAPABLE OF MAKING DECISIONS ABOUT THINGS?	More so than usual	Same as usual	Less so than usual	Much less capable
5. FELT CONSTANTLY UNDER STRAIN?	Much more than usual	Rather more than usual	No more than usual	Not at all
6. FELT THAT YOU COULDN'T OVERCOME YOUR DIFFICULTIES?	Much more than usual	Rather more than usual	No more than usual	Not at all
7. BEEN ABLE TO ENJOY YOUR NORMAL DAY-TO-DAY ACTIVITIES?	Much less than usual	Less so than usual	Same as usual	More so than usual
8. BEEN ABLE TO FACE UP TO YOUR PROBLEMS?	More so than usual	Same as usual	Less able than usual	Much less able
9. BEEN FEELING UNHAPPY AND DEPRESSED?	Much more than usual	Rather more than usual	No more than usual	Not at all
10. BEEN LOSING CONFIDENCE IN YOURSELF?	Not at all	No more than usual	Rather more than usual	Much more than usual
11. BEEN THINKING OF YOURSELF AS A WORTHLESS PERSON?	Not at all	No more than usual	Rather more than usual	Much more than usual
12. BEEN FEELING REASONABLY HAPPY ALL THINGS CONSIDERED?	Much less than usual	Less so than usual	About same as usual	More so than usual

Delusions-Symptoms-States Inventory (Bedford, Foulds & Sheffield, 1976) Anxiety (A) and Depression (D) scales.

We would now like to ask you how you've been feeling in the **PAST 4 WEEKS**. Please answer **ALL** the questions by circling the number that most nearly represents the amount of distress the item has caused you OVER THE LAST 4 WEEKS.

	Not at All	A Little	A Lot	Almost Unbearably
[a]1. RECENTLY I HAVE WORRIED ABOUT EVERY LITTLE THING.	0	1	2	3
[b]2. RECENTLY I HAVE BEEN SO MISERABLE THAT I HAVE HAD DIFFICULTY WITH MY SLEEP.	0	1	2	3
[a]3. RECENTLY I HAVE BEEN BREATHLESS OR HAD A POUNDING OF MY HEART.	0	1	2	3
[a]4. RECENTLY I HAVE BEEN SO "WORKED UP" THAT I COULDN'T SIT STILL.	0	1	2	3
[b]5. RECENTLY I HAVE BEEN DEPRESSED WITHOUT KNOWING WHY.	0	1	2	3
[b]6. RECENTLY I HAVE GONE TO BED NOT CARING IF I NEVER WOKE UP.	0	1	2	3
[a]7. RECENTLY, FOR NO GOOD REASON, I HAVE HAD FEELINGS OF PANIC.	0	1	2	3
[b]8. RECENTLY I HAVE BEEN SO LOW IN SPIRITS THAT I HAVE SAT FOR AGES DOING ABSOLUTELY NOTHING.	0	1	2	3
[a]9. RECENTLY I HAVE HAD A PAIN OR TENSE FEELING IN MY NECK OR HEAD.	0	1	2	3
[b]10. RECENTLY THE FUTURE HAS SEEMED HOPELESS.	0	1	2	3
[a]11. RECENTLY WORRYING HAS KEPT ME AWAKE AT NIGHT.	0	1	2	3
[b]12. RECENTLY I HAVE LOST INTEREST IN JUST ABOUT EVERYTHING.	0	1	2	3
[a]13. RECENTLY I HAVE BEEN SO ANXIOUS THAT I COULDN'T MAKE UP MY MIND ABOUT THE SIMPLEST THING.	0	1	2	3
[b]14. RECENTLY I HAVE BEEN SO DEPRESSED THAT I HAVE THOUGHT OF DOING AWAY WITH MYSELF.	0	1	2	3

[a]anxiety items
[b]depression items

3) Perceived Mental Health Status:

How much do you think that you have been having emotional problems or trouble with your nerves at the present time?

1. NO PROBLEMS
2. MINOR PROBLEMS, BUT NOTHING TO WORRY ABOUT
3. MILD PROBLEMS
4. MODERATE PROBLEMS
5. SEVERE PROBLEMS

4) Help-Seeking:

Next are some questions about your health and how you deal with it. Please answer ALL the questions by circling the appropriate category.

In the last FOUR WEEKS have you sought advice or help from any of the following sources about a PSYCHOLOGICAL PROBLEM (worried, depressed or upset over something)?

A. FRIEND ..... yes / no
B. RELATIVE ..... yes / no
C. MEDICAL SERVICE ..... yes / no
(family doctor)
D. MENTAL HEALTH SERVICE ..... yes / no
(psychologist, psychiatrist, counsellor, social worker)
E. ALTERNATIVE MENTAL HEALTH SERVICE .... yes / no
(lifeline, clergy, hypnotherapist, relaxation therapy, herbalist)
F. EDUCATIONAL HELP SERVICE ..... yes / no
(teacher, school counsellor, tutor)

5) Life Events:

Below is a list of events that may happen to people. Read through them carefully and circle the number of each event that has happened to you in the **PAST THREE MONTHS.**

1. parents divorced or separated

2. member of your immediate family died (parent,brother,sister)

3. other relative died

4. member of your immediate family was seriously ill, injured, or had to have an operation

5. parent lost their job

6. mother started working

7. brother or sister left home

8. increase in arguments or problems with your parents

9. increase in arguments with other family members

10. parents discovered that you were drinking, smoking, taking drugs or engaging in sexual behavior

11. parents had money worries

12. member of your immediate family developed a drinking or drug problem

13. there was domestic violence in your home

14. death of a close friend

15. separation from a close friend

16. close friend was seriously ill, injured or had to have an operation

17. close friend became involved with illegal drugs or started drinking heavily

18. increase in arguments or problems with a close friend

19. breakup of steady relationship

20. began sexual activity

21. you or your partner became pregnant

22. were sexually abused

23. caught a venereal disease

24. you were seriously ill, injured or had to have an operation

25. involved in a car or motorcycle accident

26. became unemployed

27. were sacked

28. went on the dole or sickness benefits

29. failed to get a job you applied for

30. failed to get into a study course you applied for

31. were knocked back for TEAS or a government allowance that you applied for

32. didn't have enough money to pay the rent or bills

33. didn't have enough money to buy the right sort of food to keep you healthy

34. didn't have enough money to do some of the leisure activities that you wanted to do

35. had trouble with the police or were involved in a court case

36. a close friend or family member had trouble with the police or was involved in a court case

37. left home

38. moved out of Canberra

39. were evicted or had to move from where you were living

40. didn't like where you were living

41. were involved in a physical fight

42. ceased a regular sporting activity

43. started drinking

44. started smoking

45. there was a change in your appearance that you weren't happy with (gained weight, developed pimples, etc)

If anything else important or distressing has happened to you recently, something that you feel has affected you or your life a lot, then write it down in the space below.

_____

_____

_____

6) Health Attitudes, Values and Beliefs:

Health Value - adapted from Wallston, Wallston, Kaplan & Maides, 1976) using values from Rokeach (1973).

Below is a list of 12 life values. Read through them carefully and decide which are the most important for you in your life. Then choose the **four** that are the most important for you and number them from 1 to 4 with **1 being the most important for you in your life.**

--- a comfortable life (a prosperous life)

--- an exciting life (a stimulating, active life)

--- a sense of accomplishment (lasting contribution)

--- family security (taking care of loved ones)

--- health (good physical and mental health)

--- freedom (independence, free choice)

--- mature love (sexual and spiritual intimacy)

--- pleasure (an enjoyable, leisurely life)

--- salvation (saved, eternal life)

--- social recognition (respect, admiration)

--- true friendship (close companionship)

--- wisdom (a mature understanding of life)

Attitude To Psychological Illness - six items adapted from the Social Distance Index (Brockman & D'Arcy, 1978)

The following are statements about your attitudes to psychological illness. Please read each statement carefully and indicate whether you **AGREE OR DISAGREE** by circling the appropriate number.

		AGREE	DISAGREE
1.	I wouldn't work for anyone who had been psychologically ill.	1	2
2.	I would never trust anyone who had been psychologically ill to look after my children, even for a short period of time.	1	2
3.	I would not lend money to someone who had been psychologically ill.	1	2
4.	I would be willing to share a flat with a former psychiatric patient.	1	2
5.	I can imagine myself falling in love with a person who had been psychologically ill.	1	2
6.	I wouldn't hesitate to work with someone who had been psychologically ill.	1	2

Illness Behavior Questionnaire (Pilowsky & Spence, 1983)

We would now like to ask you some questions about your health. Please answer **ALL** the questions by circling the appropriate category.

[a]1. Do you worry a lot about your health?	YES / NO
[a]2. Do you think that you worry about your health more than most people?	YES / NO
[a]3. Do you think you are more liable to illness than other people?	YES / NO
[a]4. Do you find that you get jealous of other people's good health?	YES / NO
[a]5. Is bad health the biggest difficulty of your life?	YES / NO
[a]6. Are you afraid of illness?	YES / NO
[a]7. Do you often worry about the possibility that you have a serious disease?	YES / NO
[a]8. Do you often have the symptoms of a serious disease?	YES / NO
[a]9. Do you often think that you might suddenly fall ill?	YES / NO
[a]10. If a disease is brought to your attention (through the radio, tv, newspapers or someone you know) do you worry about getting it yourself?	YES / NO
11. If a doctor told you that he could find nothing wrong with you, would you believe him?	YES / NO
12. Is it hard for you to believe a doctor when he tells you that there is nothing for you to worry about?	YES / NO
13. If you feel ill or worried can you easily be cheered up by the doctor?	YES / NO
14. Does it upset you to talk to a doctor about illness?	YES / NO
15. When you have a minor illness (cold, mild flu, not feeling well) do you usually go to the doctor?	YES / NO
16. Are you easy to get on with when you are ill?	YES / NO
17. Are you always a cooperative patient?	YES / NO
18. Does being ill affect the way you get on with your friends and family a great deal?	YES / NO
19. Do you expect to receive a lot of extra attention when you are ill?	YES / NO
20. When you have a minor illness (cold, mild flu, not feeling well) do you try to carry on with your normal activities?	YES / NO
21. Do people feel sorry for you when you are ill?	YES / NO

[a]health concern items

22. Do you care whether or not people realize when you are ill? YES / NO
23. Are you upset by the way people take your illness when you are sick? YES / NO
24. If you feel ill and someone tells you that you are looking better, do you become annoyed? YES / NO
25. Do you get the feeling that other people are not taking your illness seriously enough when you are ill? YES / NO
26. Does your family have a history of illness? YES / NO
27. When you were ill or upset as a child did your mother (or guardian) give you a great deal of extra care? YES / NO
28. When you were ill or upset as a child did your mother (or guardian) urge you to carry out normal responsibilities? YES / NO
29. Has anyone you know ever sought professional help for a personal problem and found that it <u>did</u> help them? YES / NO
30. Has anyone you know ever sought professional help for a personal problem and found that it <u>did not</u> help them? YES / NO
[b]31. Would you tell your friends if you were depressed or anxious about something? YES / NO
[b]32. Would you tell your friends about an upsetting personal problem? YES / NO
[b]33. Would you tell your friends if you went to see a psychiatrist about an upsetting personal problem? YES / NO
[b]34. Would your friends stir you if they found out that you had been to see a psychiatrist about a personal problem? YES / NO
[b]35. Would you want other people to know if someone in your family had been hospitalized for a nervous condition? YES / NO

[b]fear of stigma items

7) Social Support:

Interview Schedule for Social Interaction (Henderson et al, 1980)

Next are some questions about the people in your life. This includes the people you live with, your family and your friends.

[a]1. HOW MANY FRIENDS DO YOU HAVE WHO COULD COME TO YOUR HOME AT ANY TIME AND TAKE THINGS AS THEY FIND THEM: THEY WOULDN'T BE EMBARRASSED IF THE HOUSE WERE UNTIDY OR YOU WERE IN THE MIDDLE OF A MEAL.

None 1
1-2 2
3-5 3
6-10 4
11-15 5
More than 15 6

[a]2. HOW MANY FRIENDS DO YOU HAVE WHOM YOU COULD VISIT AT ANY TIME, WITHOUT WAITING FOR AN INVITATION. YOU COULD ARRIVE WITHOUT BEING EXPECTED AND STILL BE SURE YOU WOULD BE WELCOME.

None 1
1-2 2
3-5 3
6-10 4
11-15 5
More than 15 6

[a]3. OVERALL, WOULD YOU SAY YOU BELONG TO A CLOSE CIRCLE OF FRIENDS - A GROUP OF PEOPLE WHO ALL KEEP IN CLOSE TOUCH WITH EACH OTHER - OR NOT?

Yes 1
No 2

[ab]4. AMONG YOUR FAMILY AND FRIENDS, HOW MANY PEOPLE ARE THERE WHO ARE IMMEDIATELY AVAILABLE TO YOU WHOM YOU CAN TALK WITH FRANKLY, WITHOUT HAVING TO WATCH WHAT YOU SAY?

None 1
1-2 2
3-5 3
6-10 4
11-15 5
More than 15 6

[ab]5. IF SOMETHING UNPLEASANT OR IRRITATING HAPPENS AND YOU GET UPSET OR ANGRY ABOUT IT, DO YOU HAVE SOMEONE YOU CAN GO TO WHO ISN'T INVOLVED AND TELL THEM JUST HOW YOU FEEL, OR NOT?

Yes 1
No 2

[ab]6. HOW MANY PEOPLE LIKE THIS ARE THERE? (Number) .....

7. AT THIS TIME LAST YEAR, DID YOU HAVE MORE OR FEWER CLOSE FRIENDS OR ABOUT THE SAME NUMBER?

Fewer last year, more now 1
Same 2
More last year, fewer now 3

8. AND WOULD YOU SAY THE QUALITY OF FRIENDSHIPS YOU HAD A YEAR AGO WERE AS GOOD, LESS GOOD, OR BETTER?

Less good a year ago 1
Same 2
Better a year ago 3

9. WOULD YOU SAY YOU HAVE A SINGLE, LASTING RELATIONSHIP SOMEONE YOU INTEND TO GO ON SHARING YOUR LIFE WITH OR NOT?

No-one 1
Yes 2

[c]10. DO YOU WISH YOU FELT MORE CERTAIN OF THIS OR NOT?

Yes 1
No 2
Have no relationship 3

11. IS THERE ANYONE WHO LIVES IN OR NEAR CANBERRA WHO KNOWS YOU VERY WELL AS A PERSON. (THIS INCLUDES FRIENDS AS WELL AS FAMILY MEMBERS)

No-one 1
Yes 2

[c]12. WOULD YOU SAY THAT THIS PERSON REALLY KNOWS YOU VERY WELL INDEED?

Yes 1
No 2
Have no-one 3

[c]13. IS THERE ANY PARTICULAR PERSON YOU FEEL YOU CAN LEAN ON?

No-one 1
Yes, but don't need anyone 2
Yes 3

[c]14. DO YOU FEEL THERE IS ONE PARTICULAR PERSON WHO FEELS VERY CLOSE TO YOU?

No-one 1
Yes 2

[c]15. WHEN YOU ARE HAPPY, IS THERE ANY PARTICULAR PERSON YOU CAN SHARE IT WITH - SOMEONE WHO YOU FEEL SURE WILL FEEL HAPPY SIMPLY BECAUSE YOU ARE?

No-one 1
Yes 2

[bc]16. AT PRESENT, DO YOU HAVE SOMEONE YOU CAN SHARE YOUR MOST PRIVATE FEELINGS WITH (CONFIDE IN) OR NOT?

No-one 1
Yes 2

[c]17. ARE THERE EVER TIMES WHEN YOU ARE COMFORTED BY BEING HELD IN SOMEONE'S ARMS OR NOT?

No 1
Yes 2

[c]18. DO YOU THINK THOSE AT HOME REALLY APPRECIATE WHAT YOU DO FOR THEM, OR NOT?

Yes 1
Not really 2
Not at all 3

Loneliness

[d]19. HOW OFTEN WOULD YOU SAY THAT YOU FIND YOURSELF FEELING LONELY?

Quite often 1
Sometimes 2
Almost never 3

[a]availability of friendship items
[b]availability of frank and confiding relationship items
[c]availability of attachment items
[d]this item is not part of the ISSI

8) Personality Measures:

Introspection (Hansell & Mechanic, 1985)

Listed below are descriptions of various types of behaviour or characteristics of people. How **WELL OR POORLY** do these describe you?

1. INTERESTED IN PSYCHOLOGY.

5	4	3	2	1
very well	somewhat well	neither well nor poorly	somewhat poorly	very poorly

2. OFTEN EXAMINE YOUR INNER MOTIVES.

5	4	3	2	1
very well	somewhat well	neither well nor poorly	somewhat poorly	very poorly

3. INTERESTED IN WHY OTHER PEOPLE BEHAVE THE WAY THEY DO.

5	4	3	2	1
very well	somewhat well	neither well nor poorly	somewhat poorly	very poorly

4. INTERESTED IN WHY YOU BEHAVE THE WAY YOU DO.

5	4	3	2	1
very well	somewhat well	neither well nor poorly	somewhat poorly	very poorly

5. THINK A LOT ABOUT WHY YOU FEEL THE WAY YOU DO.

5	4	3	2	1
very well	somewhat well	neither well nor poorly	somewhat poorly	very poorly

6. ALWAYS TRYING TO FIGURE YOURSELF OUT.

5	4	3	2	1
very well	somewhat well	neither well nor poorly	somewhat poorly	very poorly

7. WORRIED ABOUT MEANING IN LIFE.

5	4	3	2	1
very well	somewhat well	neither well nor poorly	somewhat poorly	very poorly

8. THINK ABOUT YOURSELF A LOT.

5	4	3	2	1
very well	somewhat well	neither well nor poorly	somewhat poorly	very poorly

9. OFTEN THE SUBJECT OF YOUR OWN DAYDREAMS.

5	4	3	2	1
very well	somewhat well	neither well nor poorly	somewhat poorly	very poorly

10. WHEN YOU ARE ALONE, THINK ABOUT YOURSELF A LOT.

5	4	3	2	1
very well	somewhat well	neither well nor poorly	somewhat poorly	very poorly

Listed below are some topics which people think about. In the **PAST 3 MONTHS**, how much time have you spent thinking about each?

1. YOUR EMOTIONS AND FEELINGS.

5	4	3	2	1
very much	much	some	not much	none

2. WHY YOU BEHAVE THE WAY YOU DO.

5	4	3	2	1
very much	much	some	not much	none

Private Self-Consciousness - from the Self-Consciousness Scale (Fenigstein, Scheier & Buss, 1975), adapted by Duncan-Jones and Goodchild (unpublished manuscript, 1983). Original wording, if different, shown in parentheses.

These next questions are about how you've been feeling **OVER THE PAST FEW YEARS**. Circle the number on the scale that shows how true or untrue each statement is for you.

1. I'M ALWAYS TRYING TO WORK MYSELF OUT.
   (I'm always trying to figure myself out.)

very true for me	6	5	4	3	2	1	0	very untrue for me

2. GENERALLY I'M NOT VERY AWARE OF MYSELF.

very true for me	6	5	4	3	2	1	0	very untrue for me

3. I REFLECT ABOUT MYSELF A LOT.

very true for me	6	5	4	3	2	1	0	very untrue for me

4. I OFTEN DAYDREAM ABOUT MYSELF.
   (I'm often the subject of my own fantasies.)

very true for me	6	5	4	3	2	1	0	very untrue for me

5. I NEVER LOOK CRITICALLY AT MYSELF.
   (I never scrutinize myself.)

very true for me	6	5	4	3	2	1	0	very untrue for me

6. I'M USUALLY AWARE OF MY INNER FEELINGS.
   (I'm generally attentive to my inner feelings.)

very true for me	6	5	4	3	2	1	0	very untrue for me

7. I'M ALWAYS ASKING MYSELF WHY I DO THINGS.
   (I'm constantly examining my motives.)

very true for me	6	5	4	3	2	1	0	very untrue for me

8. I SOMETIMES FEEL AS IF I'M STANDING OUTSIDE MYSELF WATCHING MYSELF.
   (I sometimes have the feeling that I'm off somewhere watching myself.)

very true for me	6	5	4	3	2	1	0	very untrue for me

9. I'M VERY AWARE OF CHANGES IN MY MOOD.
   (I'm alert to changes in my mood.)

very true for me	6	5	4	3	2	1	0	very untrue for me

10. I'M AWARE OF THE WAY MY MIND WORKS WHEN I THINK THROUGH A PROBLEM.
    (I'm aware of the way my mind works when I work through a problem.)

very true for me	6	5	4	3	2	1	0	very untrue for me

Eysenck Personality Inventory (Eysenck & Eysenck, 1964) Neuroticism (N) and Extraversion (E) Scales - 16-item version adapted by Duncan-Jones (1984)

Here are some questions regarding the way you behave, feel and act. Decide for each question whether **YES OR NO** represents your USUAL WAY OF ACTING OR FEELING and then circle 1 for YES and 2 for NO. Be sure not to omit any questions.

	YES	NO
[a]1. Do you like plenty of excitement and bustle around you?	1	2
[b]2. Have you often got a restless feeling that you want something but do not know what?	1	2
[a]3. Do you nearly always have a 'ready answer' when people talk to you?	1	2
[a]4. Do you usually stay in the background at parties and 'get-togethers'?	1	2
[b]5. Are you moody?	1	2
[a]6. Would you call yourself happy-go-lucky?	1	2
[a]7. Are you rather lively?	1	2
[b]8. Have you often lost sleep over your worries?	1	2
[b]9. Do you often feel 'fed-up'?	1	2
[b]10. Does your mind often wander when you are trying to attend closely to something?	1	2
[b]11. Are you often 'lost in thought'?	1	2
[b]12. Do you often think of your past?	1	2
[b]13. Do you suffer from 'nerves'?	1	2
[a]14. When you make new friends, is it usually **you** who makes the first move, or does the inviting?	1	2
[a]15. Do you usually keep 'yourself to yourself' except with very close friends?	1	2
[a]16. Do you like cracking jokes and telling funny stories to your friends?	1	2

[a]extraversion items
[b]neuroticism items

Appendix V

Application of EQS Program

When several variables are non-normally distributed, as is the case in the present data, the data is best analysed using procedures that do not rely on assumptions of multivariate normality (Newcomb & Bentler, 1988). Although the estimates are usually consistent and maximum likelihood procedures are generally robust with respect to non-normality, the standard errors and Chi-Square statistics may be influenced by violations of normality (Huba & Bentler, 1983). In EQS there are two ways to cope with data that is multivariate non-normal. Either an AGLS method may be used, which is a generalised least squares procedure with an arbitrary distribution, or robust statistics may be computed for the maximum likelihood solution. The robust equivalent of the Chi-Square statistic is the Satorra-Bentler statistic (Satorra & Bentler, 1988a;1988b cited in Bentler 1989). This statistic is scaled with a simple multiplier to yield a value for which the mean is close to the Chi-Square distribution (see Bentler, 1989:218). Robust standard errors are also supplied (Bentler & Dijkstra, 1985 cited in Bentler, 1989). Both the estimation of robust maximum likelihood statistics and the AGLS method are computationally very demanding. Preliminary evidence indicates that the robust statistics perform better than uncorrected statistics where the normal distribution assumption is violated and better than AGLS in some circumstances (Chou, Bentler & Satorra, 1989 cited in Bentler, 1989). The Satorra-Bentler scaled Chi-Square statistic and t-tests based on robust standard errors were, therefore, presented in the analyses in this thesis.

The function minimised by EQS is:

$$Q = (s - x(X))^{T} W (s - x(X))$$

where s is the vector of data to be modeled and x is a model for the data. The model vector, x, is a function of the more basic parameters X that are to be estimated so as to minimise Q. W is the weight matrix to yield different estimators (Bentler, 1989).

The fit of a model is assessed by two main indicators; the Chi-Square statistic and the fit index. The large sample Chi-Square statistic tests the hypothesis that the

sample variance/covariance matrix is drawn from a population having the hypothesised causal structure. It is evaluated against the null hypothesis that the variables are simply correlated. A large Chi-Square relative to the degrees of freedom results in the causal model being rejected, because the sample data would be unlikely if the hypothesised causal structure were true in the population (Bentler, 1987). As mentioned previously however, the Chi-Square statistic is affected by violations of the assumption of non-normality. As a consequence, the Satorra-Bentler scaled Chi-Square statistics is reported. The Chi-Square statistic is also a direct function of sample size (Aneshensel & Huba, 1984). Two other indices are, therefore, considered which are not affected by violation of these assumptions. These are the normed and non-normed fit indexes. These estimate the extent to which the observed covariance matrix is explained by the causal models independent of sample size (Bentler & Bonnett, 1980). The normed coefficient ranges from zero to one, with one indicating a perfect fit. It is not corrected for the size of the model, however. The non-normed index is corrected for the size of the model and is similar to the normed index, but can range from slightly less than zero to more than one.

Appendix VI

Direct Causal Effects for Help-Seeking Model Presented in Figure 9.4

Table VI.1: Parameter Estimates for Help-Seeking from Friends for Males Only.

Dependent Variable	Independent Variable	*B*	se
Symptoms 1	Life events 1	.16	(.10)
Help-seeking 1	Life events 1	-.02	(.02)
Help-seeking 1	Symptoms 1	.04*	(.02)
Symptoms 2	Life events 2	.23**	(.07)
Symptoms 2	Symptoms 1	.27*	(.13)
Symptoms 2	Help-seeking 1	-.16	(.40)
Help-seeking 2	Life events 2	.07***	(.02)
Help-seeking 2	Symptoms 2	.01	(.02)
Help-seeking 2	Help-seeking 1	.35***	(.08)
Life events 2	Life events 1	.27**	(.08)
Life events 2	Symptoms 1	.09	(.10)
Symptoms 3	Life events 3	.07	(.06)
Symptoms 3	Symptoms 2	.14*	(.08)
Symptoms 3	Symptoms 1	.09	(.08)
Symptoms 3	Help-seeking 2	.15	(.35)
Help-seeking 3	Life events 3	.03*	(.01)
Help-seeking 3	Symptoms 3	.08***	(.02)
Help-seeking 3	Help-seeking 2	.31**	(.10)
Help-seeking 3	Help-seeking 1	.12	(.09)
Life events 3	Life events 2	.61***	(.12)
Life events 3	Life events 1	.06	(.09)
Symptoms 4	Life events 4	.35***	(.08)
Symptoms 4	Symptoms 3	.47**	(.18)
Symptoms 4	Symptoms 2	.18*	(.10)
Symptoms 4	Symptoms 1	.07	(.08)
Symptoms 4	Help-seeking 3	-.21	(.41)
Help-seeking 4	Life events 4	.03*	(.01)
Help-seeking 4	Symptoms 4	.06*	(.02)
Help-seeking 4	Help-seeking 3	.10	(.10)
Help-seeking 4	Help-seeking 2	.17*	(.10)
Help-seeking 4	Help-seeking 1	.06	(.09)
Life events 4	Life events 3	.42***	(.09)
Life events 4	Life events 2	.09	(.10)
Life events 4	Life events 1	.16*	(.08)
Symptoms 5	Life events 5	.11*	(.06)
Symptoms 5	Symptoms 4	.14	(.10)
Symptoms 5	Symptoms 3	.21*	(.12)
Symptoms 5	Symptoms 2	.26**	(.08)
Symptoms 5	Symptoms 1	.16*	(.09)
Symptoms 5	Help-seeking 4	-.31	(.41)

statistically significant at *p<.05 **p<.01 ***p<.001

continued ...

Table VI.1: Continued.

Dependent Variable	Independent Variable	*B*	se
Help-seeking 5	Life events 5	.02**	(.01)
Help-seeking 5	Symptoms 5	.01	(.02)
Help-seeking 5	Help-seeking 4	.33***	(.09)
Help-seeking 5	Help-seeking 3	.28**	(.10)
Help-seeking 5	Help-seeking 2	.06	(.09)
Help-seeking 5	Help-seeking 1	.06	(.09)
Life events 5	Life events 4	.71**	(.24)
Life events 5	Life events 3	-.14	(.19)
Life events 5	Life events 2	.26*	(.12)
Life events 5	Life events 1	.03	(.08)

statistically significant at *p<.05 **p<.01 ***p<.001

Table VI.2: Parameter Estimates for Help-Seeking from Friends for Females Only.

Dependent Variable	Independent Variable	*B*	se
Symptoms 1	Life events 1	.16*	(.07)
Help-seeking 1	Life events 1	.01	(.01)
Help-seeking 1	Symptoms 1	.01	(.01)
Symptoms 2	Life events 2	.29***	(.07)
Symptoms 2	Symptoms 1	.31***	(.08)
Symptoms 2	Help-seeking 1	.91**	(.35)
Help-seeking 2	Life events 2	.03**	(.01)
Help-seeking 2	Symptoms 2	.01	(.01)
Help-seeking 2	Help-seeking 1	.33***	(.08)
Life events 2	Life events 1	.32***	(.08)
Life events 2	Symptoms 1	.20**	(.07)
Symptoms 3	Life events 3	.30***	(.06)
Symptoms 3	Symptoms 2	.21**	(.06)
Symptoms 3	Symptoms 1	.06	(.06)
Symptoms 3	Help-seeking 2	-.04	(.35)
Help-seeking 3	Life events 3	-.01	(.01)
Help-seeking 3	Symptoms 3	.04***	(.01)
Help-seeking 3	Help-seeking 2	.23***	(.06)
Help-seeking 3	Help-seeking 1	.49***	(.07)
Life events 3	Life events 2	.48***	(.07)
Life events 3	Life events 1	.06	(.06
Symptoms 4	Life events 4	.25***	(.07)
Symptoms 4	Symptoms 3	.38***	(.09)
Symptoms 4	Symptoms 2	.16*	(.08)
Symptoms 4	Symptoms 1	.13*	(.07)
Symptoms 4	Help-seeking 3	-.56	(.38)
Help-seeking 4	Life events 4	.02*	(.01)
Help-seeking 4	Symptoms 4	.02**	(.01)
Help-seeking 4	Help-seeking 3	.21**	(.07)
Help-seeking 4	Help-seeking 2	.16*	(.07)
Help-seeking 4	Help-seeking 1	.11	(.08)
Life events 4	Life events 3	.48***	(.08)
Life events 4	Life events 2	.16*	(.08)
Life events 4	Life events 1	.10*	(.05)
Symptoms 5	Life events 5	.16*	(.06)
Symptoms 5	Symptoms 4	.26**	(.08)
Symptoms 5	Symptoms 3	.25**	(.09)
Symptoms 5	Symptoms 2	.26**	(.08)
Symptoms 5	Symptoms 1	.05	(.07)
Symptoms 5	Help-seeking 4	.38	(.33)

statistically significant at *p<.05 **p<.01 ***p<.001

continued ...

Table VI.2: Continued.

Dependent Variable	Independent Variable	*B*	se
Help-seeking 5	Life events 5	.01	(.01)
Help-seeking 5	Symptoms 5	.01	(.01)
Help-seeking 5	Help-seeking 4	.25**	(.08)
Help-seeking 5	Help-seeking 3	.18*	(.08)
Help-seeking 5	Help-seeking 2	.13*	(.07)
Help-seeking 5	Help-seeking 1	-.14*	(.08)
Life events 5	Life events 4	.45***	(.09)
Life events 5	Life events 3	.03	(.09)
Life events 5	Life events 2	.20**	(.07)
Life events 5	Life events 1	-.01	(.05)

statistically significant at *p<.05 **p<.01 ***p<.001

Table VI.3: Parameter Estimates for Help-Seeking from Family for Males Only.

Dependent Variable	Independent Variable	*B*	se
Symptoms 1	Life events 1	.16	(.10)
Help-seeking 1	Life events 1	.01	(.02)
Help-seeking 1	Symptoms 1	.04*	(.02)
Symptoms 2	Life events 2	.20**	(.07)
Symptoms 2	Symptoms 1	.23	(.14)
Symptoms 2	Help-seeking 1	.77	(.63)
Help-seeking 2	Life events 2	.02	(.02)
Help-seeking 2	Symptoms 2	.02	(.02)
Help-seeking 2	Help-seeking 1	.32**	(.10)
Life events 2	Life events 1	.27**	(.08)
Life events 2	Symptoms 1	.09	(.10)
Symptoms 3	Life events 3	.07	(.06)
Symptoms 3	Symptoms 2	.15*	(.07)
Symptoms 3	Symptoms 1	.10	(.08)
Symptoms 3	Help-seeking 2	-.28	(.35)
Help-seeking 3	Life events 3	.01	(.01)
Help-seeking 3	Symptoms 3	.01	(.02)
Help-seeking 3	Help-seeking 2	.23*	(.11)
Help-seeking 3	Help-seeking 1	.14	(.09)
Life events 3	Life events 2	.61***	(.12)
Life events 3	Life events 1	.06	(.09)
Symptoms 4	Life events 4	.35***	(.08)
Symptoms 4	Symptoms 3	.45**	(.17)
Symptoms 4	Symptoms 2	.19*	(.10)
Symptoms 4	Symptoms 1	.07	(.08)
Symptoms 4	Help-seeking 3	-.24	(.47)
Help-seeking 4	Life events 4	.02	(.01)
Help-seeking 4	Symptoms 4	.01	(.02)
Help-seeking 4	Help-seeking 3	.32*	(.13)
Help-seeking 4	Help-seeking 2	.13	(.12)
Help-seeking 4	Help-seeking 1	.08	(.09)
Life events 4	Life events 3	.42***	(.11)
Life events 4	Life events 2	.09	(.11)
Life events 4	Life events 1	.16*	(.08)
Symptoms 5	Life events 5	.10	(.06)
Symptoms 5	Symptoms 4	.12	(.09)
Symptoms 5	Symptoms 3	.22*	(.13)
Symptoms 5	Symptoms 2	.26**	(.08)
Symptoms 5	Symptoms 1	.16*	(.09)
Symptoms 5	Help-seeking 4	.07	(.37)

statistically significant at *p<.05 **p<.01 ***p<.001

continued ...

Table VI.3: Continued.

Dependent Variable	Independent Variable	*B*	se
Help-seeking 5	Life events 5	-.01	(.01)
Help-seeking 5	Symptoms 5	-.01	(.01)
Help-seeking 5	Help-seeking 4	.41***	(.11)
Help-seeking 5	Help-seeking 3	-.04	(.14)
Help-seeking 5	Help-seeking 2	.07	(.11)
Help-seeking 5	Help-seeking 1	.11	(.09)
Life events 5	Life events 4	.71**	(.24)
Life events 5	Life events 3	-.14	(.19)
Life events 5	Life events 2	.26*	(.12)
Life events 5	Life events 1	.03	(.09)

statistically significant at *p<.05 **p<.01 ***p<.001

Table VI.4: Parameter Estimates for Help-Seeking from Family for Females Only.

Dependent Variable	Independent Variable	*B*	se
Symptoms 1	Life events 1	.16*	(.07)
Help-seeking 1	Life events 1	-.01	(.01)
Help-seeking 1	Symptoms 1	.03**	(.01)
Symptoms 2	Life events 2	.30***	(.07)
Symptoms 2	Symptoms 1	.33***	(.09)
Symptoms 2	Help-seeking 1	-.31	(.36)
Help-seeking 2	Life events 2	.01	(.01)
Help-seeking 2	Symptoms 2	.03**	(.01)
Help-seeking 2	Help-seeking 1	.33***	(.06)
Life events 2	Life events 1	.32***	(.08)
Life events 2	Symptoms 1	.20**	(.07)
Symptoms 3	Life events 3	.30***	(.06)
Symptoms 3	Symptoms 2	.22***	(.06)
Symptoms 3	Symptoms 1	.06	(.06)
Symptoms 3	Help-seeking 2	-.23	(.31)
Help-seeking 3	Life events 3	-.01	(.01)
Help-seeking 3	Symptoms 3	.04**	(.01)
Help-seeking 3	Help-seeking 2	.27***	(.07)
Help-seeking 3	Help-seeking 1	.21**	(.07)
Life events 3	Life events 2	.48***	(.07)
Life events 3	Life events 1	.06	(.06)
Symptoms 4	Life events 4	.23**	(.07)
Symptoms 4	Symptoms 3	.38***	(.09)
Symptoms 4	Symptoms 2	.17*	(.08)
Symptoms 4	Symptoms 1	.14*	(.07)
Symptoms 4	Help-seeking 3	-.82*	(.32)
Help-seeking 4	Life events 4	.01	(.01)
Help-seeking 4	Symptoms 4	.01	(.01)
Help-seeking 4	Help-seeking 3	.22**	(.07)
Help-seeking 4	Help-seeking 2	.23**	(.07)
Help-seeking 4	Help-seeking 1	.16*	(.07)
Life events 4	Life events 3	.48***	(.08)
Life events 4	Life events 2	.16*	(.08)
Life events 4	Life events 1	.11*	(.05)
Symptoms 5	Life events 5	.17**	(.06)
Symptoms 5	Symptoms 4	.27***	(.08)
Symptoms 5	Symptoms 3	.25**	(.09)
Symptoms 5	Symptoms 2	.26***	(.08)
Symptoms 5	Symptoms 1	.05	(.07)
Symptoms 5	Help-seeking 4	.03	(.33)

statistically significant at *p<.05 **p<.01 ***p<.001

continued ...

Table VI.4: Continued.

Dependent Variable	Independent Variable	*B*	se
Help-seeking 5	Life events 5	-.01	(.01)
Help-seeking 5	Symptoms 5	.02*	(.01)
Help-seeking 5	Help-seeking 4	.30***	(.07)
Help-seeking 5	Help-seeking 3	.08	(.07)
Help-seeking 5	Help-seeking 2	.19*	(.07)
Help-seeking 5	Help-seeking 1	.13*	(.07)
Life events 5	Life events 4	.45***	(.09)
Life events 5	Life events 3	.03	(.09)
Life events 5	Life events 2	.20**	(.07)
Life events 5	Life events 1	-.01	(.05)

statistically significant at *p<.05 **p<.01 ***p<.001

Table VI.5: Parameter Estimates for Help-Seeking from Professionals for Males and Females Combined.

Dependent Variable	Independent Variable	*B*	se
Symptoms 1	Gender	.58*	(.28)
Symptoms 1	Life events 1	.16**	(.06)
Help-seeking 1	Gender	.05	(.03)
Help-seeking 1	Life events 1	.01	(.01)
Help-seeking 1	Symptoms 1	.02**	(.01)
Symptoms 2	Life events 2	.29***	(.05)
Symptoms 2	Symptoms 1	.29***	(.07)
Symptoms 2	Help-seeking 1	.93*	(.55)
Help-seeking 2	Life events 2	.01	(.01)
Help-seeking 2	Symptoms 2	.03**	(.01)
Help-seeking 2	Help-seeking 1	.18*	(.07)
Life events 2	Life events 1	.29***	(.06)
Life events 2	Symptoms 1	.19**	(.06)
Symptoms 3	Life events 3	.21***	(.05)
Symptoms 3	Symptoms 2	.22***	(.06)
Symptoms 3	Symptoms 1	.09	(.05)
Symptoms 3	Help-seeking 2	-.34	(.50)
Help-seeking 3	Life events 3	.01	(.01)
Help-seeking 3	Symptoms 3	.01	(.01)
Help-seeking 3	Help-seeking 2	.31**	(.09)
Help-seeking 3	Help-seeking 1	-.02	(.05)
Life events 3	Life events 2	.50***	(.06)
Life events 3	Life events 1	.07	(.05)
Symptoms 4	Life events 4	.28***	(.05)
Symptoms 4	Symptoms 3	.38***	(.07)
Symptoms 4	Symptoms 2	.18**	(.06)
Symptoms 4	Symptoms 1	.12*	(.06)
Symptoms 4	Help-seeking 3	-.94	(.60)
Help-seeking 4	Life events 4	.01	(.01)
Help-seeking 4	Symptoms 4	.02*	(.01)
Help-seeking 4	Help-seeking 3	.04	(.09)
Help-seeking 4	Help-seeking 2	.10	(.08)
Help-seeking 4	Help-seeking 1	-.04	(.06)
Life events 4	Life events 3	.44***	(.06)
Life events 4	Life events 2	.17**	(.06)
Life events 4	Life events 1	.11*	(.04)
Symptoms 5	Life events 5	.13**	(.04)
Symptoms 5	Symptoms 4	.23***	(.06)
Symptoms 5	Symptoms 3	.24**	(.07)
Symptoms 5	Symptoms 2	.27***	(.06)
Symptoms 5	Symptoms 1	.08	(.07)
Symptoms 5	Help-seeking 4	.12	(.52)

statistically significant at *p<.05 **p<.01 ***p<.001

continued ...

Table VI.5: Continued.

Dependent Variable	Independent Variable	*B*	se
Help-seeking 5	Life events 5	.02*	(.01)
Help-seeking 5	Symptoms 5	.01	(.01)
Help-seeking 5	Help-seeking 4	.03	(.06)
Help-seeking 5	Help-seeking 3	.14	(.09)
Help-seeking 5	Help-seeking 2	-.09	(.07)
Help-seeking 5	Help-seeking 1	.20**	(.07)
Life events 5	Life events 4	.53***	(.10)
Life events 5	Life events 3	-.02	(.09)
Life events 5	Life events 2	.20**	(.06)
Life events 5	Life events 1	.01	(.04)

statistically significant at *p<.05 **p<.01 ***p<.001