

**Child and Adolescent Component of the
National Survey of Mental Health and Well-being**

**Mental Health of Young People
in Australia**

**Sawyer M G, Arney F M,
Baghurst P A, Clark J J, Graetz B W,
Kosky R J, Nurcombe B, Patton G C,
Prior M R, Raphael B, Rey J,
Whaites L C and Zubrick S R**

October 2000

**national
mental
health
strategy**

Child and Adolescent Component of the National Survey of Mental Health and Well-Being

**Sawyer M.G., Arney F.M.,
Baghurst P.A., Clark J.J., Graetz B.W.,
Kosky R.J., Nurcombe B., Patton G.C.,
Prior M.R., Raphael B., Rey J.,
Whaites L.C. and Zubrick S.R.**

© Commonwealth of Australia 2000

ISBN 0 642 44686 5

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without permission from AusInfo. Requests and enquiries concerning reproduction and rights should be addressed to the Manager, Legislative Services, AusInfo, GPO Box 1920, Canberra ACT 2601.

Additional copies of the report can be obtained from:

Mental Health and Special Programs Branch
Commonwealth Department of Health and Aged Care
GPO Box 9848
Canberra ACT 2601

Phone: 1800 066 247

Facsimile: 1800 634 400

Website: <http://www.mentalhealth.gov.au>

Suggested reference

The Mental Health of Young People in Australia, Sawyer et al, Mental Health and Special Programs Branch, Commonwealth Department of Health and Aged Care, 2000.

Acknowledgements

The authors would like to acknowledge the Commonwealth Department of Health and Aged Care, Mental Health and Special Programs Branch for providing the funding to undertake this project.

Special thanks to Mr Dermot Casey, Director Mental Health and Special Programs Branch and Professor Harvey Whiteford, Kratzmann Chair in Psychiatry, University of Queensland for their work on and support of this project.

Publication approval number 2758

Publications Production Unit (Public Affairs, Parliamentary and Access Branch)
Commonwealth Department of Health and Aged Care
Canberra

Foreword

It has long been suggested that children and adolescents experience a high rate of mental health problems. Until recently, there was little evidence to either support or refute this claim. I am therefore pleased to endorse this report, which provides valuable information about the mental health and wellbeing of young Australians.

Described in this report are the findings of the child and adolescent component of the National Survey of Mental Health and Wellbeing which represent the first reliable, national information on the burden of mental illness in children and adolescents aged 4 to 17.

Not content to merely establish prevalence, the authors of this study surveyed 4,500 children and adolescents from households across Australia to determine how mental health impacts on quality of life and the extent to which children and adolescents suffering from a mental health problem access appropriate services.

The findings reveal that 14 per cent of children and adolescents in Australia have mental health problems. This is very similar to the prevalence identified in previous Australian and overseas surveys. The consistency of these results gives us a high level of confidence in their accuracy. The survey also found that family doctors, school-based counsellors and paediatricians provide the services that are most frequently used by young people with mental health problems. However, only one out of every four young people with mental health problems receives professional help.

Mental health problems can have a significantly adverse impact on children, adolescents, parents and families, particularly in relation to quality of life. It is therefore important that interventions provide broadly based help for the parents and families of young people with problems as well as for the young people themselves. We cannot rely on specialist services alone to provide direct care for all those with problems. We must continue the focus on mental health promotion, prevention and treatment programs and develop alternative approaches to reduce the prevalence of these problems.

It is also important that we continue our focus on establishing effective partnerships across the health, education and welfare sectors to better address the mental health needs of young Australians. They are our future. Investing in their wellbeing can only ensure better outcomes for all of us. This is our challenge.

Finally, I commend the authors of this report for their contributions to this important issue. I appreciate that such reports represent the hard work of many and take the opportunity here to acknowledge staff of the University of Adelaide and the National Collaborating Centres for the Survey of Mental Health of Young People who have provided significant time and expertise. Their commitment is admirable.

Dr Michael Wooldridge
Minister for Health and Aged Care

Contents

Foreword	iii
List of tables and figures	vii
Acknowledgements	ix
Executive summary	xi
1 Introduction	1
Why was the survey conducted?	1
Specific aims of the child and adolescent survey	2
Who conducted the survey?	2
What is contained in this report?	2
2 Study sample and methodology	3
What are mental health problems and mental disorders?	3
Who participated in the survey?	3
How were children and adolescents assessed?	4
Terms and conventions used in this report	7
3 Prevalence of mental health problems	9
Prevalence of mental health problems	10
Relationships between mental health problems and demographic characteristics	11
Summary	12
4 Health-related quality of life	15
The health-related quality of life of children and adolescents	16
Summary	18
5 Depressive disorder, conduct disorder and attention-deficit/ hyperactivity disorder	19
Prevalence of mental disorders	20
Relationships between mental disorders and demographic characteristics	21
Relationships between mental disorders and health-related quality of life	23
Comorbidity	25
Summary	26
6 Service utilisation	27
Service use by children and adolescents	28
The level of emotional and behavioural problems among children and adolescents attending different services	32
Barriers to service use	32
Summary	33

7	Adolescent mental health problems, health-related quality of life and health-risk behaviour	35
	Prevalence of adolescent mental health problems	35
	Health-related quality of life	36
	Health-risk behaviour	38
	Barriers to service use	43
	Summary	43
8	Summary of findings	45
	The prevalence of mental health problems	45
	Quality of life	46
	Patterns of service use	47
	Adolescent mental health and health-risk behaviour	49
	Concluding comments	50
	Bibliography	53
	Appendix A: Mean scores on the Child Behaviour Checklist and Youth Self-Report	55
	Appendix B: Domains assessed by the Child Health Questionnaire	59
	Appendix C: Terminology used in the report	61

List of tables and figures

Table 3.1	Mental health problems assessed by the Child Behaviour Checklist	9
Table 3.2	Prevalence (%) of total problems, externalising problems and internalising problems	10
Table 3.3	Prevalence (%) of mental health problems in specific areas	10
Table 3.4	Prevalence (%) of mental health problems by family type	11
Table 3.5	Prevalence (%) of mental health problems by weekly household income	11
Table 3.6	Prevalence (%) of mental health problems by parental labour force status	12
Table 3.7	Prevalence (%) of mental health problems by region	12
Table 5.1	Definition of Depressive Disorder, Conduct Disorder and Attention-Deficit/ Hyperactivity Disorder	19
Table 5.2	Prevalence (%) of mental disorder	20
Table 5.3	Prevalence (%) of mental disorder by age and gender	20
Table 5.4	Prevalence (%) of mental disorder by family type	21
Table 5.5	Prevalence (%) of mental disorder by weekly household income	21
Table 5.6	Prevalence (%) of mental disorder by parental labour force status	22
Table 5.7	Prevalence (%) of mental disorder by region	22
Table 6.1	Percentage of children and adolescents attending each service by level of emotional and behavioural problems	32
Table 7.1	Prevalence (%) of total problems, externalising problems, and internalising problems reported by adolescents (13–17 years)	36
Table 7.2	Prevalence (%) of mental health problems in specific areas reported by adolescents (13–17 years)	36
Table 7.3	Prevalence (%) of health-risk behaviour reported by adolescents	38
Table A.1	Mean problem scores on the general behaviour scales of the Child Behaviour Checklist for children and adolescents (4–17 years)	56
Table A.2	Mean problem scores on the specific behaviour scales of the Child Behaviour Checklist for children and adolescents (4–17 years)	56
Table A.3	Mean problem scores on the general behaviour scales of the Youth Self-Report for adolescents (13–17 years)	56
Table A.4	Mean problem scores on the specific behaviour scales of the Youth Self-Report for adolescents (13–17 years)	57
Figure 4.1	Problem level categories for children and adolescents as rated on the Total Problems Scale of the Child Behaviour Checklist	15
Figure 4.2	Health-related quality of life of children and adolescents	16
Figure 4.3	Family functioning of children and adolescents	17
Figure 4.4	Perceived impact of child and adolescent mental health problems on parents	17
Figure 5.1	Health-related quality of life of children and adolescents with a mental disorder	23
Figure 5.2	Family functioning of children and adolescents with a mental disorder	24
Figure 5.3	Perceived impact on parents of child and adolescent mental disorders	24
Figure 5.4	Comorbidity of children with Attention-Deficit/Hyperactivity Disorder (ADHD), Conduct Disorder (CD) and Depressive Disorder (DD)	25
Figure 6.1	Percentage of 4–12 and 13–17 year olds scoring in the clinical range of the child behaviour checklist attending each service	28
Figure 6.2	Percentage of children and adolescents with a mental disorder attending each service	29

Figure 6.3	Percentage of children and adolescents whose parents reported that their child/adolescent needed professional help for an emotional or behavioural problem, attending each service	30
Figure 6.4	Percentage of children and adolescents with a mental disorder and a score in the clinical range on the child behaviour checklist and a parent report that the child/adolescent needed professional help, attending each service	31
Figure 6.5	Barriers to obtaining help	33
Figure 7.1	Health-related quality of life of adolescents according to adolescent reports	37
Figure 7.2	Family functioning according to adolescent reports	37
Figure 7.3	Suicidal ideation and suicidal behaviour	39
Figure 7.4	Smoking, alcohol use and marijuana use	40
Figure 7.5	Dieting and exercise behaviour	41
Figure 7.6	Physical health	42
Figure 7.7	Barriers to obtaining help	43

Acknowledgments

A National Collaborating Group with members drawn from several states across Australia was established to facilitate the Child and Adolescent Component of the National Survey of Mental Health and Well-Being.

Chairperson:

- Professor R. J. Kosky, Department of Psychiatry, University of Adelaide.

Members:

- Professor B. Nurcombe, Department of Psychiatry, The University of Queensland.
- Professor G. C. Patton, Centre for Adolescent Health, University of Melbourne.
- Emeritus Professor B. Raphael, The University of Queensland.
- Professor J. Rey, Department of Psychological Medicine, University of Sydney.
- A/Professor M. G. Sawyer, Department of Psychiatry, University of Adelaide.
- A/Professor S. R. Zubrick, TVW Telethon Institute of Child Health Research, Centre for Child Health Research, University of Western Australia.

Consumer representative for the survey:

- Ms M. Drake.

Specialist statistical advice was provided by:

- Dr P. Baghurst, Public Health Research Unit, Women's and Children's Hospital.
- Mr E. Brinkley, Australian Bureau of Statistics.

Additional advice was provided by:

- Professor M. Prior, Department of Psychology, Royal Children's Hospital, University of Melbourne.
- Professor S. Henderson, Centre for Mental Health Research, The Australian National University.

Editorial assistance was provided by:

- Mr D. Francis.

Executive summary

Introduction

This report describes the results of the Child and Adolescent Component of the National Survey of Mental Health and Well-Being. This component of the survey was designed to answer four questions:

- How many children and adolescents in Australia have mental health problems?
- What is the nature of these problems?
- What is the degree of disability associated with these problems?
- What are the services used by children and adolescents with mental health problems?

Content of the report

Four sets of results are described in the report:

1. The prevalence among young people of mental health problems and of three mental disorders (Depressive Disorder, Conduct Disorder, and Attention-Deficit/Hyperactivity Disorder) [Chapters 3 and 5].
2. The quality of life of young people with mental health problems [Chapter 4].
3. Services used by young people with mental health problems [Chapter 6].
4. The prevalence of mental health problems, quality of life and health-risk behaviour among adolescents as reported by adolescents themselves [Chapter 7].

Summary of conclusions

Prevalence of mental health problems

- Fourteen percent of children and adolescents in Australia have mental health problems.
- This high prevalence rate of mental health problems is found in all age and gender groups.
- There is a higher prevalence of child and adolescent mental health problems among those living in low-income, step/blended and sole-parent families.

The prevalence of mental health problems identified in this survey is very similar to the prevalence identified in previous Australian and overseas surveys. The consistency of these results gives a high level of confidence in their accuracy.

The relatively large number of young people with mental health problems stands in contrast to the limited number of trained clinicians available to help them. This disparity makes it unlikely that specialised programs based in secondary and tertiary treatment settings (e.g., child and adolescent mental health services and departments of psychiatry in hospitals) will ever be able to provide direct care for all those with problems in Australia. As a result, there is a need to develop alternative approaches to reduce the prevalence of child and adolescent mental health problems.

Quality of life of children and adolescents with mental health problems and their families

- Children and adolescents with mental health problems have a poorer quality of life than their peers.
- Parents of children and adolescents with mental health problems report greater concern and worry about their children's health and less time for their personal needs than other parents.

Mental health problems can have a significant adverse impact on children, adolescents, parents and families. It is therefore important that interventions provide broadly-based help for the parents and families of young people with problems as well as for the young people themselves.

Prevention and treatment programs have the potential to reduce child and adolescent mental health problems by changing family, school or community systems. There is a need to identify and implement new mental health promotion, prevention and treatment programs that can provide cost-effective help for both young people and their families in Australia.

Use of professional services

- Only one out of every four young persons with mental health problems receives professional help.
- Family doctors, school-based counsellors and paediatricians provide the services that are most frequently used by young people with mental health problems.

Even among young people with the most severe mental health problems, only 50% receive professional help. The majority of those receiving help attend services provided by health and education professionals who may have only limited training in the assessment and management of mental health problems. To function effectively, these professionals must have ready access to support from more specialised mental health services. In many areas of Australia such access is not possible due to a scarcity of child and adolescent mental health services. There is a need, therefore, to give more formal and informal training in child and adolescent mental health to professionals working in primary health care and school-based services. There is also a need to increase the number of specialised child and adolescent mental health services.

Adolescent-reported problems

- Adolescents with mental health problems report a high rate of suicidal ideation and other health-risk behaviour, including smoking, drinking and drug use.

Adolescents with mental health problems do not have problems that are limited to a single aspect of their lives. Rather, their problems are wide-ranging and include suicidal ideation, smoking, alcohol use and drug abuse. There is consequently a need to develop joint policies and strategies across the different services that provide help to young people with mental health and related problems (e.g., school-based services, paediatricians, family doctors, mental health services, and drug and alcohol services).

1 Introduction

Surveys in other countries suggest that children and adolescents experience high rates of mental health problems, however in Australia there has been no information at a national level about the prevalence of child and adolescent mental health problems. Nor has information been available about the level of disability experienced by young people with mental health problems or the extent to which they are receiving professional help. Without such information it is difficult to plan better services to help these young people and to relieve the substantial burden that mental health problems impose on them, their families, and their communities. This report has been prepared to address these deficiencies.

The report describes the key findings of the Child and Adolescent Component of the National Survey of Mental Health and Well-Being. The child and adolescent survey is one of three surveys commissioned by the Mental Health Branch of the Commonwealth Department of Health and Aged Care. The other two surveys focused on mental disorders experienced by adults, and on 'low prevalence disorders' such as psychosis. The results of the other surveys have been described in separate reports (Andrews, Hall, Teesson, & Henderson, 1999; Jablensky et al., 1999).

Why was the survey conducted?

In 1992 the Commonwealth, State and Territory Governments of Australia endorsed the National Mental Health Strategy. This strategy had the following aims:

- to improve the lives of people with mental illness and people who care for them
- to promote the mental health of the Australian community
- where possible, to prevent the development of mental health problems and mental disorders
- to reduce the impact of mental disorders on individuals, families and the community
- to assure the rights of people with mental disorders.

In developing the strategy it became apparent that little information was available nationally about the prevalence of mental disorders and the welfare of Australians with mental illness. In December 1994, therefore, a workshop commissioned by the then Commonwealth Department of Health and Family Services recommended that national surveys of mental health and well-being should be conducted to provide information in this area.

The Child and Adolescent Component of the National Survey of Mental Health and Well-Being is the first survey to investigate the mental health and well-being of children and adolescents at a national level in Australia. It provides an accurate estimate of the prevalence of mental health problems among children and adolescents in Australia. It also provides information about the degree of disability associated with mental health problems and the extent to which children and adolescents are receiving help for their problems.

Specific aims of the child and adolescent survey

The Child and Adolescent Component of the National Survey of Mental Health and Well-Being was designed to answer four questions:

1. How many children and adolescents in Australia have mental health problems?
2. What is the nature of these problems?
3. What is the degree of disability associated with these problems?
4. What are the services used by children and adolescents with mental health problems?

Who conducted the survey?

The Mental Health Branch of the Commonwealth Department of Health and Aged Care commissioned the University of Adelaide to undertake the survey. A research group led by A/Professor M Sawyer and Mr B Graetz was established in the Department of Psychiatry at the University of Adelaide to take responsibility for conducting the survey. Following a tendering process, ACNielsen was awarded the contract to carry out the fieldwork. Data were collected between February and April 1998 by trained interviewers from across Australia who visited children and parents in their homes.

What is contained in this report?

This report describes the prevalence of child and adolescent mental health problems in Australia. In addition, information is presented about the relationship between these problems and the health-related quality of life of children and adolescents, adolescent health-risk behaviour, and patterns of service utilisation. The present report provides an overview of results. More detailed information will be provided in bulletins, which will be published over the next eighteen months.

In the report, we present some results separately for children (4–12 years) and adolescents (13–17 years). There are two reasons for this approach. First, there is evidence that the nature and prevalence of problems differ at these two stages of development. Second, for some aspects of the study (e.g., health-risk behaviour), information was collected from only the older group.

The sampling and assessment methods employed in the study are described briefly in the next chapter. More detailed information is available on request in a separate report, which can be obtained from: Mental Health and Special Programs, Health and Aged Care, MDP 37, GPO Box 9848, CANBERRA, ACT, Australia, 2601.

2 Study sample and methodology

What are mental health problems and mental disorders?

Terms such as *mental health problems*, *mental disorder* and *emotional and behavioural problems* do not have exact definitions. They are commonly used to describe alterations in thinking, mood or behaviour that are associated with distress or impaired functioning. There are a number of different types of mental health problems and mental disorders, and each consists of a different combination of emotional and behavioural problems.

In this report, children and adolescents were considered to have a *mental health problem* if the number of emotional and behavioural problems they were experiencing was in the range typically reported for children and adolescents attending mental health clinics (Achenbach, 1991a; Achenbach, 1991b). Mental health problems were identified by having parents and adolescents complete questionnaires asking about a large number of emotional and behavioural problems that occur in childhood and adolescence (Achenbach, 1991a; Achenbach, 1991b).

Mental disorders are conditions characterised by clinically significant sets of symptoms or emotional and behavioural problems associated with personal distress and impaired functioning, as described in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (American Psychiatric Association, 1994). Three child and adolescent mental disorders were investigated in this survey: Depressive Disorder, Conduct Disorder and Attention-Deficit/Hyperactivity Disorder. These disorders were chosen by the National Collaborating Group because they are known from previous studies to be prevalent in the community and because they have great significance for child and adolescent health in Australia. Mental disorders were identified using face-to-face interviews conducted with parents by trained interviewers using the Diagnostic Interview Schedule for Children Version IV (Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000).

Who participated in the survey?

We used a multistage sampling scheme to recruit a representative sample of 4,500 children aged 4 to 17 years (Appendix C). Children were recruited by interviewers who approached randomly selected households chosen in proportion to the population of each state or territory. The identified households were also distributed proportionally across metropolitan and non-metropolitan areas (with the exception of the Northern Territory, where only children living in metropolitan areas were recruited). Children under 4 years of age were not included because the problems of this group differ from those of older children and adolescents, as do the methods required to assess them. The upper age limit of 17 years was determined by the lower age limit of participants included in the Australian survey of adults (Andrews, et al., 1999).

A participation rate and a response rate for the study were calculated as follows. The participation rate was calculated by dividing the number of households with a child aged 4 to 17 years that participated in the survey by the total number of households which were contacted

and identified to contain a child aged 4 to 17 years. The participation rate was 86%. The response rate was calculated by dividing the number of participating households by the total number of households that were initially identified as potential participants in the survey. No contact was made with a family member in a number of the identified households, however, and it was estimated that 19% of these households would have contained a child eligible to participate in the survey. After an adjustment to take these children into account, the response rate for the survey was 70%. The major reason for the difference between the response rate and the participation rate was a failure by interviewers to make contact with a number of the identified households before selecting a replacement household.

Two approaches were used to identify possible biases in the selected sample. First, the demographic characteristics of children, adolescents and families who participated in the study were compared with those of the total Australian population from which they were selected. Second, scores on the behaviour checklists used in the survey were compared with the scores on the same checklists reported in the *Western Australian Child Health Survey* (Zubrick et al., 1995) and with scores reported in the manuals that describe these checklists (Achenbach, 1991a; Achenbach, 1991b). The results of these comparisons suggest that the sample of 4 to 17 year olds in the survey is representative of the total population of children and adolescents aged 4 to 17 years in Australia.

Accurate prevalence estimates are not possible for some groups within the Australian population. In part, this is because they are not represented in large enough numbers in the study sample. For example, the survey provides only limited information about Aboriginal and Torres Strait Island children and adolescents, a group that represents approximately 3% of the total Australian population. Although the number of children and adolescents of indigenous background included in the survey is consistent with that of the general population, it is too small for us to be sure that the information reflects the characteristics of all indigenous children and adolescents. Furthermore, a different type of study using culturally sensitive methods may be required to assess problems in this population.

The survey provides only limited information about the mental health of children and adolescents living in non-English-speaking families. There are two reasons for this. First, parents needed to have sufficient competence in English to complete the structured interview and questionnaires. Second, because there are relatively few non-English-speaking families in the population, there were not enough children and adolescents in the survey to provide an accurate picture of the mental health of all children and adolescents living in these families.

The survey was also unable to assess the prevalence of mental health problems in certain other groups, such as homeless young people and those in hospitals or detention centres. These groups could not be included because the survey procedure was based on households. It should be noted that if these groups had been included, it is likely that a higher prevalence of mental health problems would have been identified.

How were children and adolescents assessed?

Information from parents, teachers, children and adolescents can be used to assess the mental health of participants in surveys of child and adolescent mental health. In the present survey, information was obtained from the parents of all participants and also from adolescents aged 13 to 17 years. This approach was adopted because we had insufficient resources to contact the

teachers of all participants and were able to conduct a face-to-face interview with only one member of each household. This interview was conducted with parents. Parents and adolescents also completed a self-report booklet of questionnaires.

There is considerable evidence that parents, teachers, and children and adolescents differ in their perceptions of childhood and adolescent mental health problems (Achenbach, McConaughy, & Howell, 1987). Thus, it is likely that a higher prevalence of problems would have been identified if problems identified by all three categories of informants had been added together to form the prevalence estimates.

(i) Use of behaviour checklists to identify mental health problems

The checklists employed in the survey asked about a wide range of emotional and behavioural problems that occur in childhood and adolescence (Achenbach, 1991a; Achenbach, 1991b). Responses to these questions were combined to produce behaviour problem scores that rated the number and severity of emotional and behavioural problems in different areas (Appendix A). In each area, children and adolescents were considered to have a mental health problem if their score on the relevant behaviour problem scale was in the range typically reported for those of the same age and gender attending mental health clinics. Such scores were said to be in the 'clinical range' on each behaviour scale.

As noted by Achenbach (1991a), referral to a mental health clinic is not an infallible criterion of a child's need for help. Nor can it be assumed that all children referred to clinics have mental health problems. Some children, for example, are referred to mental health clinics because of family problems rather than because of mental disorders. However, despite its limitations, clinic referral does provide a useful criterion for estimating the number of children in a community who are experiencing high levels of mental health problems.

It is also important to recognise that the threshold scores for inclusion in the clinical range vary with age and gender. The scores selected as threshold points are those that best discriminate 'referred' from 'non-referred' children within each age and gender group (Achenbach, 1991a; Achenbach, 1991b).

The key aim of this survey was to identify the number of children and adolescents with a high level of emotional and behavioural problems. Thus, the results in the main body of the report focus on the percentage of children or adolescents in each age and gender group who scored in the clinical range on the various behaviour problem scales. Information about typical levels of emotional and behavioural problems, however, is provided by the average behaviour problem scores on the survey checklists. These are shown for each age and gender group in Appendix A.

(ii) Use of the Diagnostic Interview Schedule for Children to identify mental disorders

The three child and adolescent mental disorders investigated in this survey were identified by means of face-to-face interviews conducted by trained interviewers using a structured diagnostic interview, the Diagnostic Interview Schedule for Children, Version IV (Shaffer et al., 2000). The Diagnostic Interview Schedule is designed to identify more than 30 mental disorders that occur in childhood and adolescence.

Parents of all participating children and adolescents from 6 to 17 years completed the interview. The lower age limit was necessary because the Diagnostic Interview Schedule is not suitable for use with children younger than 6 years of age. Face-to-face interviewing is expensive, however, and it is also burdensome for parents and children. For example, it takes parents an average of 70 minutes to complete the Diagnostic Interview Schedule if the complete interview is employed. To address these problems, the Diagnostic Interview Schedule employs a modular format that makes it possible to limit the number of mental disorders assessed in a particular survey. For this survey, we utilised the modules for Depressive Disorder, Attention-Deficit/Hyperactivity Disorder, and Conduct Disorder.

Regrettably, we were unable to include Anxiety Disorders in the survey. The assessment of these disorders with the Diagnostic Interview Schedule is complex, and their inclusion would have required another group of disorders to be dropped. The exclusion of Anxiety Disorders is unfortunate, because other surveys have shown these disorders to be relatively common among children and adolescents (Shaffer et al., 1996). It also should be noted that if a wider range of disorders had been investigated, a higher prevalence of mental disorders would have been identified in the survey.

The criteria used in the Diagnostic Interview Schedule to identify the three mental disorders are similar to those in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV) (American Psychiatric Association, 1994). However, there are some important differences. First, children who meet the criteria for a DSM-IV diagnosis must exhibit clinically significant impairment in social, academic or occupational functioning. Although the Diagnostic Interview Schedule asks about impairment, the responses are not currently used in the calculation of prevalence rates because this section of the scoring algorithms is considered experimental. This means that some children or adolescents identified as having a disorder in the survey may not meet all the formal diagnostic criteria described in the DSM-IV. Second, we could not determine whether children had other disorders that preclude the diagnosis of one of the disorders reported in this survey. For example, the DSM-IV criteria require that children not be diagnosed with Attention-Deficit/Hyperactivity Disorder if their symptoms occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia or other Psychotic Disorder, or if their symptoms are better explained by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder). Similarly, children should not be diagnosed with a Major Depressive Disorder if their symptoms are due to the physiological effects of a substance (e.g., a medication) or to a general medical condition. If these criteria had been applied, it is possible that a lower prevalence of some mental disorders may have been found in the present survey.

(iii) Information obtained from parents

During the face-to-face interview, parents completed the Diagnostic Interview Schedule. They also described the use by children and adolescents of a wide range of professional services during the six months prior to the survey, the type of help provided for children and adolescents attending services, and any barriers that hindered access to services. Parents also completed a questionnaire booklet that asked them to respond to questions in the following areas:

Mental health problems: Mental health problems were identified using the Child Behaviour Checklist (Achenbach, 1991a). This checklist was chosen because it provides information about a range of child and adolescent mental health problems, it has been widely used in comparable studies in other countries, and it is easy for parents to complete. Children and adolescents were

considered to have a mental health problem if the number of emotional and behavioural problems parents reported on the relevant Child Behaviour Checklist scale was in the range typically reported for children and adolescents attending mental health clinics (Achenbach, 1991a).

Degree of disability: The concept of health-related quality of life was utilised to assess the level of disability experienced by children and adolescents. It was measured using the Child Health Questionnaire, which assesses the functioning of children in a range of areas, including physical health, limitations in school and peer activities, and the impact of children's health on parents and families (Landgraf, Abetz, & Ware, 1996). Parents of children aged 6 to 17 years completed the Child Health Questionnaire. The lower age of 6 years was chosen because assessment in several domains is based on children's school functioning, and 5-year-olds have not started school in some states of Australia.

(iv) Information obtained from adolescents

Adolescents aged 13 to 17 years completed a questionnaire booklet that asked them to respond to questions in the following areas:

Mental health problems: Mental health problems were identified using the Youth Self-Report (Achenbach, 1991b). The Youth Self-Report is very similar to the Child Behaviour Checklist but is designed for completion by adolescents. It was considered important to obtain information directly from adolescents about their mental health problems, as they may have a different perspective than their parents (Achenbach et al., 1987).

Degree of disability: Adolescents' perceptions of their health-related quality of life were assessed using the adolescent version of the Child Health Questionnaire. This version of the questionnaire is similar to the version completed by parents but is designed for completion by adolescents (Landgraf et al., 1996).

Health-risk behaviour: Information about health-risk behaviour (e.g., drug use and suicidal behaviour) was obtained from adolescents using relevant items from the Youth Risk Behaviour Questionnaire. The Youth Risk Behaviour Questionnaire was developed by the Centers for Disease Control and Prevention in the United States to identify health-risk behaviour in high school students (Brener, Collins, Kann, Warren, & Williams, 1995).

Service utilisation: Adolescents were asked whether they had received help for mental health problems or problems with their physical health during the last six months. They were also asked to identify barriers that may have hindered access to services.

Terms and conventions used in this report

In the interests of readability and conciseness, we have presented many of the results in the report as graphs or figures and have omitted descriptions of levels of statistical significance or confidence intervals. However, significant and substantive differences in the prevalence of mental health problems, the health-related quality of life of children and adolescents, and patterns of service utilisation are drawn to the attention of readers in the text.

In addition, we have tried to avoid repetition by reporting only one set of results when there were no major differences between the reports from parents and adolescents. Similarly, if there were no important differences between reports describing children and adolescents, the results describing the two age groups were combined.

The estimates of prevalence for the three mental disorders are ‘one year’ estimates. That is, they estimate the number of children and adolescents who met the criteria for one or more of the disorders during the year prior to the study. The estimates were weighted for each individual’s responses according to the degree to which that individual’s demographic grouping was under- or over-represented in the final sample. Details of the procedure used to obtain the survey weights are provided in Appendix C.

The term *parent* is used to describe the primary caregiver who completed the interview/questionnaire. In most cases this was the mother (84%), but in some cases the father (12%) or another person or relative (1%) was the primary caregiver. In 3% of cases, both parents completed the interview/questionnaire.

In some areas, the questionnaires that were used to gather information about mental health problems, health-related quality of life or health-risk behaviours contained similar questions. The duplication of these questions raises the possibility that some significant relationships identified in the study could have arisen simply because questionnaires assessing different health constructs contained similar questions. To address this issue, all the analyses were repeated after the removal of questions that were similar on two or more questionnaires. In no cases did the presence of similar questions on two or more questionnaires influence the pattern of findings.

3 Prevalence of mental health problems

The prevalence of mental health problems is based on scores obtained from the scales of the Child Behaviour Checklist (CBCL) completed by parents. The CBCL scales identify mental health problems in three general areas and eight specific areas (Table 3.1) (Achenbach, 1991a). This approach provides a broad assessment of child and adolescent mental health problems in Australia.

Table 3.1 Mental health problems assessed by the Child Behaviour Checklist

General Areas:
(i) Internalising Problems Scale: inhibited or over-controlled behaviour (e.g., anxiety or depression).
(ii) Externalising Problems Scale: antisocial or under-controlled behaviour (e.g., delinquency or aggression).
(iii) Total Problems Scale: all mental health problems reported by parents or adolescents.
Specific Areas:
(i) Somatic Complaints Scale: chronic physical complaints without known cause or medically verified basis.
(ii) Delinquent Behaviour Scale: breaking rules and norms set by parents and communities (e.g., lying, swearing, stealing or truancy).
(iii) Attention Problems Scale: difficulty concentrating and sitting still, and impaired school performance.
(iv) Aggressive Behaviour Scale: bullying, teasing, temper tantrums and fighting.
(v) Social Problems Scale: impaired peer relationships.
(vi) Withdrawn Scale: shyness and social isolation.
(vii) Anxious/Depressed Scale: feelings of loneliness, sadness, being unloved, worthlessness, anxiety and general fears.
(viii) Thought Problems Scale: strange behaviour or ideas, obsessions.

The identification of child and adolescent mental health problems inevitably depends on the assessment procedure and the source of information (e.g., parents, children and adolescents, or teachers). It is impossible to determine a ‘true’ prevalence that is independent of these procedures (Crijnen, Achenbach, & Verhulst, 1997). In each area, children and adolescents were considered to have a mental health problem if their score on the relevant CBCL scale was in the clinical range (i.e., it was above the recommended threshold score) (Achenbach, 1991a). This approach identifies children and adolescents whose score is in the range typically reported for those of the same age and gender who are attending mental health clinics. The prevalence of these problems was examined separately for males and females in two age groups (4–12 years and 13–17 years) to determine whether the problems are experienced by all age and gender groups or are limited to only some groups.

The advantage of this approach is that it is possible to compare results in the present survey with results from previous Australian and international surveys that used the same methodology (Verhulst & Koot, 1995). This approach also identifies the number of males and females in each

age group who have a high level of problems on each behaviour scale. The disadvantage of the approach is that the threshold score that defines the clinical range on each behaviour problem scale is not the same for each age and gender group. As a result, it is necessary to be cautious when comparing the prevalence of mental health problems reported for different age and gender groups (Appendix A).

Prevalence of mental health problems

Fourteen percent of children and adolescents in the survey scored in the clinical range on the *Total Problems* scale on the CBCL, while 13% scored in the clinical range on the *Externalising* and *Internalising* scales (Table 3.2). The percentage of those in different age and gender groups with scores in the clinical range of the *Internalising* and *Externalising* scales are shown in Table 3.2.

Table 3.2 Prevalence (%) of total problems, externalising problems and internalising problems

	<i>Total problems</i>		<i>Externalising problems</i>		<i>Internalising problems</i>	
	%	Population estimate ^a	%	Population estimate	%	Population estimate
All Children	14.1	521,886	12.9	475,748	12.8	473,989
Males						
4–12 year olds	15.0	181,749	13.6	164,992	15.0	182,032
13–17 year olds	13.4	90,678	11.7	78,965	13.6	92,244
Females						
4–12 year olds	14.4	166,817	12.2	141,121	11.3	130,309
13–17 year olds	12.8	82,221	14.1	90,726	10.7	68,788

^a estimated number of children and adolescents with a mental health problem in Australia.

The specific problems most frequently identified by parents were *Somatic Complaints* and *Delinquent Behaviour*, with 7% of children and adolescents scoring in the clinical range on each scale (Table 3.3). The next most frequently identified problems were *Attention Problems* (6%) and *Aggressive Behaviour* (5%).

Table 3.3 Prevalence (%) of mental health problems in specific areas

<i>CBCL Scale</i>	<i>All Children</i>	<i>4–12 years</i>		<i>13–17 years</i>	
		<i>Males</i>	<i>Females</i>	<i>Males</i>	<i>Females</i>
Somatic Complaints	7.3	7.2	5.6	10.6	6.8
Delinquent Behaviour	7.1	7.4	7.8	6.4	5.9
Attention Problems	6.1	7.4	6.2	4.8	4.6
Aggressive Behaviour	5.2	5.9	5.2	5.0	4.0
Social Problems	4.6	6.5	3.9	3.8	3.0
Withdrawn	4.3	5.4	2.9	4.8	4.2
Anxious/Depressed	3.5	4.1	2.9	3.6	3.6
Thought Problems	3.1	3.2	2.7	3.4	3.1

As the threshold scores used to establish the clinical range vary with age and gender, the prevalence of mental health problems across these different groups cannot be compared directly. To address this issue, the comparisons in this section were repeated using the average behaviour problem scores in each group rather than the percentage scoring above the recommended threshold score (Appendix A). These comparisons, rather than the prevalence of problems shown in Tables 3.2 and 3.3, should be used to compare the typical level of problems experienced by children and adolescents in different age and gender groups. It is apparent from the results in Appendix A that even though a particular age and gender group may have a higher proportion of children or adolescents scoring in the clinical range than another group, it cannot be assumed that on average *all* children or adolescents in that group have more problems than those in the other group.

Relationships between mental health problems and demographic characteristics

The relationships between the prevalence of mental health problems and the demographic characteristics of children and adolescents are shown in Tables 3.4 to 3.7. Children and adolescents living in sole-parent, step/blended or low-income families were more likely to have mental health problems. In addition, both males and females living with parents not in paid employment had a higher prevalence of externalising problems than those in families where parents were employed. Finally, there was some evidence that females living in metropolitan regions had a higher prevalence of externalising problems than those in non-metropolitan regions.

Table 3.4 Prevalence (%) of mental health problems by family type

CBCL scale	<i>Original parents</i>		<i>Step/blended parents</i>		<i>Sole parent</i>	
	<i>Males</i>	<i>Females</i>	<i>Males</i>	<i>Females</i>	<i>Males</i>	<i>Females</i>
Total Problems	11.3	10.7	25.0	19.7	22.2	26.7
Internalising Problems	12.1	9.0	23.0	13.5	20.4	19.5
Externalising Problems	9.5	9.8	23.9	19.9	21.4	24.7

Table 3.5 Prevalence (%) of mental health problems by weekly household income

CBCL scale	<i>Weekly household income</i>		
	<i>less than \$580</i>	<i>\$581–\$1030</i>	<i>Greater than \$1030</i>
Males			
Total Problems	21.1	14.8	8.9
Internalising Problems	17.5	15.6	11.8
Externalising Problems	20.4	13.0	7.2
Females			
Total Problems	22.1	13.8	9.1
Internalising Problems	16.4	10.5	8.8
Externalising Problems	20.4	11.7	9.6

Table 3.6 Prevalence (%) of mental health problems by parental labour force status

<i>Labour force status</i>	<i>CBCL scale</i>		
	<i>Total problems</i>	<i>Internalising</i>	<i>Externalising</i>
Two-parent households			
Males			
Both employed	10.7	12.7	7.9
One employed, one not in paid employment	12.7	13.2	11.3
Both not in paid employment	18.1	16.2	18.5
Females			
Both employed	9.4	9.0	9.4
One employed, one not in paid employment	12.5	9.1	9.4
Both not in paid employment	16.0	9.0	21.9
Single-parent households			
Males			
Employed	20.3	22.1	16.7
Not in paid employment	24.2	19.7	25.9
Females			
Employed	19.7	17.8	19.6
Not in paid employment	31.0	20.8	27.6

Table 3.7 Prevalence (%) of mental health problems by region

<i>CBCL Scale</i>	<i>Metropolitan</i>		<i>Non-metropolitan</i>	
	<i>Males</i>	<i>Females</i>	<i>Males</i>	<i>Females</i>
Total Problems	14.7	15.8	14.0	10.6
Internalising Problems	14.8	11.3	14.0	10.8
Externalising Problems	12.6	14.3	13.4	10.6

Summary

Children and adolescents of both genders had a high prevalence of mental health problems. This shows that a high prevalence of mental health problems is not limited to a particular age or gender group.

Overall, the prevalence of problems identified in this survey is very similar to those reported in previous international surveys (Verhulst & Koot, 1995). This suggests that the prevalence rates determined by the survey are a true reflection of the extent of problems in the community and not an artifact of the survey methodology. The prevalence of mental health problems, however, is lower than that reported in the *Western Australian Child Health Survey* (Zubrick et al., 1995). The reason for this difference is that parent-reported and adolescent-reported mental health problems are described separately in the present survey, whereas results reported in the Western Australian survey were based on the combined reports of parents and teachers. When the prevalence of parent-reported and adolescent-reported problems in each survey was compared, the results were very similar.

Several demographic characteristics were found to have a strong association with mental health problems. Generally, there was a higher proportion of mental health problems among those living in step/blended or sole parent families, those living in lower income households and those living with parents who were not in paid employment. It is important to note, however, that this survey cannot determine whether the demographic characteristics of children and adolescents *cause* their mental health problems. For example, there are several possible explanations for the relationship between low income and mental health problems. Although children might experience problems as a result of deficient family resources, it is also possible that their problems make it difficult for parents to retain well-paid employment. Alternatively, it could be that another independent factor, such as parental ill health, is responsible for both low family income and the children's mental health problems. To obtain a better understanding of these issues it is necessary to follow the development of children and adolescents over time.

The results of the present survey draw attention to demographic groups where the prevalence of mental health problems is high. It is important that further studies be conducted to understand why the prevalence of problems is high in these groups and what can be done to provide help and to prevent the future onset of problems.

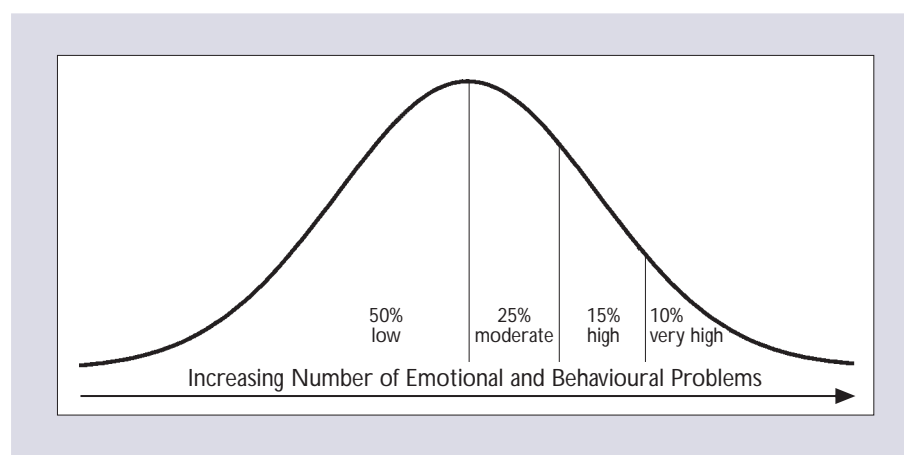
4 Health-related quality of life

The survey used the concept of health-related quality of life (HRQL) to assess the degree of disability associated with child and adolescent mental health problems. This concept employs people's subjective evaluations of their own physical, psychological and social functioning rather than assessments by clinicians or assessments based on biomedical parameters. For children, assessments of HRQL were based on reports from parents. For adolescents, assessments were based on reports from both parents and the adolescents themselves.

The assessment of the HRQL of children and adolescents was derived from the Child Health Questionnaire (CHQ) (Landgraf et al., 1996), which was completed by the parents of children and adolescents aged 6 to 17 years. The questionnaire assesses three broad aspects of the lives of children and adolescents: (i) child or adolescent HRQL, including physical activities, pain and discomfort, limitations in peer and school activities, and self-esteem; (ii) family functioning, including family activities and family cohesion; and (iii) parental HRQL, including perceived loss of time for personal needs and parental concern or worry about children's or adolescents' problems. On each of the scales that comprise these three domains, scores range from 0 to 100, with lower scores indicating a less favourable quality of life. Full details of the individual scales and the meaning of high and low scores are provided in Appendix B.

For the purpose of presenting results in this section, children and adolescents were grouped into one of four problem levels on the basis of their score on the *Total Problems* scale of the Child Behaviour Checklist. These classified children and adolescents as having *low*, *moderate*, *high* or *very high* levels of emotional and behavioural problems (Figure 4.1). Those who scored in the lowest 50% of the range of scores reported on the *Total Problems* scale were defined as having a *low level* of problems; those in the 50–75% range were defined as having a *moderate level* of problems; those in the 75–90% range were defined as having a *high level* of problems; and those who scored in the top 10% of the scoring range were defined as having a *very high level* of problems.

Figure 4.1 Problem level categories for children and adolescents as rated on the Total Problems Scale of the Child Behaviour Checklist

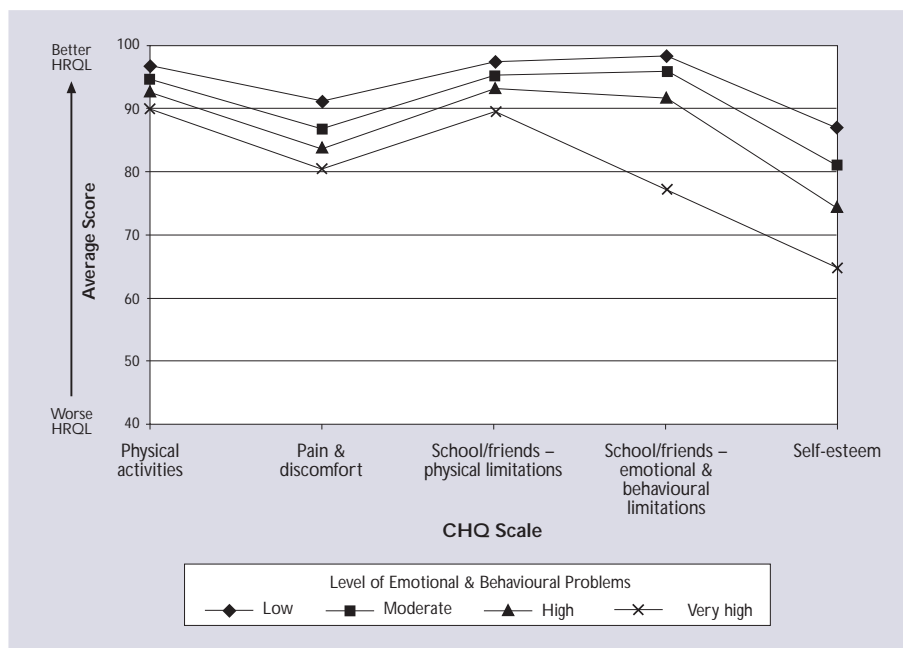


The relationship between scores on the CHQ and the number of emotional and behavioural problems experienced by children and adolescents is shown in Figures 4.2 to 4.4. Each figure consists of a line graph or bar chart that shows the average score on each CHQ scale for children and adolescents in each of the four problem levels.

The health-related quality of life of children and adolescents

Children and adolescents with more emotional and behavioural problems tend to have a lower HRQL score than those with fewer problems (Figure 4.2). The differences between those with different levels of problems were smaller in areas more relevant to physical health (e.g., physical activities, pain and discomfort, and limitations in school work or activities with friends due to physical health). However, children and adolescents with more emotional and behavioural problems had substantially worse self-esteem and greater limitations in school and peer activities related to emotional and behavioural problems than did children with fewer problems (Figure 4.2).

Figure 4.2 Health-related quality of life of children and adolescents



Children and adolescents with more emotional and behavioural problems lived in less cohesive families and were perceived by their parents to have a larger impact on family activities than those with fewer problems (Figure 4.3). Parents of young people with more problems were more concerned and worried about the health of their children or adolescents than were the parents of those with fewer problems (Figure 4.4). In addition, parents of children and adolescents with more problems experienced greater limitation in the time available for their personal needs than did the parents of those with fewer problems.

Figure 4.3 Family functioning of children and adolescents

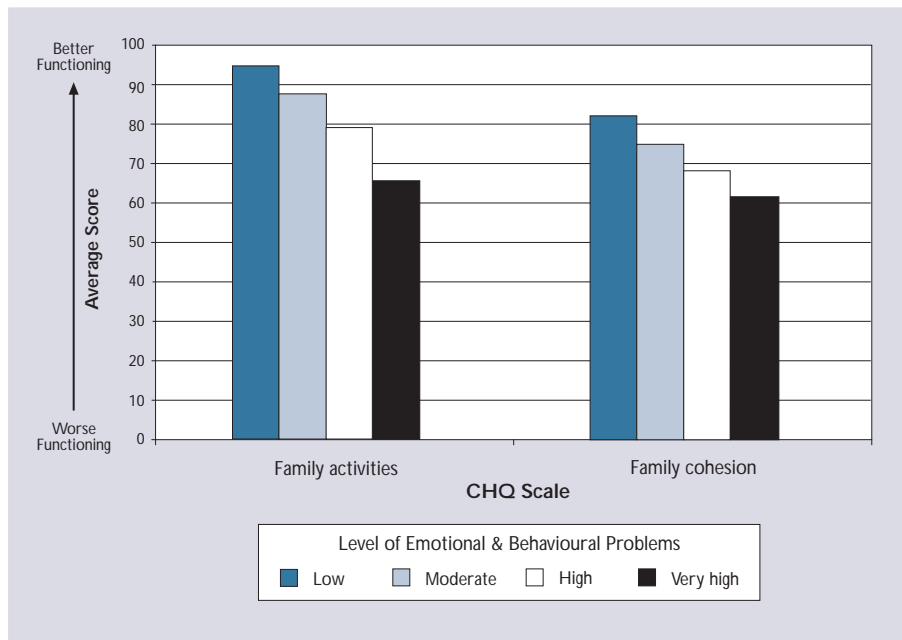
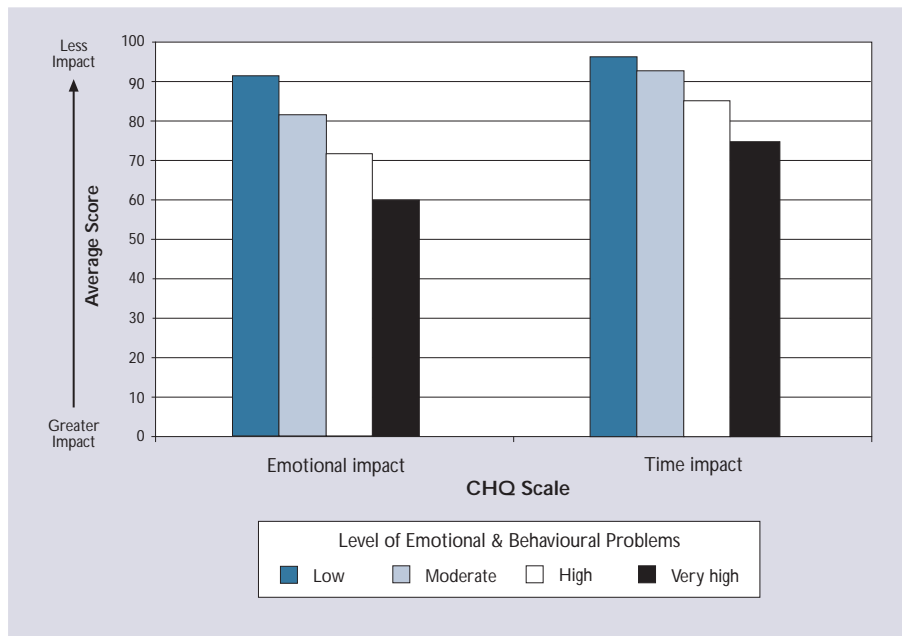


Figure 4.4 Perceived impact of child and adolescent mental health problems on parents



Summary

The results in this chapter address the third question of the survey: What is the degree of disability associated with mental health problems? There were two key findings. First, children and adolescents with more emotional and behavioural problems had more difficulties than their peers in many other areas of their lives. For example, they had lower self-esteem and experienced more difficulty in peer and school activities. Parents believed that the problems of these children impeded family activities and reduced the time that the parents had for their personal needs.

Second, it appears that other difficulties were not restricted to children and adolescents with the highest level of problems. Rather, as children and adolescents experience an increasing number of emotional and behavioural problems, they also experience increasing difficulties in several other areas. It appears that there is no natural point at which children and adolescents with lower levels of emotional and behavioural problems cease to have difficulties in other areas. Instead, as the number of problems increases, so does the frequency of difficulties in other areas. We know little about the longer-term adjustment of children and adolescents with mental health problems who have varying levels of difficulties in these other areas. This information is essential to identify which children and adolescents are in greatest need of help for their problems.

Professionals need to be aware of the broad range of difficulties experienced by children and adolescents with mental health problems and of the needs that many of them have for help in other areas of their lives. In this survey, we cannot determine whether mental health problems cause these other difficulties or whether the opposite is true. For example, while it is possible that mental health problems reduce family cohesion, it is equally possible that lack of family cohesion gives rise to mental health problems. Regardless, the results highlight the importance of providing broadly-based help for those with mental health problems, including help for parents and families. The cooperation of the health, education and family welfare sectors will be essential to address these issues.

5 Depressive disorder, conduct disorder and attention-deficit/hyperactivity disorder

This chapter reports the prevalence of three mental disorders using the diagnostic framework commonly employed in health services. Parents of children and adolescents aged 6–17 years were administered the Diagnostic Interview Schedule for Children (Version IV) (Shaffer et al., 2000) to identify the prevalence of: (i) Depressive Disorder, (ii) Conduct Disorder, and (iii) Attention-Deficit/Hyperactivity Disorder (ADHD). The Diagnostic Interview Schedule uses the criteria described in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition, to identify these disorders (American Psychiatric Association, 1994). A brief description of each disorder is shown in Table 5.1.

Table 5.1 Definition of Depressive Disorder, Conduct Disorder and Attention-Deficit/Hyperactivity Disorder

Depressive Disorder

Children with depressive disorders feel sad, lack interest in activities they previously enjoyed, criticise themselves, and are pessimistic or hopeless about the future. Thinking that life is not worth living, they may contemplate suicide. They may also be irritable and aggressive. They may be indecisive, and have problems concentrating. They tend to lack energy and to have problems sleeping. Major Depressive Disorder is a serious condition characterised by one or more major episodes of depression. A major depressive episode occurs when a child experiences symptoms of depression most of the day, nearly every day, for at least two consecutive weeks. Children with Dysthymic Disorder have less severe symptoms, but their symptoms last for at least a year.

Conduct Disorder

Children or adolescents with Conduct Disorder exhibit antisocial behaviour in the following areas: (i) aggression to people or animals, (ii) destruction of property, (iii) deceitfulness or theft, and (iv) serious violations of rules. The typical behaviour of those with Conduct Disorder involves bullying, frequent physical fights, deliberate destruction of other people's property, breaking into houses or cars, staying out late at night despite parental prohibitions, running away from home, or frequent truancy from school. To meet DSM-IV criteria for Conduct Disorder, children and adolescents must exhibit three or more of these behaviours during the past 12 months, with at least one behaviour being present during the previous 6 months.

Attention-Deficit/Hyperactivity Disorder (ADHD)

ADHD is defined as a persistent pattern of inattentive behaviour and/or hyperactivity-impulsivity that is more frequent and severe than is typically observed in individuals of the same developmental level. Children and adolescents with inattentive behaviour problems make careless mistakes with school work, find it hard to persist with tasks and are easily distracted. Those with problems in the area of hyperactivity/impulsivity often fidget and talk excessively, interrupt others, and are constantly 'on the go'. There are three subtypes of ADHD based on the predominant symptom pattern for the past 6 months. Children and adolescents with symptoms of both inattentiveness and hyperactivity-impulsivity are diagnosed with ADHD, Combined Type; those with primarily inattentive symptoms are diagnosed with ADHD, Predominantly Inattentive Type; and those with primarily hyperactivity-impulsivity symptoms are diagnosed with ADHD, Predominantly Hyperactive-Impulsivity Type.

Note. The descriptions in this table are based on the definitions for the disorders in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (American Psychiatric Association, 1994).

The use of the Diagnostic Interview Schedule for parents to identify three mental disorders may have influenced our prevalence estimates in two ways. First, because parents may not always recognise subjective distress experienced by children and adolescents, it is possible that a higher prevalence of Depressive Disorder may have been identified if interviews had been conducted with the young people themselves. Second, it is possible that some children or adolescents identified as having ADHD may have been more appropriately diagnosed with another disorder not included in the survey. It should also be noted that few children and adolescents were identified with Dysthymic Disorder. For that reason, Dysthymic Disorder and Major Depressive Disorder have been combined in the presentation of results.

Prevalence of mental disorders

Table 5.2 shows the prevalence of the three disorders. The most common disorder was ADHD, which had a prevalence of 11.2%. Within this group, 5.8% had the Inattentive Subtype of ADHD, 2.0% the Hyperactive-Impulsive Subtype and 3.3% the Combined Subtype. The prevalence of Depressive Disorder was 3.7% and that of Conduct Disorder was 3.0% (Table 5.2). Males had a higher prevalence of ADHD and Conduct Disorder than did females (Table 5.2). There was relatively little difference in the prevalence of Depressive Disorder between males and females in either the younger or older groups (Table 5.3).

Table 5.2 Prevalence (%) of mental disorder

Disorder	All Children & Adolescents		Male		Female	
	%	Population Estimate ^a	%	Population Estimate	%	Population Estimate
Depressive Disorder	3.7	117,000	4.2	68,000	3.2	49,000
Conduct Disorder	3.0	95,000	4.4	71,000	1.6	24,000
ADHD	11.2	355,600	15.4	250,000	6.8	105,000

^a estimated number of children and adolescents with a mental health problem in Australia.

Table 5.3 Prevalence (%) of mental disorder by age and gender

Disorder	6–12 years		13–17 years	
	Male	Female	Male	Female
Depressive Disorder	3.7	2.1	4.8	4.9
Conduct Disorder	4.8	1.9	3.8	1.0
ADHD	19.3	8.8	10.0	3.8

Note. The impairment criteria required by DSM.IV could not be incorporated into the criteria for a diagnosis used in the survey. It is also possible that for some children their symptoms may have been better accounted for by another mental disorder that was not assessed in the survey.

Relationships between mental disorders and demographic characteristics

With the exception of females with Conduct Disorder, there was a consistent tendency for mental disorders to be more prevalent in step/blended and sole parent families (Table 5.4) and in families with the lowest incomes (Table 5.5). There was also a general tendency for disorders to be more common in children and adolescents living with parents not in paid employment (Table 5.6), a relationship that is consistent with the results reported in Chapter 3. Finally, there was a higher prevalence of Conduct Disorder among males living in non-metropolitan regions than in those living in metropolitan regions (Table 5.7).

Table 5.4 Prevalence (%) of mental disorder by family type

<i>Disorder</i>	<i>Family Type</i>		
	<i>Original</i>	<i>Step/Blended</i>	<i>Sole</i>
Males			
Depressive Disorder	3.2	6.6	6.1
Conduct Disorder	3.0	9.4	7.3
ADHD	13.2	21.6	20.6
Females			
Depressive Disorder	2.0	5.1	8.7
Conduct Disorder	1.3	3.1	1.6
ADHD	5.6	11.8	9.6

Table 5.5 Prevalence (%) of mental disorder by weekly household income

<i>Disorder</i>	<i>Weekly Income</i>		
	<i>Less than \$580</i>	<i>\$580–\$1030</i>	<i>Greater than \$1030</i>
Males			
Depressive Disorder	6.5	3.9	2.7
Conduct Disorder	6.9	4.2	2.4
ADHD	19.8	16.2	11.8
Females			
Depressive Disorder	9.0	6.0	6.2
Conduct Disorder	1.6	2.3	1.1
ADHD	5.9	1.4	2.2

Table 5.6 Prevalence (%) of mental disorder by parental labour force status

<i>Labour Force Status</i>	<i>Disorder</i>		
	<i>Depressive Disorder</i>	<i>Conduct Disorder</i>	<i>ADHD</i>
Two Parent Households			
Males			
Both employed	1.9	1.5	12.2
One employed, one not in paid employment	4.6	5.3	14.3
Both not in paid employment	4.3	7.2	18.2
Females			
Both employed	1.6	1.6	5.5
One employed, one not in paid employment	2.5	1.1	6.6
Both not in paid employment	3.1	3.2	12.9
Sole Parent Households			
Males			
Employed	8.8	6.0	17.9
Not in paid employment	4.5	8.8	23.8
Females			
Employed	6.3	0.8	7.2
Not in paid employment	10.9	2.5	11.9

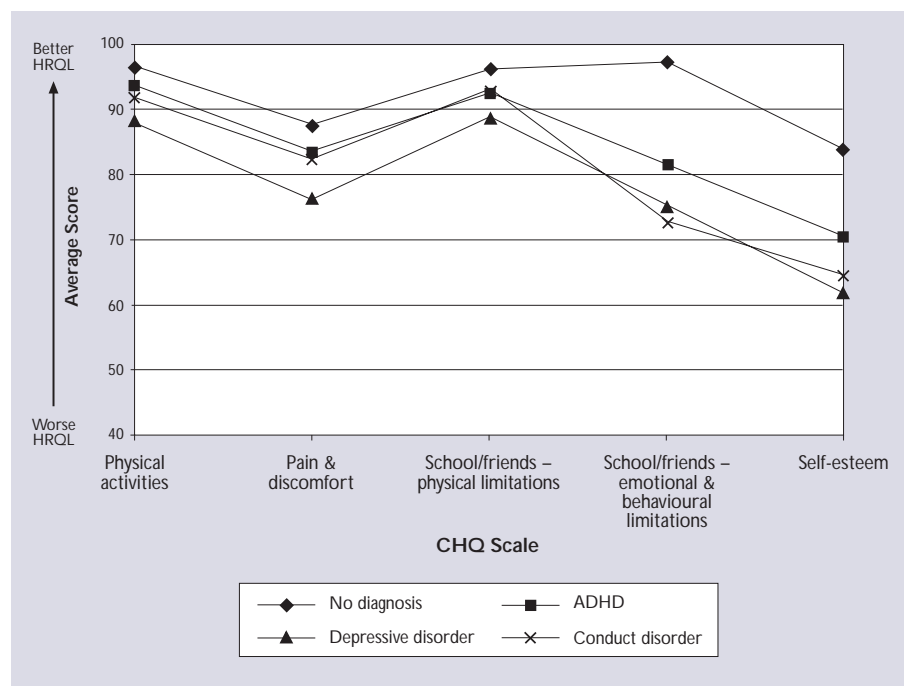
Table 5.7 Prevalence (%) of mental disorder by region

<i>Disorder</i>	<i>Metropolitan</i>		<i>Non-Metropolitan</i>	
	<i>Males</i>	<i>Females</i>	<i>Males</i>	<i>Females</i>
Depressive Disorder	3.9	3.8	4.6	2.4
Conduct Disorder	3.6	1.8	5.6	1.2
ADHD	14.7	7.1	16.5	6.2

Relationships between mental disorders and health-related quality of life

Parents reported that children and adolescents with Depressive Disorder, Conduct Disorder or ADHD had a lower quality of life in all domains than those without such a disorder (Figure 5.1). This pattern was most pronounced in the areas of self-esteem and limitations in peer and school activities related to emotional and behavioural problems. In both these areas, children and adolescents with Depressive Disorder or Conduct Disorder were functioning less well than were those with ADHD.

Figure 5.1 Health-related quality of life of children and adolescents with a mental disorder



Children and adolescents with a mental disorder lived in less cohesive families and were perceived by parents to have a larger impact on family activities than those without a disorder (Figure 5.2). In both these areas, the relationship was strongest for Conduct Disorder. Parents of children and adolescents with a mental disorder reported a higher level of concern and worry about the health and behaviour of their child or adolescent than did the parents of those without a disorder (Figure 5.3). They also reported more limitation in the time available for their personal needs than did the parents of those without a disorder.

It should be noted that the scores for children and adolescents identified as having ‘no diagnosis’ in Figures 5.1 to 5.3 refer to those who did not have any of the disorders assessed in the survey. However, it is likely that some of these children and adolescents did have other mental disorders (e.g., Anxiety Disorders). If these individuals were excluded from the comparison, it is probable that a larger difference would have been found between the quality of life of children and adolescents with no mental disorder and those with one of the mental disorders assessed in this survey.

Figure 5.2 Family functioning of children and adolescents with a mental disorder

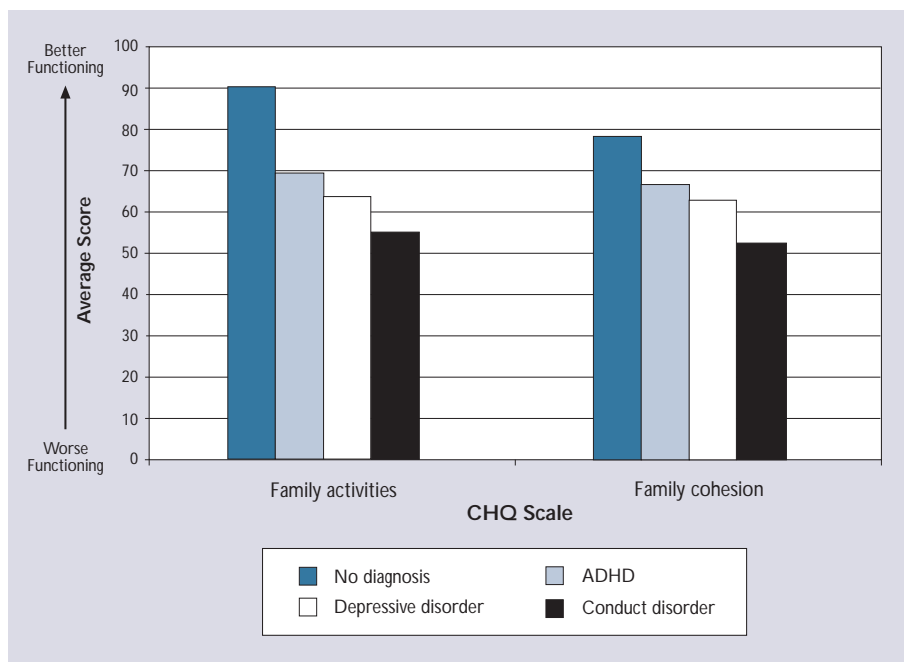
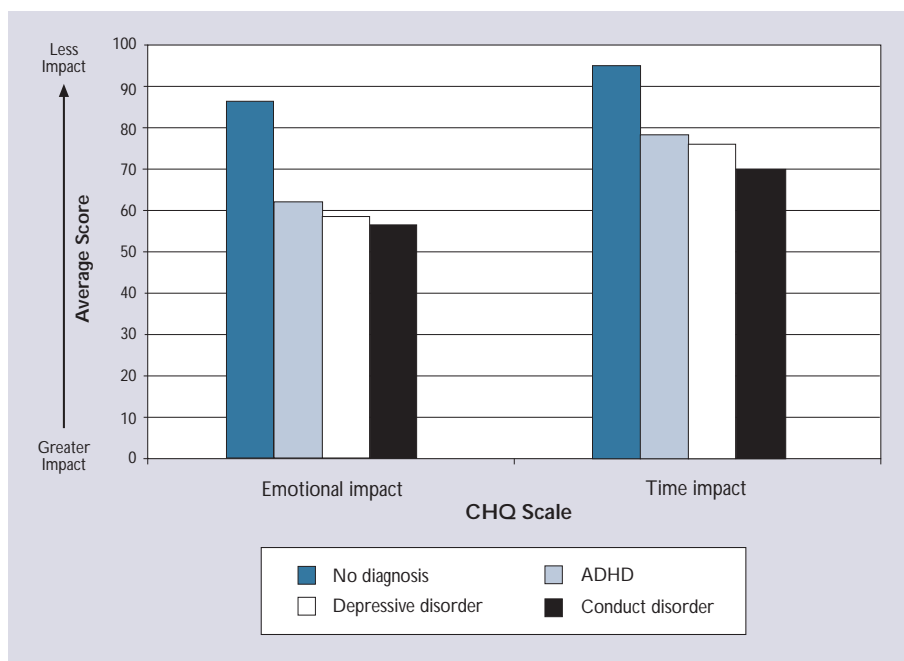


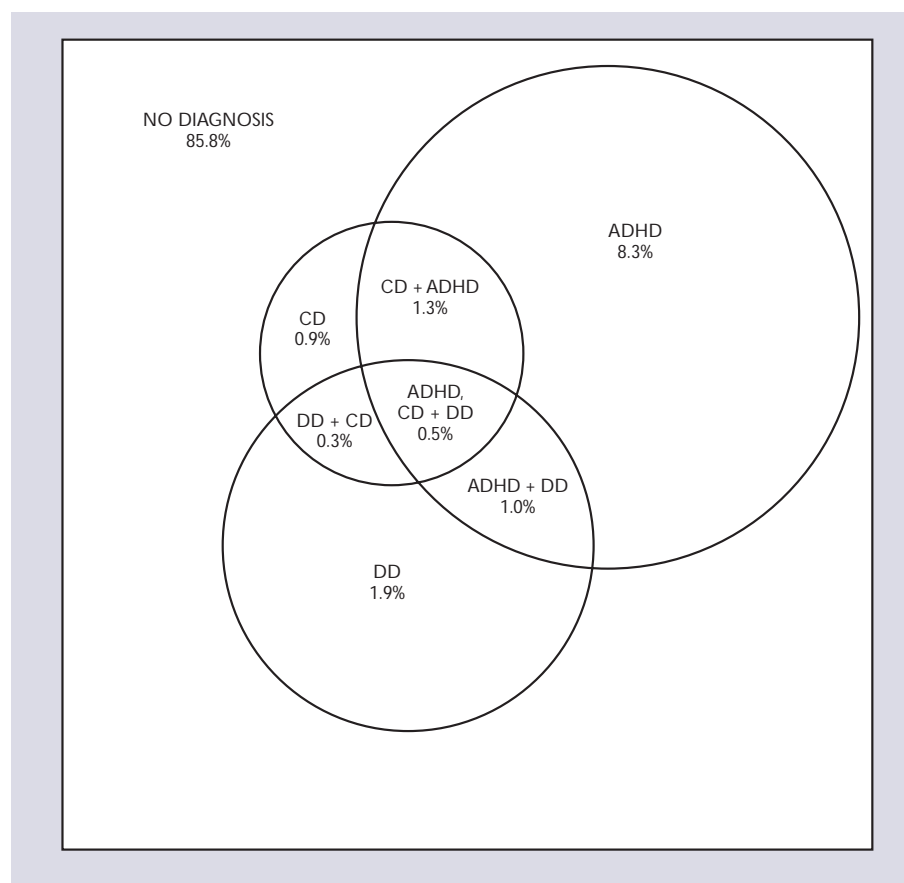
Figure 5.3 Perceived impact on parents of child and adolescent mental disorders



Comorbidity

The presence of more than one mental disorder is described as ‘comorbidity’. Figure 5-4 shows the level of comorbidity between disorders. Approximately 23 % of all children and adolescents with one of the three disorders identified in the survey also had symptoms that met the criteria for a second disorder. Overall, males had a higher rate of comorbidity (27%) than females (15%). Less than 1% of children and adolescents met the criteria for all three disorders.

Figure 5.4 Comorbidity of children with Attention-Deficit/Hyperactivity Disorder (ADHD), Conduct Disorder (CD) and Depressive Disorder (DD)



Summary

In general, the results reported in this chapter are consistent with those reported in Chapter 3. There are several findings of importance. Males in the older and younger groups had a higher prevalence of Conduct Disorder and Attention-Deficit/Hyperactivity Disorder than did females in the same age groups. This pattern is consistent with results reported in several previous studies (Costello et al., 1996; McDermott, 1996). A somewhat surprising result, however, was the relatively small difference between the prevalence of Depressive Disorder in male and female adolescents. A possible explanation for this finding is the focus of the present survey on younger adolescents. Finally, the results from the survey draw attention to the high prevalence of Attention-Deficit/Hyperactivity Disorder among males aged 6 to 12 years.

How should the high prevalence of ADHD identified in this survey be interpreted? We suggest that the high prevalence be viewed with caution because two of the formal criteria identified in the *Diagnostic and Statistical Manual*, 4th edition (American Psychiatric Association, 1994) could not be incorporated into the assessment of children and adolescents. First, the assessment interview could not determine whether those identified with ADHD met the criteria of having clinically significant impairment in their social, academic or occupational functioning. Second, because the survey focussed on only three disorders it is possible that some of those identified as having ADHD had symptoms which would be better accounted for by another disorder not included in the survey. However, while it seems likely that some reduction in the prevalence estimates for ADHD would have occurred if these criteria had been included, it also seems unlikely that the young people identified with ADHD in the survey were free of problems. Further studies that assess the full range of mental disorders, together with their impact on child and adolescent functioning are needed to more accurately address this issue.

Several demographic characteristics of children and adolescents had an association with child and adolescent mental disorders, much as they did for the mental health problems reported in Chapter 3. However, the analyses that examine the prevalence of mental disorders in different demographic groups suggest that the pattern of associations may differ for some disorders experienced by males and females. For example, males living in step/blended families had a higher prevalence of Conduct Disorder than those living in their original families, while females did not show this pattern. These results draw attention to demographic groups in which children and adolescents appear to be at particular risk for mental disorders. The provision of help to these groups should be a priority in programs that aim to reduce the prevalence of child and adolescent mental disorders in the community.

An important finding the extent to which children and adolescents have more than one mental disorder (i.e., comorbidity). The majority of males with Conduct Disorder, for example, also meet the criteria for Attention-Deficit/Hyperactivity Disorder or for Depressive Disorder. These findings highlight the limitation of using a purely categorical approach to describe child and adolescent mental health problems. Furthermore, as noted by Andrews, Henderson, and Hall (2000), most clinical practice guidelines deal with the management of people who have single disorders, whereas in reality many children and adolescents have problems in several different areas. There is a need for clinical guidelines to take more account of this common pattern of problems among young people.

6 Service utilisation

The survey attempted to answer two questions about service utilisation by children and adolescents with mental health problems in Australia. These questions were:

- Are the needs of children and adolescents with mental health problems being met?
- What barriers influence service use by children and adolescents?

Service use by children and adolescents is affected by factors that are different from those that affect adults. For example, children rarely seek help for themselves. Instead, parents or teachers commonly decide that a child should be referred for help. As a result, the attitude of these adults and their perceptions of children's problems have a substantial influence on whether or not children receive help. This pattern changes as children move into adolescence and take increasing responsibility for their own health care. Thus, it is necessary to have information about both adolescent and parental attitudes if service use by adolescents is to be understood.

Previous surveys have found that only a small proportion of children and adolescents with mental health problems attend specialised services to get help for their problems. It is unclear why this should be so. It is possible that sufficient services may not be available, or that parents are unaware of them if they are available. Alternatively, parents may feel that services are too expensive. A better understanding of the factors that influence service use is important if children and adolescents are to get help when it is needed.

In this chapter, service use is described for the following three groups:

- (i) those who scored in the clinical range on the *Total Problems* scale of the Child Behaviour Checklist;
- (ii) those who met the criteria for one of the three mental disorders assessed in the survey; and
- (iii) those whose parents reported that they needed professional help for emotional or behavioural problems.

Each of these three groups reflects a different approach to identifying children and adolescents in need of help for mental health problems. The first approach focuses on children and adolescents who are reported to have a large number of emotional and behavioural problems. It assumes that children or adolescents need professional help if they have a similar number of emotional and behavioural problems as those already attending services. The second approach is based on a clinical diagnosis of a mental disorder. This approach assumes that if children or adolescents have symptoms that meet criteria for a mental disorder, they are in need of help from professional services. The final approach is based on parents' perceptions that their children or adolescents need professional help for mental health problems. Inclusion of this latter group is important because not all of the parents of children and adolescents in the first two groups believe that professional help is needed.

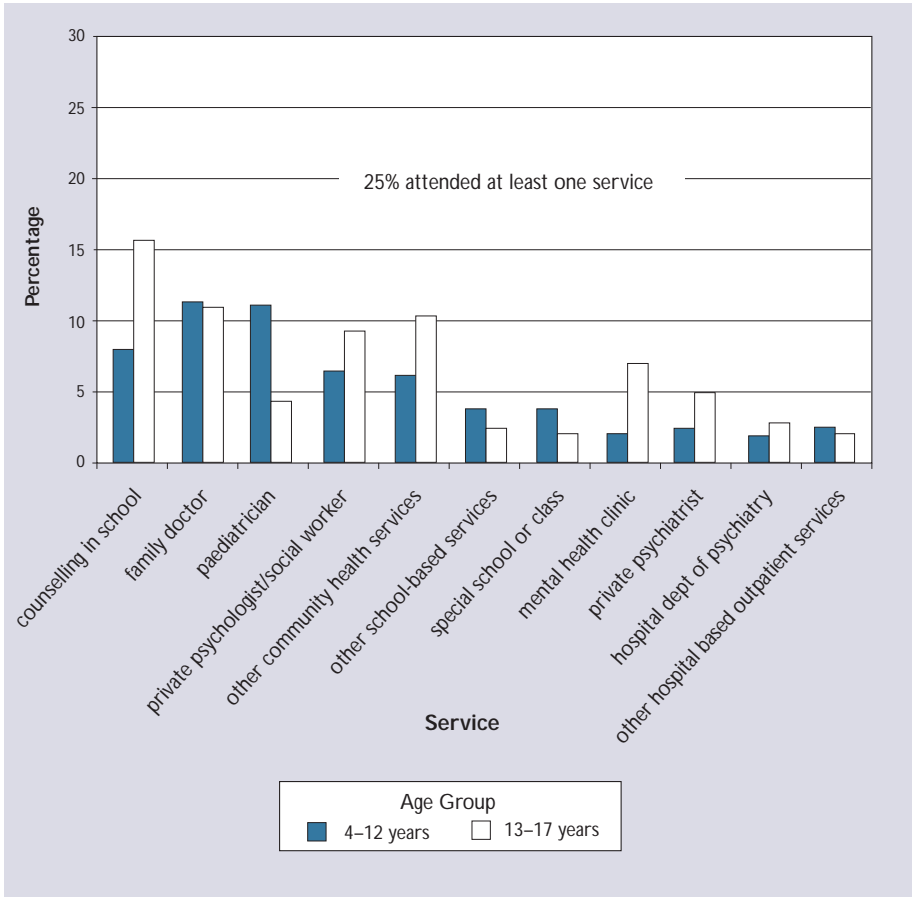
The percentage of children and adolescents using services who met all three criteria simultaneously is also provided as an indication of the proportion of children and adolescents with severe mental disorders who received help.

Service use by children and adolescents

(i) Children and adolescents with mental health problems

The percentage of children and adolescents who scored in the clinical range of the *Total Problems* scale on the Child Behaviour Checklist and who attended one or more services for help with emotional and behavioural problems during the last six months is shown in Figure 6.1. Overall, only 25% of these children and adolescents had attended one or more services. Most commonly the services were provided by family doctors, school-based counsellors and paediatricians.

Figure 6.1 Percentage of 4–12 and 13–17 year olds scoring in the clinical range of the child behaviour checklist attending each service

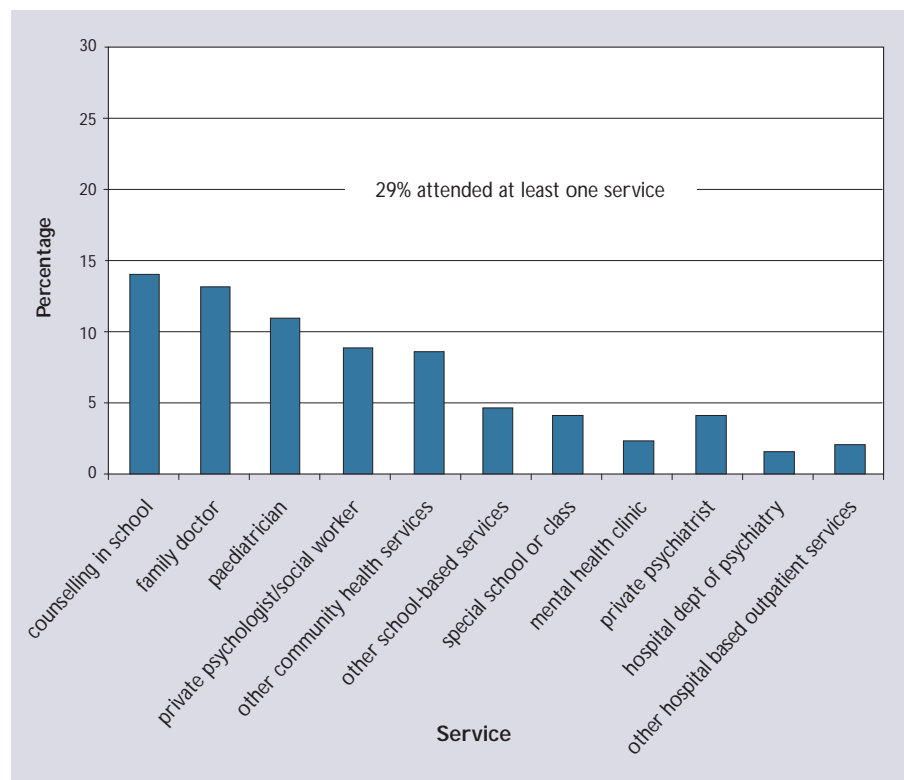


Those in different age groups appeared to access somewhat different services. For example, 4–12-year-old children with mental health problems most frequently attended paediatricians and family doctors. In contrast, school-based counselling was the service most frequently used by adolescents.

(ii) Children and adolescents with mental disorders

Figure 6.2 shows the percentage of children and adolescents with one of the three mental disorders who attended each service during the six months prior to the survey. Overall, 29% of children and adolescents with a mental disorder attended at least one service to get help during this period. The services most commonly used were counselling in schools, family doctors and paediatricians. Only 3% of the children and adolescents with a mental disorder had attended a mental health clinic, while only 2% had attended a hospital-based department of psychiatry.

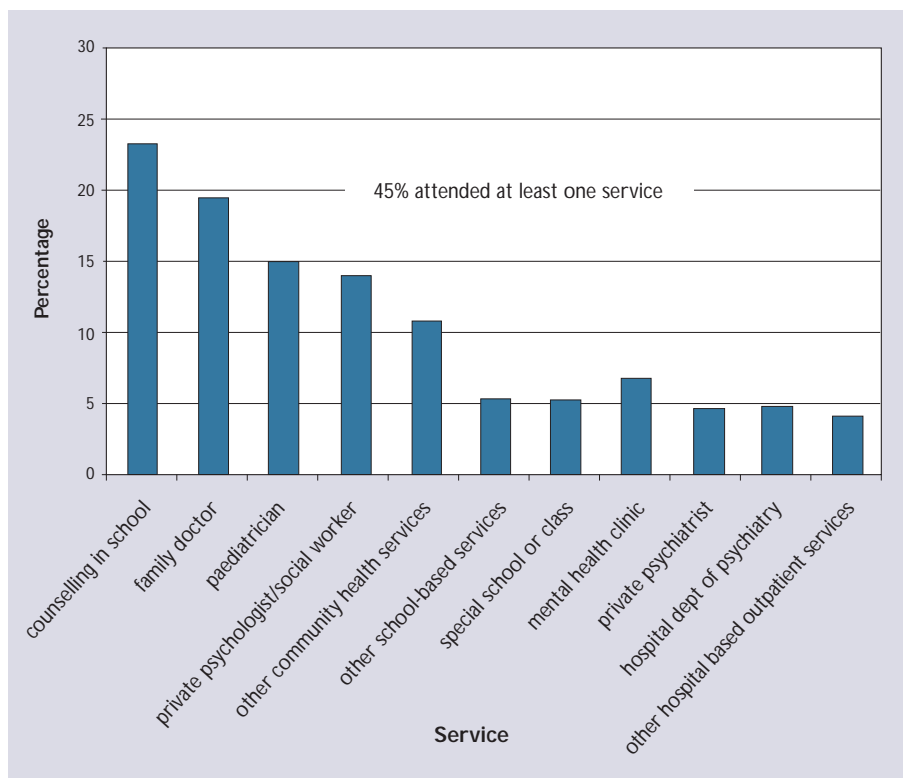
Figure 6.2 Percentage of children and adolescents with a mental disorder attending each service



(iii) Children and adolescents reported by parents to need professional help

The percentage of children and adolescents whose parents reported that their child or adolescent needed professional help and who had attended a service in the previous six months is shown in Figure 6.3. Altogether, 45% of these children and adolescents had attended a service during the previous six months. The pattern of services used was very similar to that reported by parents of those with mental health problems and mental disorders.

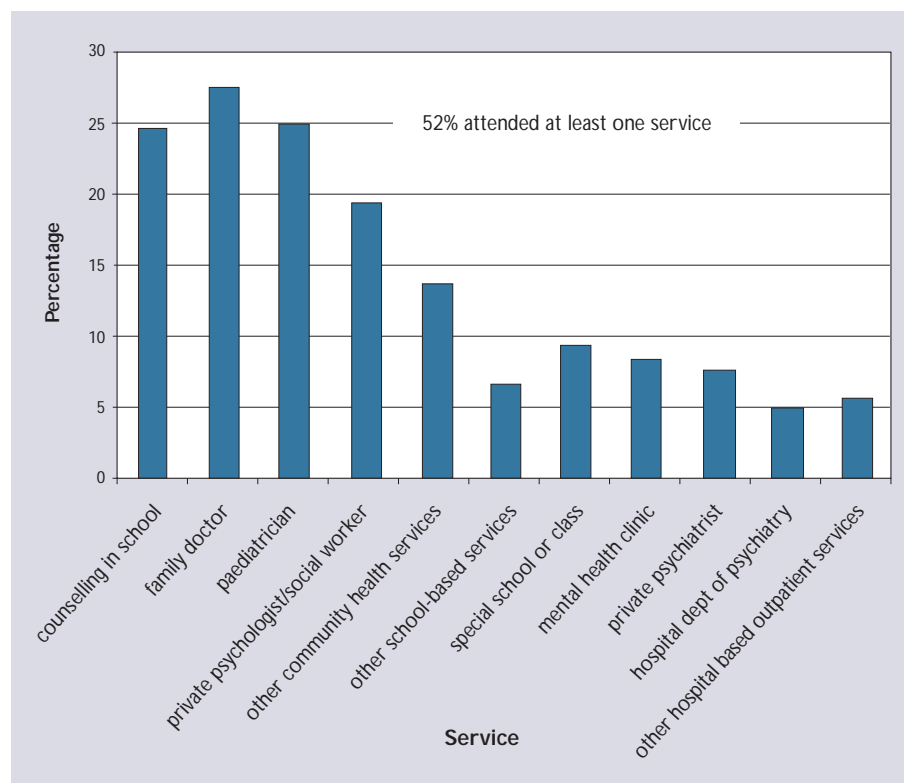
Figure 6.3 Percentage of children and adolescents whose parents reported that their child/adolescent needed professional help for an emotional or behavioural problem, attending each service



(iv) Children and adolescents who met all three criteria defining a need for help

The percentage of children and adolescents attending services who had a mental disorder *and* who scored in the clinical range on the Child Behaviour Checklist *and* whose parents reported that they needed professional help is shown in Figure 6.4. This group represents children and adolescents who met all three criteria used to identify a need for services. Overall, only half this group had attended a service to get help with their problems. Of these, approximately 50% had attended a family doctor, a paediatrician or had received counselling at school. Only 17% of these young people had attended a psychiatrist, mental health clinic or hospital-based department of psychiatry.

Figure 6.4 Percentage of children and adolescents with a mental disorder and a score in the clinical range on the child behaviour checklist and a parent report that the child/adolescent needed professional help, attending each service



The level of emotional and behavioural problems among children and adolescents attending different services

Table 6.1 shows the level of emotional and behavioural problems experienced by children and adolescents attending different service types. Seventy-five percent of those attending specialised mental health services had a very high level of problems, while only 41% of those who received counselling in schools had this level of problems. Approximately 60% of those attending family doctors, paediatricians and private psychologists or social workers had a very high level of problems.

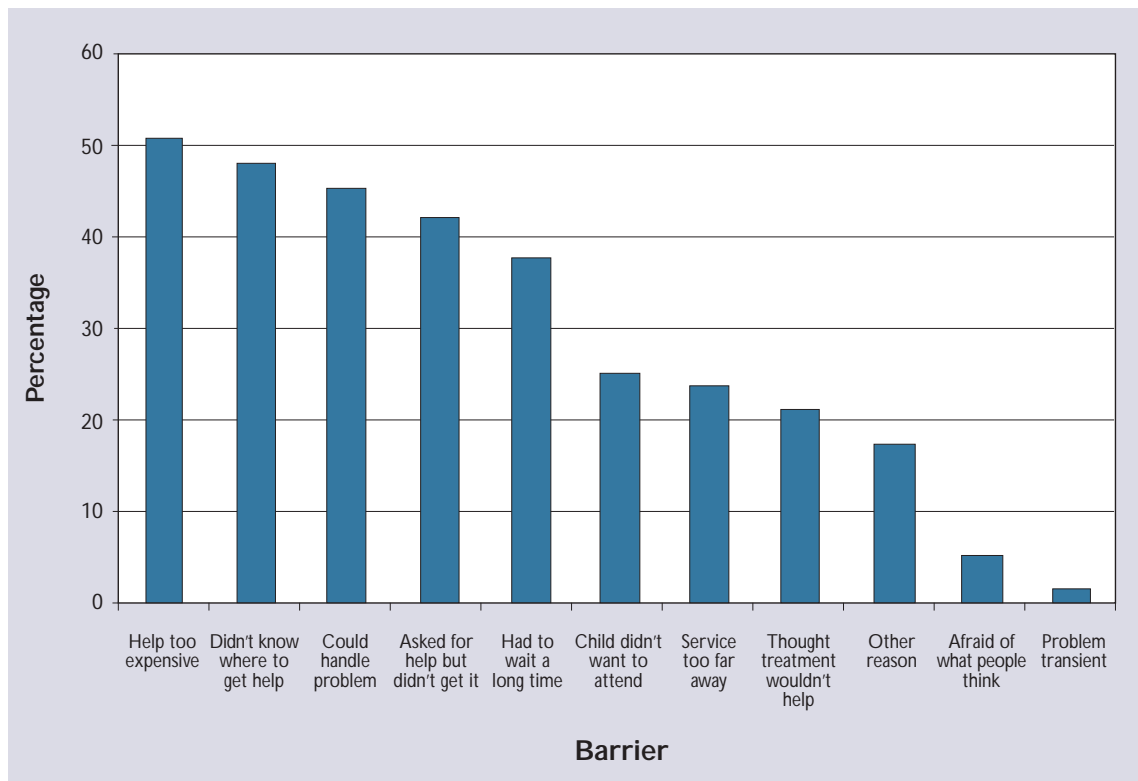
Table 6.1 Percentage of children and adolescents attending each service by level of emotional and behavioural problems

Service	Level of emotional and behavioural problems			
	Very high	High	Moderate	Low
Private Psychiatrist or Mental Health Clinic or Hospital-Based Department of Psychiatry	74.8	11.6	11.1	2.5
Other Hospital-Based Outpatient Service or Other Community Health Services	65.2	23.0	8.6	3.2
Family Doctor	62.9	18.7	13.6	4.7
Private Paediatrician	60.1	24.1	13.2	2.6
Special School or Class	60.0	22.3	17.6	0.0
Private Psychologist/Social Worker	59.8	23.0	9.4	7.8
Other School- or Education-Based Services or Counselling	41.3	28.7	19.4	10.6

Barriers to service use

Figure 6.5 shows the reasons parents gave to explain why children and adolescents who, despite meeting all three criteria for needing help, did not attend a professional service to get help. Parents of children and adolescents who met only one of the criteria gave similar explanations. Approximately 50% of the parents reported that help was too expensive or that they didn't know where to get it. Forty-six percent of parents thought that they could manage the emotional or behavioural problems of their child or adolescent on their own. A slightly smaller percentage reported that they asked for help but didn't get it or had to wait too long for an appointment. Only 6% of parents reported that the stigma of obtaining help ('being afraid of what your family or friends might think') kept them from getting help.

Figure 6.5 Barriers to obtaining help



Summary

Only a minority of children and adolescents with mental health problems receive professional help. Even among those who met all three criteria used to identify a need for help, only half had attended any service during the previous six months and only 17% had attended a mental health service. Parents reported that practical issues such as the cost of attending services, not knowing where to get help, and long waiting lists were the major obstacles to getting help. Concern about the attitude of others was identified as a barrier by only a minority of parents.

Parents identified counselling in schools as one of the services most frequently used by children and adolescents. This finding is consistent with the results of other recent international surveys, and it emphasises the key role school-based services play in providing help for children and adolescents with mental health problems (Verhulst & van der Ende, 1997). For that reason, it is important to ensure that school-based counsellors are properly trained in the assessment and management of young people's mental health problems and that they are closely linked to specialised mental health services.

Family doctors and paediatricians were the other services commonly used by children and adolescents with mental health problems. This study does not include information about the extent to which parents and young people understand the different roles of school-based services, family doctors, paediatricians and specialist mental health services. However, since these are the key services from which help is sought for mental health problems, it is important that they clearly define their roles and that specialist mental health services establish close supportive links with general practitioners, paediatricians and school-based services.

Most children and adolescents attending mental health services have a very high level of problems. However, only a very small proportion of all children and adolescents with problems receive help from specialised mental health services. The findings of this study pose a major challenge for scarce mental health services. It is unlikely that there will ever be enough of these services to provide direct care to all children and adolescents with problems. In the light of this, mental health services should be encouraged to experiment with alternative models of service delivery that combine direct care, consultation to primary health care or school-based services, and both universal and targeted prevention programs. These service models should be carefully evaluated to determine their effectiveness in reducing the prevalence of mental health problems in designated communities and in alleviating the impairment associated with these problems. There is a great need to identify the optimal mix of promotion, prevention, consultation and treatment interventions that can provide cost-effective help for young people and their families in Australia.

7 Adolescent mental health problems, health-related quality of life and health-risk behaviour

This chapter describes what adolescents themselves reported about their mental health problems, health-related quality of life and health-risk behaviour as well as the perceived barriers to services. It was considered important to obtain the views of adolescents directly because there is considerable evidence that their perceptions in these areas differ from those of their parents (Achenbach et al., 1987).

This chapter is divided into four sections. The prevalence of mental health problems reported by adolescents and their health-related quality of life (HRQL) are described in the first two sections. The relationship between mental health problems and adolescent health-risk behaviour is described in the third section. In each of these sections, the definition of mental health problems and the methods used to describe the association between mental health problems, HRQL and health-risk behaviour are the same as those used with the parental reports (see Chapters 3 and 5). For brevity, details of the methodology are not repeated in this chapter. The final section describes the barriers to service use identified by adolescents.

Prevalence of adolescent mental health problems

Nineteen percent of adolescents scored in the clinical range on the *Total Problems* scale of the Youth Self-Report (Table 7.1). On the *Externalising* scale, 23% of females and 17% of males scored in the clinical range. A similar percentage (16%) of males and females scored in the clinical range on the *Internalising* scale. In Table 7.2 it can be seen that 12% of adolescents scored in the clinical range on the *Delinquent Behaviour* scale, 8% on the *Aggressive Behaviour* scale, and 7% on the *Attention Problems* scale. For reasons described in Chapter 3, the comparison between genders was repeated using average scores. This comparison showed that the typical number of externalising problems reported by males varied little from that reported by females; however, females were more likely to report internalising problems (see Tables A.3 & A.4 in Appendix A).

In some areas the proportion of adolescents scoring in the clinical range varied from that identified by parents. For example, when information was obtained from adolescents rather than parents, substantially more scored in the clinical range on the *Delinquent Behaviour* scale (12% versus 6%) and on the *Anxious/Depressed* scale (7% versus 4%). These differences suggest that adolescents may be more aware of some problems than their parents.

Table 7.1 Prevalence (%) of total problems, externalising problems and internalising problems reported by adolescents (13–17 years)

	<i>Total problems</i>		<i>Externalising problems</i>		<i>Internalising problems</i>	
	%	<i>Population estimate^a</i>	%	<i>Population estimate</i>	%	<i>Population estimate</i>
All adolescents	19.0	251,020	19.7	260,268	16.5	217,991
Males	15.7	106,265	16.8	113,710	16.3	110,326
Females	22.4	144,326	22.6	145,615	16.6	106,956

^a estimated number of adolescents with a mental health problem in Australia.

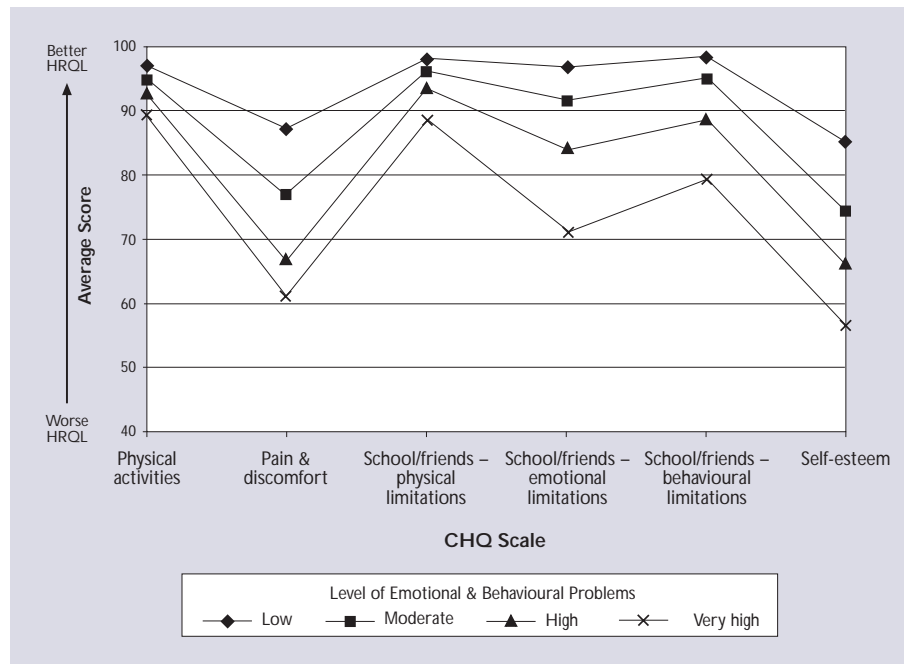
Table 7.2 Prevalence (%) of mental health problems in specific areas reported by adolescents (13–17 years)

<i>Type of Problem</i>	<i>All Adolescents</i>	<i>Males</i>	<i>Females</i>
Delinquent Behaviour	11.9	11.5	12.4
Aggressive Behaviour	7.6	6.2	9.1
Attention Problems	6.9	7.1	6.6
Anxious/Depressed	6.8	6.7	6.8
Somatic Complaints	6.5	6.3	6.6
Social Problems	3.5	3.4	3.5
Thought Problems	3.0	3.3	2.7
Withdrawn	3.0	3.1	2.9

Health-related quality of life

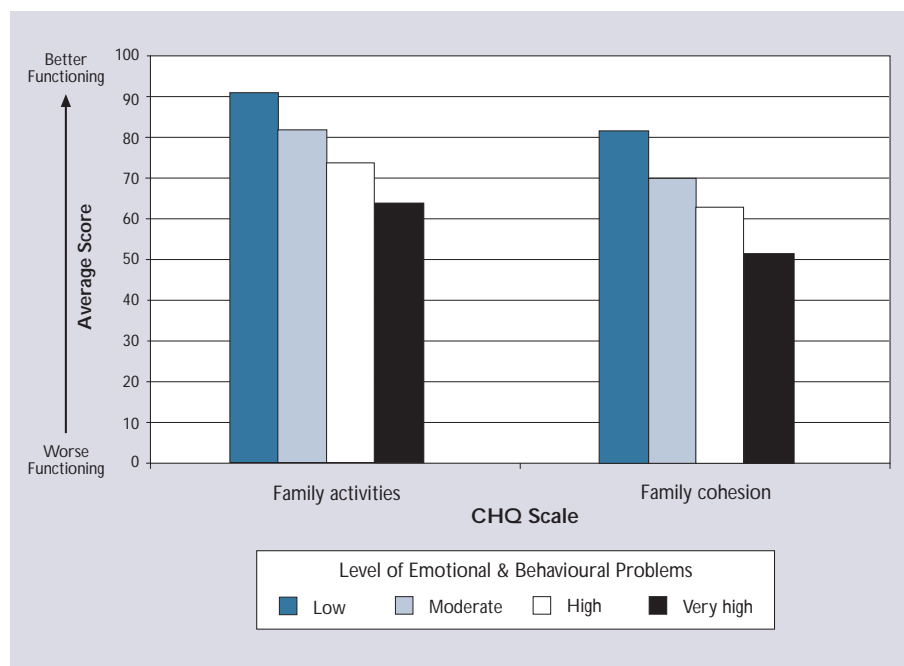
Adolescents who reported more emotional and behavioural problems also reported a less favourable HRQL in several areas of their lives (Figure 7.1). For example, adolescents with more problems reported more pain and discomfort (possibly reflecting more frequent physical health problems - see p. 42), lower self-esteem and greater difficulty with school and peer activities due to emotional and behavioural problems than did adolescents who reported fewer problems.

Figure 7.1 Health-related quality of life of adolescents according to adolescent reports



Adolescents with more emotional and behavioural problems believed that their problems had a greater impact on family activities than did adolescents who reported fewer problems. They also reported living in less cohesive families than did adolescents with fewer problems (Figure 7.2).

Figure 7.2 Family functioning according to adolescent reports



Health-risk behaviour

The Youth Risk Behaviour Questionnaire, which was completed by adolescents participating in the survey, provides information about suicidal ideation and suicidal behaviour, drug use, and behaviour relevant to eating and body weight (Brener et al., 1995). The rates of health-risk behaviour reported by male and female adolescents are shown in Table 7.3. These results are consistent with those of previous studies, which found higher rates of suicidal ideation and behaviour among females. Females also reported much higher rates of behaviour designed to lose or control their weight.

Table 7.3 Prevalence (%) of health-risk behaviour reported by adolescents

<i>Risk behaviour</i>	<i>All adolescents</i>	<i>Males</i>	<i>Females</i>
Suicidal Ideation and Suicidal Behaviour			
Suicidal Ideation	12.0	10.2	13.8
Suicide Plan	8.9	7.4	10.5
Suicide Attempt	4.2	2.7	5.7
Suicide Attempt Requiring Treatment	0.9	1.2	0.5
Smoking, Alcohol and Marijuana Use			
Smoking	23.1	20.8	25.3
Drinking	36.7	34.7	38.7
≥5 Drinks in a Row	20.4	20.1	20.8
Marijuana Use	11.0	11.3	10.8
Dieting and Exercise Behaviour			
Dieting to Control Weight	16.8	7.4	26.1
Exercising to Control Weight	36.2	25.5	46.9
Losing Weight by Vomiting/Laxatives	1.9	0.8	3.0
Losing Weight by Taking Pills	0.6	0.3	0.9
Physical Health Perceptions			
Problems in Last 6 Months	17.5	15.2	19.8
Problems Compared to Peers	7.2	6.3	8.2
Professional Help Needed	7.4	6.4	8.4
Help Received	6.0	5.3	6.7

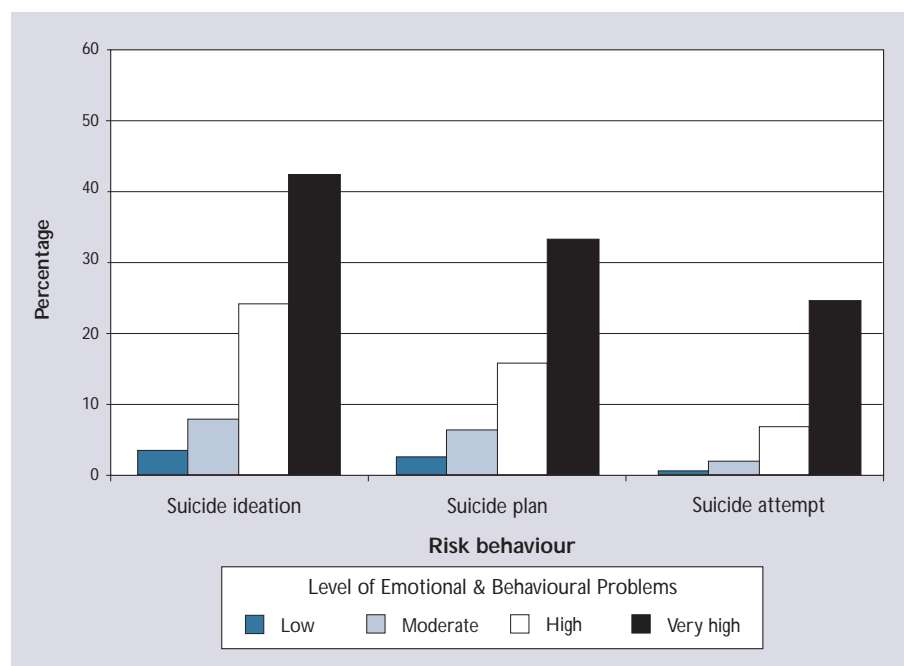
(i) Suicidal ideation and behaviour

Adolescents were asked if, during the past 12 months, they had:

- (i) seriously considered attempting suicide,
- (ii) made a plan to attempt suicide,
- (iii) actually attempted suicide, or
- (iv) made a suicide attempt resulting in an injury, poisoning or overdose that had to be treated by a doctor or nurse.

Adolescents with more emotional and behavioural problems reported substantially more suicidal ideation and behaviour (Figure 7.3). For example, 42% of adolescents with a very high level of problems reported that they had seriously considered suicide; in contrast, only 2% of adolescents with a low level of problems had considered suicide. Similarly, 25% of adolescents with a very high level of emotional and behavioural problems reported making a suicide attempt during the previous 12 months as compared to fewer than 1% of adolescents with a low level of problems. Eleven adolescents (1%) reported that they had made a suicide attempt in the last 12 months that had required medical or nursing attention. All these adolescents reported a high or very high level of emotional and behavioural problems.

Figure 7.3 Suicide ideation and suicidal behaviour



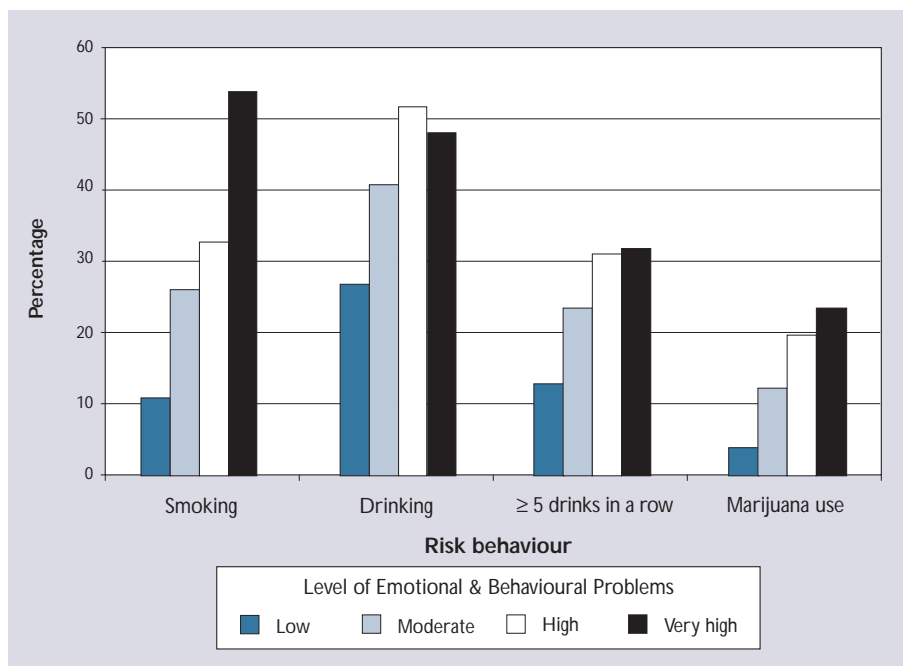
(ii) Drug use

Adolescents were asked about their use during the previous 30 days of:

- (i) cigarettes,
- (ii) alcohol,
- (iii) marijuana, and
- (iv) other drugs such as LSD, amphetamines, heroin and cocaine.

Adolescents with more problems reported smoking cigarettes more frequently than did those with fewer problems (Figure 7.4). For example, 54% of the adolescents who reported a very high level of problems also reported smoking during the previous 30 days, compared to only 11% of adolescents with a low level of problems. A similar pattern was evident with alcohol use, although the difference between adolescents with low and high levels of problems was smaller than it was with smoking. Finally, adolescents with more problems reported using marijuana more often than did adolescents with fewer problems.

Figure 7.4 Smoking, alcohol use and marijuana use



Adolescents also reported using a range of other drugs over their lifetimes. These included inhalants (9%), pain killers for non-medical purposes (8%), prescription drugs for non-medical purposes (4%), hallucinogenics (4%), cocaine (3%), amphetamines (3%), designer drugs (1%) and heroin (1%). Adolescents with a higher level of problems consistently reported more frequent use of these drugs. For example, 23% of the adolescents who reported a very high level of problems also reported using pain killers for non-medical purposes, compared to only 3% of adolescents with a low level of problems.

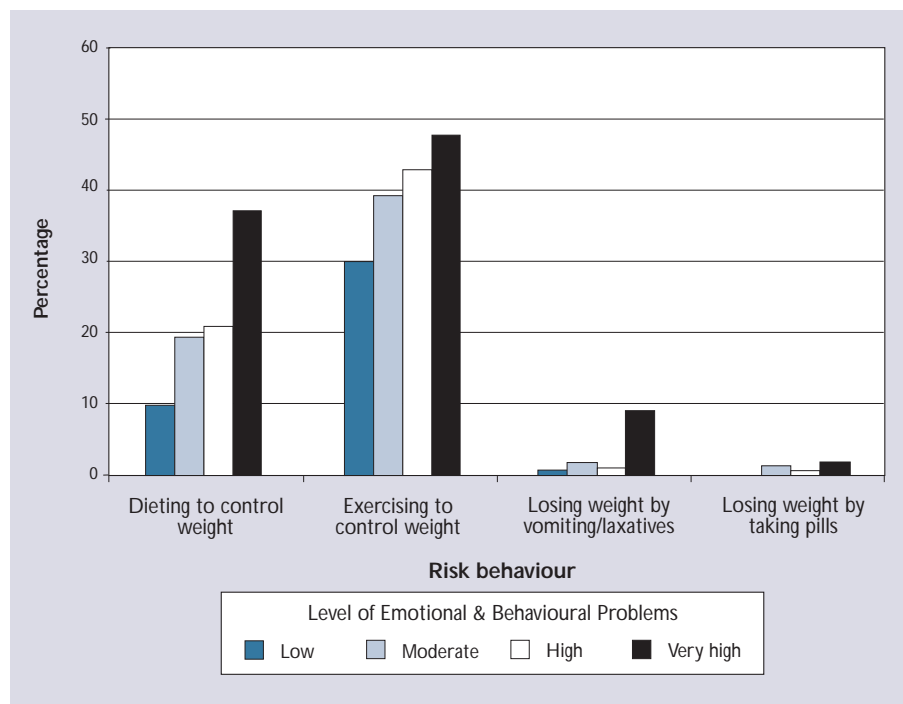
(iii) Body weight

Adolescents were asked if they had engaged in any of the following behaviour to lose or control their weight during the past 30 days:

- (i) dieting,
- (ii) exercising,
- (iii) vomiting or taking laxatives, or
- (iv) using diet pills.

Adolescents who reported more emotional and behavioural problems were more likely to report that they had dieted or exercised to lose or control their weight than were adolescents with fewer problems (Figure 7.5). Furthermore, adolescents with a very high level of problems reported more frequently that they vomited or took laxatives to control or lose weight.

Figure 7.5 Dieting and exercise behaviour



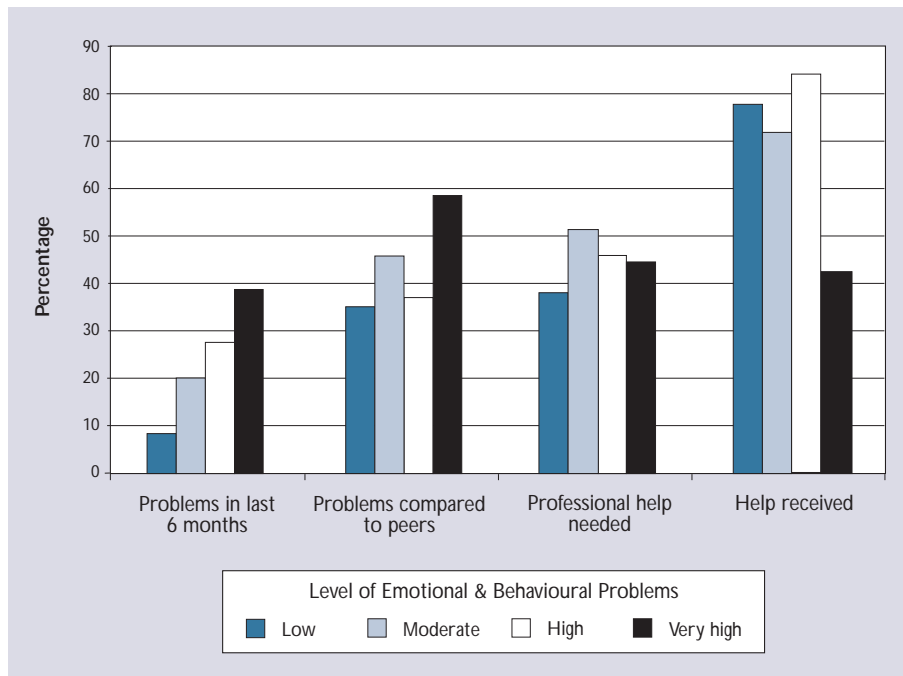
(iv) Physical health

Adolescents were asked if, during the past six months, they:

- (i) had any physical health problems,
- (ii) had more physical health problems than other adolescents their age,
- (iii) needed help for physical health problems, or
- (iv) received help for physical health problems.

Adolescents with more emotional and behavioural problems reported more problems with their physical health (Figure 7.6). In each group, a similar percentage reported that they needed professional help for their problems. However, substantially fewer adolescents with a very high level of problems reported that they had received help.

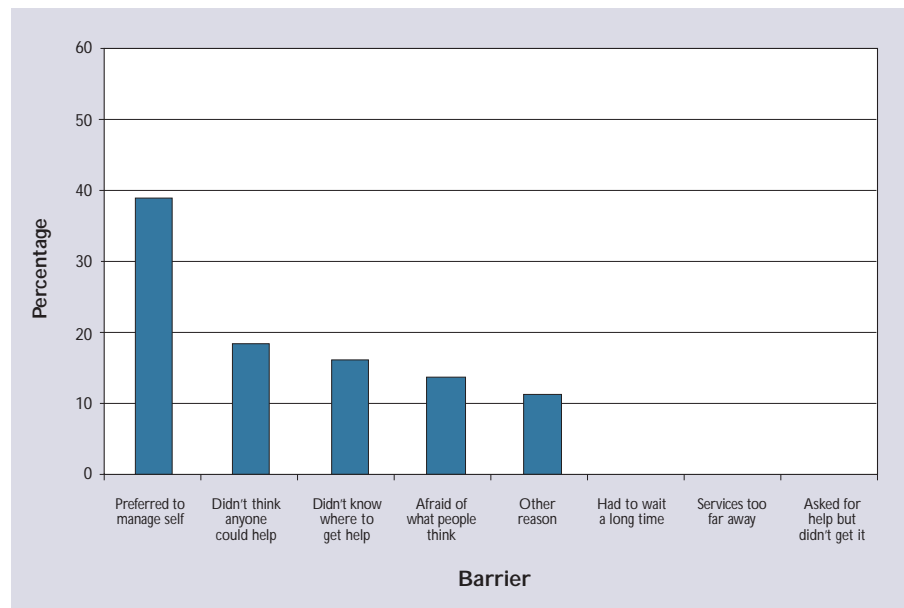
Figure 7.6 Physical health



Barriers to service use

Adolescents with mental health problems gave somewhat different reasons than their parents for not attending services (Figure 7.7). For example, 14% of adolescents reported being worried about what other people would think of them if they sought help. Thirty-eight percent of adolescents reported that they preferred to manage their own problems. Other major barriers identified by adolescents were thinking nothing could help (18%) and not knowing where to get help (17%).

Figure 7.7 Barriers to obtaining help



Summary

Three key findings are reported in this chapter. First, adolescents reported a high prevalence of mental health problems. This is consistent with reports from their parents. Second, there was a strong association between the number of emotional and behavioural problems reported by adolescents and their perceptions of their health-related quality of life. For example, adolescents with more emotional and behavioural problems reported lower self-esteem and more difficulties in activities at school and with peers. Once again, this pattern is consistent with that reported by parents. Finally, there was a strong association between the presence of mental health problems and health-risk behaviour such as suicidal ideation and behaviour, smoking, and drug and alcohol abuse.

There are some striking findings in the analyses that focus on the relationship between the frequency of emotional and behavioural problems and health-risk behaviour. For example, 50% of adolescents with a high level of problems reported smoking or drinking during the previous month. Furthermore, 30% of adolescents in this group reported at least one episode of binge drinking during the previous month (i.e., consuming five or more drinks of alcohol within a couple of hours). A substantial number of adolescents with mental health problems behave in a

manner that places them at risk for other health problems. In light of this tendency, it is not surprising that adolescents with a high level of emotional and behavioural problems reported more problems with their physical health. Of particular concern is the relatively low number of these adolescents who had received help for their problems.

The strong association between mental health problems and suicidal behaviour or ideation is consistent with results from several previous studies (Andrews & Lewinsohn, 1992; Graham et al., 2000). Suicide is a major cause of death among adolescents in Australia, particularly among males. There is evidence that adolescents with higher rates of suicidal ideation and behaviour are at a markedly greater risk of death by suicide. The high rates of suicidal ideation and behaviour identified among adolescents with a high level of problems suggests that they should be an important target group for programs designed to reduce suicide.

Traditionally, health services have tended to focus their attention on a particular problem. For example psychiatric services focus on mental health, drug and alcohol services on drug and alcohol abuse, and paediatric services on physical health. Furthermore, as Andrews et al. (2000) have pointed out, clinical practice guidelines often concentrate on the management of a single mental disorder. This narrow approach, however, does not reflect the complexity of health problems experienced by adolescents, as young people with a high level of problems in one area often experience difficulties in other areas of their lives. Individual professions and services must pay more attention to the high levels of comorbid problems in young people, and they need to develop strong collaborative relationships with each other if they are to provide adolescents with effective help for their problems. Financial incentives should be used to encourage health services to broaden their treatment programs and improve coordination with other services. Further research is also needed to provide a better understanding of the mechanisms that give rise to the broadly based problems experienced by adolescents.

8 Summary of findings

Healthy children and adolescents are a key resource for the future well-being of our country. Mental health problems impose severe personal and financial burdens on children, families and the community. If effective mental health policy and services are to be developed, we need accurate information about the prevalence and distribution of problems, the degree of disability associated with these problems, and the services used by children, adolescents and families to get help. This survey provides information to facilitate the development of policy and services to provide more effective help for children and adolescents.

The survey has several strengths. First, it has benefited from the development during the past decade of improved instruments for assessing the mental health and quality of life of children and adolescents. The availability of these instruments has made it possible to obtain a clearer picture of the mental health and well-being of young people in Australia. Second, the survey obtained information about a broad cross-section of children and adolescents in different regions of Australia. This ensured that the results would be representative of a wide range of young people. Finally, the large number of participants has allowed detailed study of the characteristics of children, adolescents and families associated with mental health problems.

This chapter summarises the results of the survey and highlights some of the implications for services, consumers and researchers.

The prevalence of mental health problems

- There is a high prevalence of mental health problems in all age and gender groups.
- There is a high rate of comorbidity among those with mental disorders.
- There is a higher rate of mental health problems among those living in low-income, step/blended and sole-parent families.

Parents indicated that 14% of children and adolescents had mental health problems. *Delinquent Behaviour* problems, *Attention* problems, and *Aggressive Behaviour* problems were the most common of these. Parent reports indicated that young people living in step/blended or single-parent families and those living in families with a lower income had a higher rate of externalising problems.

Fifteen percent of children and adolescents met symptom criteria for one of the three mental disorders assessed in the survey. Males were more likely to have one of these disorders than were females (19% versus 10%). This is not surprising, given that two of the three conditions studied (Conduct Disorder and Attention-Deficit/Hyperactivity Disorder) are known to be more common among males. Children aged 6 to 12 years were more likely to have a disorder than were adolescents aged 13 to 17 years (17% versus 12%). This finding was primarily due to the large number of children who met symptom criteria for Attention-Deficit/Hyperactivity Disorder. However, it is necessary to be cautious when interpreting the meaning of this high prevalence as two of the formal criteria identified in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition, (American Psychiatric Association, 1994) could not be incorporated into the assessment of children. Inclusion of these criteria may have reduced the size of this prevalence estimate.

Implications for consumers, services and research

A large number of young people in Australia have mental health problems. The rate identified in the survey is very similar to the median prevalence of 12% reported by Verhulst and Koot (1995) in their review of 49 international studies conducted between 1965 and 1993. The consistency of our results with those of similar surveys conducted elsewhere shows that they are not an artifact of the survey's methodology.

Child and adolescent mental health problems are not equally distributed among all demographic groups. Rather, those in some groups (e.g., children in single-parent or low-income families) are more likely to have mental health problems than those in other groups. The identification of high-risk groups is important because it makes it possible to ensure that treatment and preventative programs are accurately targeted and resources efficiently employed. Services should be sensitive, for example, to the particular needs of single-parent or low-income families. As noted earlier, the results of this survey cannot explain why there are relationships between particular demographic characteristics and mental health problems. Understanding the mechanisms by which these relationships occur is a key topic that must be addressed by future research.

The high prevalence of problems and the limited number of trained clinicians available to provide help make it unlikely that specialised programs in secondary and tertiary treatment settings (e.g., child and adolescent mental health services and departments of psychiatry) will ever be able to provide direct care for all those with problems. There is therefore a need to identify alternative approaches to reduce the prevalence of child and adolescent mental health problems. Improved mental health literacy in the community is one approach that has the potential to help families select services that are appropriate to their needs and, where possible, become more effective at helping themselves. Better public understanding of mental health may also assist with the early detection of problems. Attempts to improve mental health literacy should not be limited to adults. Children and adolescents should be better educated about the nature of mental health problems and the steps they can take to promote their own mental health.

Quality of life

- Children and adolescents with mental health problems have a poorer quality of life.
- Parents of children and adolescents with mental health problems report greater concern and worry about their children's health and less time for their personal needs.

There was a strong relationship between emotional and behavioural problems and health-related quality of life. Children and adolescents with more problems consistently had a lower quality of life than those with fewer problems. There was no sharp boundary between the quality of life of those with a higher level of problems and those with fewer problems. Instead, in all the domains related to quality of life there was a 'dose-response' relationship between the number of emotional and behavioural problems and quality of life. There was a consistent pattern, for example, in which those with more problems had lower self-esteem and functioned less well in school and peer activities. Finally, child and adolescent mental health problems had a significant negative impact on the lives of parents and families.

Implications for consumers, services and research

A key element of health-related quality of life is its emphasis on an individual's subjective evaluation of his or her functioning. A growing body of evidence shows that this assessment provides a rich new perspective on the health problems experienced by children and adolescents. Although there is increasing information about the impact of physical illness on quality of life, there is a dearth of information about the effects of mental illness. This is a significant omission, as differences in impairment or quality of life may explain differences in the outcomes of mental health problems among children and adolescents. It is possible, for example, that those with significant school or peer problems may have more difficulty overcoming their mental health problems or may be less willing to seek help than other children or adolescents.

While mental health problems have an adverse impact on parents and families, family or school problems can also have a substantial effect on child and adolescent mental health. These reciprocal interactions are the focus of promising prevention and treatment programs that aim to reduce mental health problems by changing family, school or community systems. Professionals working in services responsible for helping young people must have the ability to design, implement and evaluate these new interventions. Currently, there are few people in Australia with the skills required to undertake this work.

Patterns of service use

- Few children and adolescents with mental health problems receive professional help.
- Family doctors, school-based counsellors and paediatricians provide the services most frequently accessed by children and adolescents with mental health problems.

Only a small proportion of children and adolescents with mental health problems attend any professional service. This finding is consistent with the results of previous surveys in Australia and overseas. Of particular concern is the finding that only 52% of children and adolescents who had a mental disorder *and* who scored in the clinical range of the Child Behaviour Checklist *and* whose parents reported that they had needed professional help had actually attended any professional service during the previous six months. This shows clearly that a large number of children and adolescents with serious mental health problems are not receiving any professional help.

The services most commonly utilised by children and adolescents with mental health problems are provided by school-based counsellors, general practitioners and paediatricians. Only a small percentage of those with problems had attended a mental health service during the six months prior to the survey. These results draw attention to the important role that school-based services and primary health care services play in the provision of help for young people with mental disorders. They also highlight the scarcity of mental health services for young people.

Parents frequently identified practical issues to explain why children and adolescents did not receive professional help. These included being unable to afford help; not knowing where to get help; seeking help but not receiving it; and having to wait too long before help was available. Fifty-seven percent of parents of children and adolescents with one of the three mental disorders reported that they had not attended services because they thought that they could handle the problem themselves. Only 6% of parents reported not attending services because they were afraid of what others might think.

Among adolescents, the major barriers to services were thinking nothing could help; not knowing where to get help; and being afraid of what other people might think. Concern about stigma was reported more frequently by adolescents than by parents. It is possible that stigma has a greater influence on the help-seeking behaviour of adolescents than on that of parents. This finding emphasises the importance of providing non-stigmatising services that are readily accessible to adolescents.

Implications for consumers, services and research

The survey's findings highlight the important role that primary health care and school-based services play in providing help for young people with mental health problems. If their staff are well-trained, these services can provide immediate practical help. However, the results also draw attention to the scarcity of specialised child and adolescent mental health services. In light of the scarcity of these services, it is not surprising that few young people access them.

We did not ascertain who provided the school-based counselling identified by parents and adolescents. It is possible that much of this counselling was provided by classroom teachers who have little formal training in the assessment and management of children with mental health problems. It is important that school-based counsellors receive good quality training to ensure that there are adequate numbers of well-trained staff at the point where large numbers of young people frequently seek help.

To function effectively, school-based services and primary health care services must also have ready access to support from specialised services. In many regions of Australia, due to the scarcity of child and adolescent mental health services, this is not possible. The scarcity of specialist services for young people with mental health problems is a fundamental problem. Until more specialist child and adolescent mental health services are available, appropriate support cannot be provided to school-based and primary health care services and specialised treatment will remain unavailable for many young people with mental health problems.

If professionals in primary health and school-based services have the skills to accurately identify young people with mental health problems, children and adolescents with less severe problems can be managed in primary care services, while those with severe or complex problems (such as depression or suicidal behaviour) can be referred to mental health services. Closer collaboration between mental health services should be promoted through the development of joint protocols describing clear pathways to specialised services and greater use of 'shared care'.

Coordination between different services, however, is not in itself sufficient to reduce mental health problems (Bickman, Guthrie, Foster, & Lambert, 1995). It is also necessary that interventions be effective in actual practice settings (as compared to evidence of 'efficacy' in controlled research settings). Currently, little is known about the effectiveness of many interventions provided by health, education and welfare services for young people with mental health problems. This issue must be addressed by well-designed studies used to evaluate the effectiveness of behavioural, social and pharmacological interventions. Over the past two decades, fields such as childhood cancer have achieved large reductions in morbidity and mortality through the close integration of service and research programs. There is an urgent need to achieve similar progress in the field of child and adolescent mental health.

Several barriers to services were identified. Being stigmatised by others was less often identified as a barrier by parents than were practical issues such as the length of waiting lists, not knowing where to get help, or the cost of services. The latter is a troubling issue in light of Australia's commitment to universal health care and the high prevalence of mental health problems among young people living in low-income families.

Adolescent mental health and health-risk behaviour

- Adolescents reported a high prevalence of mental health problems.
- Adolescents with mental health problems reported a high rate of suicidal ideation and behaviour.
- Adolescents with mental health problems reported a high rate of health-risk behaviour, including smoking, drinking and drug use.

The prevalence of mental health problems as reported by adolescents was 19%. There was a consistent pattern for adolescents with more emotional and behavioural problems to report more suicidal ideation and behaviour. Of particular concern is the fact that 42% of adolescents with a very high level of problems had seriously considered attempting suicide during the previous twelve months, compared with only 2% of adolescents with a low level of problems. Furthermore, 25% of adolescents with a very high level of problems reported having made a suicide attempt during the previous twelve months as compared to fewer than 1% of those with a low level of problems.

Another striking finding was the strong relationship between emotional and behavioural problems and rates of smoking and drinking. There was a consistent pattern in which adolescents with more problems reported more smoking and drinking. A similar association was evident between adolescent emotional and behavioural problems and the use of marijuana. Once again, there was a consistent tendency for a higher level of problems to be associated with more frequent marijuana use.

Implications for consumers, services and research

Adolescents with mental health problems do not have problems that are limited to a single aspect of their lives. Rather, their problems encompass a range of areas, including suicidal ideation, smoking, alcohol use and drug abuse. Furthermore, these problems frequently occur together.

The breadth of the difficulties experienced by those with mental health problems is a recurring theme in this report. It is clear that health services and other relevant services must avoid a narrow focus on these problems. Instead, they must develop the capacity to provide help for a range of problems, including smoking, alcohol use, and drug abuse. The conventional separation of mental health services and drug and alcohol services is a particular barrier to comprehensive service delivery. Joint policies and strategies must be developed that will establish effective links between school-based services, paediatricians, family doctors, mental health services, and drug and alcohol services.

Concluding comments

This survey represents only the first step in the process required to reduce the high prevalence of child and adolescent mental health problems in Australia. If it is to serve a useful purpose, results from the survey must be employed to develop better services for children and adolescents. The health funding allocated to child and adolescent mental health does not reflect the proportion of the population afflicted by problems in this area. As a result, in many regions a scarcity of child and adolescent mental health services means that specialist help is not available for young people. This issue must be addressed.

Many mental health problems experienced by young people have a chronic course and place individuals at increased risk for difficulties that continue into adult life. Mental health problems cause considerable personal distress and contribute to school failure, broken families and future unemployment. The heavy financial burden this imposes on the entire community would be greatly reduced if mental health problems were addressed at the earliest opportunity. There is a great need to design, implement and evaluate cost-effective interventions that focus on young children. These interventions should have the capacity to both reduce the number of existing mental health problems and to prevent the onset of future problems.

We suspect that many school-based counsellors, general practitioners, paediatricians and parents have not been trained to help young people with mental health problems. Increasing the skills of school counsellors, general practitioners and paediatricians should be a high priority. Formal and informal training, closer coordination between services, and the widespread use of 'shared care' could help overcome this problem. Many professional training programs are generic, however, and provide little specialised training in the prevention or treatment of child and adolescent mental health problems. Professional bodies responsible for these programs and tertiary educational institutions should increase their capacity to train professionals specifically in areas relevant to child and adolescent mental health. Increased funding should also be made available for programs that help parents learn how to provide better help for young people with mental health problems.

Research is needed to obtain a better understanding of the mechanisms that give rise to comorbidities, the causal pathways linking these comorbidities, and the interventions required to provide effective help. A major factor limiting this work in Australia is the paucity of people with the training required to undertake research in child and adolescent mental health. There are very few full-time researchers in this country investigating the causes, treatment or prevention of child and adolescent mental health problems. The unique characteristics of Australia mean that we cannot simply borrow our knowledge from overseas. If effective use is to be made of the limited resources available to reduce mental health problems, we must acquire the skills to increase our knowledge of these problems and ensure the rapid penetration of research findings into promotion, prevention and treatment services.

The present study provides an overview of the extent of child and adolescent mental health problems in Australia. There remains a great need, however, for more finely grained studies to explain the results and address issues outside the scope of this survey. For example, the survey provides no information about the nature and distribution of Anxiety Disorders or child abuse. It cannot explain why children and adolescents in families with less income have more mental health problems than do those in more affluent families. It also provides no information about the effectiveness of programs being provided for those with mental health problems who receive counselling in schools, attend family doctors or who receive help through mental health

services. It is essential that the effectiveness of these interventions be properly evaluated to ensure that the limited resources available to help children and adolescents are effectively deployed.

The significance of the high prevalence of mental health problems has been highlighted by Murray and Lopez (1996), who point out that non-communicable diseases, such as mental illness are now the major cause of disability in developed countries such as Australia. Various combinations of genetic, family and social factors cause child and adolescent mental health problems. The complex aetiology, wide distribution and stigma associated with mental health problems present a major challenge for mental health promotion, prevention and treatment. It is worth remembering, though, that a similar situation existed when epidemics of infectious disease were the major cause of morbidity and death among children and adolescents. The solution to that problem required widespread improvements in sanitation, nutrition, housing, education and preventative health (Zubrick et al., 1995). Despite these difficulties, the challenge was met and infectious disease is no longer a major cause of death or disability among young Australians. Mental illness presents a similar challenge. If we fail to address this challenge, mental illness will continue to impose a heavy burden on our community, the lives of one in seven children in Australia will be blighted, and the hardships experienced by many Australian families will persist.

Bibliography

- Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, *101*, 213–232.
- Achenbach, T. M. (1991a). *Manual for the Child Behaviour Checklist/4–18 and 1991 Profile*. Burlington VT: University of Vermont Department of Psychiatry.
- Achenbach, T. M. (1991b). *Manual for the Youth Self-Report and 1991 Profile*. Burlington VT: University of Vermont Department of Psychiatry.
- American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders*. (Fourth ed.). Washington, DC: Author.
- Andrews, G., Hall, W., Teesson, M., & Henderson, S. (1999). *The Mental Health of Australians*. Canberra: Mental Health Branch, Commonwealth Department of Health and Aged Care.
- Andrews, G., Henderson, S., & Hall, W. Prevalence, comorbidity, disability and service utilisation; an overview of the Australian mental health survey. (submitted for publication).
- Andrews, J.A., & Lewinsohn, P. M. (1992). Suicidal attempts among older adolescents: Prevalence and co-occurrence with psychiatric disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, *31*, 655–662.
- Bickman, L., Guthrie, P. R., Foster, E. M., & Lambert, E. (1995). *Evaluating Managed Mental Health Services: The Fort Bragg Experiment*. New York: Plenum.
- Brener, N. D., Collins, J. L., Kann, L., Warren, C. W., & Williams, B. I. (1995). Reliability of the Youth Risk Behavior Survey Questionnaire. *American Journal of Epidemiology*, *141*, 575–580.
- Costello, E. J., Angold, A., Burns, B. J., Stangl, D. K., Tweed, D. L., Erkanli, A., & Worthman, C. M. (1996). The Great Smoky Mountains Study of Youth: Goals, design, methods, and prevalence of DSM-III-R disorders. *Archives of General Psychiatry*, *53*, 1129–1136.
- Crijnen, A. A. M., Achenbach, T. M., & Verhulst, F. C. (1997). Comparisons of problems reported by parents of children in 12 cultures: Total problems, externalizing and internalizing. *Journal of the American Academy of Child and Adolescent Psychiatry*, *36*, 1269–1277.
- Graham, A., Reser, J., Scuderi, C., Zubrick, S., Smith, M., & Turley, B. (2000). Suicide: An Australian Psychological Society discussion paper. *Australian Psychologist*, *35*, 1–28.
- Jablensky, A., McGrath, J., Herrman, H., Castle, D., Gureje, O., Morgan, V., & Korten, A. (1999). *People Living with Psychotic Illness: An Australian Study 1997–1998*. Canberra: Mental Health Branch, Commonwealth Department of Health and Aged Care.
- Landgraf, J. M., Abetz, L., & Ware, J. E. (1996). *The CHQ User's Manual*. (1st. ed.). Boston, MA: The Health Institute, New England Medical Centre.
- McDermott, P.A. (1996). A nationwide study of developmental and gender prevalence for psychopathology in childhood and adolescence. *Journal of Abnormal Child Psychology*, *24*, 53–66.
- Murray, C. J. L., & Lopez, A. D. (Eds.). (1996). *The Global Burden of Disease: A Comprehensive Assessment of Mortality and Disability from Diseases, Injuries, and Risk Factors in 1990 and Projected to 2020*. Cambridge MA: Harvard University Press.
- Shaffer, D., Fisher, P., Dulcan, M. K., Davies, M., Piacentini, J., Schwab-Stone, M. E., Lahey, B., Bourdon, K., Jensen, P. S., Bird, H. R., Canino, G., & Regier, D. A. (1996). The NIMH Diagnostic Interview Schedule for Children, Version 2.3 (DISC-2.3): Description, acceptability, prevalence rates, and performance in the MECA study. *Journal of the American Academy of Child and Adolescent Psychiatry*, *35*, 865–877.
- Shaffer, D., Fisher, P., Lucas, C., Dulcan, M. K., & Schwab-Stone, M.E. (2000). NIMH Diagnostic Interview Schedule for Children Version IV (NIMH DISC-IV): Description, differences from previous versions and reliability of some common diagnoses. *Journal of the American Academy of Child and Adolescent Psychiatry*, *39*, 28–38.

- Verhulst, F. C., & Koot, H. M. (Eds.). (1995). *The Epidemiology of Child and Adolescent Psychopathology*. London: Oxford University Press.
- Verhulst, F. C., & van der Ende, J. (1997). Factors associated with child mental health service use in the community. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 901–909.
- Zubrick, S. R., Silburn, S. R., Garton, A., Burton, P., Dalby, R., Carlton, J., Shepherd, C., & Lawrence, D. (1995). *Western Australian Child Health Survey: Developing Health and Well-Being in the Nineties*. Perth, Western Australia: Australian Bureau of Statistics and the Institute for Child Health Research.

Appendix A

Mean scores on the Child Behaviour Checklist and Youth Self-Report

Mental health problems were assessed using the Child Behaviour Checklist completed by parents (Achenbach,1991a) and the Youth Self-Report completed by adolescents aged 13–17 years (Achenbach,1991b). The two checklists are very similar. Each consists of a large list of items describing problems experienced by children and adolescents. On each item, the person completing the checklist describes the functioning of a child/adolescent over the past six months using a three point scale item (0 = Not True; 1 = Somewhat or Sometimes True; 2 = Very True or Often True).

A *Total Problems* score comprising the sum of all the scores on the behaviour items can be obtained from each checklist. In addition, ratings of *Internalising* and *Externalising* behaviour can be obtained. The internalising score rates fearful, inhibited, or overcontrolled behaviour while the externalising score rates aggressive, antisocial, or undercontrolled behaviour. In each case, the score is based on the sum of the scores on the items comprising each scale. Eight syndrome scores, labelled *Withdrawn*, *Somatic Complaints*, *Anxious/Depressed*, *Social Problems*, *Thought Problems*, *Attention Problems*, *Delinquent Behaviour* and *Aggressive Behaviour*, provide ratings in more specific areas (see Table 3.1 for definitions of these syndromes).

Three approaches can be used to summarise the results obtained from the checklists. The first approach uses the raw scores on each scale. The advantage of this approach is that it is easy to compare the number of problems on each scale experienced by different populations of children and adolescents. This is the approach used in Tables A.1 to A.4. The disadvantage is that the number of items comprising each scale varies. As a result it is difficult to compare raw scores across different scales. To address this issue, T scores can be derived from the raw scores on the checklists (Achenbach,1991a; Achenbach,1991b). The T scores use a metric which is similar on all the scales. This makes it possible to compare the relative number of problems experienced by children and adolescents on different scales. T scores are not reported in this survey. Finally, as described in Chapter 2 and Chapter 3 of this report, recommended cut-offs ('thresholds') can be used to identify the number of children in a population who are scoring in the clinical range on each checklist scale.

Across the different age and gender groups there was often a close association between the prevalence of problems reported in Chapter 3 and the average behaviour problem scores shown in Tables A.1 to A.4. However, there were some important exceptions. For example, although a higher percentage of adolescent females scored in the clinical range on the *Externalising* scale of the Youth Self-Report, on average, the number of externalising problems reported by both males and females on this scale were similar. Furthermore, although the percentage of male and female adolescents scoring in the clinical range on the *Internalising* scale was similar, the average number of internalising problems reported by female adolescents was higher than that reported by male adolescents.

Table A.1 Mean problem scores on the general behaviour scales of the Child Behaviour Checklist for children and adolescents (4–17 years)

	<i>Total problems</i>	<i>Externalising problems</i>	<i>Internalising problems</i>
All Children	19.0	7.0	5.1
Males			
4–12 year olds	21.0	8.1	4.8
13–17 year olds	17.4	7.1	4.6
Females			
4–12 year olds	18.8	6.6	5.1
13–17 year olds	17.1	5.4	6.1

Table A.2 Mean problem scores on the specific behaviour scales of the Child Behaviour Checklist for children and adolescents (4–17 years)

<i>Type of problem</i>	<i>All children</i>	<i>4–12 years</i>		<i>13–17 years</i>	
		<i>Males</i>	<i>Females</i>	<i>Males</i>	<i>Females</i>
Aggressive Behaviour	5.5	6.6	5.4	5.0	4.0
Anxiety/Depression	2.5	2.5	2.5	2.1	2.8
Attention Problems	2.5	3.0	2.1	2.6	1.9
Withdrawn	1.6	1.5	1.5	1.6	1.7
Delinquency Problems	1.5	1.6	1.1	2.0	1.4
Social Problems	1.4	1.6	1.4	1.1	1.2
Somatic Complaints	1.2	1.0	1.2	1.2	1.8
Thought Problems	0.3	0.4	0.3	0.3	0.3

Table A.3 Mean problem scores on the general behaviour scales of the Youth Self-Report for adolescents (13–17 years)

	<i>Total problems</i>	<i>Externalising problems</i>	<i>Internalising problems</i>
All Adolescents	35.6	11.2	10.8
Males	33.0	11.4	8.8
Females	38.2	11.1	12.9

Table A.4 Mean problem scores on the specific behaviour scales of the Youth Self-Report for adolescents (13–17 years)

<i>Type of problem</i>	<i>All adolescents</i>	<i>Males</i>	<i>Females</i>
Aggressive Behaviour	7.8	7.8	7.9
Anxiety/Depression	5.2	4.2	6.2
Attention Problems	4.3	4.3	4.4
Delinquency Problems	3.4	3.6	3.2
Withdrawn	3.0	2.5	3.4
Somatic Complaints	3.0	2.3	3.7
Social Problems	2.2	2.1	2.3
Thought Problems	1.6	1.5	1.7

Appendix B

Domains assessed by the Child Health Questionnaire

Health-related quality of life of children and adolescents

Physical Activities

Low Score – Greatly limited in performing all physical activities, including self-care

High Score – Performs all types of physical activities without limitations

Pain and Discomfort

Low Score – Extremely severe, frequent and limiting bodily pain and discomfort

High Score – No pain or limitation due to pain and discomfort

School/Friends – Physical Limitations

Low Score – Greatly limited in schoolwork or peer-group activities due to physical health

High Score – No limitations in schoolwork or activities as a result of physical health

School/Friends – Emotional/Behavioural Limitations

Low Score – Greatly limited in schoolwork or peer-group activities due to emotional/behavioural problems

High Score – No limitations in schoolwork or peer-group activities due to emotional/behavioural problems

Self-Esteem

Low Score – Very dissatisfied with abilities, looks, family/peer relationships, and life in general

High Score – Very satisfied with abilities, looks, family/peer relationships, and life in general

Family functioning

Family Activities

Low Score – Child’s problems very often limit and interrupt family activities or are a source of family tension

High Score – Child’s problems never limit and interrupt family activities nor are they a source of family tension

Family Cohesion

Low Score – The family’s ability to get along is rated as poor

High Score – The family’s ability to get along is rated as excellent

Perceived impact of child and adolescent health on parents

Impact on Time

Low Score – Parent experiences marked limitations in time available for personal needs due to child’s physical and/or psychosocial problems

High Score – Parent doesn’t experience limitations in time available for personal needs due to child’s physical and/or psychosocial problems

Impact on Emotions

Low Score – Parent experiences a great deal of emotional worry/concern as a result of child’s physical and/or psychosocial health

High Score – Parent doesn’t experience a great deal of emotional worry/concern as a result of child’s physical and/or psychosocial health

Appendix C

Terminology used in the report

Definition of mental disorders and mental health problems

(i) Emotional and behavioural problems

There is no exact definition for the term ‘emotional and behavioural problems’. The term is generally used to describe a wide range of individual behaviours or emotions that are commonly associated with personal distress or dysfunction.

(ii) Mental disorder

As defined in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (American Psychiatric Association, 1994), mental disorders are conceptualised as clinically significant behavioural or psychological syndromes or patterns that are associated with present distress or disability. They are also associated with increased risk of death, pain or disability in the future. Mental disorders are considered to be a manifestation of behavioural, psychological or biological dysfunction in individuals.

(iii) Mental health problems

Children and adolescents were considered to have a mental health problem if the number of emotional and behavioural problems they were experiencing was in the range typically reported for children and adolescents attending mental health clinics (Achenbach, 1991a, 1991b). The Child Behaviour Checklist completed by parents and the Youth Self-Report completed by adolescents were used to identify the number of emotional and behavioural problems being experienced by young people. The ‘clinical range’ of problems was identified using the recommended cut-off (‘threshold’) scores described in the checklist manuals (Achenbach 1991a, 1991b).

Sample and response rate

(i) Sampling method

A multi-stage probability sample was used to obtain a representative sample of children aged 4 to 17 years. ‘Clusters’ of 10 fully responding households with children and adolescents in the required age-range were sampled from each of 450 Collector’s Districts (CDs) across Australia. The number of CDs sampled within each state or territory was in proportion to the size of the target populations within those areas, and CDs were also distributed proportionately across metropolitan and non-metropolitan areas (except in the Northern Territory where only a metropolitan sample was drawn).

(ii) Participation rate

The participation rate in the survey was 86%. It was calculated by dividing the number of households with a child aged 4 to 17 years that participated in the survey by the total number of households that were contacted and identified to contain a child aged 4 to 17 years.

(iii) Response rate

The response rate in the survey was 70%. It was calculated by dividing the number of households that contained a child aged 4 to 17 years who participated in the study by the total number of households that were initially identified as potential participants in the survey. No contact was made with a family member in a number of households and it was estimated that 19% of the households that were not contacted would have contained a child eligible to participate in the survey. The response rate includes an adjustment to take these children into account. The major reason for the difference in the response rate and the participation rate was a failure by interviewers to make contact with a number of the identified households before selecting a replacement household.

(iv) Survey weights

Even the best designed sampling strategy results in a sample that is not exactly representative of the total population under study. Estimates of prevalence for the entire population of children and adolescents in Australia were therefore obtained by weighting each individual's responses according to the degree to which that individual's demographic grouping was under- or over-represented in the final sample. These weights were calculated on the basis of a classification by age (2-year bands), gender and state, with reference to the estimated population numbers for the same classification at June 30th, 1998, as supplied by the Australian Bureau of Statistics. Given that the sample probabilities were the same for both metropolitan and non-metropolitan areas (with the exception that no non-metropolitan subjects were sampled from the Northern Territory) no attempt was made to weight by this demographic characteristic. Overall, the demographic characteristics of the survey sample were found to be highly comparable with the Australian Bureau of Statistics census figures. However, there was some minor deviation from census figures in a few age and gender groups. In particular, children in the 4-to-5-year age group were slightly oversampled, while adolescents aged 16 to 17 were slightly undersampled.

Demographic characteristics

In general, the demographic characteristics of participants were described using the classification system employed by the Australian Bureau of Statistics.

(i) Metropolitan/non-metropolitan

Children who resided in the capital cities of the states and territories were classified as living in metropolitan regions. Children who resided in all other areas were classified as living in non-metropolitan regions. The latter includes regional centres and rural areas. As some regional centres are quite large, it should not be assumed that all the children and adolescents classified as residing in non-metropolitan regions were necessarily living in a rural environment.

(ii) Employment categories

Parents or caregivers were classified as being ‘employed’ if, in the week prior to participating in the survey, they had a job of any kind. A job was defined as any type of work including casual or temporary work or part-time work of one hour or more. This category included those on holidays, on paid leave, or those temporarily stood down. Those doing unpaid work in a family business were also considered to be employed. Parents or caregivers were classified as being ‘not in paid employment’ if they did not have a job or were doing other unpaid work. Those who were not in the labour force (i.e., those not looking for work) were also included in this category.

(iii) Weekly household income

Weekly household income was calculated by adding the individual gross incomes of the primary caregiver and any spouse or partner. Respondents were asked to include wages, salaries, overtime, family allowance and other benefits such as child support, superannuation, interest received, dividends and business income in their estimate of their gross income.