SOCIAL PROBLEM-SOLVING SKILLS TRAINING FOR YOUNG ADOLESCENTS

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DECLARATION OF ORIGINALITY

I declare that this thesis is my own original work toward the Professional Doctorate (Counselling Psychology). It contains no material which has been accepted for the award to the candidate of any other degree or diploma, except where due acknowledgement has been given for all text and materials used. To the best of my knowledge it contains no material previously published or written by another person except where due reference is made in the text of the thesis.

Christopher J. Duffy.

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DEDICATION

This thesis is dedicated to my mother

Evelyn May Duffy

2.5.1915 to 10.6.2003

" . . . .the White-Thorn, lovely May,

Opens her many lovely eyes listening; The Rose still sleeps,

None dare to wake her; soon she bursts her crimson-curtain'd bed

And comes forth in the majesty of beauty . . . "

William Blake, from 'Milton'

ABSTRACT

A brief social problem solving skills training program was conducted for young adolescents in a school setting. There were no quantitative changes reported for productive coping, non-productive coping or negative mood state due to the training. However, qualitative results in response to questions asked immediately after, six-months after and three-years after training in relation to the program suggested positive effects in at least some of the participants who attended training. Other findings support previous studies, which indicate that girls report higher levels of negative mood and use more non-productive coping than boys who tend to use more productive coping. Also, confirmatory factor analyses conducted on the adolescent coping scale (ACS) and the depression anxiety stress scales (DASS) indicate support for a two factor model of coping: productive coping (PC) and non-productive coping (NPC) as well as a single factor of depression anxiety and stress (SAD). This study provides encouraging results for further research into coping and mood for young adolescents.

CHAPTER 1: ADOLESCENT MENTAL HEALTH

Adolescence is like the border between childhood and adulthood. Like all borders, it's teeming with energy and fraught with danger."

(Pipher, 1994)

1.0: Introduction

Social problem solving, according to D'Zurilla and Nezu (1999) involves the ability to recognise a problem when it arises, define the problem clearly and accurately, produce a diversity of possible solutions, anticipate outcomes, formulate an effective action plan that has stepwise stages, and carry out the action plan effectively. Social problem solving skills training programs have been conducted for every age group, from preschoolers to adults. Current thinking proposes that for young people these programs should be preventative, meaning that participants are provided with the necessary skills training before issues become problems, rather than waiting until after these issues have developed into problems. Successful outcomes can only be expected if sound theoretical and empirical material has been utilised in the design, delivery and evaluation of these programs.

According to Roberts (1999), early adolescence provides a theoretical optimum window of opportunity for skills uptake within the delivery of social problem solving skills training. The current study involving young adolescent secondary school students evaluates a whole-class, in-school social problem solving skills training program for changes in coping skills and mood states. Existing empirically supported programs plus well-known theories provide the scaffold for the development of the social problem solving skills training program evaluated in this study.

This chapter presents a background to understanding the levels of adolescent mental health problems in Australia and America. Currently, government and non-government agencies are showing great interest in the provision of training programs that provide a preventative approach. Several of these initiatives are discussed in this chapter. This chapter also contains information in support of the proposition of early adolescence as the best time, and the school setting as the best place, to provide appropriate preventative training.

A review of the coping literature, mostly related to the years of adolescence is presented in chapter two. There is discussion about the theoretical perspectives of coping, the measurement of coping, empirical associations for coping in relation to adolescence, gender differences, and the relationship between coping and mood.

In order to explore the training strategies that have been successful as well as the problems encountered by researchers, chapter three provides a review of some of the preventative interventions previously conducted. Comparisons of many previously conducted social problem solving programs as well as well-known published programs are presented. The main themes from these programs are drawn out as well as the underlying theoretical methodology. Also, problems with the generalisation and maintenance of these training programs are identified.

Chapter four presents information about several theories and effective communication skills. These theories are psychosocial development theory (Erikson, 1950/1975), cognitive development theory (Piaget, 1947), social learning theory (Bandura, 1977) and rational emotive behaviour theory (Ellis, 1962, 1971). These theories and communication skills, in combination with the knowledge from previously conducted programs discussed in chapter three, constitute the basis for a social problem

solving skills training program that aims to be a developmentally informed program for early adolescents. Finally, this chapter outlines hypotheses of this research study.

The next chapter, chapter five reports a detailed explanation of the research design and research methodology. Information about the materials used, such as the participant questionnaires including the adolescent coping scale (ACS) and the depression anxiety stress scales (DASS), a description of the participants, and the conduct of the study are outlined.

Chapter six evaluates measurement models of coping and mood states for the sample of young adolescent participants in this study. Exploration for factorial validation of coping styles and mood states is conducted. Based on the data for the sample of young people in this study, newly validated models are proposed for both coping styles and mood states for young adolescents.

An evaluation of the research program in chapter seven is reported for both quantitative and qualitative outcomes. Several analyses are presented including tables and information about the results. The layout of results follows the same order as the hypotheses, as stated in chapter four.

The last chapter is a summary of results as well as a discussion of the limitations and implications of these results. Finally, recommendations for further research are discussed.

1.1: Problems in adolescence

Stanley Hall (1844-1924) was the first psychologist to postulate a psychology of adolescence (Muuss, 1988). Hall's genetically deterministic psychology of human development was biologically based. His view of adolescence, starting at puberty and lasting to full adulthood, was characterised as emotional turbulence due to hormones

(Muuss, 1988). He described adolescence as a period of 'storm and stress', a term used previously by the German philosopher Goethe in (1774/1989). Hall described the emotional life of the adolescent as an oscillation between contradictory tendencies. Energy, exaltation, and supernatural activity are followed by indifference, lethargy, and loathing. Exuberant gaiety, laughter, and euphoria make place for dysphoria, depressive gloom, and melancholy. Egoism, vanity, and conceit are just as characteristic of this period of life as are abasement, humiliation, and bashfulness. (Hall, 1911).

Those who work with or live with adolescents know that what Hall described in 1916 can still be as true today as it was then. Adolescents have always been seen by adults to be changeable, unpredictable and whimsical. More than two thousand years ago, Aristotle, in describing adolescents said, "they are changeable and fickle in their desires, which are violent while they last, but quickly over; their impulses are keen but not deep-rooted" (McKeon, 1941, pp. 1403-1404).

In Western culture adolescence marks an important developmental transition from the dependency of childhood to the self-sufficiency of adulthood (Chapman & Mullis, 1999). This is a time of major changes in the body, family, school and peer group structures, and when combined with life's daily hassles, can often produce varying degrees of stress for adolescents (Chapman & Mullis, 1999). A young person moves from being part of a family group to being part of a peer group and to standing alone as an adult (Mabey & Sorensen, 1995), often facing difficult developmental challenges. When a young person is unable to confront and deal with a developmental challenge successfully, there are likely to be unhelpful psychological, emotional and behavioural consequences (Geldard & Geldard, 1999) including depression, anxiety and other stress related disorders. The possibility of 'at risk' behaviours may develop, such as drug and alcohol abuse, sexual promiscuity, and violent behaviour. Furthermore,

there is now strong evidence that for many adults, depression appears to begin with episodes starting in early adolescence (Fuller, 1998; Resnick, et al., 1997). Experiencing depression during adolescence places people at an increased level of risk in that they are more likely to experience recurrences of depression in adult life (Lewinsohn, Hops, Roberts, Steeley, & Andrews, 1993).

1.2: Adolescent mental health

The estimates of the levels of mental health problems in Australia vary. A survey by Sawyer et al. (2000) of 4,500 young people between the ages of 4 and 17 years and living with their parents or guardians found that one in seven (14%) experienced mental health problems involving emotional and behavioural symptoms. These problems, as measured by the Child Behaviour Checklist (CBCL, Achenbach, 1999) were equivalent to a level that is severe enough to require attendance at a mental health clinic. They include disorders such as depression, conduct disorder, and attention deficit hyperactivity disorder. These disorders, involving clinically significant emotional and behavioural symptoms are associated with personal distress and impaired functioning (Sawyer et al., 2000) as described by the diagnostic and statistical manual - DSM-IV-TR (American Psychiatric Association, 2000).

The National Health and Medical Research Council (1997) of Australia present data which indicate an even greater occurrence of depression with as many as one in four adolescents experiencing depression. Eckersley (1999) places the figure even higher, with an estimation of up to 30 percent of young people experiencing significant psychological distress in their teenage years. Significant distress can lead to more serious consequences for some young people. This distress, usually manifested as

helplessness and depression, is possibly the most consistent warning sign of suicide (Fuller, 1998).

The suicide rate per 100,000 in Australia for young males aged 15 to 19 years in 1986 was 13 and has risen to 18 in 1997, and the suicide rate for females has doubled since the 1950s (Eckersley, 1999). Although the reported rates of mental health problems vary from anywhere between 10 percent and 30 percent for young people, even the lowest rate reported is too high. While we cannot be confident of the prevalence of distress in young people, it is clear that there still exists an immense problem for mental health service providers. The problem is too large to deal with in clinical settings alone. Based on the February 2000 enrolments for all schools in Victoria, including Government, Catholic and Independent, with approximately 570,000 preparatory to year 8 students and approximately 228,000 year 9 to year 12 students (Department of Education, Employment and Training, 2000), assuming the more modest 10 percent level of depression, this amounts to approximately 82,000 young people showing varying degrees of depression, not to mention other mental disorders. If only half of these young people suffered moderate to severe levels of depression, even this figure still presents an unattainable workload for mental health clinicians in Victoria. Furthermore, results of a national survey found that only one out of every four young people with a mental health problem receives professional help (Sawyer et al., 2000). The following summary of American statistics provides a comparison of the problems presented for mental health professionals between Australian and American figures.

In America, a review of the literature on depression prevention by Rice and Meyer (1994) indicated that the median rate of depression for adolescents in 14 studies of non-clinical samples was 35 percent. In particular, the rates of depression continue to

increase significantly from late childhood and throughout adolescence. An alarming statistic stated by the American Medical Association (1990, cited in Rice & Meyer, 1994) is that 12 to 15 percent of youth under the age of 18 years experience emotional and behavioural problems to such an extent as to justify treatment, yet 70 to 90 percent of these children who require intervention do not receive such services. These figures are similar in Australia, with 75 percent of those with mental health problems not receiving professional help (Sawyer et al., 2000).

In relation to gender differences in depression, there appears to be no difference in depression rates in prepubescent boys and girls (Nolen-Hoeksema & Girgus, 1994). However, after puberty, females report higher rates of depressive disorder and symptamology than males (Clarke, Hawkins, Murphy, & Sheeber, 1993; Patton, Coffey, Posterino, Carlin, & Wolfe, 2000). Sometime around 13 to 14 years, girls consistently begin to show higher rates of depression then boys (Nolen-Hoeksema & Girgus, 1994). In a longitudinal study Petersen, Sarigiani and Kennedy (1991) found no gender differences in depressed mood before eighth grade (13 to 14 year olds) and significant gender differences in twelfth grade with girls showing higher levels of depressed mood than boys. After the age of 15 years, girls and women are about twice as likely to be depressed as boys and men (Nolen-Hoeksema & Girgus, 1994). In a study on the prevalence of anxiety and depression in 1,299 Australian adolescents (11 to 18 years of age), of those that were judged as anxious (13.2%) and depressed (14.2%), girls reported significantly higher levels of anxiety (17.5% versus 8.5%) and significantly higher levels of depression (18.8% versus 9.3%) (Boyd, Kostanski, Gullone, Ollendick & Shek, 2000).

1.3: Prevention of mental health problems in adolescence

In order to cope effectively, people need to possess problem solving skills (Lazarus & Folkman, 1984), as well as many other social skills. Effective coping skills, according to Frydenberg and Lewis (1993a), involve being able to deal with problems that arise in everyday living as well as being able to gain support from others. In other words, important coping skills involve social problem solving skills and the associated interpersonal social skills. Research to date indicates that effective coping skills are associated with good mental health whilst ineffective coping skills are associated with mental health problems, such as depressive symptoms (Cunningham & Walker, 1999; Ebata & Moos, 1991; Hokanson & Rupert, 1991). This research will be discussed in the next chapter. Seligman, Reivich, Jaycox and Gillham (1995) note that young people with good social problem solving skills possess several characteristics. They can make new friends, are comfortable in new situations, know how to maintain friendships, cooperate, compromise, trust others as well as have others develop trust in them, handle conflicts well, respect difference, state their wishes clearly and assertively, apologise when wrong, and persevere when right (Seligman et al., 1995). If young people are to possess these characteristics and therefore reduce the prevalence of mental health problems in adolescence, there will need to be more effective and efficient ways of learning these skills.

As mentioned previously, in Australia there are too many young people with mental health problems to treat through traditional intervention approaches. The professionals who provide these services are usually doctors, school-based counsellors, and paediatricians, of which the majority have only limited training in the assessment and management of mental health problems (Sawyer et al., 2000). Traditional intervention approaches such as medical treatment and counselling services are

restricted because of the limited numbers of available professionals (Sawyer et al., 2000) as well as the cost involved in providing these services. Thus, other more innovative and cost effective methods of early intervention that address the problems before they occur are needed. One such early intervention approach is prevention. Prevention aims to teach young people coping strategies that assist them to deal with issues as they arise, rather than after these issues become problems.

There are currently many prevention programs conducted in Australia and America in an attempt to do something about young people's mental health and associated feelings and behaviour (e.g., Stop Think Do; Penn Prevention Program) before issues become problems. As the adage goes, "a stitch in time saves nine". There are many recent publications advocating preventative approaches (Department of Education, Victoria, 1998; Department of Education, Employment and Training, 2000; Department of Human Services, 2000a; Department of Human Services, 2000b).

In Victoria, the Framework for Student Support Services (Department of Education, Employment and Training, 1998) was designed to develop a continuum of services which enhance the effectiveness of links between primary prevention and early intervention work done by both school-based student support services and the community sector. The framework was proposed to enable the development of a comprehensive and well-coordinated approach to promoting the wellbeing of school students in Victoria, Australia by supporting them through the provision of welfare services throughout their school years and beyond. The framework advocates four levels of intervention. The first level is primary prevention, which provides programs and services that, for example encourage supportive relationships and involvement of parents and community. This first level is proposed to constitute 55 percent of total programs and services provided by the student support worker, such as a psychologist.

The second level is early intervention, which generally involves the development of skills programs, assesses risk and identifies needs. It is proposed to occupy 43 percent of the services and programs available. The third level, labelled intervention, involves provision of access to counselling and to ensure continuity of care. This level should occupy only about 2 percent of programs and services. The fourth level labelled postvention (critical incident intervention), more recently known as restoration-of-wellbeing, is provided on an 'as-required' basis, and has no specific time allocation. The newer label better explains this level and is aimed at restoring school communities to normal after a critical incident such as a bomb threat or the death of a student, through provision of emergency management procedures.

The particular focus of the framework is on the prevention and early intervention levels as indicated by the allocation of time to each of these levels. The Department of Education, Employment and Training (DEET) in Victoria proposes that the majority of time and resources be provided by student support services officers (psychologists and guidance officers) to the first two levels, primary prevention and early intervention. According to the DEET (1998), this time should be used "to develop strategies to reduce vulnerabilities and increase coping skills" that use "population based strategies that may be universally or selectively targeted" (p. 14).

In Victoria, Communities That Care (Department of Human Services, 2000a) is another program which is described as an operating system which uses local community evidence of risk and protective factors affecting young people to harness the prevention efforts of the communities. Such a system has been in operation for more than ten years in North America and more recently in the United Kingdom and the Netherlands (Department of Human Services, 2000a). By focusing on improving social development strategies, the program enables agencies to positively alter the level of young people's

exposure to risk factors such as drugs, crime, violence lack of family and community connectedness (Department of Human Services, 2000a).

Improving the Lives of Young Victorians in our Community: A Victoria-Wide Survey (Department of Human Services, 2000b) identified 25 risk factors and 10 protective factors in an effort to develop prevention principles. The prevention principles put forward in the report include three that are particularly relevant to the present study. These recommendations include enhancing protective factors, addressing risk factors at appropriate developmental stages, and intervening early, before behaviour has stabilised. The latter two recommendations are pertinent in that there is evidence for a 'developmental window of opportunity' (Roberts, 1999) to provide young people in early adolescence with training in coping and social problem solving skills, and will be discussed in more detail later in this chapter.

A Victorian State program, Public Education: The Next Generation Report (Department of Education, Employment and Training, 2000) includes a strategy to support meeting the need to focus on primary prevention and early intervention, consistent with the Framework for Student Services (DEET, 1998), mentioned previously. The survey report prepared by Sawyer et al. (2000) clearly states the inability of a system such as child and adolescent mental health services and departments of psychiatry in hospitals to provide direct care. Dr Michael Wooldridge, the Minister for Health in Australia at the time, concluded that, "we cannot rely on specialist services alone to provide direct care for all those with problems. We must continue to focus on mental health promotion, prevention and treatment programs to develop alternative approaches to reduce the prevalence of these problems" (Sawyer et al., 2000, p. iii). There is a need to develop alternative approaches to reduce the prevalence of child and adolescent mental health problems. There is also a great need,

according to Sawyer and colleagues (2000), to identify the optimal mix of promotion, prevention, consultation and treatment interventions that can provide cost-effective help for these young people and their families in Australia.

1.4: The best place to provide training programs

Schools are where adolescents, particularly young adolescents, spend the most time with their peers. Schools are an ideal on-the-job training site for learning and practising essential life skills, such as social skills, coping skills and problem solving skills (Bruene-Butler, Hampson, Elias, Clabby, & Schuyler, 1997). Several authors recognise the advantages of conducting school-based social skills training compared with small-group withdrawal programs (e.g., McGrath, 1996a; Michelson & Mannarino, 1986; Moote, Smyth, & Wodarski, 1999; Rice & Meyer, 1994; Weissberg & Allen, 1986).

Schools are also natural, more accessible settings for all students to develop social and coping skills (Michelson et al., 1986; Moote et al., 1999; Weissberg et al., 1986). Schools provide the opportunity to facilitate the generalisation of skills with peers and teachers, for example, and not just role-play situations used in training (Michelson et al., 1986; Moote et al., 1999; Weissberg et al., 1986). Training in the school setting is also more cost effective (McGrath, 1996a) and reduces the possibility of stigmatisation by withdrawal from class (Weissberg et al., 1986). McGrath (1996a) states that teachers appear to be as effective as outside consultants when delivering social skills programs which use direct teaching, reinforcement, dramatic enactment (role plays) and problem solving. Rice and Meyer (1994) advocate whole school programs integrated into the curriculum, which serve to intervene with a large portion of the adolescent population to reduce significant mental health problems. When

preventative programs are integrated within the school curriculum or conducted in the school setting, they serve the purpose of intervening with most of the adolescent population and thereby potentially preventing or at least reducing significant mental health problems and 'at risk' behaviour for the future (Cotta, Frydenberg, & Poole, 2000; Rice & Meyer, 1994).

1.5: The best time for training

In the context of the recent increase of interest in adolescent depression and mental health in general, it has been suggested that there are critical times that occur in young people's lives that are pivotal in their development (Fuller, 1999). These pivotal times or particular stages of the school years, according to Fuller (1999), are where the challenges faced by young people are greatest. Fuller affirms that these 'turning points' are predictable, and that school prevention programs that build resilience against adverse effects in young people can be provided. Fuller has identified six definite times at which these turning points occur. They are in early primary, middle primary, transition between primary and secondary, middle secondary, senior secondary and transition from school to work (Fuller, 1999). While this seems like a continual process, some points are more salient than others and appropriate intervention needs to be timely to match developmental needs (Bayer, 1996; Fuller, 1999).

The development of social competence at these difficult times is very important, not only as a developmental task in itself, but also because friends and social networks are said to act as a buffer against stress through social support (Fuller, 1999). In a summary of the results of several studies, Dornbusch, Laird and Crosnoe (1999) argue that peer relationships become more salient, especially for boys in adolescence, and that developing satisfactory peer relationships is a central task of adolescent development.

They assert that peer groups help to provide a sense of security. This sense of security fulfils a developmental need for group affiliation in intimate interpersonal relationships, which serves as a source of emotional and instrumental support to provide an adaptive niche in which to negotiate adolescence (Dornbusch, Laird & Crosnoe, 1999). Further, they report that peer groups are often a positive force in the life of the adolescent, that the selection of peer groups can be influenced by the family and the school, and that the relationships of the adolescent with the family and school can reduce susceptibility when the adolescent is exposed to antisocial influences within the peer group (Dornbusch et al., 1999).

Roberts (1999) argues a case for universal depression prevention efforts. She asserts that such efforts should begin in late childhood, before the increase in the prevalence rates and the gender bias, of higher depression rates for females. One way to address this is through social skills programs, to teach skills before issues turn into problems. As mentioned earlier, Roberts proposes that late childhood/early adolescence provides a developmental window of opportunity for prevention of depression. Bayer (1996) deduces that there may be a latency period during the primary years (in five to ten year olds) during which social skills training is less effective than during either preschool or adolescence. According to Bayer (1996) it may be that social skills training generally involves more "talk" than these middle year children may be prepared to follow. Therefore training which requires thinking through consequences, for example, social problem solving, may be more effective if introduced when the period of formal operational thinking, as proposed by Piaget (1947, 1980) is developing, at approximately 12 to 14 years of age.

1.6: Summary

Adolescence can be a developmentally difficult time physically, emotionally, psychologically and behaviourally. A sizeable proportion of young people develop mental health problems, with few receiving adequate help. There is also evidence that depression in adulthood has its roots in adolescence. It has been found that having effective coping skills can lessen the risk of mental illness such as depression. The best time and place to provide effective coping skills, such as social problem solving skills training appears to be in early adolescence at school. The Department of Education and the Department of Human Services in Victoria are two government bodies that support the implementation of preventative programs aimed at reducing the prevalence of mental health problems in young people. The understanding of adaptive and maladaptive coping and their relation to mental health provides part of the framework for the intervention that is part of this study. In the following chapter a review of the coping literature and its relevance to social problem solving is presented.

CHAPTER 2: REVIEW OF THE COPING LITERATURE

"Since every child at every moment of his life is exposed to the society in which he lives, he will certainly learn to cope with its conditions, provided his inner resources permit him to do so."

(Bettelheim, 1982, p. 5)

2.0: Introduction

The previous chapter outlined estimates of mental health problems for young people in Australia and America. The movement towards preventative measures involving primary prevention and early intervention and the optimal time and place for preventative training was discussed. These preventative measures are one of the ways proposed to enable young people to cope with difficulties before they become major mental health problems. This chapter reviews the coping literature and is presented in three broad sections. The first section describes the theoretical perspectives of coping. This section includes the definition of coping, the elements of coping, and the relation between coping and social skills. The next section explores the measurement of coping. The third section discusses the empirical associations for coping theory including coping in adolescence, gender differences in coping, and the implications for coping strategies that can lead to stress and associated mood states of depression and anxiety in adolescence. It is argued that an important aspect of effective coping involves good social problem solving skills.

2.1: Theoretical perspective of coping

Stress is a normal part of life, for adults as for adolescents, but in unfamiliar or difficult situations people can become stressed to the point of being unable to act effectively or appropriately. To be able to cope well, there needs to be a balance between people's perceptions of the demands placed upon them and their perception of the resources at their disposal (Frydenberg & Lewis, 1993a). This balance can be achieved through the use of adaptive or productive coping skills. Coping involves "the strategies and tactics that people employ to deal with conflict in their lives" (Opotow & Deutsch, 1999, p. 199). Frydenberg (1997) asserts that coping skills imply a range of behaviours akin to adaptation, mastery, and defence or 'realistic problem solving'. Realistic problem solving requires the three components of motivation, attitude, and behaviour (Frydenberg, 1997). Motivation implies a willingness to learn new and better ways to cope. Attitude implies beliefs about which coping strategies work best in particular situations. Behaviour involves appropriate coping action and a level of self-efficacy, involving the confidence that one can perform these actions.

The focus of coping in this study arises from a salutogenic approach to health. Antonovsky (1979) coined the term 'salutogenesis' to describe a more positive approach to health, involving prevention rather than cure. This differs from the medical model of pathogenesis or the pathogenic model on which mainstream Western medicine is largely based. The pathogenic model searches for cures for disease. The salutogenic model promotes wellness leading to the prevention of disease. The model operates on the notion of how individuals stay healthy, rather than what makes them ill (Antonovsky, 1979).

Just as the salutogenic model focuses on a preventative approach to physical wellbeing, so too the coping model (as opposed to the stress model) focuses on the

preventative approach to mental wellbeing. It is proposed that good social problem solving skills promote healthy relationships and play an important role in the prevention of mental illness. In this respect, the coping experience may be seen as an opportunity for building protection against the effects of difficult, aversive and harmful events. Such protection is known as resilience (Fuller, 1998). Traditional intervention approaches deal with issues after problems occur. Prevention strategies, including facilitating the development of effective coping skills are seen as ways to promote wellbeing among adolescents (Frydenberg, 1997). The social problem solving skills training program developed for this study is one such prevention program aimed at teaching and enhancing effective coping skills.

2.2: Definition of coping

Possibly the most quoted definition of coping in the literature is that of Lazarus and Folkman (1984), who define coping as the "cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p.141). This popular definition, based on adult coping research, stresses the constantly changing nature of coping as well as the dynamic nature of the individual, such as his or her personality and relative propensity to behave in general or specific ways, depending upon circumstances.

Frydenberg and Lewis (1993b) define coping as a set of cognitive and affective responses that arise in relation to a concern, representing an attempt to restore equilibrium or to remove the turbulence for the individual. Solving the problem such as removing the stimulus or accommodating the concern without bringing about a solution such as dealing with the emotion may restore equilibrium or remove the turbulence (Frydenberg & Lewis, 1993b). Therefore, coping contains cognitive and affective

elements, as well as the task-oriented and person-oriented elements as proposed by Lazarus and Folkman (1984).

Lazarus and Folkman (1984) believe that primary appraisal of a situation is central to the coping process and fundamental in its implications for a person's well being. Primary appraisal can be categorised into three types: irrelevant; benign-positive; and stressful (Lazarus & Folkman, 1984). The first type elicits no threat. The second type usually elicits positive feelings such as joy or happiness, for example and also produces no threat. The third type, according to Lazarus and Folkman (1984) includes three types of appraisals: harm/loss, threat, and challenge. Harm/loss involves actual harm or damage to the self or someone close. For example, a student may suffer physical or psychological injuries by the bullying behaviour of another student. Threat concerns the possibility of harm or loss that has not yet occurred. A typical example of a threat is where one student is threatened by another student and promises to get him after school, but nothing has occurred yet. Challenge, the third type of appraisal, shares elements of threat in that it often requires the need for coping resources. Challenge may involve positive and negative elements (Lazarus & Folkman, 1984). For example, being chosen for the football team may provide reward and recognition and at the same time present negative aspects such as ridicule for not performing well in the game. When a person identifies that there is a threat or challenge something must be done to manage the situation (Lazarus & Folkman, 1984). Lazarus (1999) later suggested that the three primary appraisal categories are better conceived as a single entity. However, the appraisal process remains similar in that there is still a process of primary appraisal followed by a further form of appraisal, known as secondary appraisal (Lazarus & Folkman, 1984).

Secondary appraisal involves a choice of response, usually the decision to act or not, the assessment of individual coping resources, the likely success or failure of different strategies, and an assessment of which strategy can be implemented successfully (Lazarus & Folkman, 1984). Secondary appraisal has similarities with Bandura's (1986) notion of 'self-efficacy', which is defined as "people's judgements of their capabilities to organise and execute courses of action required to attain designated types of performances" (p. 391). According to Lazarus (1999), self-efficacy is a personal coping resource that influences secondary appraisal.

Finally, reappraisal is also part of coping and is said to take place as the relationship between person and environment continues to change, and would occur after responding to the stressor, that is, after the coping effort. For example, if by dealing with the problem things improve or deteriorate, then the situation will change and may require less or more action, respectively. The outcome of this reappraisal then influences a new round of primary appraisal (Lazarus, 1999), where the individual has to decide if the threat still exists**.** Reappraisal may occur in a split-second or over a lifetime. The timing is not clear-cut but occurs for all coping, according to Lazarus (1999). This interactive model of coping put forward by Lazarus and Folkman (1984) has assisted research into coping greatly, including the development of coping checklists.

According to Frydenberg (1997), there are three important aspects to the Lazarus and Folkman (1984) definition of coping. First, coping is context bound, rather than primarily driven by stable personality traits. These contextual locations of youth can be classified under four major spheres of influence: school, home, peer group, and the broader community Frydenberg (1999). The situation may impact on the way in which the individual acts (Frydenberg, 1999). For example, young people may deal with

problems differently if they are at home compared to when they are at school or elsewhere. Second, coping takes effort and does not necessarily mean a completed outcome, merely an attempt to deal with the concern. This may involve behavioural acts or cognitions. For example, a student who is overloaded with homework may think about prioritising the tasks to be completed, but not necessarily complete these tasks. Third, coping is seen as a process that changes over time depending on the individual's appraisal and reappraisal of the situation. For example, a student may feel depressed and seek out counselling for the depression but as time goes on may feel able to deal with the issues independently by reappraisal of his or her situation.

Lazarus and Folkman (1984) have attempted to improve our understanding of the concept of coping by trying to define it clearly. In an effort to further understand coping many researchers have tried to categorise the ways in which people cope. These ways in which people cope have been categorised into coping styles. Some examples of these attempts to categorise coping include coping models proposed by Ayers, Sandler, West and Roosa (1996), Ebata and Moos (1991), and Frydenberg and Lewis (1993a). These will be discussed in more detail in Chapter 6.

2.3: Elements and styles of coping

According to Lazarus and Folkman (1984), there are two broad categories of coping, which are labelled problem-focused coping and emotion-focused coping. A problem-focused coping strategy involves 'actively engaging' in tasks that focus on solving the problem, for example 'work at solving the problem to the best of my ability' (Frydenberg & Lewis, 1993a). This differs from emotion-focused coping, which involves dealing with the feelings associated with the problem. An example of this may

involve using relaxing techniques to remain calm and relaxed in a situation where it may not be possible do anything to solve the problem.

Ebata and Moos (1991) conceptualise coping to be a two-dimensional framework that covers both the focus and method of coping. They assert that coping efforts can be either "behavioural or cognitive attempts that are approach (direct) or avoidant (indirect) efforts to manage a problem and its consequences" (p. 39). According to Ebata and Moos (1991), from this two-dimensional approach, four possible modes of coping become apparent. These four modes involve a combination of cognitive, behavioural, approach and avoidance. The cognitive approach mode involves mental preparation for the stressor and its consequences such as attempting to think about the problem in a positive way. The behavioural approach mode involves attempts to seek guidance or support, for example getting others' help or actually problem solving. The cognitive avoidance mode involves attempts to avoid thinking realistically about the problem such as trying not to think about it, for example by doing something else to take one's mind off the problem. The behavioural approach method includes attempts to get involved in other activities and create alternative sources of satisfaction, as well as other ways to reduce tension such as engaging in leisure activities or physical exercise.

Whatever the number of coping modes or styles, Folkman (1992) believes the notion of two broad categories is too simplistic, but she also cautions that the idea of too many categories is unwieldy. More recently, several three-factor models have emerged, although there is no firm agreement on the nature of these three factors (Steed, 1998). Parker and Endler (1992) are one team who support the notion of three categories. Their three coping factors are 'problem-focused' which is task-oriented, 'emotion-focused', which is person-oriented and 'avoidance', which can be either task or person oriented.

These terms are relatively self-explanatory, in that focusing on the problem involves attending to the task at hand, focusing on the emotion involves doing something to deal with the associated feelings, and avoiding means not dealing with the task or the feelings associated with the problem.

According to Frydenberg and Lewis (1991), some researchers believe that coping strategies are best characterised by grouping into functional and dysfunctional styles. The first two 'functional' styles represent direct attempts to deal with the problem, with or without assistance from others, while the dysfunctional styles relate to the use of strategies which both ignore the problem and focus on negative emotions (Frydenberg, 1997; Frydenberg & Lewis, 1993a). According to Frydenberg (1997), non-productive coping strategies, including worrying, seeking to belong, and wishful thinking are so named because they primarily involve strategies which avoid the problem and have been empirically associated with an inability to cope. They are non-productive in the sense that they fail to lead to a resolution or amelioration of the problem (Frydenberg, 1997). It is worth noting, however, that this category of non-productive coping may not be consistently maladaptive. There may be merit in not dealing with a problem immediately. For example, avoiding a dangerous situation or ignoring a bully may be the best option at certain times. This is especially pertinent in the schoolyard, where bullying can be an everyday occurrence: an occurrence to be avoided. More recently, Frydenberg and Brandon (2001) have relabelled the non-productive coping style as 'less-productive' coping, which is an indication that it has adaptive elements in certain situations.

Coping strategies are attempts to reduce stress and associated negative psychological states such as depression and anxiety. Some coping strategies manage stress in ways that are productive in that they do not lead to further problems in

themselves. Examples would include doing homework or studying for an exam, which may be stressful during the tasks but work to reduce stress when the homework is completed and handed in or the material for the exam is committed to memory. Other coping strategies, whilst providing temporary relief, may in the long term exacerbate stress, for example, relaxing prior to exams, but not studying. Thus, coping may not be seen as inherently good or bad but as characterised by either productive or non-productive strategies, which may be labelled as functional or dysfunctional, respectively (Frydenberg, 1997). Frydenberg (1997) asserts that functional coping serves the purpose for the situation compared with dysfunctional coping, which may not serve the purpose for the same particular situation.

According to Frydenberg (1997), functional coping occurs when a problem is defined, alternative solutions are generated and some action is performed. Dysfunctional coping refers to the management and expression of feelings that may serve an important purpose such as when dealing with events beyond a person's control or where any direct action is inhibited by barriers outside the person's control (Frydenberg, 1997). For example, ignoring insulting jibes by a bullying group of students may be seen as a productive strategy, but ignoring the traffic whilst crossing a busy road would most definitely be seen as a non-productive coping strategy. Therefore, the act of ignoring a problem in the former situation is functional and in the latter circumstance is not functional.

Frydenberg (1999) observes that in the coping literature there are anywhere from 4 to 18 domains or categories of coping that can be factored into two or three higher-order categories. Frydenberg and Lewis (1993a) developed the Adolescent Coping Scale (ACS) in an attempt to delineate coping styles and strategies characteristic of adolescents. The 18 domains were developed by Frydenberg and Lewis (1993a) through

extensive work with young people by asking them which strategies they use to formulate these domains. So they essentially come from the young people themselves. These 18 domains include the following strategies: seeking social support; focusing on solving the problem; working hard to achieve; worrying; investing in close friends; seeking to belong; wishful thinking; not coping; tension reduction; social action; ignoring the problem; self-blame; keeping to self; seeking spiritual support; focusing on the positive; seeking professional help; seeking relaxing diversions; and physical recreation. From these 18 domains, through factor analysis, they have identified three broad coping styles that young people use to deal with problem situations. These three styles are labelled, 'reference-to-others', 'solving-the-problem', and 'non-productive-coping'.

Reference to others involves strategies involving peers, professionals or deities, in a bid to deal with the concern (Frydenberg & Lewis, 1993a). Solving the problem refers to working toward a solution to solve the problem, whilst remaining optimistic, fit, relaxed and socially connected (Frydenberg & Lewis, 1993a). Non-productive coping involves avoidance strategies related to difficulty coping in a more direct way (Frydenberg & Lewis, 1993a). Each of these coping strategies involves elements of being able to relate to other people, requiring the use of social skills.

2.4: Coping and social skills

Coping can involve the utilisation of many social skills. Like any other skill, effective coping may be learned. However, there can be limitations in young people's learning abilities due to the developmental issues of early adolescence. Some of these developmental issues include young people's decision-making capabilities, their

cognitive development, their psychosocial development, and their level of social skills, as compared to adults.

Almost all adolescents confront many different types of life stressors for the first time often without a wide variety of coping strategies on which to rely (Patterson & McCubbin, 1987). For example, the transition from primary school into secondary college can be a daunting prospect, involving many new peers, new rules, class timetables and new teachers. When adolescents are unable to cope effectively with these new situations, or lack strategies or tactics to deal with conflict and change in their lives, the effects can be detrimental to their mental wellbeing. These adverse effects not only impact on their own lives but also on their families and the broader communities (Frydenberg, 1997). For this reason, adolescents could benefit from learning coping strategies and tactics to enable them to manage their concerns more effectively. Education about effective coping skills could occur the same way as other life-skills programs are conducted at school, such as social skills training, sex education, drug and alcohol education, time management or even study skills. These skills of coping link very neatly with and form part of the social skills necessary for good mental health.

Social skills involve many separate yet related elements. McGrath (1996a) merges many of the definitions of social skills to include the following key elements for young people at school. Social skills are the behaviours which someone (a student in this case) displays towards others, or in the presence of others that:

- help the student to maintain a good relationship with the other person
- help the student to get what she/he wants
- take into account the rights of the other person
- take into account the feelings of the other person in order to avoid alienation

- take into account the prevailing group norms about appropriate social behaviour (McGrath, 1996a).

As can be seen from the preceding list, relationships with others appear to play a significant role in possessing good social skills. These relationships usually take the form of good social support as an effective coping strategy. Social support has been described as the degree to which an individual's needs for affection, approval, belonging, and security are met by significant others (Kaplan, Cassell, & Gore, 1997).

As mentioned in the previous chapter, Fuller (1999) asserts that friends and social networks act as a buffer against stress via social support. Also, Frydenberg and Lewis (1993a) propose social support (i.e. reference to others) as a functional coping style. However, the benefits of social support are unclear (Sandler, Tein, & West, 1994). In a study of 196 children of divorce (7 to 13 years), Sandler and colleagues (1994) found that the positive relationship between support-seeking coping and symptoms of depression, anxiety and conduct problems "may reflect the children's dissatisfaction with the results of their support seeking efforts" (p. 1759). Thoits (1982) argues that although there is some evidence that social support can buffer the impacts of life changes, she asserts that this assumption must be treated with extreme caution for the following three reasons. First, social support has not been adequately conceptualised or operationalised. Second, it is unclear whether events may alter available support and support may decrease the likelihood of events occurring. Third, the theoretical relationships between life events, social support and psychological disturbance have not been clarified. Finally, Lewis and Frydenberg (2002) found a significant positive association between reference to others and an expressed ability to not cope after controlling for other coping factors, which may indicate dependence rather than

effective coping ability. However, some researchers have suggested that social support is a resource rather than a coping strategy (Hobfoll, 1988; Parker & Endler, 1992).

It has been discussed previously that effective or adaptive coping skills relate to employing techniques or skills that attempt to solve a problem, in this case with respect to problems arising in social situations, for example, "how do I make friends with this person?" or "how do we resolve this conflict?" Of the 18 strategies that Frydenberg and Lewis (1993a) propose, some of these are attempts to problem solve, for example, focus on solving the problem and work hard and achieve. Social problem solving skills have been expressed as the process in which individuals attend to, identify and implement effective means of coping with everyday problems encountered in real life (Baker, 2002). "Effective solutions to social problems require both cognitive skills plus a concern for the rights and needs of other people" (McGrath, 1996a, p. 29). Therefore, effective coping requires a good knowledge of social skills for someone to be an effective social problem-solver. Examples of social skills include playing games, being interesting, being positive, social risk taking, cooperating, standing up for yourself, showing empathy and helping others (McGrath, 1996a). These social skills involve an understanding and use of good communication skills involving listening, assertiveness and empathy.

According to Ladd and Mize (1983), social skills are the "ability to organise cognitions and behaviours into an integrated course of action directed toward culturally acceptable social or interpersonal goals" (p. 127). However, there are problems that can occur in the implementation of social skills. Gresham (1986) states that social skills problems can be grouped into four categories: skills deficits, performance deficits, self-control skills deficits, and self-control performance deficits. In the first group problems exist at the basic skills level involving knowledge of what to do. The performance level

involves knowledge of the skills but an inability to perform, usually due to anxiety (McGrath, 1996a). The self-control deficits occur when people have been inhibited in the learning or the performance of a skill, usually because of anger (McGrath, 1996a). Self-control performance deficits arise when a person knows how to perform a skill but does so infrequently or inconsistently, because of an emotional arousal response, for example due to anxiety or anger (Gresham, 1986). The difference between self-control skills and performance deficits is whether or not the child has the social skills in his or her repertoire in the first place (Gresham, 1986). On this basis being able to cope effectively with social situations involves having good social skills and not being able to cope effectively involves having a lack of social skills. There is a correlation between social skills and coping in the social environment.

Although social skills and coping are correlated the question of causality is unclear (Caldarella & Merrell, 1997). It is unclear whether social skills deficits lead to 'at-risk' behaviour in young people or vice versa (Caldarella & Merrell, 1997). There is a correlation between social problem solving skills deficits, such as non-productive or avoidant coping styles and depressive symptoms (Ebata & Moos, 1991; Hokanson & Rupert, 1991). These depressive symptoms may be the outcome of dysfunctional coping styles or ineffective coping styles may be the outcome of higher levels of depressive syndromes, because of the manifestation of different coping styles as a consequence rather than a cause of depression (Cunningham & Walker, 1999). This relationship between coping and mood forms an important component of the present study and will be discussed further in section 2.8.

2.5: Measurement of coping

Lazarus and Folkman (1984) have assisted research into coping by developing checklists of coping strategies to facilitate measurement. One of the first coping instruments to be developed with adults was the Ways of Coping Questionnaire – WCQ (Folkman & Lazarus, 1984). The WCQ is a situation-specific scale designed to measure how individuals cope in a given situation (Steed, 1998). By changing the administration instructions, this and other instruments such as the COPE (Carver, Scheier, & Weintraub, 1989) and the Adolescent Coping Scale – ACS (Frydenberg & Lewis, 1993c) can be used for the measurement of both coping style (general) and episodic (specific) forms of coping (Steed, 1998).

According to Frydenberg and Lewis (1991), two main approaches to measurement of coping have been used, namely self-report and observer-report. Self-report measures, as the term implies, involve the self-reporting of strategies used in a particular situation on a self-report inventory (Stone & Neale, 1984) to collect clinical data. The other method is that of observation of behavioural data and naturally involves the observation of another person or persons. In a school situation this may be a teacher or a psychologist, for example. These checklists are usually only practicable for a small number of participants (Frydenberg, 1997).

Measurement of coping among adolescents has generally been adapted from the adult measures (Frydenberg, 1999). However, the adolescent coping scale (ACS) developed by Frydenberg and Lewis (1993c) involved only adolescent samples in its development. Coping scales like the ACS measure general coping styles across situations or episodic coping, which is situation-specific coping or both (Steed, 1998). The advantages of using a general, versus a specific scale lie mainly in the fact that a general coping style scale allows comparison of use of strategies across various

stressors, or even the various stages of a single stressor (Steed, 1998). The ACS (Frydenberg & Lewis, 1993c) covers both contingencies by providing a specific and a general version, one printed on either side of the inventory. The specific form requires that the respondent state his/her "main concern" (specific) when rating the ways in which he/she copes, compared with ways in which he/she copes in a "wide variety of concerns or problems" (general). The rationale for the research study will determine which form is used.

There are several reasons for quantifying or measuring coping styles in adolescence according to Frydenberg and Lewis (1993a). First, it is important to understand the thinking, feelings, and behaviour of adolescents. The second reason is that it is important to understand that the ways that young people cope may become established patterns in adult life. Third, there is a need to investigate whether coping can be improved through education and educators. Educational material, such as social and coping skills programs may be developed from data gathered about young people's coping habits (Frydenberg & Lewis, 1993a). As well as a measurement of coping style, inventories such as the ACS can be utilised as self-help instruments, as research instruments, and to monitor cognitive behavioural change (Frydenberg & Lewis, 1993a).

In view of the different scales that are available, Schwarzer and Schwarzer (1996) provide a list of considerations which are relevant in the present study. First, scales should be developed on the basis of good empirical research and not be reliant on theory alone. Qualitative participant input is an important feature in the development of any scale. Second, as explained earlier, there are benefits and disadvantages of measuring general coping compared with specific coping, and both have their uses. The third consideration involves the decision to use real-life events or hypothetical scenarios

(e.g., for specific situations), as this may cause variation in the results. Fourth, there is a need to investigate stages of coping, such as a series of events, for example as depicted by the Lazarus and Folkman (1984) notion of primary-, secondary- and re-appraisals.

Another consideration according to Schwarzer and Schwarzer (1996) is that it is important to consider the dimensionality and hierarchy of coping scales. Dimensionality refers to the number of coping strategies included in a scale. For example, in the ACS these strategies include 'work hard' or 'find a way to let off steam'. Hierarchy refers to the higher order coping styles, usually through factor analysis of the coping strategies. For example, the ACS as factor analysed by Frydenberg and Lewis (1993a) includes the styles of 'productive coping', 'non-productive coping', and 'reference to others'. Authors of other coping scales propose different higher order factors which have some similarities across scales, even though the names of the factors are different. For example, some of the factors proposed include approach and avoidance coping (Billings & Moos, 1981), active, support seeking, distraction and avoidance coping (Ayers, Sandler, West, & Roosa, 1996; Sandler, Tien, & West, 1994). Active coping (Ayers et al., 1996; Sandler et al., 1994) is similar to approach coping (Billings & Moos, 1981) and productive coping (Frydenberg & Lewis, 1993a) and involves directly working on the problem. Support seeking is similar to reference to others (Frydenberg et al., 1993a) and so on. Inventories such as the ACS are able to fulfil both functions of general and specific measurement by collecting data on eighteen proposed coping strategies (items) and three coping styles (factors).

2.6: Considerations in adolescent coping

The ability to cope involves dealing with continually changing environmental and personal demands (Lazarus & Folkman, 1984). Adolescence is 'perhaps the most

dynamic period of an individual's life' (Plucker, 1997). The changes within the family, peer group and the self, and the stress caused by these changes can dominate a young person's life (Plucker, 1997). These changes may be both exciting and anxiety producing, as they are often new experiences that young people have not had to deal with before. These new experiences may be seen as challenges as described by Lazarus and Folkman (1984), and may have both positive and negative elements for young people. To be able to deal with these experiences effectively, appropriate coping strategies need to be implemented, and in many instances, this requires new social and psychosocial learning by young people.

The research into coping for children and adolescents seems to mirror that of adults, particularly with reference to problem-focused versus emotion-focused coping (Frydenberg, 1999). However, the adult-coping questionnaire formats and the assumptions of cognitive development and abstract reasoning applying to these formats mean that they are likely to be less valid and useful for children and young adolescents than for adults (Frydenberg, 1999). This is especially relevant when considering theories of cognitive (e.g., Piaget, 1947) and psychosocial development (e.g., Erikson, 1950/1975). In undertaking research on adolescents, it is important to use scales that are tailored to the age group, both in terms of readability and relevance of the concepts. The complexity of the language used in questionnaire items also needs to be appropriate and relevant. For example, the respondent needs to be able to comprehend the words used as well as typical examples of problem items (suitable for adolescents). This was a consideration for the ACS which was specifically developed for adolescents. Not only do consideration of language and relevance of items need to be considered but so do the developmental changes, including how young people cope across this developmental period.

There appear to be changes in adolescent coping across age. For example, Stern and Zevon (1990) found that younger adolescents are more likely to use emotion focused coping than were older adolescents. However, Frydenberg and Lewis (1993b) found that functional coping, such as actively working at resolving the problem decreases with age and emotional coping increases with age, such that adolescents 15 years of age and onward, cope in similar ways to adults. They assert that older adolescents generally use more tension-reducing strategies than do younger adolescents (Frydenberg & Lewis, 1993b).

It has also been found that adolescent concerns change with age. Compas, Phares and Ledoux (1989) report that the major concern for 12 to 14 year olds is family stressors, for 15 to 17 year olds it is peer stressors, and for 18 to 20 year olds it is academic stressors. However, a study conducted by Chapman and Mullis (1999) found no significant age-differences in preferred coping strategies for adolescents aged 12 to 19 years. Chapman and Mullis (1999) explain that this may be due to the location of the study in rural communities, from which their sample was drawn. They suggest that this may be affected by the limited availability of supports and resources available to rural adolescents and their families.

2.7: Gender differences in coping

Many studies have indicated gender differences in the ways that young people cope with their concerns (Bird & Harris, 1990; Broderick, 1998; Chapman & Mullis, 1999; Copeland & Hess, 1995; Frydenberg & Lewis, 1993b; Nolen-Hoeksema & Girgus, 1994; Robertson, 1996). When faced with difficult situations, girls tend to seek social support more than boys (Bird & Harris, 1990; Chapman & Mullis, 1999; Copeland & Hess, 1995; Frydenberg & Lewis, 1993b) whilst boys tend to use

diversions or distractions such as sport or exercise more than girls (Broderick, 1998; Chapman & Mullis, 1999; Copeland & Hess, 1995; Frydenberg & Lewis, 1993b). However, there are also other differences that have been identified. It has been reported that girls use emotion-focused coping such as crying whilst boys use different emotion-focused approaches such as swearing, complaining and taking anger out on others (Bird & Harris, 1990). A survey of 174 pre-adolescents showed that girls use a higher level of self-focused ruminative style of coping, which may be seen as an emotion-focused approach compared to boys who use more behavioural (e.g., go and play) or cognitive (e.g., just forget it) focused styles (Broderick, 1998). Self-focused coping is the tendency to focus on the distress and passively ruminate about it rather than taking action to distract oneself or act to change the situation (Nolen-Hoeksema & Girgus, 1994). The higher levels of self-focused rumination strategies used by girls as a response to experimental problem situations (i.e., vignettes) were also described as long-lasting and with negative impact (e.g., "I'd be in a bad mood all day," "I felt like I was going to die"). Broderick (1998) contends that the reasons why boys and girls differ in their reactions to stressful situations may be due to gender differences in emotional expressivity, socialisation about appropriateness of coping strategies, and experience with a range of coping opportunities. It is also possible that these 'preferred' coping strategies may impact on other problems such as depression later in adolescence and adulthood (Broderick, 1998). For example, Nolen-Hoeksema and Girgus (1994), in trying to explain these differences between adolescent girls and boys, observed a correlation between high levels of self-focused coping and expressed feelings of low self-esteem and loneliness, to explain the higher incidence of depression in females than males.

A survey by Chapman and Mullis (1999) of 361 year seven to twelve students aged 12 to 19 years (with a mean age of 15.5 years) found that females, as well as reporting the use of more social support, also reported more use of self-reliant strategies and spiritual support than males. A survey by Copeland and Hess (1995) of 244 ninth-grade students, found that females reported creating change either in actual or cognitive terms more frequently, whereas males tended to rely on stress reduction activities or diversions. A survey by Frydenberg and Lewis (1993b) of 673 year 7 to 11 students, found that females used more wishful thinking and tension reduction strategies than boys who reported physical recreation more often as a coping strategy.

Robertson's (1996) thirteen-nation study of 291 thirteen to fifteen year old boys and girls investigated who young people choose to talk to when they have concerns. It was found that males reported far more reliance on mothers and, to a lesser extent, fathers than did females. The females overwhelmingly described friends and classmates as confidants well ahead of parents. The study also found that females were far more likely to turn to their siblings for assistance, most often their sisters. Robertson (1996) further found that males seek advice from teachers more than from counsellors whereas the reverse is true for females. In general however, although there are gender differences in social and emotion-based strategies, boys and girls tend to use active problem solving strategies at similar rates (Frydenberg & Lewis, 1993b).

2.8: Relation between coping and mood

There is a significant relationship between stressful or negative life events in adolescents' lives and mental health (deAnda & Bradley, 1997), particularly with regard to depression (Compas, Oroson & Grant, 1993). Having effective coping and problem solving skills lessens the risk of depression in the face of negative life events

(Goodman, Gravitt & Kaslow, 1995). Furthermore, Ehrenberg, Cox and Koopman (1991) demonstrated that self-efficacy, which is the individual's judgements about how well he or she will be able to deal with specific situations in the future, is negatively correlated with depression. The results of a survey of 366 adolescents showed that low perceived self-efficacy is associated with depression, whereas higher levels of self-efficacy are related to lack of depression (Ehrenberg et al., 1991).

Cunningham and Walker (1999), in a survey of 115 year nine students, found a strong positive relationship between self-reported depression and non-productive coping (e.g., worrying and wishful thinking) and a negative association with an active or problem-focused coping style and depression. Furthermore, those who reported high usage of non-productive coping strategies together with low usage of productive or problem-focused coping strategies reported higher levels of depressive symptoms than those who reported any other combination of either productive or non-productive coping (Cunningham & Walker, 1999). Because of this the authors suggested that future training in coping skills should not only teach adolescents what to do but also what not to do when it comes to coping. Therefore, effective preventative training programs need to include skills training in not only what can be done but also what should not be done to cope effectively (Cunninghgam & Walker, 1999; Lewis & Frydenberg, 2002).

As well as this correlation between non-productive coping and negative mood there is also a correlation between the negative mood states themselves. For example, Axelson and Birmaher (2001) assert that there is a high correlation between depression and anxiety in children and adolescents. They propose that some of the difficulty in distinguishing between the two disorders may be because of the possibility that childhood anxiety and depression symptoms may be part of a developmentally normal stage and possibly different from adult symptoms (Axelson & Birmaher, 2001).

Axelson et al. (2001) raise the question whether depression and anxiety in children and adolescents are manifestations of a single construct or separate but related domains, and this idea will be discussed in more detail in Chapter 6. As some way of explanation in the DSM-IV-TR (American Psychiatric Association, 2000) there appears to be an overlap of clinical symptoms for depression and anxiety. Table 2.1 compares the criteria for major depressive disorder (MDD) and generalized anxiety disorder (GAD) from the DSM-IV-TR (American Psychiatric Association, 2000).

Table 2.1 indicates a distinct overlap for the symptoms of anxiety and depression. The criteria for diagnosis of child/adolescent depression and anxiety are similar and include one more criterion than for an adult diagnosis (i.e., Item 1 for major depressive disorder – MDD). The relationship between depression and anxiety is discussed in much more detail in chapter six, and is raised here initially and will be further explored in the relationship between negative affect (including depression and anxiety) and coping styles. The relationship between coping, such as productive and non-productive coping styles and mood states will be explored later in this study in the analysis stage.

Table 2.1

Overlap of criteria for diagnosis of major depressive disorder (MDD) and generalised anxiety disorder (GAD) as listed in DSM-IV-TR (common criteria are shown in italics)

	Major Depressive Disorder	Generalised Anxiety Disorder
1	Depressed mood most of the day, nearly every day (self report (e.g., feel sad or empty) or observation (e.g., tearful) **or irritable mood in children and adolescents*	*Irritability (cf. Item 1 in MDD)*
2	Diminished interest in almost all activities most of the day, nearly every day	Person finds it difficult to control the worry
3	Significant weight loss or weight gain (e.g., 5% of body weight)	Excessive anxiety and worry, occurring more days than not for six months
4	*Insomnia or hypersomnia nearly every day*	*Sleep disturbance (cf. item 4 in MDD)*
5	*Psychomotor agitation or retardation nearly every day (observable of subjective)*	*Restlessness or feeling keyed up or on edge (cf. item 5 in MDD)*
6	Fatigue or loss of energy nearly every day	*Being easily fatigued (cf. Item 6 in MDD)*
7	Feelings of worthlessness or excessive or inappropriate guilt (nearly every day)	Muscle tension
8	*Diminished ability to think or concentrate, indecisiveness, nearly every day*	*Difficulty concentrating or mind going blank (cf. item 8 in MDD)*
9	Recurrent thoughts of death	

2.9: Summary

The model of coping proposed by Lazarus and Folkman (1984) is a continually changing process between a person and his or her environment. The concept of coping as a process rather than a dispositional quality (i.e., fixed trait) allows coping to be quantified in terms of a number of strategies, for example, eighteen strategies in the ACS, and styles, for example, the three styles of productive, non-productive and reference to others in the ACS (Frydenberg & Lewis, 1993a). Although the ACS quantifies 18 strategies and three styles, this is only one model and there are many possibilities and overlaps of strategies and styles as will be shown in more detail later in Chapter 6. Coping in adolescence may be qualitatively different than coping in childhood and adulthood and may even differ and change at various stages throughout

adolescence. Gender differences are evident and generally speaking, girls tend to share experiences with others whilst boys tend to use distractions from the problems. There are implications for particular coping styles that may be investigated for associated stress related mood states such as anxiety and depression. Effective coping in adolescence appears to involve good social problem solving skills that can be taught in training programs. Many of these training programs as well as their outcomes are explored in the next chapter.

CHAPTER 3: REVIEW OF PREVENTION PROGRAMS

3.0: Introduction

The coping research literature needs to be considered when developing social problem solving skills training programs. Information about coping, including descriptions of coping strategies young people use, gender differences in coping, and findings from coping research were presented in the previous chapter. This chapter describes and presents evaluations of a range of social problem solving programs used with young people. Problems with the generalisation and maintenance of skills for prevention training programs are discussed. Several different empirical models of social problem solving are compared and common threads explored. The information gathered from the literature discussed in this chapter and the theoretical material in the next chapter will be combined to develop the social problem solving skills training program used in this study.

3.1: Evaluation of prevention programs

Although there are many social problem solving skills training programs for children and adolescents in schools that are aimed at preventing 'at risk' behaviour from developing, relatively few have been evaluated for their effects on coping and emotional distress (Rutter, 1996). A search of the literature indicated several studies that have been conducted among children and adolescents, which included training in social problem solving skills and coping. These studies yielded varied results.

Seminal studies were conducted by Shure's group (Shure & Spivack, 1972; Shure, Spivack, & Jaeger, 1971; Spivack &, Shure 1989) in interpersonal cognitive

problem solving (ICPS) skills training, also termed social problem solving skills training. These studies generally focused on the younger age group from preschool to the preparatory year. The studies provided a starting point for other similar programs conducted with young children (e.g., Gesten et al., 1982; Ridley & Vaughan, 1982; Sharp, 1981; Weissberg et al, 1981a; Weissberg et al, 1981b; Winer, Hilpert, Gesten, Cowen, & Schubin, 1982). The original program, based on a 42-lesson, manualised script teaches interpersonal cognitive problem solving (ICPS). This involves games that teach language skills, identification of emotions in self and others, and the ability to think of alternative solutions to interpersonal problems. Shure and Spivack (1978) "emphasise techniques that enhance the child's ability to think through and solve problems and decide for himself what and what not to do" (p. 6). They give the example of the child hitting another child who may be reminded that hitting is *one* thing he can do and then asked if he can think of something different he can do to solve the problem. They report that this approach helps children to evaluate these solutions and then discover that there is more than *one* way.

Spivack and Shure (1989) assert that ICPS programs "enhance cognition, enhance prosocial behaviour and ameliorate maladaptive behaviours" (p. 174). Generally speaking, these studies showed that groups of children trained in ICPS as compared to control groups, improved at a cognitive level but this did not mediate behavioural adjustment. Sharp's (1981) summary made the point that,

> "such training does not ensure an increase in the child's usage of the more prosocial solutions and a decrease in his or her usage of the more aggressive, dominant, or impulsive solutions when in an actual problem situation, and, thus, does not lead to improved behavioural adjustment as defined by Shure and Spivack" (p. 142).

Research into the effectiveness of social problem solving skills training programs has been conducted over many years and varies considerably, and outcomes are diverse. To be able to decipher the various outcomes, a review of the studies was conducted in two parts. These studies are divided into two age groups. Results are shown in Table 3.1 and Table 3.2. The first group is loosely based on the early studies of ICPS by Shure's group (Shure & Spivack, 1972; Shure, Spivack, & Jaeger, 1971; Spivack & Shure 1989) and involves younger children from preschool up to grade four. The second group includes other types of ICPS programs and involves older children from about grade five to about tenth year. The distinction between childhood and adolescence is becoming less clear with the ever increasing reduction in age for puberty (McNamara, 2000). Therefore, an arbitrary division between childhood and adolescence allows for a convenient grouping of the aims and outcomes of the two types of programs. Table 3.1 groups studies for children and the Table 3.2 groups studies for pre-adolescents and early- to mid-adolescents.

The training programs in Table 3.1 and Table 3.2 share several common elements of direct social skills training (DSST) and social cognitive training (SCT). Direct social skills training (DSST) includes direct teaching, modelling and role-play, and reinforcement in a naturalistic setting. McGrath (1996a) asserts that DSST interventions usually include the following procedure: first, specific skills are identified and discussed with the students; then, the skills are directly taught and practised in role-play; finally, the use of these skills is reinforced in real life settings. According to McGrath (1996a), SCT usually involves programs where hypothetical rather than real-life social problem solving is the focus. None of the programs reviewed appears to utilize reinforcement in a naturalistic setting, unless the contrived setting of the classroom, during a training program, is considered as such. Therefore, most training

programs, in school settings at least, appear to use SCT rather than DSST. Issues related to SCT and DSST will be discussed later in this chapter.

The training programs shown for the older group (Table 3.2) were conducted in normal classroom settings, mostly with normal populations of children/adolescents (Clarke et al., 1993; Cotta, et al., 2000; Cunningham, 2002; LeCroy & Rose, 1986; McGrath, 1996b; Shochet et al., 2001; Thompson, Bundy & Broncheau, 1995; Wise, Bundy, Bundy & Wise, 1991). Three studies from the older group were not conducted with children from normal populations. These comprise a study by Reed (1994) with students who met the criteria for major depressive disorder in DSM-III-R (American Psychiatric Association, 1987), and two studies with students at risk of future depression (Gillham, Reivich, Jaycox, & Seligman, 1995; Jaycox, Reivich, Gillham, & Seligman, 1994). One study in the younger group (Shure & Spivack, 1972) compared normal children with disturbed children (with emotional and social disorders) and the others were conducted with normal school or preschool populations.

In most of the studies for the younger group, there were improvements in verbal or other rated behavioural adjustment for the trained students compared with the control groups, meaning the cognitive acquisition of skills also generalised to behaviour. However, there were two studies that did not show improvements on behavioural adjustment (Nelson & Carson, 1988; Sharp, 1981), only verbal generation of social problem solving, meaning they could say what strategies could be used but were unable to carry out these strategies.

Most of the studies with the younger age group (Table 3.1) involved pre- and post-testing. Only one of the programs (Ridley & Vaughan, 1982) involved a delayed or follow-up post-test. In the older age group (Table 3.2), most involved delayed, follow-up testing (Clarke et al., 1993; Cunningham, 2001; Gillham et al., 1995; Jaycox et al.,

1994; Reed, 1994; Thompson et al, 1995; Thompson et al., 1996; Weissberg et al., 1997; Wise et al., 1991).

Table 3.1
Social problem-solving skills training studies for younger children

Authors	Number, age, and type of participants receiving treatment*	Trainers	Number of sessions and length of program	Type of study	Control or comparison group ©	Dependent variable(s)		Results
						Task and/or tests	Outcome measures	
Allen, Chinsky, Larcen, Lochman, & Selinger (1976)	N = 150 Mean age = 9-years (from 6 classes)					Modelling, small group, follow-up and assessment.	Modified MEPS (Shure & Spivack, 1972) – PSM Structured real-life problems In-class assessments	Trained children had higher PSM score, more alternatives, and more steps to solutions
1. Gesten, et al. (1982)	N = 201 Grades 2 & 3		17 lessons over 9-weeks	Social problem-solving skills				Experimental group improved more than the comparison group in SPS skills, they showed lower ratings on adjustment and no change on peer- and self-rated adjustment measures

Table 3.1 (cont)

Nelson & Carson (1988)	Study 1 N = 77 Grades 3 & 4	N = 49 Normal children in Grades 3 & 4	Classroom teachers, teacher aide, second author and 6 undergraduate students	Similar to Weissberg et al., above 1 hour per week for 18 weeks	Social problem solving training	N = 52 (non-equivalent controls)		Experimental group improved SPS skills cf comparison but positive and negative changes for behavioural adjustment
	Study 2 N = 72 Grades 3 & 4	N = 48 Grade 3 & 4	3 classroom teachers	34 lessons of the Rochester program	Social problem solving skills	N = 14 (grade 3)		Experimental and control improved SPS skills NOTE: cognitive effects appear to be the only clearly documented changes resulting from SPS training with children
Ridley & Vaughn (1982)	N = 16 Age range = 4Y5M to 5Y0M 7 females Preschool Children	Graduate student with prior teaching experience	40 sessions 15-20 minutes over 10 weeks	Problem-solving using acting and puppets (withdrawal into adjacent building)	N = 20 6 females	Cognitive Problem-solving and Behavioural Problem-solving (as per Shure & Spivack, 1974)	PIPS (Shure & Spivack, 1974) BPIPS (Shure & Spivack, 1974)	Experimental group showed improvement in cognitive-verbal and behavioural-interpersonal cf. control group at post-test and at 3-month follow-up

Table 3.1 (cont)

Sharp (1981)	N = 54 3Y9M to 4Y9M 25 females Preschool children	Fourteen undergraduate and graduate students testers, observers and trainers	Forty-four, 15 to 20 minute lessons over 11 day	Interpersonal problem-solving training	N = 53	Verbalized social problem-solving and behavioural adjustment	PIPS, WHNG, Hahneman preschool behaviour rating scale (Shure and Spivack, 1974)	Verbal generation of alternative solutions increased but no behavioural adjustment
2. Weissberg et al. (1981a)	N = 563 Grades 2, 3, & 4 (8 schools)	Teachers and undergraduates	42 lessons over 14 weeks	Social problem-solving skills	N = 231	8 step program in SPS	Open middle test Simulated behaviour problem-solving PS interview PS abilities	Experimental group showed improved PS skills and adjustment measures than comparison and more positive adjustment than Gesten et al (1982) study)
3. Weissberg, et al. (1981b)	N = 243 (e = 122) Third grade students	14 trained undergraduates	52 highly structured 20-30 minute lessons (144 page training manual)	Social problem-solving training	N = 121	Means-end thinking, alternative solutions, problem-identification, behavioural performance	Means-end thinking, Alternate solution, social role-taking, problem identification/consequential thinking	Program children improved more than controls on several cognitive skills as well as behavioural performance
Winer, Hilpert, Gesten, Cowen, & Schubin (1982)	N = 109 53 females Kindergarten Children	Six undergraduate aides	42 lessons , 130-page manual	Social problem solving program	N = 46 (comparison)	Language skills Feelings Problem ID Alternative solutions Consequential thinking	SPS kills Adjustment Sociometric ratings	Experimental group improved in social problem in comparison to Controls, and in several areas of adjustment .No adjustment in SPS skills acquisition

NA = not available. SP-SS = social problem-solving skills training. ICPS = interpersonal cognitive problem solving. SST = social skills training., * Numbers do not include control groups.

Social problem solving skills training studies involving upper-primary to secondary school-aged children, shown in Table 3.2 explored various outcomes and showed mixed results. Some studies that measured cognitive and behavioural change were similar to the results of studies from the younger age group. However, several study results indicated a failure to generalise from the cognitive to the behavioural (Thompson et al., 1995; Thompson et al., 1996; Wise et al., 1991). This is of concern because it indicates that although these young people were able to work out solutions to their problems they appeared to have difficulty putting these solutions into practice: in other words, transforming the idea into the skill.

Two studies showed a decrease in depression for boys but not for girls (Clarke et al., 1993, study 1 & 2). Two studies showed a reduction in an expected increase in depression (Gillham et al., 1994; Jaycox et al., 1995), meaning that the normal expected progression of depression in young people did not occur which was claimed to be a result of the training provided by the Penn Prevention Program. Three studies showed an increase in problem solving skills (Cunningham, 2001; McGrath, 1996b; Weissberg et al., 1997). Two studies showed perceived increases in coping skills (Rice et al., 1993; Rice et al., 1994). One study showed a decrease in non-productive coping (Cotta et al, 2000). A summary of results is shown in Table 3.2.

Another point of interest is the duration of these programs. Some programs were as short as three sessions (e.g., Clarke et al., 1993), or as long as 45 sessions over two years (e.g., Thompson et al., 1995). The number of sessions appeared not to matter as much as the program itself, with effective outcomes for programs regardless of the program length.

Table 3.2.
Social problem-solving skills training programs for older children and adolescents

Authors	Number, age, and type of participants receiving treatment*	Trainers	Number of sessions and length of program	Type of study	Control or comparison group (c)	Dependent variable(s)		Results
						Task and/or tests	Outcome measures	
Clarke, Hawkins, Murphy and Sheeber (1993) Study 1	N = 361 Mean Age = 15.40 years (SD = 0.61) Ninth graders	Trained health class teachers	3 consecutive 50-minute sessions	3 structured lectures & two 20-minute videos on symptoms, causes & treatments for depression.	N = 261 Mean age = 15.29 Years (SD = 0.59)	NOTE Attrition at 12-week follow-up of 54 students (9.5%) of initial sample. No significant diff between trained and non-retained Ss for age and gender.	Centre for epidemiological studies depression scale (CES-D)	Short term reduction in extreme scoring depressive symptoms for boys but not girls cf control but not sustained over 12 week period
Clarke, Hawkins, Murphy and Sheeber (1993) Study 2	N = 190 (in 7 classes) Mean age = 15.24 years (SD = 0.63) 9^{th} and 10^{th} graders		5 consecutive 50-minute classes	Behavioural skills training	N = 190 (in 7 classes) Mean age = 15.03 (SD = 0.72)		NOTE Attrition at 12-weeks 21.1% of initial sample)	No change

Table 3.2. (cont)

Cotta, Frydenberg and Poole (2000)	N = 87 Age 11.11to 13.10 Secondary school students	Teachers and school psychologist	10 weekly-sessions – Manualized	Coping skills program	Yes	ACS		Reduction in non-productive coping strategies for program participants Increase in sense of psychological control of problems Increase in productive coping Reduction in negative explanatory style (eg. worry, tension reduction, self-blame)
Cunningham, Brandon, and Frydenberg (2002)	N_e = 160 Grades 5 & 6	School psychologists and teachers	Eight weekly 60-90 minute sessions	Bright Ideas: Skills for positive thinking	N_c = 135	Pre- and post-test	CCS & CICES	Trained children reported sig. improvements in coping efficacy, and reductions in depressive attributions and non-productive coping when compared to controls.
Gillham, Reivich, Jaycox, and Seligman (1995)	N = 69 10 to 13 Years children 'at risk'	Trained by authors of the study		Two-year follow-up of Jaycox et al., 1994 study	N = 49	A/A		Fewer reported symptoms by treatment group & mod to severe symptoms reduced by half Effects of the program grew larger after the program was finished

Table 3.2 (cont)

Jaycox, Reivich, Gillham, & Seligman (1994)	N = 69 10 – 13 years Grades 5 & 6	Trained by authors of the study	1.5 hours per week for 12 weeks	Penn Prevention Program Social problem-solving and cognitive training (learning to evaluate accuracy of beliefs)	N = 73	CDI RCDS CBCL Teach reports		Depressive symptoms were significantly reduced & classroom behaviour was significantly improved for the treatment group cf. controls at post-test and follow-up. 6-month follow-up showed continued reduction on depressive symptoms as well as fewer conduct problems cf. controls Most 'at-risk' children showed the most improvement
LeCroy and Rose (1986)	N = 73 3-experimental conditions and one control placebo Year 7 students	4 Masters of Social Work students.	Eight-daily 50-minute sessions	Four experimental models: *Soc-skills group *Problem-sol group *Comb soc-cog & soc-skills group *Attention–placebo group	NO (attention-placebo control group)	Pre-test and post-test	Multiple measures *Alternative thinking test *Alternative consequences test *Social role taking *Defining issues test *Behaviour role-play test *Satisfaction of participants	Within-group change on all measures – problem-solving, social skills and Combined social-cognitive and social skills.

Table 3.2 (cont)

McGrath (1996)	N = 415 Grades 3,4,5,6 (from 2 schools)	Classroom teachers		3 test conditions and control DSST (98) SCT (102) Combined (99)	Control = 100	Pre- and post-tests	Sociometric tasks, peer, classroom climate, self-efficacy, self-report (loneliness), self-esteem, Social problem-solving task, behavioural observation	Experimental group improved classroom satisfaction and some aspects of social problem-solving cf controls
Reed (1994)	N = 18 adolescents who met criteria for major depression or dysthymic disorder from DSM-III-R Age = 14 to 19 years	Author	12 sessions bi-weekly for 6 weeks	Structured learning therapy (SLT)		Pre- post- and 6-8 week follow-up testing	Self-esteem and personality CDI FDI BDI SEI PIC	Reduced depression in males but not females
Rice et al. (1993/4)	N = 67 Age = NA?? 7^{th} graders	Co-led post-bachelor degree students and graduate students in human development studies.	16 sessions, twice weekly for 8 weeks	Interpersonal coping skills	N = 78	Specially developed measures	NOTE: Dose rate 73% due to absences for various reasons	Perceived increases in coping, control over interpersonal and school problems, improved relationships with family and peers cf control group

Table 3.2 (cont)

Shochet et al. (2001)	N = 260 Year 9 students	Psychologists and teachers	11-sessions in class & 3-sessions for parents	Universal depression prevention program 2 test conditions RAP-A, RAP-F and a control	Control = 126	Pre-, post- and 10-month follow-up tests	RADS, CDI, BHS	Significantly lower levels of depressive symptomatology at post- and follow-up test compared with controls. Reported high satisfaction with the program.
Shure & Spivack (1972)	N = 108 N = 74 normal 10 – 12 year olds M = 11.5 Yrs		Six stories read start and end and Ch. fill in middle		N = 34 Disturbed Ch.			Disturbed Youngsters were not able to solve problems via means-ends thinking with as high a level of efficiency as normals
Thompson, Bundy, and Broncheau (1995)	N=28 sixth graders (whole class)	3 female & 3 male adults	12 semi-weekly 40 minute lessons	Assertiveness Training (26 learning objectives)	N = 28 (whole class)	Pre-, post-, 3-month follow-up tests	26 questions related to 26 learning objectives	Unable to conclude that assert knowing about assertiveness will enable assertive behaviour - fail to generalise.
Thompson, Bundy, and Wolfe (1996).	N =22 fifth graders	3 women & 2 men	similar to 1995 study with emphasis on verbal and non-verbal performance components	Assertiveness Training	cont 1 = 23 (cognitive performance), cont 2 = 23 (cognitive testing only)	Pre- and post-tests	26 questions cognitive acquisition & role plays – making a request & changing a previous decision	Although cog changes are evident, the young adolescents failed to generalise assert skills

Table 3.2 (cont)

Weissberg, Barton and Shriver (1997)	6th and 7th graders		45 sessions over two years	SCPP-YA			Maintained improvements in problem solving, prosocial values and teacher rated peer relations and behaviour.
Wise, Bundy, Bundy, and Wise (1991)	N = 22 sixth graders	2 female adults	Six 40 minute sessions, semi-weekly	Assertiveness Training	control = 20	Pre-, post-, and 6-month follow-up tests	Experimental group maintained cog acquisition (symbolic) of information immediately and at follow-up, cf. control group

NA = not available. SP-SS = social problem-solving skills training. ICPS = interpersonal cognitive problem solving. SST = social skills training.
* Numbers do not include control groups.

3.2: Published programs

In Australia, there are now several social problem solving skills programs, based on sound research and practice that can be purchased. Two popular programs in social problem solving skills training include "Gofer" (Mann, Harmoni & Power, 1989) and "Stop Think Do" (Petersen, 1991). The 'Gofer' program of decision making for Australian students has already been shown to be effective within the South Australian school system (Mann, Harmoni & Power, 1989). Gofer uses a cognitive approach within a comprehensive course on the conflict theory of decision-making developed by Janis and Mann (1977). The term Gofer is a user-friendly acronym for the steps of conflict theory: Goals, Options, Facts, Effects, Review. It is a long-term training program, recommended to take place over two-years involving at least sixty teaching hours (Drent & Frydenberg, 1995). The use of drama for a significant proportion of students is clearly a vehicle to be used and extended in decision-making. Two valuable aspects welcomed by students in evaluative comments about the Gofer training include the use of video and drama as teaching approaches as well as 'non-bookish' modes of learning (Drent et al., 1995).

The program, the Stop Think Do (Petersen, 1991, 1992) method of social-problem solving and relating is a program of behaviour management skills for adults and social skills training for children. It represents the culmination of theory, research and practice in social development, plus the incorporation of developmental, systems and community psychology (Petersen, 1991). According to Petersen (1991), cognitive and behavioural skills will not be acquired unless people are socially interested and motivated, and want to improve their interpersonal relationships. This may be a problem for school based, whole-class-training as the participants have not been identified as necessarily wanting to improve their social problem solving skills.

Other programs are continually being developed and three of these which focus on Australian research and Australian students include, The Heart Masters (Fuller, Bellhouse & Johnson, 2001), The Best of Coping (Frydenberg & Brandon, 2002), and Bright Ideas (Brandon & Cunningham, 1999). The first program comprises 20 sessions which cover topics including persistence in the face of frustration, control of impulses and regulation of moods. All are helpful in managing social problems (Fuller et al., 2001). The second program, developed by Frydenberg and Brandon (2002), although a much broader program than just social problem solving was based on Australian research. This program comprises ten modules. The first four introductory modules incorporate a theoretical framework and language of coping, appraisal of situations, warnings on approaches to avoid, and communication skills. The next six sessions involve training in problem solving, decision making, goal setting and time management. An evaluation of the program by Cotta, Frydenberg and Poole (2000) involving 87 year 7 students, found that participants who completed the program showed decreases in non-productive coping and increases in self-efficacy, compared to controls. There was also a trend toward increases in productive coping for those participants who completed the program, compared to controls.

The third program is Bright Ideas. The Bright Ideas program was developed by Brandon and Cunningham (1999) and teaches skills of optimistic thinking, similar to the Penn Prevention Program outlined in the book entitled 'The Optimistic Child' (Seligman et al., 1995). Although the program covers broader topics than only social problem solving it includes topics such as the connection between thoughts and feelings with positive or negative self-talk leading to positive or negative feelings, lasting or temporary attributions (such as checking your negative thoughts), and techniques to help students stop thinking the worst (Cunningham, 2001). Essentially, this program

attempts to teach Ellis's (1962) rational emotive thinking techniques. These techniques include the skills of observing and challenging negative self-talk and preventing an event from being thought of as a catastrophe, known as decatastrophizing. The techniques also include the generation of alternative coping positive thoughts. The program was evaluated by Cunningham (2001). She found that for grade five and grade six students who were trained, direct positive and negative program effects were found for coping self-efficacy and non-productive coping, respectively, compared with non-trained students.

Another long-standing program for school children is entitled 'Friendly Kids, Friendly Classrooms' (McGrath & Francey, 1991). This is a program aimed at teaching twenty-one social skills that the authors believe to be important for the success of interpersonal interactions. Although a broad range of social skills is taught in the program, an important element is the social problem solving process which will be discussed later in this chapter in conjunction with other social problem solving models.

3.3: Problems with the generalisation and maintenance of training

Tisdelle and St Lawrence (1986) claim that the problem solving literature seems to assume that generalisation to other situations of the skills learned in training will be an automatic phenomenon outside the training. More specifically, generalisation is described in terms of skills learned in training as transferred or maintained across time, settings, behaviours or subjects (Gresham, 1985). However, there is evidence to show that skills learned in training sessions do not occur automatically or easily in other daily settings outside training as mentioned in the section on evaluation of programs (Sect. 3.1). Pelligrini and Urbain (1985) reviewed the empirical evidence for the efficacy of interpersonal cognitive problem solving (ICPS) training of six primary prevention

studies and eight secondary prevention studies, both as a focus of social remediation efforts with clearly disturbed youth and of preventative work with children and adolescents. They report that, with few exceptions, these studies have been consistent in demonstrating cognitive gains with treatment in the absence of associated changes in social behaviour and peer acceptance. In other words, training fails to generalise from the theoretical to the practical. Possible reasons offered may be due to inadequacy of training, restricted range of social behaviour characteristics of non-clinical samples, insensitivity of measures, and the lack of evidence of long term effects due to a dearth of follow-up data (Pelligrini & Urbain, 1985).

An earlier review (Urbain & Kendall, 1980) of eleven social-cognitive problem solving interventions with children in school settings, involving anything from 10 minute sessions with eight aggressive preschool boys to 46, 20 to 30 minute sessions with 113 impulsive children, showed encouraging results. However, the reviewers stress the need for future research to include assessments of behavioural adjustment to validate the practical utility of these programs by demonstrating observable, long-term behaviour improvements (Urbain & Kendall, 1980).

A critical review (Gresham, 1985) of thirty-three social skills training procedures, using cognitive behavioural theory (CBT) showed little evidence to support the notion that social problem solving skills training using CBT training procedures lead to greater generalisation and maintenance than operant methods (such as used with children with mental deficiency, autism, or an emotional disturbance). Gresham (1985) also concluded that the most significant problem in CBT-based social problem solving research is that it fails to demonstrate changes on socially valid outcomes.

Coleman, Wheeler and Webber (1993) who reviewed nine studies on interpersonal problem solving training for children with behaviour problems in

educational settings, concluded that results showed cognitive gains but were less successful in applied actual behaviour or generalisation to other social behaviour. Results of the Moote, Smyth and Wodarski (1999) review of 25 social skills training programs (as interventions in educational settings) should be viewed, they say, with "cautious optimism". Although none of the programs reviewed was reported as harmful or damaging in any way to students, only 14 reported beneficial effects for participants, nine reported limited or mixed results, and two of the 25 reported that social skills training was no more effective than the control or comparison condition. Unfortunately, the Moote et al. (1999) review of social skills training includes only two social problem solving skills training programs out of the twenty-five studies reviewed. The first study is that of Conte, Andrews, Loomer and Hutton (1995) for learning disabled children in whole-class groups. This study comprised training over a six-month period. Results indicated that the 12 children who received training (mean age of 12.2 years) showed improvement in social problem solving skills in interview situations involving responses and provocations compared with a control group of 15 children (mean age of 13.3 years) who received no training. The second study is that of LeCroy and Rose (1986), which is a preventative program for adolescents (year seven students). Results of this study for the three treatment groups showed within group improvements on measures of alternative thinking, alternative consequences, social role taking, defining issues, and behavioural role-plays.

The King, Ollendick and Gullone study (1991) reported gains within the training setting but indicated difficulty with skill generalisation to other settings. It is suggested that inflexible, well-established friendship groups and a prior history of negative contact with other children who have behavioural problems (who also need to be targeted by these programs) may inhibit the maintenance and generalisation of a wide range of

treatment effects (Pelligrini & Urbain, 1985, p. 38). Therefore, not only do children with social difficulties (i.e., target children) require specific skills training, but peers' behaviour toward and perceptions of target children may also require modification according to Strain and Fox (1981). This suggests a need for conducting skills programs that are universal such as whole-class or whole-school programs, with normal and target children included.

3.4 Models of problem solving

There are several models of social problem solving. These models usually delineate a varying number of quite clear steps involved in a social problem solving process (McGinnis, Goldstein, Sprafkin, & Gerhaw, 1984; McGrath & Francey, 1991; Petersen and Gannoni, 1992; Seligman et al., 1995). Of those investigated, there appears to be a common thread throughout, involving four basic steps, that can be summarised by the steps in the Petersen and Gannoni (1992) model of Stop-Think-Do, with the inclusion of a fourth evaluative step. These steps involve stopping what one is doing when confronted with a problem situation, thinking about what actions are possible, choosing and acting on the choice made in the previous step, and finally evaluating the effect of the chosen action. Four models of problem solving are presented for comparison in Table 3.3.

Table 3.3
Comparison of four models used for teaching social problem solving, showing the steps involved in each model.

Steps	Models of problem solving Authors			
	Goldstein (1980); McGinnis, Goldstein, Sprafkin, & Gerhaw. (1984). Skillstreaming the Elementary School Child	McGrath & Francey (1991). Friendly Kids Friendly Classrooms	Petersen and Gannoni (1992). Stop, Think, Do	Seligman et al. (1995). Penn Prevention Program
STOP/SLOW DOWN		Say the problem and how it makes you feel Decide on your goal		
	Stop and say "I have to calm down." Decide what the problem is.	Stop and think before you do anything	STOP: Stop and clarify the problem, with associated feelings and what you want to happen	Slowing down
THINK	Think about different ways to solve the problem	Think of as many possible solutions as you can	THINK: Think about and generate many possible solutions	Perspective taking
CHOOSE AND ACT	Choose one way.	For each solution, think about what might happen next if you do that		Goal setting
	Do it.	Choose the one which sounds the best and try it out	DO: Choose the best solution (the one with the most acceptable consequences) and put into action.	Choosing a path
EVALUATE	Ask yourself "How did this work?"	If that one doesn't work, try the next best one	If it does not work, go back to start	How did it go?

As can be seen from Table 3.3, the most elaborate model of social problem solving appears to be that of McGrath and Francey (1991). This model involves settling on a goal before stopping to think. However, it does involve firstly, saying the problem

and identifying the associated feelings, which necessitates stopping to think. This is an important cognitive and emotional recognition of the presenting problem. Recognition of the emotional component is an important step, otherwise the person may be acting primarily on emotional instinct, rather than using a rational response based on a full awareness of the emotional components. This is not to say that an emotional response is always problematic. Acting purely on emotional instinct may mean the difference between life and death in a life-threatening situation. This is known as the fight or flight response, so named by Walter Cannon in 1929 and hypothesised to be the response that our ancestors used when faced with danger, such as a wild animal (Nevid, Rathus, Greene, 1994). A similar situation nowadays might be when a person is being physically assaulted or threatened by another person and the protective fight or flight response acts automatically to protect the individual from danger. However, in a typical schoolyard disagreement, the instinctual response to fight almost always results in adverse consequences for those involved. If either response is encouraged it is the flight response, which usually involves walking away from a conflictual situation and talking to a teacher about the problem.

The other models shown in Table 3.3 involve stopping or slowing down as a first step. This is a behavioural step or trigger to prevent automatic, instinctual, or irrational responses to an adverse situation. Seligman and colleagues (1995) refer to these thoughts that come to mind as soon as the problem occurs, as hot thoughts. They assert that 'hot thoughts' cause people to react without first understanding what happened or how best to handle a situation. 'Cool thoughts', on the other hand are thoughts that help people figure out more about what has happened to be able to consider all the available information before deciding how to respond (Seligman et al., 1995). This consideration process is important and forms part of the training,

particularly for children and adolescents not skilled in the use of rational, non-reactionary emotional responses. Other than this emphasis of slowing down, the models follow a similar pattern, including considering options or goals, and how to go about achieving these goals, for example by thinking about the positive and negative consequences for each possible choice. These steps, when utilised in any model of social problem solving, allow young people more choice to make a rational decision. The emphasis on the process of deciding on the potentially best option allows the young person a level of choice rather than the choice being made for him or her. For example, when a student is found to have broken the school rules, the teacher will act to remove the student's choice by imposing a disciplinary response. This response is almost never chosen by the student and is usually prearranged as guided by the discipline policy and procedures of the school.

All models shown involve an evaluative step by which the person can judge success. The evaluation step involves asking oneself, "How well did that work?" This step is very important, often as an opportunity for a second chance at action to solve the problem. It is also a very important learning process for the next time a similar problem arises. Hopefully a young person will be able to continually improve outcomes for difficult situations by learning from each interaction.

3.5: Types of training

Schneider and Byrne (1985) conducted a meta-analysis of children's social skills training involving 51 studies. They concluded that the most effective programs for teaching were those that used direct social skills training (DSST). As stated previously, this includes direct teaching, modelling and role-play, and reinforcement in a naturalistic setting. According to McGrath (1996a), the least effective were those which

used social cognitive training (SCT), which usually involves programs where hypothetical rather than real-life social problem solving is the focus.

Elliot and Busse (1991) also claim that SCT interventions are the least effective in primary school aged children. A review of the studies by Michelson and Mannarino (1986) also supports Elliot and Busse's (1991) claim, as did a study by McGrath (1996b). Weissberg and Allen (1986) similarly came to the same conclusion in their review. They remain optimistic about the SCT and DSST programs even though they believe there is still much work to be done to develop more effective prevention programs. One of the problems may be that younger children may not have the cognitive development to be able to reflect on hypothetical problem situations as well as older children. However, Schneider (1993) believes that even though the effect sizes for school-based SCT may be small, these can still have real-life importance. For example, it is possible that the knowledge learned during SCT will be retained until a time when it may be used in specific situations. Schneider (1993) states that when a student who has been trained in social problem solving and empathic skills, s/he may be in a better position for relationship interventions (e.g., a "buddy" system or peer support system).

It has been suggested that combining SCT and DSST approaches may lead to more effective programs (McGrath, 1996a). Weissberg and Allen (1986) support this by asserting that DSST and SCT can be merged, with DSST providing training of the skills related to the most effective kind of cognitive solutions generated by the participants in the SCT elements of the program. McGrath (1996a) provides a word of caution however, suggesting that these two approaches combined into one may "water each other down" as may have happened in her (1996b) study.

3.6: Summary

Social problem solving skills preventative programs and associated social skills preventative programs have been developed and conducted for many different age groups. The results of evaluations of these programs are mixed. Although most programs have benefits of one kind or another, the major problems are related to the generalisation and maintenance of skills to other situations, outside of training. This is problematic because it means that skills learnt in training are not necessarily being used in real life situations. Also, these programs do not specifically evaluate changes in mood states and few investigate changes in coping skills. The models of problem solving used in training programs are generally in consensus with the steps involving stopping or slowing down to think about alternative choices, deciding which course of action to take and evaluating the chosen option by asking oneself how it worked. There are two major methodologies that apply to social problem solving skills training programs: social cognitive training (SCT), and direct social skills training (DSST). SCT may be more appropriate for people who have reached an appropriate level of cognitive development that enables people to think-through hypothetical situations. Cognitive development as well as psychosocial development will be considered in the next chapter along with other theories relevant for young people learning social problem solving skills.

CHAPTER 4: DEVELOPMENT OF THE SOCIAL PROBLEM SOLVING SKILLS TRAINING PROGRAM

4.0: Introduction

Several prevention programs were reviewed in chapter three. This review provided an understanding of the different approaches and outcomes for young people. Models of social problem solving were compared and the two major methodologies of social cognitive training (SCT) and direct social skills training (DSST) were discussed. It was suggested that SCT may be a more appropriate methodology for the program in the current study for several reasons. First, participants in this study are at an age where they are likely to be approaching a psychosocial level of development to enable justification of their decisions. Second, the young people targeted for training, are likely to be be emerging from a concrete stage of thinking into a formal operational stage that enables them to think through hypothetical problem situations. Third, potential participants should be at a level of learning that theoretically allows modelling of skills (e.g., by trainers). Fourth, SCT through the use of rational emotive behaviour theory (REBT) provides a model for thinking rationally, which impacts on emotions and behaviours – to reduce the incidence of irrational beliefs that young people may hold. In order to elaborate on these four focus points, this chapter discusses several theories including Erikson's (1950/1975) psychosocial development theory (PDT), Piaget's (1947, 1980) cognitive development theory (CDT), Bandura's (1977) social learning theory (SLT), and Ellis's (1962, 1971) rational emotive behaviour theory (REBT). These theories together provide a theoretical scaffold on which to support a training program for young adolescents. In addition, effective communication skills, of which

listening and assertiveness are components, are seen as elementary in effective social problem solving and are also discussed here. The aim of bringing together knowledge from previously conducted programs, training models of problem solving, appropriate theories, and practical communication skills is to produce a program that is developmentally informed for young adolescents.

4.1: Psychosocial development theory

Erik Erikson's (1950/1975) theory of psychosocial development involves a step-by-step process of eight-stages of development. Later stages build on earlier stages, which have ideally reached a successful resolution of opposite tendencies. The process of adolescent development may be thought about as a gradually unfolding psychological blueprint in which biology and culture/environment shape the development of the person (Muuss, 1988). Rather than a genetically deterministic theory, this theory involves interaction between the person and the environment.

In Erikson's (1950/1975) theory, each stage has its own characteristic conflict between opposite tendencies of strength and pathology. It is asserted that resolution leads to strength and pathology leads to withdrawal and helplessness. Each stage presents a crisis, which develops as an adaptive or maladaptive condition (Muuss, 1988). Erikson portrayed the resolution of each crisis in terms of a balancing act, and not the elimination of a tension between opposites (Horst, 1995) which in turn allows movement into the next stage of development.

The stage prior to adolescence, between six and twelve years of age, is known as the stage of industry versus inferiority. In this stage the child moves beyond play and becomes ready to apply himself/herself to given skills and tasks (Erikson, 1950/1975). Failing to resolve this stage means that the child risks the possibility of not identifying

with his or her peers (Erikson, 1950/1975). The child must adapt to this socially most decisive stage which involves doing things beside and with others. It is at this stage that she/he will start to judge her/his worth and the beginnings of her/his sense of identity (Erikson, 1950/1975).

The stage marking adolescence is labelled 'identity versus identity confusion', or identity diffusion (Erikson, 1950/1975). At this stage the young person must establish a sense of personal identity or risk the possibility of identity-confusion. Apter (1990) states that one of the main tasks of adolescence, "is to achieve an identity – not necessarily a knowledge of who we are, but a clarification of the range of what we might become, a set of references by which we can make sense of our responses, and justify our decisions and goals" (p. 90).

According to Erikson (1950/1975), identity confusion in adolescence may mean indulging in self-destructive behaviour or being preoccupied with others' opinions. Some adolescents may rebel against parental dominance and value systems in order to separate their own identity from their family (Muuss, 1988). To combat anxiety, some adolescents may stop caring and withdraw or indulge in risk behaviour involving drugs, alcohol and violence (Muuss, 1988). Erikson (1959) provided a warning of the possibilities of identity confusion when he said, "Many a late adolescent, if faced with continuing diffusion, would rather be nobody or somebody bad, or indeed, dead . . . . . than be not-quite somebody" (p. 132). It is comments such as this and other reminders of the dangers of adolescence gone wrong that drives many a program such as the present one.

Adolescents need support during this period of development. One place they may find support is through their peers. A central aspect of identity, according to Josselson (1987), is the commitment to a self-in-relation (peers) rather than a self that

stands alone facing an abstract world. In this respect, the peer group aids the development of adolescent identity. So the establishment of peer group relationships is particularly important at this stage. All of the options available in the formation of identity involve the ability to solve social problems and cope with change (Horst, 1995). Therefore, young adolescence appears an opportune time to provide training in these skills, before identity becomes more rigid.

4.2: Cognitive development theory

The second theory of importance to the development of a training program for young adolescents is Piaget's (1947) theory of cognitive development. Piaget's theory (1947) attempts to explain the qualitative changes of intellectual structure from birth to maturity. This theory attempts to explain the integration of lower level cognitive structures into more advanced structures that provide the continuity for cognitive development (Muuss, 1988).

Piaget's (1947) theory postulates two closely related components: the stage-dependent element and the stage-independent element (Flavell, 1963). The stage dependent element includes four stages: sensorimotor, preoperational, concrete operational and formal operational. The stage independent theory includes the constructs such as schema, operation, assimilation, accommodation, adaptation, equilibrium and disequilibrium (Muuss, 1988). These theoretical constructs are present across all of the stage dependent elements. In other words, these constructs are just as applicable to early motor development in the newborn as they are to the more advanced adolescent and adult thought processes (Muuss, 1988). Schemata are abstract concepts (Bakken Thompson, Clark, Johnson, & Dwyer, 2001). When the stage-independent constructs become more developed, they are called operations. Operations involve the

application of mental rules to understand the physical world (Bakken et al., 2001) and are more complex than schemata. Therefore, it is possible to apply operations to a much wider spectrum of related problems. For example, when a student memorises a problem solving formula (e.g., stop, think, do) that applies to the same type of problem-situations (e.g., being teased) this corresponds to schemata. When a student is able to use the formula to deal with other problem-situations (e.g., any other bullying situation), s/he is said to be demonstrating operational thinking.

This theory borrows the notions of assimilation and accommodation from biology. These notions provide an explanation for an organism to be able to adapt effectively to its environment. Assimilation is the job of changing information to fit existing schemas (Bakken et al., 2001). For example, when a student moves from a primary school to a secondary school, s/he must learn new rules, both formal and informal in order to fit in with the school. Accommodation, on the other hand, is changing schemas to fit the new information (Bakken et al., 2001). For example, once the student has learnt these new school rules s/he will use these assimilated rules to suit new situations that arise at secondary school. The student will now have adapted to secondary school life.

The concrete-operational stage theoretically begins at approximately age seven to eight years and continues until about puberty. This stage involves logical thinking that is tied to reality. One major limitation to this concrete operational stage is an inability to think abstractly about a problem (Muuss, 1988). A common occurrence of this is where children do not think things through to their logical conclusion. For example, children may get involved in a fight and not consider the consequences of a potential injury, the likely discipline that often follows or the implications for the future of the relationship.

Abstract thinking (or consequential thinking) does not usually occur in a systematic way until early adolescence according to Piaget (1947). This is called the formal-operational stage, which refers to 'form' (or what matters) rather than content (Muuss, 1988). At this stage, there is no longer the requirement for concrete support (or actual objects) in the thinking and thought may now be represented in terms of symbolic forms (Boyle, 1969). This stage is further divided into two sub-stages: almost full formal functioning (occurring at about eleven or twelve years to about fourteen or fifteen years) and full formal functioning (from about fourteen or fifteen years onwards). At the first sub-stage, young people are still unable to provide systematic and rigorous proof for their assumptions (Muuss, 1988). With the development of full formal functioning, they are capable of formulating more elegant generalisations and of advancing more inclusive laws (Muuss, 1988). For example, a younger adolescent may see hitting first as a type of insurance policy against further attacks, whereas an older adolescent may think about alternatives to settling a dispute. At this stage of development adolescents are able to reflect about their own thinking. This is called second-degree thinking (Muuss, 1988) and is also known as meta-cognition. In terms of the example just mentioned, older adolescents may examine their choice to hit or not to hit before, during or after the event.

Using 103 fifth grade students, Bakken and colleagues (2001) demonstrated that it is possible to train preoperational thinkers to successfully think operationally, as well as to improve concrete operational thinkers in the level of concrete operational thinking. The authors suggest that their research provides a meaningful technique for educators to influence and enhance student learning, although they caution that their research still requires further support through replication studies. However, if it is shown to be possible to influence and enhance the preoperational stage of thinking, it may also be

possible through training to influence concrete operational thinkers' formal operational thinking.

Studies (Adey & Shayer, 1990; Rosenthal, 1979) have supported the proposal of acceleration of formal operational thinking, at least to some degree for scientific concepts. Adey and Shayer (1990) in a study involving 1,452 students aged from 11- to 14-years showed immediate gains in Piagetian measures of cognitive development and to gains in experimental groups' achievement in science, mathematics, and English language when measured two and three years after the training (Adey and Shayer, 1993). Rosenthal (1979) demonstrated that concrete and transitory (pre-formal) stage thinking can be accelerated through training procedures in a group of 128, 11- to 12-year-old-girls (84 of whom were classified as non-formal operational). Also, she showed that generalization and long-lasting effects of training were achieved, when compared with controls.

In terms of Piaget's (1947) theory, it would seem that young people must be able to think consequentially in order to resolve abstract social problems. However, even young children are able to solve problems to some extent. If a child is still in the concrete operational stage, or at any stage prior, it may be that the abstract qualities required for solving new and demanding social problems, requiring 'if-then' thinking will be difficult. Therefore, the formal operational stage of development seems an appropriate time at which to train young people in social problem solving skills, particularly hypothetical social problem scenarios used in training. The formal operational stage of development required for abstract thinking theoretically occurs in early adolescence.

4.3: Social learning theory

Social Learning Theory (Bandura, 1977) explains psychological functioning as a continuous reciprocal interaction of personal and environmental determinants. Bandura asserts that psychological functioning involves symbolic, vicarious and self-regulatory processes. Verbal and imagined symbols allow people to process and preserve experiences to assist and guide their future behaviour. For example, a young person may remember a parent's words of warning before entering into a potentially dangerous situation. Vicarious learning involves learning from observation of other people's behaviour and its consequences. A good example of this might be imitating the behaviour of a parent or a peer. Self-regulatory processes imply the capacity to arrange environmental inducements, generate cognitive supports, and produce consequences of one's own actions, and therefore exercise some measure of control over one's own behaviour. An example of this might be arranging a reward for oneself on the successful completion of a task.

Social learning theory explains the importance of modelling in learning social behaviour, including the ability to problem-solve. The theory also highlights the importance of self-efficacy, or having the confidence to complete a task successfully before attempting such a task (Bandura, 1986). Based on social learning theory, any social problem solving training program should incorporate modelling of skills (by the trainers) as well as providing opportunity to practise the skills learned in training. Therefore, the program developed for this study provides an opportunity for young people with inadequate models in their families or peer groups to learn from the modelling of their trainers and their peers.

4.4: Rational emotive behaviour theory

The Greek Stoic philosopher, Epictetus, in the first century AD wrote in *The Enchiridion*, "People are disturbed not by things, but by the view which they take of them" (Ellis, 1989, p. 202). It is this philosophy on which rational emotive behaviour theory (REBT) rests. Albert Ellis the originator of rational emotive therapy developed in the 1950s, later to be named rational emotive behaviour therapy, based his theory on several propositions (Ellis, 1962; 1971; 1989). Essentially, he believed that people are born with the potential to be rational as well as irrational, have a tendency to irrational thinking, which is probably learned early in life, and they seldom emote without thinking (Ellis, 1989).

The theory asserts that emotional disturbance occurs when individuals demand that they succeed and be approved, insist that others treat them fairly, and dictate that the universe be more pleasant (Ellis, 1989). Demanding, insisting, and dictating such unrealistic things is irrational, as these things do not often happen in reality. Many of these irrational beliefs contain thoughts of 'should', 'must' and 'ought'. For example, a typical thought might be, "people must treat me fairly and give me what I need" (Sichel & Ellis, 1984). To continue to expect these irrational beliefs to occur is self-defeating and emotionally damaging. Education for these unrealistic beliefs through rational emotive behaviour therapy involves minimizing the person's self-defeating outlook and acquiring a more realistic, tolerant philosophy of life (Ellis, 1989). By encouraging young adolescents to challenge their irrational beliefs and replace these with more realistic beliefs, the associated feelings are also changed to more manageable feelings. For example, a boy may be upset if he has been pushed in the back whilst taking a drink at the water taps. He may think that this was deliberate and may hold the belief that he must always be treated fairly. In his estimation, this is an example of not being treated

fairly. He may tend to ‘awfulise’ this situation, and start thinking the worst. For example, he may think how awful people are to be treating him so badly. If, on the other hand, he discovers that the push in the back is accidental, and that he was not being treated unfairly, then his thinking about the incident will affect his feelings accordingly. It is more than likely that he will be less disturbed emotionally by the pushing incident if he understands it to be an accident, and that it has nothing to do with unfairness, and maybe even that unfairness is to be expected sometimes. Teaching young people to understand the way they think and take steps to change it to be more rational, if necessary, can enhance effective social problem solving.

Rational emotive behaviour theory and the other theories that have been discussed, as well as the information about of the programs that have been conducted, provide a scaffold for the development of a training model. The next part of this chapter outlines this development as well as the practical components of the training, such as the skills for listening, assertiveness and the model of social problem solving to be used in this study.

4.5: Development of a training model

Many programs have already been developed and conducted and have been shown to be empirically effective. By utilising the material available and modifying and developing this through consideration of the previously outlined theories it was possible to develop a problem solving training model for use in the present study. This involved synthesis of the theories of adolescent development, the information gained from the programs, effective communication skills and practical steps used in previously conducted programs.

The goals of preventative programs, such as social skills training and social problem solving skills training programs, are to assist adolescents to develop and improve their coping skills in relation to the problems they face in their daily lives. Most, if not all, social problem solving skills, also known as interpersonal problem solving skills, involve dealing with other people. Therefore, to be able to deal with others, one needs effective communication skills. Two very important communication skills that will be explored in this section are assertiveness and good listening skills. Assertiveness involves standing up for your legitimate rights without violating the rights of others (Kotzman, 1989). In other words, it means saying what you need to say to get what you need, without shaming, blaming or putting the other person down. Effective listening involves the process of listening with understanding (Kotzman, 1989). These two communication skills will be discussed in more detail in the following paragraphs.

4.6: Assertiveness

Assertive communication is fundamental to effective social problem solving. According to Seligman et al. (1995) children who find it difficult to state what they want in a clear forceful manner are at risk of depression. This is especially true if they are already feeling depressed and withdrawn or irritable and angry, and are therefore more likely to be either passive or overly hostile (Seligman et al., 1995).

According to Kotzman (1989), assertiveness is an honest, direct and appropriate expression of feelings, wants, beliefs and opinions. She insists that assertive people communicate an attitude of self-respect and respect for others (Kotzman, 1989). Alberti and Emmons (1975) state that assertiveness allows the speaker and the listener to feel good about themselves, allows choices, and may achieve the desired goal. Assertiveness differs from hostile or aggressive communication and passive or submissive

communication. Aggressive communication usually results in a put-down of the recipient, denying his or her rights, which can involve feeling hurt, defensive or humiliated (Alberti et al., 1975). Submissive communication is self-denying, inhibiting, and diminishes self-choice. This usually results in guilt, anger, and generally does not achieve one's desired goals (Alberti et al., 1975).

There are several elements involved in the process of being assertive according to Kotzman (1989). Assertiveness involves the ability to listen and try to understand another person's point of view. Another element is to know one's own point of view and any associated feelings. Still another element is to put into words the facts and feelings of what is occurring, both for the other person and oneself. Kotzman (1989) outlines five steps in being assertive. These steps include describing the situation which causes concern in factual terms, expressing your feelings about the situation in an "I" statement, indicating that the other person's point of view is understood (if appropriate), specifying clearly the actions you want of the other person, and stating the anticipated positive outcome of the change. An example monologue of these five steps in the schoolyard might go something like the following. "Yesterday, when you talked about me to Paula, and I found out (step 1), I felt very upset and hurt (step 2). I know that you like to share your feelings about things with others (step 3) but in future I would like you to ask me first if it's ok to talk to other people about my problems (step 4). Then maybe we would able to get along better, and no one would be upset (step 5)."

A simpler form of this process can sometimes involve as little as three steps, which were used in this study. The first step is to identify one's own feelings in a particular situation. This could mean feeling scared, angry, frustrated, or joyous because of something that someone else is doing. For example, someone yelling in the class may be distracting you from your work, which may feel frustrating. The second step may be

to state your own feelings, when another person does something. For example, a girl at school may be disturbed by something another student says to her. She may say something like, “I feel really upset, when you speak to me that way”. The third step may be to state what you would like to happen, without putting the other person down. For example, the same girl might says something like, “I would like you to stop talking to me that way, otherwise, I will have to talk to the teacher about your behaviour”. “I” messages, according to Kotzman (1989) enable you to communicate directly, clearly and honestly how you feel and what you want. Assertiveness does not always guarantee the desired outcome, however it does provide an opportunity for the other person to hear what effect his of her behaviour is having on someone else, as well as providing that person an opportunity to change his or her behaviour. For the person who is asserting, it provides a non-conflictual attempt to sort-out a problem, to clearly state one’s point of view. It is neither aggressive nor submissive, where aggression usually involves verbal behaviour, such as yelling or physical behaviour, such as hitting. Submissiveness usually involves physically or psychologically withdrawing. Neither aggression nor submissiveness are seen as ways to improve a situation, rather they tend to exacerbate the situation either by escalation or continuation. Assertiveness training attempts to enhance feelings of self-worth and permits full expression of self, as well as attempting to achieve one’s goals in a non-submissive, non-aggressive manner (Alberti et al., 1975). However, what is learnt in training does not appear to be easily transferred to other situations. In other words, assertiveness training has been found to be difficult to generalise to other situations outside training (Thompson et al., 1995; Thompson et al., 1996; Wise et al., 1991). Assertiveness requires training and practice (Alberti et al., 1975).

Thompson, Bundy and Wolfe (1996) conducted a study in assertiveness training for 68 fifth-graders as a follow-on study from the Wise, Bundy, Bundy and Wise (1991) and Thompson, Bundy and Broncheau (1995) studies of assertiveness training. These studies investigated Bandura's (1977, 1986) assumption that acquisition of symbolic information (stored cognitive information) is not sufficient for behaviour change. It was found that even though students were able to understand the principles of assertiveness they had difficulty acting them out. According to Bandura (1999), "unless people believe that they can produce desired effects by their actions they have little incentive to act or to persevere in the face of adversity (p. 28)."

There is evidence that young adolescents are able to improve assertiveness skills at a cognitive level through training (Thompson et al., 1995; Thompson et al., 1996; & Wise et al., 1991). However, they are unable to generalise this knowledge into either verbal behaviour, through correct choice of words (Thompson et al, 1995; Thompson et al., 1996) or nonverbal behaviour, through body language (Thompson et al., 1996). It has been suggested that future study of assertiveness training should investigate issues, among other things, of self-efficacy, practice, motivation, self-regulation, and the developmental level of subjects (Thompson et al., 1996).

The study by Thompson and colleagues (Thompson, Bundy & Wolfe, 1996) used an expanded curriculum to allow more opportunities to practise assertive responses in a wider variety of situations. The goal was to provide more feedback about participants' perceptions and to increase their self-efficacy for assertive behaviour. Similar results to studies of Becker and Heimberg (1988) suggest benefits in using personalised role-plays drawn from incidents in the participants' lives. Because of differences across measures when treatment and control groups were combined, they speculate that situation-specific practice improves the assertive response but the

participants experience difficulty generalising assertive responses to other situations. This is similar to the social problem solving training relating to generalisation difficulties mentioned earlier. Therefore, Becker and Heimberg (1988) suggest that assertiveness training curricula should include a variety of situation-specific role plays that are typical in the adolescents' real lives. Thompson et al. (1996) insist that researchers should consider students' motivation to change behaviour, as failure to do so will ensure failure of the intervention. They believe that their participants were operating at a concrete level of functioning and not a formal operational level of thinking and were unlikely or lacked the cognitive ability to apply assertiveness training to new situations, in other words, to generalise. Finally, two studies (Thompson, Bundy & Broncheau, 1995; Thompson, Bundy & Wolfe, 1996) on 28-sixth graders and 22-fifth graders, respectively, showed that these young people were able to show improved cognitive change but not able to demonstrate assertiveness at a behavioural level when compared to control groups.

The skills of assertiveness are essential for young people to be able to speak up for themselves in the process of solving their problems. These skills are important because they help people to state their feelings and their needs without blaming anyone, putting them down or inflaming what may become a difficult situation. The other part of communication necessary for effective social problem solving is active listening.

4.7: Active listening

As mentioned previously, to be able to communicate effectively, a person has to be understanding of the other person's point of view. To achieve this it is necessary to be able to use active listening. Active listening (Gordon, 1970) is also known as empathic listening (Carkhuff, 1987; Rogers, 1951), paraphrasing (Egan, 1975), or

listening with understanding (Kotzman, 1989). More simply, it is a verification of what has been heard is actually what has been said, both in terms of meaning and feelings. To achieve this one must 'actively' listen. According to Kotzman (1989), communication involves two processes, or perhaps two aspects of a process: sending and receiving. She asserts that communication is effective when the receiver interprets a message in a way that the sender intended, meaning the sender is 'understood'. Petersen (1992) asserts that children are not able to express their feelings and often bottle them up or act them out in their behaviour. An effective communicator, particularly a good listener, would be able to identify and interpret the bottling-up or acting-out behaviour to be 'saying something', such as "I'm angry, annoyed, or frustrated" or the like.

When young people act out or bottle up feelings, it is understandable how communication can go awry. A typical schoolyard example could involve Bill and Jim. Bill might be drinking at the water taps. Jim might get pushed by another student, accidentally fall, and bump into Bill. Bill may interpret Jim's action as deliberate and act out by becoming aggressive or bottling-up his feelings, by passively leaving the situation. If either of these things happened, an opportunity would be lost for effective communication. If Bill becomes aggressive he may lash out at Jim, either verbally or physically. His actions or words are actually saying that he is angry or frightened by what occurred. If Jim were able to acknowledge Bill's behaviour by acknowledging the accident and apologising or addressing his anger or fright in some way, there may be a better chance of defusing the situation. Effective communication therefore involves not just hearing the words or seeing the behaviour but interpreting the feelings (the whole message), acknowledging these, then feeding them back in some way. In the above example, Jim's apology would be saying that he has 'heard' Bill's words and feelings of anger or fright and acknowledged them. Any training for young people in good

communication skills therefore should involve acknowledging and feeding back others' words as well as their feelings. Therefore effective listening skills as well as assertiveness skills are essential for the implementation of social problem solving, at all ages as well as during early adolescence.

4.8: Putting it all together

Figure 4.1 shows the components of the model of the social problem solving skills training program for this study. These components include the theoretical scaffold, the information gathered from existing previously conducted programs and existing models of social problem solving, including the effective communication skills components of assertiveness and active listening. These elements culminated in a brief, four-session program, which included training in the use of a problem solving process, or problem solving wheel, assertiveness, and active listening. Brevity was important due to the large number of sessions that were to be conducted by the researcher across all the classes involved in the training. A brief training program, if effective, would be able to save time and resources and hopefully be as beneficial as lengthier programs in providing social problem solving skills.

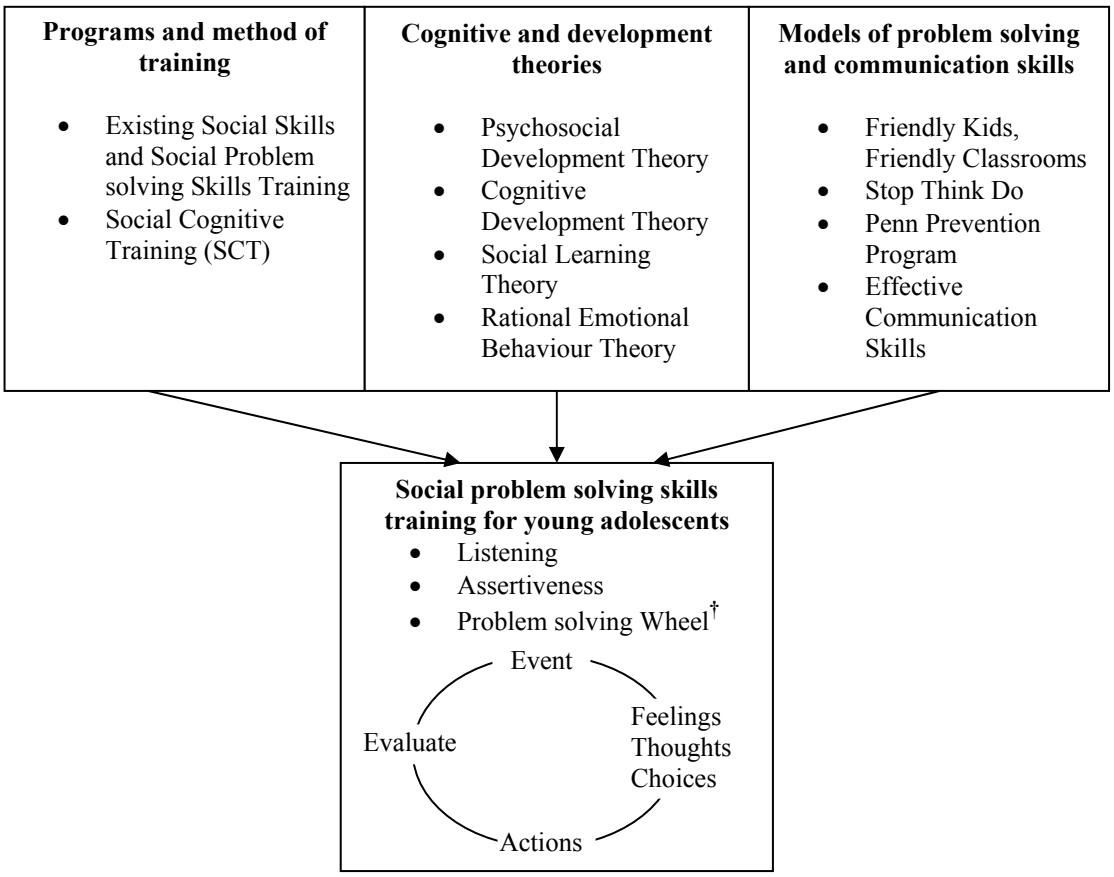


Figure 4.1. The components of the Social Problem solving skills training program for young adolescents including the problem solving wheel†.

4.9: A social problem solving skills training program for young adolescents

The 'problem solving wheel' shown in Figure 4.1 (see also Appendix A) was designed using a composite based on the Petersen (1991) Stop-Think-Do Model and the 5-step Penn Prevention Program Model (Seligman, Reivich, Jaycox, & Gillham, 1995) and other models shown in Table 3.3. The problem solving wheel employs rational emotive behavioural theory (REBT) that encourages participants to identify the modalities of thoughts, feelings and behaviours associated with an event that may cause concern. By identifying these modalities, they are more likely to be informed about their subsequent actions and less likely to act irrationally in difficult situations. The first

session introduces the ‘problem solving wheel’. It uses colour-coded materials (on printed cards), developed by the researcher to facilitate the easy identification by the students of events (red), feelings (yellow), thoughts (green), choices (purple) and actions (purple). The students, working in small groups (usually two to four) are provided with an envelope of colour-coded cards identifying positive (e.g., being complemented by a teacher for doing homework) and negative (e.g., being bullied by someone) social events, as well as possible responses to these events. Their task is to develop appropriate responses (including thoughts, feelings and choices) to these positive and negative social events. Class discussion follows each exercise. The leaders challenge anti-social and aggressive coping responses by discussing more socially acceptable and appropriate coping strategies.

The second session is introduced by a non-active listening, as well as an active listening demonstration. This demonstration involves two consecutive role-plays by the two leaders. The first role play demonstrates how not-to-listen. The leader role-plays the listener and the co-leader plays a student with a problem. The leader does not implement any of the important active listening skills necessary to engage the student. This is a deliberate effort to demonstrate poor listening skills. Consequently the student does not have an opportunity or the inclination, due to the leader’s obtrusive style, to discuss the problem with the leader. The second role-play is similar but with the leader using the skills necessary to engage the student to discuss the problem. The two role plays serve as good examples for the class to then practice the appropriate skills with the assistance of practice booklets, providing typical in- and out-of-school scenarios as well as a list of question starters to practice active listening skills in small groups (usually two to four participants) as well as help from the leaders. The question starters provide typical opening phrases that the students can complete with their own words, to

suit the situation. This session is followed by class discussion. Students are encouraged to practice these skills in real life situations whenever possible. No rewards are offered or provided for homework, as the benefits of using these skills are seen as their own reward.

The third session introduces the differences between passivity, aggression and assertiveness using a diagram on the whiteboard. The differences are demonstrated diagrammatically using a continuum showing passivity at one end, aggression at the other end and assertiveness somewhere in the middle. The differences are explained via explanation and examples of these three types of behaviour. Questions and discussion allow for the clarification of any uncertainties in relation to these. A three-step model for assertiveness, as outlined previously is introduced.

- Step1: Identify your own feelings associated with the problem.
- Step 2: State those feelings using "I" terms (e.g., I feel annoyed when you do that).
- Step 3: State your desired outcome in "I" terms (e.g., I would like you to stop doing that or I will have to report it to a teacher).

Practice is provided using a variety of situation-specific scenarios in the form of role plays, typical of the adolescents' real lives, as suggested by Becker and Heimberg (1988). Participants are given an opportunity to practice their skills in dyads or small groups. The more courageous students are given the opportunity to demonstrate their new skills to the class in front of the other students. The session is followed by discussion about the active listening skills.

The final session is a review of all the topics that have been covered previously. This is conducted using a small booklet of scenarios, typical of young people's school and home lives, so that students can consolidate their learning from previous sessions.

Discussion is conducted and questions are answered during this session to assist practice. The session is immediately followed by the posttest as well as the qualitative evaluation questionnaire. A detailed outline of the training appears in Appendix B.

The training is closest in nature to social cognitive training (SCT), as described before, because of the hypothetical scenarios used in the role-plays. These role-plays were chosen to reflect situations as close to real-life situations as possible. The leader of the training program utilized distancing (Sigel & Laosa, 1982) to encourage participants problem solving competence rather than simply being given answers. Sigel's theory of distancing is proposed to facilitate children's representational competence to assist children's problem solving competence (Sigel & Laosa, 1982). Distancing involves responding to children with open ended questions, which will lead them to consider alternatives for themselves, resulting in strengthening of children's cognitive abilities (Sigel & Laosa, 1982).

The training involves four 45-minute sessions: one session per fortnight, meaning the training is spread over six weeks, to allow participants time to practice the skills, either at school or outside school. As previously mentioned, participants are encouraged to practise these skills in other real-life situations. The final session includes an evaluation of training which asks the participants for qualitative comments.

Two leaders, the author (a psychologist) and the student welfare coordinator (a qualified secondary school teacher), conducted the training program. The program was designed to provide participants with a step-by-step model of problem solving, as well as training in the communication skills of active listening and assertiveness. These two communication skills are necessary to provide practical application of the process involved in the implementation of the problem solving model, as previously explained.

The training program involved explanation, demonstration by role-play, hypothetical situations, practice and evaluation, typical of an SCT program. The rationale was that young adolescents, according to theory, should be emerging from the concrete operational stage of cognitive development into formal operational thinking; more likely to be able to think through hypothetical problem scenarios than young children. The training was provided to whole classes and rerun with as much fidelity as possible until all of the students in the eight classes each received the four-week training program. In the case of this program it amounted to 32 sessions in total (i.e., eight classes with four sessions each in 1999).

4.10: Summary

This chapter brings together all the material discussed so far in the development of a social problem solving skills training program for young adolescents. In chapter one it was stated that the National Survey of child and adolescent mental health concluded that 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 (Sawyer, et al., 2000). A social problem solving skills training program provides the opportunity to develop a level of prevention that is cost-effective, timely, and inclusive of all students. Chapter two discussed the coping literature and concluded that there is a correlation between coping and mood states. It appears that people who do not cope very well (i.e., non-productive copers) report more depressive symptoms. People who cope well (i.e., productive copers) report less symptoms of depression. Chapter three explored many social problem solving skills programs and concluded that most programs have benefits of one kind or another. However, the major problems are related to the generalization and maintenance of skills

to other situations. The programs do not specifically evaluate changes in mood states and few investigate changes in coping skills. Two major methodologies utilised in training are social cognitive training (SCT) and direct social skills training (DSST). However, SCT may be more applicable for people who have reached an appropriate level of cognitive development which enables them to think-through hypothetical situations.

Chapter four outlined four important theories that provide a framework of cognitive and social development. The four theories outlined provide an explanation for the reciprocity of interaction between the individual (e.g., genetic component), their maturational processes (e.g., cognition, skills and experiences), and their environment. Most importantly, these theories allow a broad theoretical underpinning which attempts to explain thinking and behaviour in young adolescents. Stage theories are convenient in that they explain behaviour within a given age group. Erikson's theory explains psychosocial developmental stages, Piaget's theory explains cognitive developmental stages, Bandura's (1977) theory explains the interactions between people's thinking and behaviour in the environments in which they live, and Ellis's (1962, 1971) Rational emotive behaviour theory (REBT) allows a mechanism to reverse the natural tendency for negative thinking processes. When all the evidence discussed so far is considered, it would appear that early adolescence is an appropriate time to provide social problem solving skills training and that the school setting is a convenient and cost-effective place to reach many young people simultaneously, without attaching any stigma through withdrawal of targeted students (i.e., those at risk).

4.11: Hypotheses

This study involves three hypotheses based on previous research. First, it was hypothesised that there will be gender differences in coping styles and mood states. Specifically, the ways in which young adolescent males and young adolescent females cope will differ when measured by the Adolescent Coping Scale (Frydenberg & Lewis, 1993c). It is predicted that young females will use more non-productive coping than males. Also, mood states will differ for young adolescent males and females, as measured by the Depression, Anxiety, Stress Scales (DASS21) – Short Form (Lovibond & Lovibond, 1996). It is predicted that females will report higher average mood-state scores (i.e., more negative) than males.

Second, it was hypothesised that there will be correlations between mood states and coping styles on the pre-test measure. Specifically, there will be strong positive correlations between elevated levels of dysphoric mood and non-productive coping, and negative correlations between dysphoric mood states and active or problem-focused coping style.

The most important hypothesis relates to evaluation of the training program. Third, it was hypothesised that students who receive social-problem solving training will increase their level of productive coping skills, decrease their level of non-productive coping, and report improved mood states in comparison with a control group who do not receive the training. The improvement of productive coping and reduction of non-productive coping will be measured by the ACS (Frydenberg & Lewis, 1993c). The reduction in negative mood will be measured using the DASS 21 (Lovibond & Lovibond, 1996).

To test this hypothesis, there will be two analyses. The first analysis will involve a pre- and post-test for a 1999 experimental and a 1999 wait/control group comprising

year seven and year eight students (see Table 5.1). The second analysis will comprise year seven students only involving pre- post- and six-month follow-up tests for a 1999 combined experimental group and a year 2000 control group (see Table 5.2). It is predicted that improvements in mood and coping will be evident immediately following training for the first and second analysis and will be maintained over a six-month period for the second analysis. In addition it is expected that these improvements will also be evident in qualitative assessments immediately after the training and after six-months, as well as after three years by a small group of participants.

CHAPTER 5: DESIGN AND MEASURES

5.0: Introduction

Chapter four provided the rationale and elements for the development of a social problem solving skills training program based on theory and previous research. Also, the hypotheses for the present study were outlined. This present chapter describes the methodology of the project, including the actual social problem solving skills training program used in this study. The program involves four, 45-minute social problem solving skills training sessions delivered fortnightly to young adolescents in classroom groups in a secondary college in a western Melbourne suburb.

5.1: The quasi-experimental design

The design of the study is a quasi-experimental, multiple time-series design, using cohorts from two calendar years. The design can be described as quasi-experimental because the individuals were not randomly allocated to either experimental or control groups. Rather, whole class groups were randomly allocated to the experimental and control conditions. As explained by Heppner, Kivlighan, and Wampold (1992), a quasi-experimental design is one where pre-established non-randomly assigned groupings are used, for practical or institutional constraints, such as school settings. The differences between groups that did receive treatment, being the social problem solving skills training program, and those that did not receive treatment were compared. Quasi-experimental designs involve manipulation of an independent variable (treatment versus non-treatment) and a between-conditions comparison, but no random assignment of individual subjects to conditions (Heppner et al., 1992). In this

study, participants could not be individually randomly assigned to experimental and control groups, for practical reasons, so as not to disturb school timetables, for example. Therefore, existing classes were utilized for assignment to treatment or non-treatment groupings. Quasi-experimental designs are widely used in naturalistic research settings when random sampling and the control of extraneous variables are not possible (Heppner et al., 1992) and where it is difficult to find an equivalent group (i.e., control) of research participants such as in psychotherapy and education (Christensen, 1997).

A time-series design utilizing repeated measures at various points in time provides a good method for decreasing the influence of pre-existing extraneous variables according to Christensen (1997). It decreases the influence of such extraneous variables by enabling between-group comparisons across repeated testing at several points (Christensen, 1997). In this study, if changes in mood states and coping styles in the experimental group occur in comparison with those in a control group they may be attributed, to some degree, to the intervention. This attribution is due to the fact that each group has been tested over a similar time frame and under the same conditions. Any differences therefore, can be attributed to the treatment of social problem solving skills training, within the normal constraints of the quasi-experimental design.

The study drew participants from classes over the two calendar years of 1999 and 2000. This design was chosen for pragmatic reasons. Initially, the uncertainty of being able to conduct a long-term study, over several years necessitated the selection of an experimental and a control group from the same cohort (in 1999). As it happened, it was subsequently possible for a time-lag control group to be utilised in the calendar year of 2000. Also, it was possible to conduct a small number of individual interviews three years after the training was completed. These interviews as well as questions

immediately after training and at the six-month delayed post-test comprised the qualitative component of the research study.

A similar design, using a control cohort from a different year, albeit problematic (because conditions may differ at the time of testing the experimental and control groups) was also used by Shochet and others (2001). Their program was implemented with two cohorts from different years in the same school. In their study, the year nine students in 1996 served as the control group and the year nine students in 1997 served as the treatment group (Shochet et al., 2001).

The design used in the current study, despite the potential for confound variables, meant a number of comparisons were potentially able to be undertaken. Two were chosen from the several possible for analysis and described here. The first year, or 1999 cohort, comprising year 7 and year 8 students, was initially divided into two subgroups. The first sub-group was pre-tested, received the training and was then post-tested. The second subgroup was treated as a wait group; pre-tested, received no treatment, and post-tested, over the same timeframe as the first sub-group. This pre- and post-test condition for one sub-group that had received the training and the sub-group that had not, comprised the first analysis in 1999. The second 1999 sub-group subsequently received the treatment and both sub-groups received a delayed post-test, six-months after their training. Since both 1999 sub-groups had now received training they could be merged into a 1999 combined experimental group, for comparison with a control cohort to be drawn from the second year of the study in 2000.

In the second year of the study, the control group, drawn only from year 7 classes, was pre-tested, post-tested, and delay post-tested, without any intervention and with similar time lags between pre-, post-, and delayed post-test as that of the 1999 combined experimental group. However, since the 1999 cohort was drawn from year 7

and year 8 students and the 2000 cohort was drawn only from year 7 students, only the year sevens were compared in the second analysis. Table 5.1 shows the actual timetable for the first analysis and Table 5.2 shows the actual timetable and implementation for the second analysis in present study.

Table 5.1: First analysis
Implementation timeframe: testing points (T1, T2) and treatment times for the original experimental group

Group	Time	Treatment	Time
Experimental (1999) N = 76, (Year 7 & 8)	T1	Yes	T2
Wait Group (1999) N = 76, (Year 7 & 8)	T1	No	T2

In the first year design a simple quasi-experimental design was chosen for analysis. This design allows for a pre-test (at T1) and post-test (at T2) comparison between the two 1999 sub-groups, one experimental and one wait group.

Table 5.2: Second analysis
Implementation timeframe: testing points (T1, T2, T3, T4) and treatment times the repeated measures design comprising the 1999 combined experimental group and the 2000 control group.

Group	Time	Treatment	Time	Treatment	Time	Treatment	Time
Experimental (1999)	T1	Yes	T2	No	T3		
and	Combined experimental group						
Wait Group (1999)	T1	No	T2	Yes	T3	No	T4
N = 57, (Year 7)							
Control (2000)	T1	No	T2	No	T3		
N = 35 (Year 7)							

Table 5.2 shows the second quasi-experimental design. This design comprises the combined experimental group from 1999 and the control group from 2000, shown in the shaded area. The repeated measures design involved testing participants in each group at three points in time. The combined 1999 experimental group involved the merger of the two 1999 sub-groups (experimental and wait group). The 1999 experimental sub-group pre-test occurs immediately before the first session of the

program (T1), post-test occurs immediately after the training (T2) and the delayed post-test occurs six-months after training (T3). For the 1999 wait-list subgroup pre-test occurs immediately before the treatment (T2), post-test occurs immediately after the training (T3) and the delayed post-test occurs six months after training (T4). For the 2000 control cohort, these test points (T1, T2, T3) occur as close as possible to the points on the calendar year as the 1999 cohort. However, the comparison only involves the year seven cohort as explained earlier.

5.2: Threats to Validity

Quasi-experimental design studies suffer from various threats to validity. These include problems associated with non-random sampling, including selection differences (Heppner et al., 1992). For example, the 1999 cohort was conscripted in whole-class groups by the teacher/co-leader in the first year of the study with near total inclusion of all students who were provided with consent forms to complete and return. Another teacher/co-leader selected the 2000 control cohort that comprised volunteers from five classes who were provided with consent forms to take home and complete. Therefore, there is a possibility for differences between the 1999 and 2000 cohorts. The researcher has to assume that the groups (i.e., existing classes) were probably established for some reason (e.g., ability) and therefore any pre-existing differences between the groups have something to do with either the selection process (or bias) or chance, and not just the experimental manipulation (Heppner et al., 1992). To control for potential differences between groups that are not due to manipulations of the independent variable but differences in the subjects, called selection differences, it is necessary to investigate comparisons of pre-test measures on the dependent variables, as occurs in the current study, and will be described in the results section.

Also, selection may have a more indirect effect, as it interacts with other variables (Kazdin, 1980). A 'selection-by-threat' interaction effect occurs when the threats to the internal validity operate differently across the condition (Heppner, et al., 1992). For example, group selection may be different because group leaders may select only passive dependent clients for training (believing these clients get the most from training) whereas, the control group members, with varying interpersonal styles may be selected because group leaders believe heterogeneity of a group leads to better outcomes (Heppner et al., 1992). Secondly, a 'selection-maturation' interaction may occur if passive-dependent clients mature more quickly than clients with other interpersonal styles (Heppner et al., 1992). This interaction may occur for selection and other threats such as history, testing, regression, mortality, attrition, or any other factors that may interact to cause differences across conditions (Heppner et al., 1992). However, despite these threats to validity, quasi-experimental, time-series designs, according to Heppner et al. (1992) are most useful in applied settings, such as in the school setting, as in this present study. As far as can be determined by the researcher, some of these threats most certainly were likely to occur and did. For example history and maturation over a six-month time frame are bound to occur, particularly at such a pertinent developmental time of early adolescence. However, there is no reason to believe that these changes were different for the original (1999) experimental and (1999) wait groups.

Much of the variance in any pre-test/post-test study is due to the individual differences between the participants (Hair, Anderson, Tatham & Black, 1995). Knowledge of the pre-test level of functioning (e.g., mood states, problem solving styles) allows the researcher to use statistical methods (e.g., covariance) that remove the variance found in the pre-test from the variance found in the post-tests (Hair et al., 1995), as utilized in the present study. If there are differences, most can be controlled

for statistically. The selection-treatment interaction bias however cannot be controlled and therefore must be considered a limitation of the study.

5.3: Participants

In the 1999 cohort, 205 students returned completed consent forms. In the 2000 (control group) cohort 50 students completed and returned consent forms. In the 1999 study (first analysis), only 152 participants were finally included due to attrition, such as illness, roster duties, elective classes, yard-duty and absences, and incomplete or missing data. The 1999 cohort ages range from 11.58 to 15.42 years (M = 13.26 years, SD = .64 years) at pre-test (T1). In the second analysis 57 participants from year seven in the 1999 cohort and 43 year seven students from the 2000 cohort were included for the same reasons as described in the 1999 study. The 2000 cohort ages range from 11.92 to 14.33 years (M = 12.67, SD = .47) at pre-test (T1). The participants were from a secondary college in an outer western suburb of Melbourne, in the state of Victoria, Australia. Local government figures for 2000 indicate a culturally diverse population with 43.3 percent of the residents being born overseas and 39.1 percent speaking a language other than English (Australian Bureau of Statistics, 2001). The participants in the 1999 cohort were students from year seven and year eight, and from year seven only in the 2000 cohort. Years seven and eight are currently the first two years of secondary schooling in Victoria.

In this study, as in many other on-site time-series studies, attrition occurred. The combined 1999 experimental group (i.e., combination of the 1999 experimental subgroup and 1999 waitlist subgroup) of 173 students participated in training in social problem solving skills in 1999. At the post-test the data for 152 participants were analysed. This amounts to an attrition rate of approximately 12 percent, or an 88 percent

retention rate. In the second year (2000) at post-test, a smaller control group of 43 students attended normal classes and were not provided with training (T2). At the six-month follow up (T3), the data for 35 of these students were able to analysed, due to absences or missing data. This amounts to an attrition rate of approximately 19 percent or a retention rate of 81 percent. Dropout is a normal occurrence for in-school training programs. A similar school-based primary prevention program conducted by Clarke, Hawkins, Murphy, and Sheeber (1993) with an experimental group (*N*=361) and control group (*N* = 261) of years 9 and 10 students (female = 42%, *M* = 15.3 yrs) attrited by 9.5% (54) at the 12 week follow-up (i.e., 279 in experimental group and 234 in the control group were maintained). The Shochet et al. study (2001) had a dropout rate of 5.8% from pre-test to post-test, and a dropout rate of 19.8% from pre-test to follow-up.

5.4 Measures

5.4.1: Overview

The three-part, pre-test questionnaire administered to participants at pre-test was designed to measure, 1) students' perceptions about their motivation, knowledge and ability to solve their own problems, 2) mood states and 3) coping skills. The first part of the questionnaire included the demographics and perceptions questions. The second part comprised the Depression, Anxiety, Stress Scales - DASS21 (Lovibond & Lovibond, 1996). The third part of the questionnaire comprised the Adolescent Coping Scale - ACS Short Form (Frydenberg & Lewis, 1993c). The post-test (T2) questionnaires were similar to the pre-test with the exclusion of the perceptions section. At T2 four evaluative questions were asked of those who had received training. At T3, two further questions were asked in relation to the way the training had affected the way people

solve their problems and how they felt about their problems. A copy of the complete pre-test questionnaire and extra items used at T2 and T3 are included in Appendix C.

5.4.2: Part 1: Demographics and perceptions

The demographics included date of birth, sex, year level, and school class. A brief measure of student beliefs about their current problem solving abilities was developed on the basis of Frydenberg's (1997) suggestion regarding the value of assessing students' motivation, attitudes, and ability in social problem solving (Frydenberg, 1997). In this measure, motivation was defined as willingness to learn, attitudes were defined in terms of student beliefs about their current problem solving abilities, and ability was defined as students' perceived beliefs in relation to problematic social situations. This perceptions measure included three statements that were rated on 5-point scale from 1, "strongly agree to 5, "strongly disagree". The first statement was "I would like to learn better ways to solve problems" (Motivation). The second statement was "I know how to solve most of my problems" (Attitudes). The third statement was "I am able to solve most of my problems" (Ability).

5.4.3: Part 2: Depression Anxiety Stress Scales

The DASS 21 (Lovibond & Lovibond, 1996) is a short measure of mood developed for Australian adult samples. The development samples in Lovibond and Lovibond's (2001) study has a lower age limit of 17 years, however the authors argue that given the necessary language proficiency, there are no reasons why the scale could not be used with children as young as 12 years of age (p. 2). With some minor explanation of some terms it has been found not to be a problem for even younger children than this.

The DASS 21 was administered to students to measure mood states for which it was designed. Lovibond and Lovibond (1996) assert that the original DASS (long form – 42-item scale) provides relatively pure measures of three related negative affective states of depression, anxiety and stress. Lovibond and Lovibond (1996) describe these three mood states as follows. The depression scale assesses dysphoria, hopelessness devaluation of life, self-deprecation, lack of interest or involvement, anhedonia and inertia. The anxiety scale assesses autonomic arousal, skeletal musculature effects, situational anxiety, and subjective experience of anxious affect. The stress scale assesses difficulty relaxing, nervous arousal, and being easily upset or agitated, irritable of overactive, and impatient.

The DASS depression and anxiety scales are reported to show good convergent validity with other scales designed to discriminate between depression and anxiety (Lovibond & Lovibond, 1995). According to Lovibond and Lovibond (1995) the DASS compares favourably with Beck Depression Inventory (BDI – Beck, Steer & Garbin, 1988) and the Beck Anxiety Inventory –BAI (Beck & Steer, 1990). The Depression scale of the DASS correlates with the BDI (r = .74) and the Anxiety scale of the DASS correlates with the BAI (r=0.81) (Lovibond & Lovibond, 1995). There are no corresponding figures available for the Stress scale. Cronbach's alphas for the DASS 21 subscales of .97, .92 and .95 were reported in a study by Antony, Beiling, Cox, Enns and Swinson (1998) involving 258 outpatient participants diagnosed with clinical disorders and a comparison group of 49 non-clinical volunteers.

The 21-item version has several advantages over the 42-item version including fewer items, a cleaner factor structure, and smaller interfactor correlations (Antony et al., 1998). For the reasons just mentioned as well as brevity for younger adolescents, the use of a short-form was seen as an important consideration. The development of the

DASS was carried out with non-clinical samples and is considered by the authors to be suitable for screening normal adolescents and adults (Lovibond & Lovibond, 2001).

5.4.4: Characteristics of high scorers on each of the DASS scales

Each item on the DASS is rated on 4-point Likert scale, from 0 – "Did not apply to me at all" up to 3 – "Applied to me very much, or most of the time". A score can be produced for each scale by summing the ratings across relevant items. Each of the three scale scores can be standardized (Z score) and plotted on a profile sheet, which also indicates percentile ranking. There are five labels, depending on severity of symptoms on each scale. The labels are rated using the number of standard deviations (SD) a person's score is away from the mean. In order of severity, the labels include: "normal" = 1 to 0.5 SD; "mild" = 0.5 to 1 SD; "moderate" = 1 to 2 SD; "severe" = 2 to 3 SD; "extremely severe" = 3 to 4 SD. For the depression scale, the score ranges are 0 to 6 'normal', 7 to 13 'mild' 14 to 20 moderate, 21 to 27 'severe' and 28 to 42 'extremely severe'. For the anxiety scale, the score ranges are 0 to 4 'normal', 5 to 9 'mild', 10 to 14 'moderate', 15 to 19 'severe', and 20 to 42 ' extremely severe'. For the stress scale, the score ranges are 0 to 10 'normal', 11 to 14 'mild', 15 to 18 'moderate', 19 to 25 'moderate', 26 to 24 'severe', and 35 to 42 'extremely severe'.

Examples of DASS items are provided here to indicate the types of constructs, such as moods, thoughts and behaviours that are tapped by the measure. The Depression scale identifies the following constructs, including being self-disparaging, dispirited, gloomy, blue, convinced that life has no meaning or value, pessimistic about the future, unable to experience enjoyment or satisfaction, unable to become interested or involved, slow, and lacking in initiative. The Anxiety scale identifies the following constructs, including being apprehensive, panicky, trembly, shaky, aware of dryness of the mouth,

having breathing difficulties, pounding of the heart, sweatiness of the palms, worried about performance and possible loss of control. The Stress scale identifies the following constructs, including feeling over-aroused, tense, unable to relax, touchy, easily upset, irritable, easily startled, nervy, jumpy, fidgety, and intolerant of interruption or delay (Lovibond & Lovibond, 2001). The DASS is based on a 'dimensional' rather than a 'categorical' conception of psychological disorder, according to Lovibond et al. (2001). Research data has supported the notion that the differences between the depression, the anxiety, and the stress experienced by normal subjects and the clinically disturbed, are differences in degree (Lovibond et al., 2001). Cronbach's alphas for the DASS 21 measures as assessed from the pre-test samples in this study were .80, .88, and .80, for depression, anxiety and stress respectively ($N = 216$).

5.4.5: Part 3: Adolescent Coping Scale Short Form

The ACS short form (version of the 80-item long form) is an 18-item, self-report inventory (plus a 19th open ended optional item). The ACS assesses 18 conceptually and empirically distinct coping strategies (Frydenberg et al., 1993a). Frydenberg and Lewis (1993a) state that a certain coping strategy may be used by someone for a specific concern while another different strategy may be used as a general rule across many situations by that same person. Asking participants to think about a specific concern or asking them to consider problems generally at the time of testing, allows them to consider which strategies they use in specific situations and which strategies they use in general. These strategies are summarized into three factors (or coping styles), which Frydenberg and Lewis (1993a) suggest are what young people utilise to deal with problem situations. Frydenberg and Lewis (1999) describe these three styles in some detail. The first is "solve the problem" which is characterized by strategies that

relate to solving the problem while remaining optimistic, fit, relaxed and socially connected. The second is “reference to others” which is characterised by turning to peers, professionals or deities. The third is “non-productive coping” which comprises strategies such as self-blame and tension reduction and have been empirically associated with an inability to cope (Frydenberg & Lewis, 1993a).

The ACS was developed, starting in 1986 with 2041 coping strategies generated using a sample of 643 participants (Frydenberg & Lewis, 1993a). In that same year, from those strategies, 156 items were tested. After several other studies the final 80-item questionnaire was developed in 1990 ($N = 672$). The final 18 scales were empirically derived using factor analysis. From these scales, the 18 item short form was produced. The 18 items were further factored to provide three coping styles as mentioned previously: Solve the problem, Reference to others, and Non-productive coping.

The long form, comprising 80 items represents 18 different scales. The short form’s 18 items represent the 18 scales on the long form. The 18 items may be used to provide a coping profile by plotting the scores on a chart. Also the 18 items may be converted to three subscales of ‘Solve the problem’, ‘Refer to others’, and ‘Non-productive coping’, known as coping styles. The short form was chosen for brevity because of limited time during the single-period sessions in this study and to save the time for participants to complete forms.

Each item is scored on a 5-point Likert scale (1 – doesn’t apply or don’t do it up to 5- used a great deal). The three styles each have a different number of items. The first style, Solve the problem is made up of six items. These six items are: “Work at solving the problem to the best of my ability” (item 2); “Work hard” (item 3); “Improve my relationship with others” (item 6); “Look on the bright side of things and think of all

that is good" (item 15); "Make time for leisure activities" (item 17); and "Keep fit and healthy" (item 18). The second style, Refer to others is made up of four items: "Talk to other people about my concern to help me sort it out" (item 1); "Join with people who have the same concern" (item 10); "Pray for help and guidance so that everything will be alright" (item 14); and "Ask a professional person for help" (item 16). The third style, Non-productive coping is made up of nine items: "Worry about what will happen to me" (item 4); "Spend more time with boy/girl friend" (item 5); "Improve my relationship with others" (item 6); "Wish a miracle would happen" (item 7); "I have no way of dealing with the situation" (item 8); "Find a way to let off steam; for example cry, scream, drink, take drugs, etc" (item 9); "Shut myself off from the problem so that I can avoid it" (item 11); "See myself as being at fault" (item 12; and "Don't let others know how I am feeling" (item 13). The three style totals are converted to standard scores by totalling each participant's score and then multiplying by a factor to compensate for the different number of items in each style. Solve the problem style is totalled and multiplied by three (3); Refer to others style is totalled and multiplied by five (5); and Non-productive coping style is totalled and multiplied by two (2). The range of scores on each style is 0 to 90, 0 to 100 and 0 to 90, respectively with high scores referring to the style being used a great deal and low scores referring to the style being used less.

The Cronbach's alphas for the specific scales on the long-form (i.e., the 80 items and 18 scales) range from .75 to .92. Correlations between long-form and short-form scale are .86 for Solve the problem scale, .89 for Refer to others scale, and .90 for Non-productive coping scale for concerns in general (Frydenberg & Lewis, 1993a). Cronbach's alpha calculations for the pre-test sample in this study were .69, .49, and .58 for solve the problem, refer to others and non-productive coping respectively ($N = 216$),

when used as the general form in this study. This compares favourably to short form alphas cited by Frydenberg and Lewis (1993a) of .61, .50 and .66, respectively for general items on the short form (N = 673). These alpha figures are however lower than generally acceptable (they should be at least .70) so results obtained from using these scales in the present form would be treated with some caution (Nunnally, 1978).

5.4.6: Other measures

There were two other measures included in the study. The first one was completed immediately after post-testing at the end of the training (T2). This questionnaire comprised two parts. The first part was four open-ended questions: 'What did you like?'; 'What did you learn?'; 'What could be improved?'; and What could be done in the future?'. The second part asked the participants to rate the training on a 6-point Likert scale, rating the training from 1 – "poor" to 6 – "excellent". This second part was included as a form of evaluation of the training after the delayed test (T3) and two questions were asked of participants. Question one was, 'How has the training changed the way you solve your problems?' Question two was, 'How has the training changed the way you feel about your problems?' Participants were free to answer in their own words.

5.5: Procedure

The 1999 experimental group comprised four classes of approximately 25 students per class and the 1999 wait group comprised four classes also of approximately 25 students per class. The 1999 experimental class groups were trained by whole-class, so that training did not have to interfere with existing timetables, instead, replacing an existing class (e.g., maths, science). Prior to T2, (see Table 5.1) the 1999 wait group

attended normal classes. After T2 the 1999 wait group was also trained in whole-class groups. The year 2000 control group participants were distributed over five classes and attended normal timetabled classes. The year 2000 control group participants were withdrawn from these classes to complete the repeated measures assessments at T1, T2 and T3 on a similar timeframe as the new combined experimental group of 1999 (see Table 5.2).

5.6: Ethics approval and participant consent

This study required five levels of informed consent. Consent was gained to conduct the study from the Swinburne University Human Research Ethics Committee, then from the Department of Education, Employment and Training Victoria (DEET), the school Principal, the parents of the students, and the students themselves. Consent by DEET is dependent on several factors, including clearance by Swinburne University of Technology Ethics Committee for Human Research. Students and their parents provide informed consent (by signing a consent form) after reading a plain language statement outlining the study and its aims and what is to be expected of the participants. Confidentiality, privacy and anonymity are ensured. The participants were informed of their ability to withdraw at any time as well as information about the possibility of publication in a journal or other publication (maintaining confidentiality, anonymity and privacy). Before training begins, participants were reminded again that they were free to withdraw from the training at any time. Participants and their parents were also provided with names and telephone numbers of the researcher and his principal supervisor, should they have had any questions about the study. All possible steps were taken to provide safety and support for the participants by utilizing the referral process of the school, should anyone have reported discomfort or the leaders had become aware

of any problems, due to the program. The procedure for consent from the five levels was deliberately robust to minimize the possibility of causing harm to any of the participants.

5.7: Summary

The social problem solving skills training program developed for this study comprised a quasi-experimental design using one cohort from 1999, containing year seven and year eight students and another cohort from 2000 comprising year seven students only. From these cohorts several combinations for analysis were possible and two were chosen. In the first year, the 1999 study comprised two groups: an experimental group and a waitlist group to be compared in a simple experimental pre- and post-test analysis. The students comprised whole class groups from year seven and year eight. The second study involved a time series design by combining the year seven students from the two 1999 groups into a combined experimental group and comparing this group with the 2000 control group of year seven students. The study design evolved for practical reasons and although not ideal, it provided several options for analysis, of which these two were chosen.

CHAPTER 6: FACTORIAL VALIDATION OF COPING AND MOOD

6.0: Introduction

The design and measures chapter described the research design and method of the social problem solving skills training program for young adolescents. That chapter described the participants, assessments and procedure of a quasi-experimental time-series design. The overall purpose of this chapter is to explore the structure of the dependent variable measures prior to analysis of the effectiveness of the intervention. These dependent variables include the measures of coping and mood.

Valid measurement models that accurately reflect the true nature of a construct are necessary prior to any research investigation. The establishment of valid measurement models that are uni-dimensional and not co-dependent or positively associated is essential in intervention research, which attempts to increase desired skills and reduce undesired skills (Cunningham, 2002). If measurement models are not valid, then there will be a lack of confidence in any measured change that may occur in these skills. The first part of this chapter explores coping in early adolescence based on previous evidence of a two-factor model of coping for this age group (Cunningham, 2001, 2002; Cunningham & Walker, 1999). The second part of this chapter explores the measurement structure of a single negative mood state in early adolescence, for which there is some evidence (Axelson & Birmaher, 2001; Clark & Watson, 1991; Gurley, Cohen, Pine, & Brook, 1996) for young adolescents.

6.1 General models of coping in early adolescence

Four general models of coping in adolescence are shown in Table 6.1. They share some common elements or higher order factors, also described as coping styles by Frydenberg and Lewis (1993a).

Theoretically, the potential number of coping actions is limitless and for simplicity is classified into a reduced number of higher order factors. This is generally derived through factor analysis to reduce the number of responses (Cunningham, 2001). Four general models of coping encompassing four groupings of higher order factors illustrate conceptual similarities between scales (as previously discussed in chapter 2, para. 2.5). The Cunningham and Walker (1999) model is derived from the Frydenberg and Lewis (1993a) model, whilst the other two are not. The higher order factors shown in Table 6.1 fall into the four general categories, not in any order of priority. The first similar pair is productive coping and active coping. According to Frydenberg and Lewis (1999) productive coping (PC) involves attempts at solving the problem whilst remaining physically fit and healthy, whereas active coping involves directly acting on the problem using cognitive or behavioural coping actions (Ayers, Sandler, West & Roosa, 1996). The second matching group includes non-productive coping (NPC), avoidance coping and passive coping. Non-productive coping reflects an inability to cope with concerns or difficulties by using behavioural or cognitive avoidance strategies (Frydenberg & Lewis, 1999), as does avoidance coping in an attempt to disengage the individual entirely from the problem (Ayers et al., 1996). Passive coping includes strategies such as cognitive avoidance, emotional discharge and resigned acceptance to a problem situation (Moos, 1990).

The third match-up includes reference to others and support seeking. Reference to others involves turning to others for support (Frydenberg & Lewis, 1999) whilst

support seeking is characterised by referring to other people to seek solutions to problems as well as emotional support through listening and understanding (Ayers et al., 1996). The fourth group of similar factors is behavioural distraction and distraction coping. Behavioural distraction or behavioural avoidance as it is also known (Moos, 1990) involves actions that seek alternative diversions, such as doing fun activities and making new friends, for example (Cunningham, 2001).

The productive coping (PC) and non-productive coping (NPC) styles are shared by all four models. However, refer to others (RTO) and behavioural-distraction (BD) are distributed across three models RTO and BD are common to one model (Ayers et al., 1996), RTO appears in the Frydenberg et al. (1993a) model and BD appears in one model (Ebata et al., 1990; Griffith , Dubow, Ippolito, 2000; Moos, 1990).

Table 6.1
Four general models of coping showing higher order factors of coping.

Higher order factors	Frydenberg & Lewis(1993a)	Cunningham & Walker (1999)	Ayers, Sandler, West, & Roosa (1996)	Ebata & Moos (1991; Moos, 1990; Griffith et al, 2000)
Productive coping (PC)	Productive Coping (PC)	Productive Coping (PC)	Active Coping (PC)	Active Coping (PC)
Non-productive coping (NPC)	Non-productive Coping (NPC)	Non-productive Coping (NPC)	Avoidance Coping (NPC)	Passive Coping (NPC)
Refer to others (RTO)	Reference to Others (RTO)		Support Seeking (RTO)	
Behavioural distraction (BD)			Distraction Coping (BD)	Behavioural Distraction (BD)

6.2: Specific models of coping in early adolescence

Frydenberg and Lewis (1993a) developed the ACS short form with a sample of 673 students from five secondary schools (year 7 to year 12). Further factor analysis of

the ACS short form by Frydenberg and Lewis (1993a) supported their proposal of three higher order factors, as for the original long form, with only some minor variation. These three factors comprise productive coping (i.e., solve the problem), non-productive coping, and reference to others.

Three measurement models of coping, comparing validity studies of the ACS short form and indicating factor structure are shown in Table 6.2, for comparison purposes. These models were proposed by Frydenberg and Lewis (1993a, 1996), Cunningham and Walker (1999), and Speirs and Martin (1999), respectively.

There was support for a two-dimensional model of coping in children and adolescents (Cunningham & Walker, 1999; Spiers & Martin, 1999). These two dimensions involve productive coping styles and non-productive coping styles, with the refer to others style excluded. There is some evidence that RTO has a low reported usage by children and adolescents, possibly because students attempt self-reliance in the management of their own concerns (Frydenberg & Lewis, 1993b**)** and do not see the need for assistance from others. Cunningham and Walker (1999) proposed this two-dimensional model using exploratory factor analysis of data collected in a sample of 115, year 9 students (13 to 15 years) from two secondary schools. The two-factor structure was proposed after exploratory factor analysis from their data set, collected on the ACS short form albeit in a younger average age group than the Frydenberg and Lewis (1993a) cohort. In the Cunningham and Walker (1999) study, these two factors closely resembled two of the factors proposed by Frydenberg and Lewis (1993a, 1996) as PC and NPC (Cunningham & Walker, 1999). Item 5 (spend more time with a boy/girl friend) and item 6 (improve relationships with others) were removed in their analysis because of their ambiguity (loading on both factors) in previous studies (Frydenberg & Lewis, 1993a, 1996), meaning that these two items were loading on both

PC and NPC factors. Cunningham and Walker (1999) included item 1 (seeking social support) in the productive coping scale because it has been linked to depression in other studies (Boekaerts, 1996; Brown & Harris, 1978). It is proposed that seeking social support may also be a more mature approach to coping. It may be that seeking out others for assistance, is something that children and young adolescents tend to do less than older adolescents and adults, as mentioned previously (Frydenberg & Lewis, 1993b).

Table 6.2
Factors and items of three models of coping for the Adolescent Coping Scale – Short Form (Frydenberg & Lewis, 1993c)

	Models of coping using ACS short form		
	Frydenberg and Lewis (1993a, 1996) N = 673 years 7 to 12, 5 schools	Cunningham and Walker(1999) 13 to 15 years N = 115, year 9 students, 2 schools	Speirs and Martin, (1999) N = 114 Years 11 & 12 students
Factor 1: Productive coping	^SolvProb (2) FocPos (15) Relax (17) PhysRec (18) Work (3) Belong (6)	SolvProb (2) FocPos (15) Relax (17) PhysRec (18) SocSupp (1)	SolvProb (2) FocPos (15) Relax (17) PhysRec (18) Work (3) Belong (6)
reliability	α = .61	α = .68	α = .73
Factor 2: Non-productive coping	Worry (4) WishThink (7) NotCope (8) Ignore (11) SelfBl (12) KeepSelf (13) TensRed (9) Friends (5) Belong (6)	Worry (4) WishThink (7) NotCope (8) Ignore (11) SelfBl (12) KeepSelf (13) Spirit (14)	Worry (4) WishThink (7) NotCope (8) Ignore (11) SelfBl (12) KeepSelf (13) TensRed (9)
reliability	α = .66	α = .74	α = .60
Factor 3: Reference to Others	SocSupp (1) SocAc (10) Spirit (14) ProfHelp (16)	N/A	SocSupp (1) SocAc (10) Spirit (14) ProfHelp (16)
reliability	α = .50	α = n/a[†]	α = .24

*Item numbers are shown in brackets, [†]Personal Correspondence, ^ Abbreviated items shown (item number shown in brackets) An acceptable level of reliability is .7 according to Nunnally (1978), See appendix A – adolescent coping scale for full wording of items.

Speirs and Martin (1999) also proposed a two-factor model, without the RTO factor due to its unacceptable alpha reliability (α = .24) figures for a group of 114 year 11 and 12 students (mean age = 16 years 5 months). The productive coping factor and

non-productive coping factor are the same as those proposed by Frydenberg and Lewis (1993a) with the exclusion of item 5 (friends) and item 6 (belong) due to their unacceptable item total correlations of -.05 and -.15, respectively. According to Kline (1998), acceptable item total correlations for inventories, other than cognitive tests (e.g., IQ) should be 0.7 or above.

Cunningham (2002) has further supported a two-factor model of coping using confirmatory factor analysis (CFA) results replicated in an independent sample of 367, grade 5 and grade 6 students (10 to 13 years). Cunningham (2001, 2002) again rejected item 5 (spend more time with a friend) and item 6 (improve my relationship with others), relating to socially oriented personal relationships, as they did not fit the model using confirmatory factor analysis (CFA). Also, Cunningham (2001) points out that while the strategies of 'ignoring the problem' and 'wishful thinking' may be maladaptive strategies for older adolescents, they may actually be adaptive when used by younger adolescents and children. The information gained in relation to rejecting or retaining certain ACS items from these studies (Cunningham, 2001, 2002; Cunningham & Walker, 1999; Speirs & Martin, 1999) guided the researcher in the factor analysis of the data set for the young adolescents in the present study. For example, in school, younger children are often encouraged to ignore another child who may be bullying them as a strategy (i.e., ignore the problem), and tell a teacher, a helpful strategy under most circumstances. Also, the strategy of wishful thinking for a younger child may be a diversionary tactic, to enable him or her to cope with a difficult family situation whilst at home, waiting until he or she can confide in a teacher or counsellor when at school. Wishful thinking can also stimulate hope which may be motivational in helping someone solve his or her problem.

6.3: Data screening and assumption tests

The analysis was conducted using SPSS 10.0 (Norusis & SPSS Inc., 2000) and AMOS 4.0 (Arbuckle & Wothke, 1999). Prior to analysis the data were screened for out of range values, missing values, and normality (Tabachnick & Fidell, 1996). Frequency analyses were conducted to determine out-of-range values for each variable. The responses of the 32 participants who were not present for the pre-test screen, and therefore whose data were missing, were removed from the data set. There was less than 10% missing data on any questionnaire for all the remaining questionnaires (at the post-test and follow-up test), which would have a negligible effect on the analysis (Kline, 1998). Random missing values in the pre-test (for the DASS 21) were replaced using the expectation-maximization algorithm in SPSS 10.0 (Kline, 1998). For all remaining participants' (DASS 21) questionnaires, there were a total of 17 random missing values. These random missing values were replaced using the next, rounded-up integer, based on the average scores for each individual scale. There were no missing values in the ACS for the pre-test. Correlation tables for the twenty-one DASS items and the eighteen ACS items are shown in Appendix D.

6.4: Goodness of fit for the Adolescent Coping Scale and the Depression Anxiety Stress Scales.

Confirmatory factor analysis techniques were used to analyse the structures of both the adolescent coping scale and the depression anxiety stress scales, prior to evaluation of the program. This was done to ensure factorial validity of the instruments with the sample of young adolescents who participated in this study and has to meet certain criteria to achieve goodness of fit. The criteria, generally accepted as support for substantiating goodness of fit for confirmatory factor analysis, as described by Kline

(1998) were used to assess the goodness of fit of the models to the data in this study. This included the following criteria used for analyses of both the ACS and the DASS.

- The χ^2 statistic indicates the estimated likelihood of significant difference in the fit between the model and the just identified model: a non-significant result is desirable but not essential, due to its sensitivity to large sample sizes. Therefore, there is a need to look at other criteria (Kline, 1998).
- Practical fit is identified by the χ^2:*df* ratio, which should be less than 3 (Kline, 1998). Practical fit is also assessed by values of indexes that indicate absolute or relative proportions of the observed covariances explained by the model, compared to the null model. For example, the Tucker-Lewis index (TLI), the comparative fit index (CFI), and adjusted goodness of fit index (AGFI) should all exceed .90 (Kline, 1998).
- The correlation residual, or root-mean-square error of approximation (RMSEA) assesses how poorly the model fits the data and should be less than .10 (Kline, 1998) or up to .08 (Widaman & Reise, 1997) to indicate a reasonable fit of the model (90% confidence interval is shown in brackets)

Also, as recommended by Anderson and Gerbing (1988), one-factor congeneric models for the coping constructs of productive coping and non-productive coping as well as the mood constructs of depression, anxiety and stress were initially evaluated prior to evaluating the factorial validity of the final models. In each of the one-factor congeneric models the variance of the latent variables was set to unity in order to identify the models. For the two-factor model for the ACS, one factor-loading path per factor was set to unity so that bootstrapping methods could be employed to estimate the standard errors for data that were not normally distributed (Byrne, 2001).

For the DASS: for the three-factor model, one factor-loading path per factor was set to unity so that bootstrapping methods could be employed to estimate the standard errors for data that was not normally distributed (Byrne, 2001). Furthermore, given that the intercorrelations between the latent variables were expected to be of a moderate magnitude (Lovibond & Lovibond, 1996), a uni-dimensional model was evaluated in which all the items were hypothesized to be explained by a single latent variable akin to negative affectivity.

Tests for the factorial validity of items in the CFA models were conducted using maximum-likelihood estimation procedures on the covariance structures in the AMOS 4.0 program. Even though maximum-likelihood estimation assumes that the variables are continuous and approximately univariate and multivariate normally distributed, this approach is considered appropriate when the covariance matrix is analysed and bootstrapping procedures are employed to estimate standard errors, and provided item responses consist of at least three categories (Byrne, 2001).

6.5: Testing the factor structure of the adolescent coping scale (ACS)

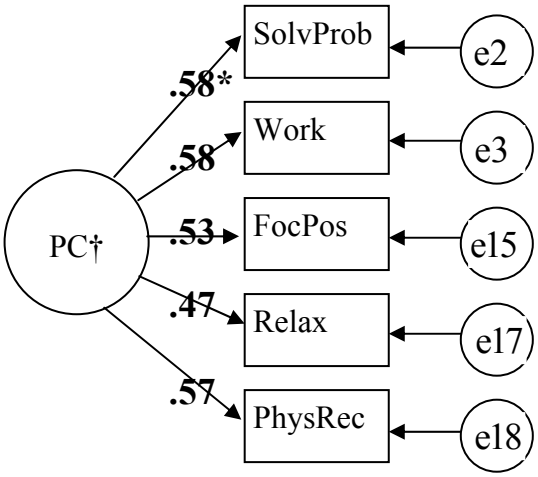
The exploration of the factor structure of the ACS involved the testing of two models to determine the adequacy of the ACS coping scales as separate and overlapping styles of coping. The first model assessed the goodness of fit for two individual congeneric models of coping: productive coping; and non-productive coping. The 'refer to others' coping style was eliminated from the model testing because of its poor reliability statistics as expressed by several authors (Cunningham & Walker, 1999; Frydenberg & Lewis, 1993a; Speirs & Martin, 1999). The second model explored was a two-factor model of coping from combining the PC and NPC congeneric models. There

was support for this two-factor model including both PC and NPC, which showed almost acceptable fit to the data.

6.5.1: Two one-factor congeneric models of coping

Two one-factor congeneric models of coping were explored. Several items were removed from the analysis of the ACS based on hypothesised latent constructs of the coping styles of productive coping and non-productive coping.

The first factor tested PC. The PC factor comprised the items: focus on solving the problem (item 2), work hard at solving the problem (item 3), focus on the positive (item 15), seek recreational diversions (item 17), and keep fit and healthy (item 18). Figure 6.1 shows the parameter estimates and goodness-of-fit statistics for a one-factor congeneric model of PC for young adolescents. As can be seen in Figure 6.1, the model does not meet the statistical criteria $p < .05$ (not essential) but meets the practical criteria, χ^2:$df < 3$, RMSEA < .1, and TLI, CFI, and AGFI > .9 (Kline, 1998). This one factor congeneric model of productive coping was a good fit to the data.



χ^2 (9, N = 216) = 17.31

p < .05

RMSEA = 0.07 (.01: .11)#

TLI = 0.91

CFI = 0.95

AGFI = 0.94

Fig 6.1. Parameter estimates and goodness-of-fit statistics for one-factor congeneric model of productive coping for young adolescents, bolded figures indicate item correlation figures, † PC = Productive coping; e = error margin for each item (not quoted for CFAs, only in structural equation modelling).
SolvProb = Solve the problem; Work = Work hard to solve the problem; FocPos = Try to focus on the positive; Relax = Seek relaxing diversions; PhysRec = Physical recreation.

The second one-factor congeneric model for non-productive coping, comprised the items: worry (item 4), wishful thinking (item 7), not cope (item 8), let off steam (item 9), ignore the problem (item 11), self-blame (item 12), and keep to self (item 13). This model was a good fit to the data as it fulfilled the statistical and practical criteria (Kline, 1998) as shown in Figure 6.2.

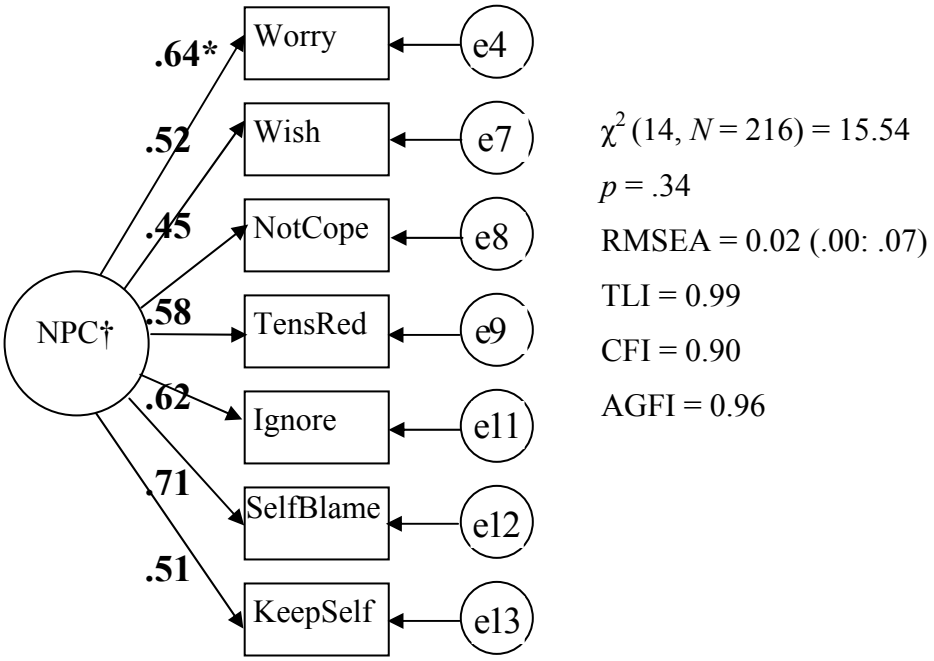


Figure 6.2. Parameter estimates and goodness-of-fit statistics for one-factor congeneric model of non-productive coping for young adolescents, † NPC = Non-productive coping, * bolded figures indicate item correlation figures. Wish = Wishful thinking; NotCope = Not coping; TensRed = Tension reduction; Ignore = Ignore the problem; SelfBlame = Self-Blame; KeepSelf = Keep to self.

6.5.2: Test for a two-factor model of coping

The exploration of a combined two-factor model of coping using the PC and NPC congeneric models shows an acceptable fit the data. It was not supported statistically, however in practical terms it almost met the substantiative criteria recommended by Kline (1998). Figure 6.3 presents the parameter estimates and goodness of fit indices for this two-factor model of coping for young adolescents.

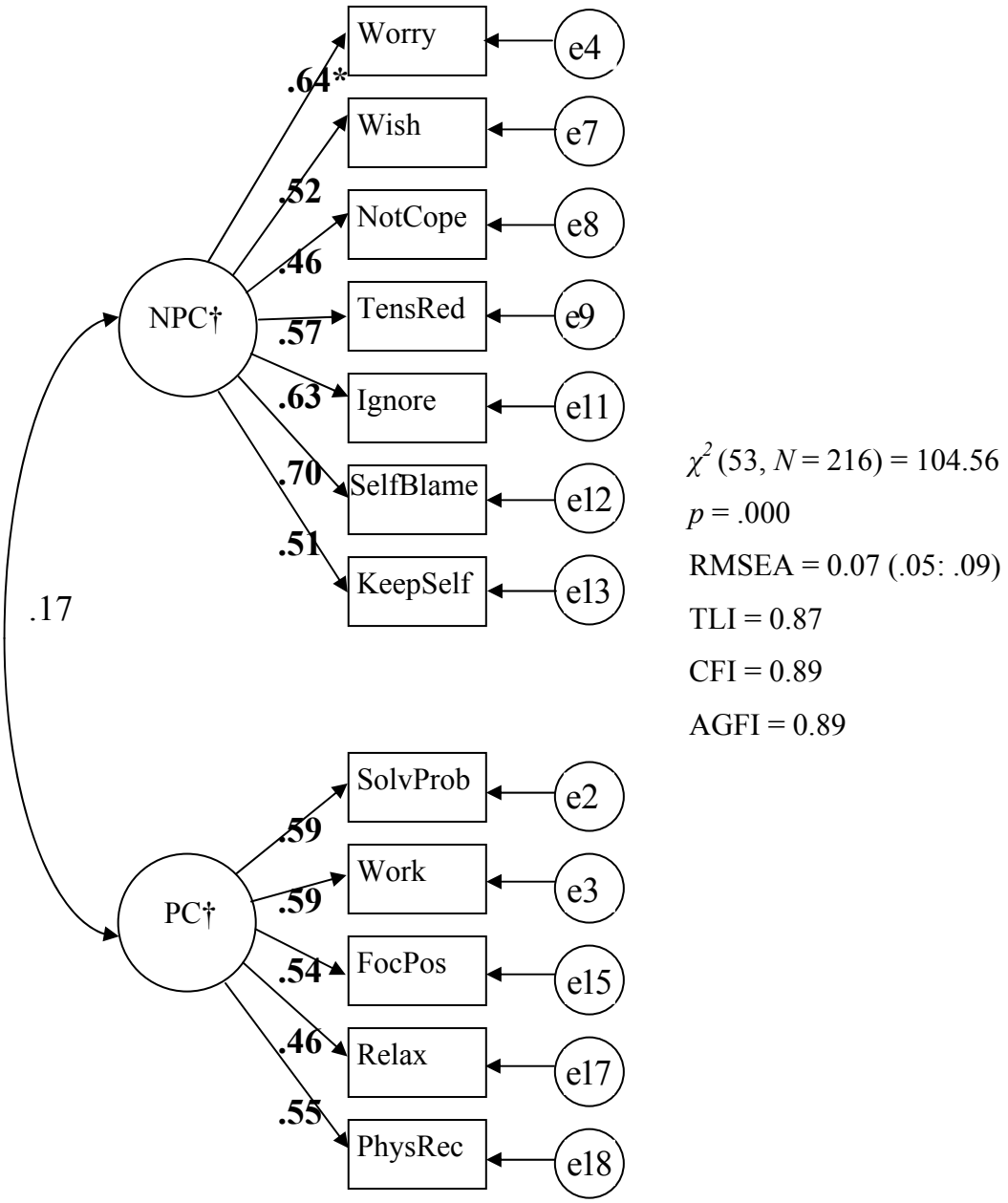


Figure 6.3. Parameter estimates and goodness-of-fit statistics for two-factor model of young adolescents' self-reported coping styles, †NPC = Non-productive coping, PC = Productive coping, *bolded figures indicate item correlation figures

6.6: Goodness of fit for Depression Anxiety Stress Scales (DASS)

Emotional expression has long been theorized as developing from generalized to more specific as we learn to (a) associate certain positive or negative feelings with particular occurrences, (b) label the emotional expressions according to both the feeling experienced and the situational components of that feeling, (c) recognize bodily sensations associated with emotional arousal, and (d) modify emotional expression through society's emotional display rules (Berk, 2000). Children and even adolescents may not always develop clear verbal labels for their negative emotions, or they may have internalised display rules, which to some extent 'distort' the natural expression of an emotion (e.g., 'big boys don't cry'). Negative emotions may be expressed directly, or through 'acting out' behaviours, such as aggression or bullying, through social withdrawal, or through behavioural and health difficulties such as sleep disturbance or problems with concentration and the like.

Studies with both clinical and non-clinical samples of children and adolescents have consistently found moderate to high correlations between measures of anxiety and depression (e.g., Axelson & Birmaher, 2001; Finch, Lipovsky, & Casat, 1989; King, Ollendick, & Gullone, 1991), with few studies reporting correlations between these two mood states of less than .50. Axelson and Birmaher (2001) suggested that some of the difficulty in distinguishing between the two emotional states might be due to what is developmentally normal for an adolescent. According to Axelson and Birmaher, "children often have difficulty describing anxiety and depression." (p. 67) and "The phenomenology of the illness may differ significantly from the presentation in adults and may (even) differ between children and adolescents" (p.67). For example, in a study of children in grades 4 to 7, Laurent and Stark (1993) found that physiological symptoms (e.g., heartbeat and breathing changes) were poor indicators of anxiety.

Contrary to expectations, they found these symptoms to be better indicators of depression than anxiety in children. Furthermore, the results from the responses of 1,947 Victorian adolescents (mean age = 14.5 years, *SD* = 0.5 years) to the ICD-10 (World Health Organization, 1993) indicated that while a somatic syndrome (a group of somatic symptoms) was reported by nearly one in three of those with severe depressive disorder, it was rarely reported by those with mild and moderate episodes of depression (Patton, Coffey, Posterino, Carlin & Wolfe, 2000). These findings suggest that there are differences between clinical and normal populations in being able to connect somatic symptoms with emotional states.

While the DSM-IV-TR (American Psychiatric Association, 2000) has separate classifications for diagnoses of anxiety and depression, there is a good deal of overlap between the symptoms comprising the two mood states. For example, the syndromes for major depressive disorder (MDD) and general anxiety disorder (GAD) as described in the DSM-IV-TR (American Psychiatric Association, 2000) share five out of a possible nine symptoms namely irritability, sleep disturbance, restlessness or psychomotor agitation or retardation, fatigue, and diminished concentration (previously discussed in chapter two, Table 2.1). In a review of the literature on the overlap between depression and anxiety in adult populations, Watson and Kendall (1989) found that self-report measures of anxiety and depression typically correlated in the range of .50 to .80, and diagnostic assessments revealed that the majority of patients met the classifications for both anxiety and depression. The consistent findings in the literature of the phenomenon of comorbidity between anxiety and depression is further evidenced by the fact that the DSM-IV-TR now includes a proposal for a new category of mixed anxiety-depressive disorder (American Psychiatric Association, 2000, Appendix B).

From a theoretical perspective, Watson and colleagues (Watson & Clark (1984, 1991, 1992) proposed a tripartite model of anxiety and depression that integrates the unitary view of conceptualising these disorders as a single continuum, and the pluralistic view that considers the two mood states as separate and discrete entities. The tripartite model contains three elements whereby one element is unique to depression, namely (the absence of) positive affect. Low positive affect is characterised by lack of energy, worthlessness and hopelessness (Jolly, Dyck, Kramer, & Wherry, 1994). A second element indicating physiological hyperarousal is unique to anxiety. Central to the tripartite model is the third element that is represented by the construct of negative affectivity (NA) and encapsulating the common emotional or mood states associated with both of these mood states and other mood-related disorders (Clark & Watson, 1991). More specifically, Watson and Clark (1984) state:

> The negative mood states experienced by persons high in NA include subjective feelings of nervousness, tension, and worry; thus NA has as one of its central features what others have called "trait anxiety". NA represents a more general negative condition. It also includes such affective states as anger, scorn, guilt, self-dissatisfaction, a sense of rejection, and to some extent, sadness. In contrast, NA is unrelated to an individual's experience of positive emotions; that is high-NA level does not necessarily imply a lack of joy, excitement, or enthusiasm (p. 465).

Watson and Clark (1984) maintain that the underlying presence of negative affectivity is common to many mood states and hence explains the high associations that are consistently found in adult studies of community and clinical samples examining mood-related states or disorders (see Achenbach et al, 1989; Eason, Finch,

Brasted, & Saylor, 1985; Jolly et al., 1994). While debate about the tripartite model of depression and anxiety continues, especially in relation to psychiatric diagnosis (e.g., DSM IV-TR, 2000), the notion of negative affectivity might be a more useful way to consider negative emotion in childhood and adolescence because of the difficulties in differentiating emotions at this developmental stage, both diagnostically and phenomenologically.

The DASS (Lovibond & Lovibond, 1996) is suitable for use with children as young as 12 years of age (Lovibond & Lovibond, 2001, p. 2). This makes it a potentially important screening and research tool for use with young adolescents, as it is short, easy to administer, and purports to assess depression, anxiety and stress levels from normal to extreme without incorporating items concerning suicidal ideation. Items like this are often considered problematic by ethics committees, parents and the like in researching or screening young people. Depression as assessed by the DASS is described as a state characterized by a loss of self-esteem and incentive, associated with a very low perceived probability of attaining personal life goals (Lovibond et al., 1996). The subscale uses items such as “I felt down hearted and blue” and “I felt that life was meaningless”. Anxiety is described as involving longer-term anticipation of negative events which are typical, but not exclusively, psychological in manner. DASS anxiety items include “I was aware of the action of my heart in the absence of any physical exertion” and “I couldn’t seem to experience any positive feeling at all”. Finally stress is described as a persistent state of over-arousal, which reflects continuing difficulty in meeting taxing life demands. It is assessed with items such as “I found it hard to wind down” and “I felt that I was rather touchy”.

Lovibond and Lovibond (1996) provide support for the capacity of the DASS to measure the three empirically distinguishable constructs of depression, anxiety and

stress in a sample of 1,750 adults. The results from their exploratory factor analysis revealed clear differences in the strength of factor loadings between items in each scale. The correlations between the subscales, which ranged from .55 to .68, were moderate. Using confirmatory factor analyses, Lovibond and Lovibond (1996) replicated these findings in an independent sample (N = 816). However, the adjusted goodness-of-fit index (AGFI) of .76 reported for the three-factor model was well below the commonly accepted minimum of .90 (Kline, 1998). The current analysis utilises CFA techniques to evaluate the adequacy of a series of models that treat the emotions of depression, anxiety and stress as both separate and overlapping states in young people.

6.6.1: Single-factor congeneric models of stress, anxiety and depression

In the first model, single-factor congeneric models of depression, anxiety and stress as described by the Lovibond and Lovibond (1996) were found to be problematic. The depression and anxiety scales did not fit the data well. The model comprising the seven indicators for depression were χ^2 (14, N = 216) = 62.95, p<.001, χ^2:df = 4.5, RMSEA = 0.13 (.10, .16), TLI = 0.81, CFI = 0.87, and GFI = 0.93. An inspection of the modification indices suggested that items 3 and 16 were contributing most to the misspecification of the model. These two items referred to inability to experience any positive feelings and feelings of life as meaningless. After removing these items, the respecified model comprising only five items was found to fit the data well. The results for this analysis are shown in Figure 6.4.

For anxiety, the initial model comprising the seven anxiety indicators revealed that the data was also an unacceptable fit to the model, χ^2 (14, N = 216) = 52.37, p<.001, χ^2:df = 3.74, RMSEA = 0.11 (.08, .15), TLI = 0.77, CFI = 0.84, and GFI = 0.93. Modification indices suggested that the model would be improved considerably by

correlating the error terms of items 4 and 19. An inspection of the distributions of these two items revealed that these items were substantially more positively skewed and kurtotic than the remaining items comprising this construct (Kline, 1998). In addition the factor loading for item 2 (.23) was below a commonly accepted minimum value of .30 (Tabachnick & Fidell, 1996). These three items referring to autonomic arousal, namely awareness of irregularities of heart beating, dryness of mouth and difficulty breathing, were removed from the anxiety scale. The respecified model comprising the remaining four items was found to be an excellent fit to the model. The stress scale comprising the seven existing items in the DASS 21 did fit the data well both in statistical and practical terms. Figure 6.4 displays the factor loadings and goodness of fit indices for this analysis.

For each model the data was found to fit the model well in both statistical (i.e., non-significant χ^2) and practical terms (i.e., RMSEA < .05; TLI, CFI, and AGFI all exceeding .90). In addition, all the factor loadings on the respective constructs ranged from .32 to .77. The stress latent factor comprised the indicators of finding it hard to wind down (item 1), over-reacting to situations (item 6), using a lot of nervous energy (item 8), getting agitated (item 11), difficulty relaxing (item 12), intolerance to getting on with things (item 14), and feeling rather touchy (item 18) was a good fit to the data. The depression latent factor comprised the indicators of difficulty working up initiative to do things (item 5), having nothing to look forward to (item 10), feeling down hearted and blue (item 13), and feeling not worth much as a person (item 17) and lacking enthusiasm about everything (item 21). The anxiety scale, comprising the items: the experience of trembling (item 7), worried about situations in which one might panic or make a fool of oneself (item 9), feeling close to panic (item 15), and feeling scared without good reason (item 20), was found to be a good fit to the data. The respective

Cronbach alpha internal consistency reliabilities for stress, depression and anxiety were .79, .74 and .68.

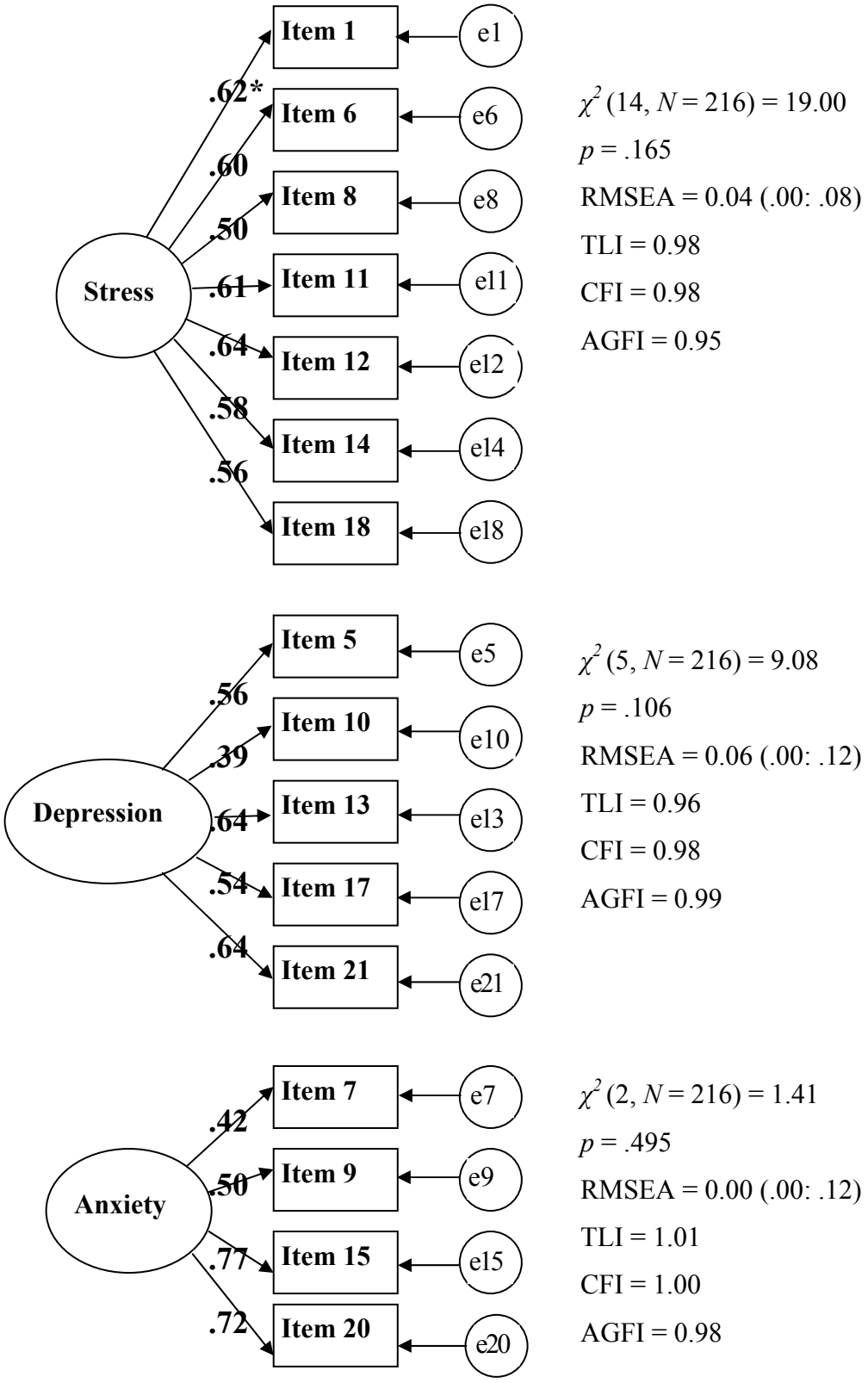


Fig 6.4. Parameter estimates and goodness-of-fit statistics for the 3-single factor congeneric models of stress, depression, and anxiety in early adolescence, *Bolded figures indicate item correlation figures

6.6.2: Three factor solution of stress, depression, anxiety

A full measurement model of the three constructs of stress, anxiety and depression in which the latent variables were freely correlated and in which bootstrapping was employed to estimate standard errors was then evaluated. While the data did not fit the model well in practical terms, indexes of practical fit suggested that the data was an acceptable fit to the model. However, an inspection of the correlations between the latent variables stress and anxiety (r = .88, SE = .05), anxiety and depression (r = .86, SE = .05) and stress and depression (r = .94, SE = .03) revealed that the stress and depression constructs were not empirically distinguishable. In particular, a factor is considered statistically unique if the absolute magnitude of pair-wise correlations plus twice the standard error (SE) sums to less than unity (Bagozzi, 1991).

A two-factor model was then evaluated in which the stress and depression indicators were represented as a single factor and the same four item indicators represented the anxiety factor. The data was an adequate fit to the model, χ^2 (103, N = 216) = 196.02, p<.001, χ^2:df = 1.90, RMSEA = 0.07 (.05, .08), TLI = 0.90, CFI = 0.91, and GFI = 0.90. However, the high correlation of .88 (SE = .05) between the two latent constructs once again suggested that the two latent constructs might not be empirically distinguishable. Following the recommendation of Thompson (1997) regarding the importance of considering both the pattern and the structure coefficients in establishing discriminant validity in CFA analyses, Table 6.3 displays the pattern and structure coefficients for the two-factor solution. An examination of the structure coefficients in Table 6.3 reveals lack of differentiation and considerable overlap in the structure coefficients representing the two factors. In other words, the high correlation between the latent factors revealed that the two-factor solution failed to yield two empirically distinct latent constructs.

Table 6.3
Factor Pattern and Structure Coefficients for the DASS

	Factor 1		Factor 2	
DASS items	Pattern	Structure	Pattern	Structure
DASS1	.61	.61	0*	.54
DASS6	.55	.55	0*	.48
DASS8	.55	.55	0*	.48
DASS11	.63	.63	0*	.55
DASS12	.61	.61	0*	.54
DASS14	.57	.57	0*	.50
DASS18	.54	.54	0*	.48
DASS5	.44	.44	0*	.39
DASS10	.57	.57	0*	.50
DASS13	.65	.65	0*	.57
DASS17	.64	.64	0*	.56
DASS21	.64	.64	0*	.56
DASS7	0*	.40	.46	.46
DASS9	0*	.53	.60	.60
DASS15	0*	.62	.71	.71
DASS20	0*	.60	.68	.68

Note: Tabled values a standardised parameter estimates. Asterisked values are parameters fixed at reported levels to identify the model. Factor correlations were free to be estimated and factor variances were set to unity to identify the models. All pattern coefficients are statistically different from zero. DASS = Depression, Anxiety, Stress Scales.

6.6.3: A single-factor combining stress, anxiety, and depression

A final model was evaluated in which the 16 indicators for stress, anxiety and depression were represented as a single latent factor. Figure 6.5 presents the goodness-of-fit indices and factor loadings for the uni-dimensional stress-anxiety-depression (SAD) model. Even though the data did not fit the model well in statistical terms, an acceptable model of fit based on indices of practical fit was found. Furthermore, item loadings on the factor ranged from .44 to .64 were all statistically significant. The Cronbach alpha internal consistency reliability for the uni-dimensional 16-item scale was .88.

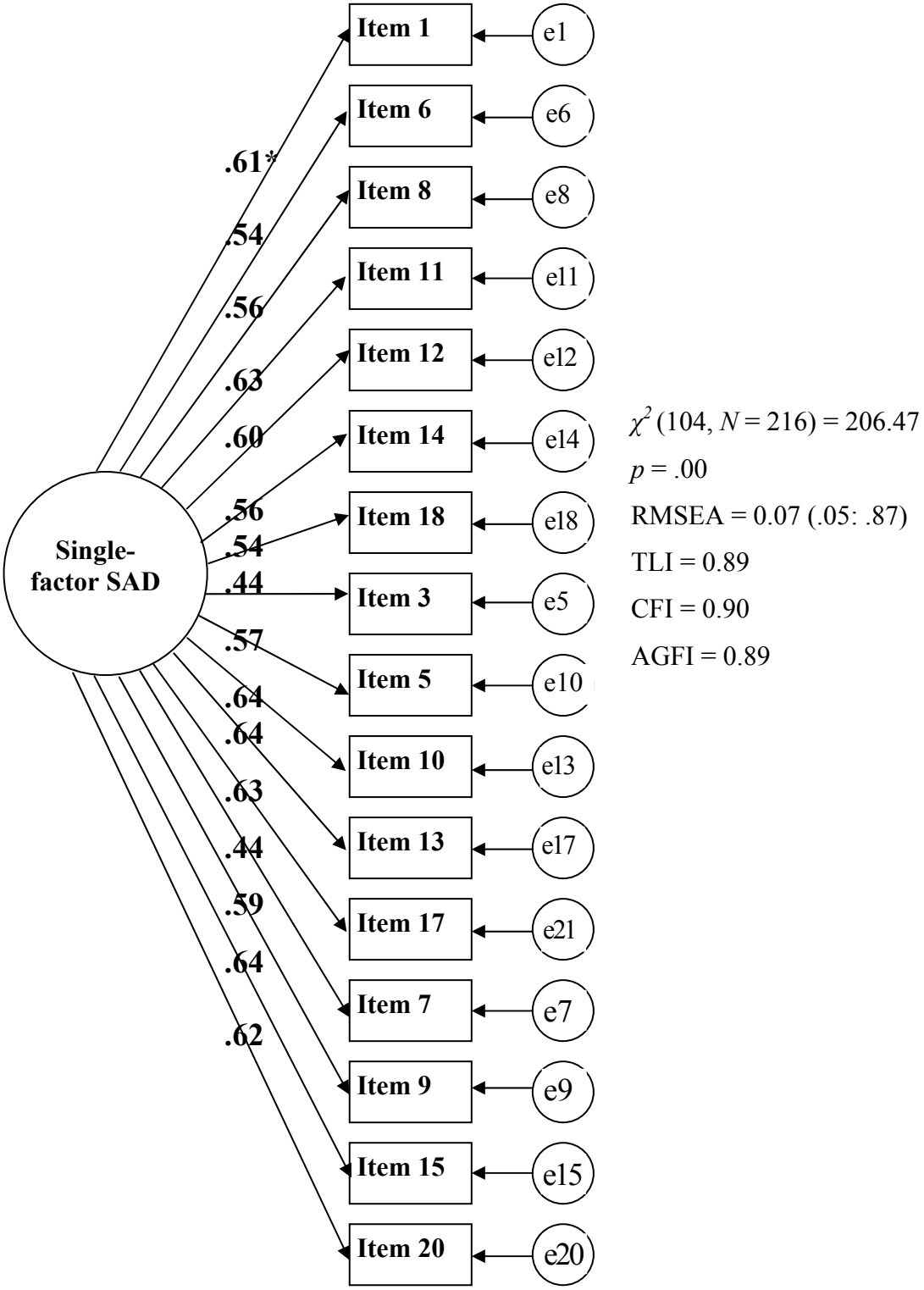


Fig 6.5. Parameter estimates and goodness-of-fit statistics for the single-factor stress-anxiety-depression (SAD) construct, * Bolded figures indicate item correlation figures

6.6.4: Single-factor SAD

Results showed that using the DASS 21, the three conditions of depression, anxiety and stress in a normal sample of early adolescents could be more adequately explained by a single-factor of stress-anxiety-depression (SAD) than by a model involving the conditions of three separate factors. The correlation between these three constructs was so large as to show them to be virtually identical. These young people did not differentiate conditions of stress, anxiety and depression among the DASS items, rather they recognised a generalised degree of negative mood. The three-factor solution found by Lovibond and Lovibond (1996) in an adult sample was not a satisfactory representation of the data for this younger sample.

This finding is consistent with the work of Axelson and Birmaher (2001) and others, whose data suggest that young people have not yet learned the normative social labelling to apply to their heightened negative arousal states. However, such a finding needs to be viewed within the context of the measuring instrument used, which may have specific properties that limit or change the degree of differentiation between symptoms that can be readily made by young people.

The factor/construct presented in Figure 6.5 appears similar to, although not entirely consistent with, Watson and Clark's (1984) concept of negative affectivity, particularly with respect to the elements of sadness, worthlessness, and difficulty in relaxing. The 'agitation' and tendency to over-react elements are, however, somewhat different from Watson and Clark's conception of negative affectivity, and may be more akin to their notion of hyperarousal (usually noted as a dimension of anxiety).

In developing the single factor SAD, the removal of certain items on the DASS, including somatic (mouth dryness, breathing difficulty, rapid heart rate) and existential elements (meaninglessness, lack of positive feelings) occurred because early

adolescents did not identify these elements as part of their negative moods. The number of young people admitting to these elements was extremely low and did not relate to other features of SAD. One explanation may be that these elements do not become apparent until anxiety and depression reach clinical levels among young adolescents.

Alternatively, the existential elements may be beyond the cognitive developmental level of these young adolescents, many of whom are likely to be still in the concrete operational stage of development, or at least only beginning the transition to formal operations. With respect to the physiological items, an alternative explanation is that young people have not yet learned to acknowledge and label the physiological phenomena accompanying mood change. It is of interest (and provides limited support for this alternative) that Chorpita's group also found some anomalies (i.e., differences from what was expected on the basis of adult sample) with the way physiological hyperarousal items related to anxiety and depression, for both normal and clinical samples of young people, and using different measures from those in the current study (Chorpita, 2002; Chorpita & Daleiden, 2002).

6.7: Summary

The establishment of valid measurement models are important in the evaluation of programs that attempt to increase skills and reduce undesired skills. This chapter has attempted to establish valid models of coping and mood through confirmatory factor analysis of self-report data from a young adolescent cohort of year seven and year eight students. Evidence for a two factor model of coping, based on the adolescent coping scale (Frydenberg & Lewis, 1993a) has been supported incorporating two higher order factors of productive coping, and non-productive coping styles, using CFA. Also a single factor model of stress-anxiety-depression, based on the depression anxiety stress

scales (Lovibond & Lovibond, 1996) has been supported using CFA. These models of coping and mood will be utilised in the evaluation of the current program of social problem solving skills training program for young adolescents in the next chapter.

CHAPTER 7: PROGRAM EVALUATION

7.0 Introduction

The development of measurement models of coping and mood states for a young adolescent cohort was discussed in chapter 6. In that chapter, support was found for a two-factor model of coping: productive coping (PC) and non-productive coping (NPC). Also, support was found for a single factor of stress, anxiety and depression (SAD): a self-reported single factor dysthymic mood for young adolescents. The present chapter incorporates these new factors of PC, NPC and SAD in the evaluation of the social problem solving skills training program in this study, describes the analyses used to investigate the three hypotheses and presents the results of these analyses. The statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS - version 10.0).

The first hypothesis related to gender differences, and predicted that there would be differences between girls' and boys' coping styles and mood states. It was predicted on the basis of past research that young females would use more non-productive coping than males, whereas males would use more productive coping than females. Also, it was predicted that females would differ from males, in that females would report higher average levels of negative mood as measured by the DASS (Lovibond & Lovibond, 1996) than males. Specifically it is stated that females would report higher average levels of SAD than males.

The second hypothesis predicted relationships between mood state and coping styles. Based on previous research, the hypothesis stated that there would be a positive correlation between mood state (SAD) and non-productive coping style (NPC) and a negative correlation between mood state (SAD) and productive coping (PC) style.

The third hypothesis predicted the effects of the treatment. It predicted that students who received social-problem solving skills training would increase their level of productive coping, decrease their non-productive coping and report improved mood state in comparison with a control group who did not receive the training. Two analyses were conducted to test this hypothesis. The timeframes for these analyses are shown in chapter 5, Table 5.1 and Table 5.2, respectively. The first analysis predicted that these improvements would be evident immediately after the training and the second analysis predicted that these improvements would be evident immediately after the training as well as at a six-month follow-up post-test. Also, it was predicted that qualitative reports would support the beneficial effects of the training. These reports involved four questions immediately following the final training session, two questions asked at the delayed six-month test, as well as a three-year follow-up structured interview with a small number of previously trained students.

7.1: Gender differences

The first hypothesis investigated the differences between boys and girls' self-reported coping styles and mood states at the time of pre-test. The means and standard deviations for males, females and total sample on the three variables at pre-test (T1) are shown in Table 7.1.

Table 7.1
Means, Standard Deviations and F-ratios for Males and Females

	Males (N = 96)		Females (N = 120)		Univariate F
	Mean	SD	Mean	SD	
SAD	.44	.42	.79	.56	26.46***
PC	3.58	.84	3.16	.79	13.88**
NPC	2.11	.79	2.48	.88	10.07***

**p<0.01; ***p<0.001, (N = 216), SAD = Single-factor stress-anxiety-depression, PC = Productive coping, and NPC = Non-productive coping.

A one-way MANOVA comparing male and female participants was conducted at pre-test (T1) for coping styles (PC and NPC) and mood state (SAD). A significant difference was found between boys and girls on all three variables (Wilks' λ = .83, F(3, 312) = 14.18, p<.001). As shown in Table 7.1, females reported a higher average level of SAD and a higher average level of NPC than males. Females reported a lower average level of PC than their male counterparts. Therefore the first hypothesis was supported.

7.2: Relationship between coping styles and mood state

The second hypothesis investigated correlations between young adolescents' self-reported mood states and coping styles. The correlations between the single-factor mood state (SAD) and coping styles (PC and NPC) are shown in table 7.2.

Table 7.2
Correlations between single-factor stress-anxiety-depression (SAD), and productive coping (PC) and non-productive coping (NPC).

	PC	NPC	Mean	SD
SAD	-.04	.65***	.64	.54
PC		.14*	3.35	.84
NPC			2.32	.86

*p<0.05; **p<0.01; ***p<0.001, N = 216 (at T1)

There was a moderately strong positive correlation between single-factor stress-anxiety-depression (SAD) and non-productive coping (NPC). There was no correlation between SAD and PC. Also, there was a very weak positive correlation between NPC and PC, which was not predicted. Therefore, the first part of this hypothesis was supported but the second part of the hypothesis was not. That is, rather than a negative correlation between SAD and PC there was no correlation between these two constructs.

7.3: Effects of treatment

Two analyses were conducted for the third hypothesis. The first analysis used a repeated measures, quasi-experimental design to compare the 1999 experimental group with the 1999 waitlist group between pre-test (T1) to post-test (T2) using participants from year seven and year eight. The second analysis used a repeated measures, quasi-experimental design using the combined 1999 experimental and wait groups (post-intervention) for comparison with the 2000 control group between pre-test (T1) and post-test (T2) as well as between pre-test (T1) and six-month follow-up (T3) for a year seven cohort only.

Scores were compared for three dependent variables including productive coping (PC), non-productive coping (NPC), and single-factor stress-anxiety-depression (SAD). The coping styles, PC and NPC and mood, SAD were the dependent variables. The independent variables were the two groups: experimental and control. The times of testing were pre-test (T1); post-test (T2), and six-month follow-up (T3).

7.4: Initial group differences for first analysis

Before this analysis could be conducted, tests for initial differences between the two 1999 sub-groups were carried out. If initial differences between the two groups are

present then these must be considered during analysis when investigating treatment effects. A one-way MANOVA was conducted with productive coping (PC), non-productive coping (NPC) and single-factor stress-anxiety-depression (SAD) as the dependent variables and group (1999 experimental versus 1999 wait) as the independent variable. The means, standard deviation and F-values for the 1999 experimental group and the 1999 wait group are shown in Table 7.3.

Table 7.3
Means, standard deviations, and F-ratios for experimental and control groups at T1 in 1999 cohort for productive coping (PC), non-productive coping (NPC) and single-factor of stress-anxiety-depression (SAD)

	Experimental $N = 76$		Control $N = 76$		
	M	SD	M	SD	*F*
PC	3.38	.76	3.35	.84	.07
NPC	2.77	.85	2.34	.69	13.37***
SAD	.84	.60	.61	.49	7.97**

**$p<0.01$; ***$p<0.001$

There were significant differences between the two groups in self-reported levels of the single-factor stress-anxiety-depression (SAD) and non-productive coping (NPC) styles. The students in the 1999 experimental class-group reported a higher average level of SAD and a higher average level of NPC than the waitlist group, prior to the treatment. There was no significant difference between the two groups in PC. The reason for this is unclear, since all the students came from randomly assigned class-groups. It is possible that as previously explained in chapter 5, the researcher has to assume that the groups (i.e., existing classes) were probably established for some reason (e.g., ability) and therefore the differences between the groups may have something to do with the selection process, or bias (Heppner et al., 1992).

7.4.1: First analysis

The first analysis is an experimental design and compares treatment effects between the 1999 experimental group and the 1999 waitlist group. The means, standard deviations and number of valid cases for the pre-test (T1) and post-test (T2) for the experimental group and control group for the three variables productive coping (PC), non-productive coping (NPC) and stress-anxiety-depression (SAD) are presented in Table 7.4. *F*-ratios and their significance levels are shown in Table 7.5.

Table 7.4

Means and standard deviations for stress-anxiety-depression single factor (SAD), productive coping (PC), and non-productive coping (NPC) at pre-test (T1), post-test (T2) for the 1999 experimental group and 1999 wait group.

		Experimental						Wait					
		Male		Female		Total		Male		Female		Total	
Variable	Time	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
PC	**T1**	3.58	.81	3.23	.72	3.40	.78	3.51	.87	3.20	.73	3.35	.81
	T2	3.53	.81	3.18	.87	3.34	.85	3.63	.88	2.90	.82	3.26	.92
NPC*	**T1**	2.44	.78	3.11	.78	2.79	.85	2.17	.68	2.48	.67	2.33	.69
	T2	2.23	.78	2.86	.83	2.56	.86	1.84	.67	2.02	.61	1.93	.64
SAD	**T1**	.55	.45	1.05	.60	.82	.59	.56	.51	.64	.45	.60	.48
	T2	.65	.62	.99	.50	.83	.60	.31	.30	.53	.41	.42	.37

Note: Experimental Group $N = 76$, Control Group $N = 76$; Males = 73, Females = 79.

Table 7.5
F-ratios and p values for treatment effects of the first analysis

Effect	PC	NPC	SAD
Time	1.25	28.95***	4.41
Sex	13.82***	18.97***	15.97***
Group	0.35	26.58***	18.28***
Time * Sex	2.71	0.55	0.01
Time * Group	0.08	2.05	6.76*
Group * Sex	0.50	3.68	3.75
Time * Group * Sex	3.04	0.12	3.94

*p< 0.05, **p<0.01; ***p<0.001, N = 152.

The first study involving the 1999 experimental group and 1999 waitlist group utilises three repeated measures ANOVAs, time series analyses between pre-test (T1) and post-test (T2). The independent variables for all three analyses were sex (male and female), group (experimental and control) and time of testing. The three groups of dependent variables were productive coping (PC) at T1 and T2, non-productive coping (NPC) at T1 and T2 and stress-anxiety-depression single-factor (SAD) at time one (T1) and time two (T2).

There was a significant decrease in NPC (time effect) but it was not different across the experimental and wait groups. There was a significant sex difference at both T1 and T2 but no interaction with time. There was a significant group difference with the control group lower at both T1 and T2. Overall, there was a drop for both groups in NPC with girls always higher in both the experimental and wait groups at both T1 and T2.

For PC there was no change over time (i.e., between T1 and T2). There were no differences between the experimental and wait groups. There was no interaction between group and time. The only significant result was the gender difference with males having greater PC at T1 and T2 for both the experimental and wait groups.

The time effect indicated that the average levels of SAD droped from T1 to T2 but this needs to be viewed in terms of the time by group interaction, which was significant. Only the wait group showed a drop in SAD over time. The experimental group did not drop in SAD. The significant time by group by sex interaction showed that SAD decreaseed for both genders in the wait group. However, in the experimental group SAD slightly increased for males but did not change for females. The significant group difference indicated that the experimental and wait groups were different to start with (as previously mentioned) and this difference was maintained at T2. Again, gender differences indicated that girls had greater average levels of SAD than boys at T1and T2 in both the experimental and wait groups. The results of the first analysis showed that the first part of the third hypothesis was not supported, that is treatment did not appear to lead to beneficial effects on mood or coping for the 1999 cohort.

7.5: Initial group differences for second analysis

As in the first analysis, tests for initial differences between groups were conducted. If differences are present then these must be considered during analysis when investigating treatment effects. A one-way MANOVA was conducted for the year seven participants (only) at the time of pre-test (T1), to compare the means between the combined experimental group (1999) and the control group (2000). The means, standard deviation and *F*-ratios for the 1999 combined experimental group and the 2000 control group are shown in Table 7.6.

Table 7.6
Means, standard deviations, and F-ratios for 1999 (combined) experimental group and 2000 control groups at T1 for coping and mood state for year seven cohort.

	Experimental *N* = 57		Control *N* = 35		
	M	SD	M	SD	*F* (1, 130)
PC	3.47	.88	3.40	.89	.213
NPC	2.33	.76	2.07	.82	2.99
SAD	.66	.48	.56	.47	1.35

There were no significant differences between the two groups at T1 for productive coping (PC), non-productive coping (NPC) or stress-anxiety-depression single-factor (SAD).

7.5.1: Second analysis

The second analysis compared the combined experimental group (1999) with the control group (2000), for year seven students only. The timeframe of this study is shown in chapter 5, Table 5.2. This analysis used three repeated measures ANOVAs tested at T1, T2, and T3. The independent variables for all analyses were sex (male and female), group (experimental and wait), and time of testing: pre-test (T1); post-test (T2); six-month delayed post-test (T3). The dependent variables were productive coping (PC) at T1, T2, and T3, non-productive coping (NPC) at T1, T2 and T3, and single-factor stress-anxiety-depression (SAD) at T1, T2, and T3.

Table 7.7

Means and standard deviations for stress-anxiety-depression single factor (SAD), productive coping (PC), and non-productive coping (NPC) at pre-test (T1), post-test (T2) and six-month follow-up (T3) for the 1999 combined experimental group and 2000 control group: year seven cohort only.

		Experimental						Wait					
		Male		Female		Total		Male		Female		Total	
Variable	Time	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
PC	T1	3.71	.97	3.40	.73	3.57	.87	3.53	.91	3.39	.76	3.44	.80
	T2	3.53	.97	3.30	.90	3.42	.94	3.36	.89	3.60	.74	3.53	.78
	T3	3.76	1.06	3.31	.79	3.55	.96	3.34	.81	3.42	.84	3.40	.82
NPC	T1	2.22	.83	2.39	.65	2.30	.75	2.02	.90	2.26	.83	2.18	.85
	T2	2.19	.80	2.45	.68	2.31	.75	2.12	1.08	2.19	.88	2.17	.93
	T3	1.88	.69	2.17	.86	2.00	.78	2.08	.85	2.12	.76	2.11	.78
SAD	T1	.42	.41	.75	.33	.57	.41	.35	.41	.72	.50	.60	.50
	T2	.52	.57	.68	.40	.60	.50	.44	.48	.67	.63	.60	.59
	T3	.36	.39	.55	.49	.45	.45	.36	.39	.55	.35	.50	.35

Note: Experimental Group $N = 57$, Control Group $N = 35$, Male = 42, Females = 50.

Table 7.8
F-ratios and p values for treatment effects of the second analysis

Effect	PC	NPC	SAD
Time	0.20	3.09*	3.11*
Sex	0.72	1.35	8.07**
Group	0.13	0.26	0.12
Time * Sex	0.67	0.07	1.71
Time * Group	0.54	1.68	0.25
Group * Sex	1.56	0.17	0.42
Time * Group * Sex	0.42	0.46	0.11

*$p < 0.05$, **$p<0.01$, $N = 93$

The results for the second analysis are shown in Table 7.7 and Table 7.8. There were no significant changes for PC across time, no group differences and no gender differences. Over the three times, there was a slight drop at T3 in the average level of NPC for both the experimental and control groups but there was no differential drop for the groups. Post hoc analysis showed that the significant drop for NPC was between T1 and T3 (F (1, 89) = 4.00, $p< .05$). There were no gender differences for this attenuated group of year seven students.

There was a significant drop in the average level of SAD at T3 in comparison with T1 and T2. The significant drop was between T1 and T3 ($F(1, 88) = 3.94$, $p = .05$). This was for both groups and did not occur differentially across the experimental and control groups. There were also significant gender differences in the average level of SAD with males reporting a lower average level of SAD than females at all three times T1, T2 and T3 for both the experimental and control groups. The results of the second analysis show that the second part of the third hypothesis was not supported, that is the treatment did not lead to beneficial effects of mood or coping.

7.6: Qualitative evaluation

7.6.1: Four questions rating the training

As mentioned previously, four questions were put to the participants who completed the social problem solving skills training program at the end of the fourth and final session. These questions were, 1) What did you like? 2) What did you learn? 3) What could be improved? 4) What could be done in the future? The participants' answers were rated by the researcher as positive, unsure or negative. Positive responses were those that indicated participants benefited from the program. Unsure responses were those that indicated participants were uncertain about the benefits of the training. Negative responses were those that indicated that participants did not receive any benefit from the training. Examples of positive responses included the following:

- "I liked the teachers and the way to solve problems using methods"
- "Maybe every class should do it from year 7 to 11"
- "When I talk about my problems to my friends"
- "If someone is annoying you, you first have to think about what you're doing and I learnt how to solve my problems"

Examples of negative responses included the following:

- "I didn't like anything at all"
- "I liked it how it was a waste of time"
- "Noting at all, missing out on sixth period"
- "I didn't learn anything because I knew how to solve my problems"

Unsure responses included question marks or blank spaces. A complete set of the responses is included in appendix E.

Table 7.9 shows the breakdown between positive, unsure and negative responses by the participants. There were significantly more positive responses to the questions than

negative responses and very few unsure, indicating that most students who participated in the training saw it as beneficial.

Table 7.9
Results for 4-questions at post-test: Numbers (and percentages) of positive, unsure and negative participant responses to the evaluation questionnaire immediately after the final session of training.

Question	Positive	Unsure	Negative
1*	129 (73.84%)	4 (2.33%)	39 (22.6%)
2	151 (87.8%)	4 (2.3%)	17 (9.8%)
3	137 (81.1%)	16 (9.47%)	19 (11.24%)
4	133 (77.3%)	32 (18.6%)	7 (4.1%)

N = 173, *1) What did you like? 2) What did you learn? 3) What could be improved? 4) What could be done in the future?

7.6.2: Inter-rater reliability

A sample of twenty evaluation sheets (approximately 12 percent of total responses) was compared for response similarity by the researcher and the research supervisor to assess inter-rater reliability. Both reviewers independently rated the answers as positive, negative or unsure. These results were then compared. Out of a possible eighty responses, fifty-nine matched, resulting in a 74% agreement between reviewer ratings, indicating an unacceptable agreement between raters. Criteria for rating were discussed and a further twenty evaluation sheets were rated independently. The results of this second rating resulted in a 93.7% agreement, which was acceptable.

7.6.3: General themes of responses

There were many positive themes that emerged from the evaluation questionnaire. The participants indicated that they really enjoyed the role-plays, especially those acted out by the leaders for demonstration. They enjoyed the opportunity to be able to discuss issues and have their say in the class forum. They

indicated that they learnt how to problem solve and about assertiveness, talk things out, and think about their actions before acting them out. In a more constructive vein, they suggested that this type of training should be longer term and that more skills should be taught. Some participants suggested that other classes and even other schools should be provided with this training. Some participants encouraged and urged the leaders to keep on doing the training.

On a more critical note, of those who said they did not like the training, most still admitted to learning how to solve their problems. Many wanted more activities, games and scenarios to role-play or act out. Some did not appreciate the repetition involved in reviewing the previous week as a starting point for the new session each week.

7.6.4: Two questions at the six-month follow-up

As part of the six-month follow-up assessment, two questions were given to the group who had participated in the social problem solving skills training program. The first question asked, “How has the training changed the way you solve your problems?” The second question asked “How has the training changed the way you feel about your problems?” The participants’ responses were rated as indicating whether they believed there was ‘Improvement’, ‘No Change’, ‘Not Sure’ and ‘No Response’ to the questions. A complete list of responses to Questions 1 and 2 is provided in the Appendix F. Table 7.10 shows the breakdown of the number (and percentage) of responses to these two questions.

7.6.5: Inter-rater reliability

A sample of twenty evaluation sheets was rated both by the researcher and the research supervisor to assess inter-rater reliability. The answers to the two questions in the sample were rated for positive, negative, unsure, no answer, and no change by both reviewers independently, and then compared. Out of a possible forty responses thirty-five matched, resulting in an 88% agreement, which was judged to be adequate.

7.6.6: General themes of responses

Table 7.10
Results of 2-questions at six-month follow-up: Participants' responses (and percentages) to questions 1 and 2 showing breakdown for females and males

Question 1	Improved	No change	No response	Not sure	Total
FEMALES	40 (46%)*	34 (39%)	10 (11.5%)	3 (3.5%)	87
MALES	20 (27.7%)	45 (63.5%)	6 (8.3%)	1 (1.4%)	72
MISSING	-	-	41(100%)	-	41
TOTAL	60 (30%)	79 (39.5%)	57 (28.5%)	4 (2%)	200
Question 2	Improved	No change	No response	Not sure	Total
FEMALES	30 (34.5%)	36 (41.4%)	14 (16.1%)	7 (8%)	87
MALES	13 (18%)	48 (66.6%)	10 (13.9%)	1 (1.4%)	72
MISSING	-	-	41 (100%)	-	41
TOTAL	43 (21.5%)	84 (42%)	65 (32.5%)	8 (4%)	200

** percentages shown in brackets*

Girls reported more improvement in the way they solved their problems and the way they felt about their problems than boys. Boys were more likely to report no change in problem solving and no change in their feelings about problem solving than girls. Very few reported uncertainty about either of the two questions posed.

7.6.7: Three years later: Themes from 10-question interviews

Most of the participants in the social problem solving skills training classes, now in year ten and year eleven, admitted that they had difficulty remembering the training and were therefore reluctant to participate in follow-up interviews. Approximately 100 plain language statements were handed out to students in classes but only ten students (10%) volunteered to participate. The reasons for this are unclear. On the face of it, they appeared to genuinely have difficulty remembering having participated in the study, three years prior. However, at this stage of their development and schooling, they may have been reluctant to miss classes, or may have been apathetic toward participating in anything extra-curricular. Whatever the reasons, it was difficult to conduct an extensive follow-up study, and therefore interviews were conducted one-to-one with each of the ten participants. The following is a summary of each of the ten questions and responses three years after the initial social problem solving skills training program. Interviewees are identified by number only throughout the summaries (i.e., 1 to 10) which appear in brackets.

Question 1: Do you remember the social problem solving skills training?

Most participants had some memories of the training sessions from three years earlier. Only one participant (4) was unable to recall anything from the training. With prompting, using the problem solving wheel diagram (see appendix A), most students were able to remember the process or steps used in the training. Some issues that students remembered were related to dealing with bullying (1, 6), dealing with feelings (2), and dealing with depression (2). Three participants (1, 5, 8) remembered that scenarios were used in the training as an aid to social problem solving. Two participants (2, 3) remembered the requirement to complete questionnaires. One participant (6)

remembered having to complete worksheets, also as an aid to social problem solving. Overall, not a lot of the training was remembered by the ten participants.

Question 2: What were your general impressions of the training?

Most participants thought it was helpful and those who did not, either did not admit to having (previous or current) problems (2) or said that s/he used her/his own method, "like stand up for myself" (8). Those who thought that the training was helpful said that it was important to help deal with things when there are problems. For example these things included bullying (5, 6), friends (6), or feelings or thoughts "when something goes wrong" (10). Only one participant (4) was not sure about his/her impressions as s/he could not really remember much about the training.

Question 3: Were there any benefits from the training you did three years ago and what were they?

Eight out of the ten respondents (one response missing) said that there were benefits from the training. These benefits included, how to deal with bullying or being bullied (1), how to sort things out (2), seeing less need for fighting and trouble (3), and how to solve problems such as fighting and bullying (4). Other benefits included learning to "listen to my friends" and "ignore the people who were being a bit, you know, silly" (6), how to deal with problems (7) and how to solve problems (9). Also, it provided practice for when people are faced with "a real problem" (10). Only one respondent (8) said that s/he did not see any benefits from the training.

Question 4: Were there any things you didn't like?

Nine out of the ten participants said there was nothing they did not like. Most agreed that it was "pretty good" (7). Only one participant (9) said that it was a bit boring but did not really elaborate on that point. In fact s/he said that others (not interviewees) had said that it was a bit boring, even though s/he did not mind it.

Question 5: What topics do you think should be covered in a social problem solving skills training program?

One issue that was raised was how and who to talk to when a problem arises (1, 2, 7). This indicated recognition of the importance of effective support. How to deal with peer pressure was also a concern (6, 10), as well as dealing with bullying, 8, 9, 10) and racism (4). Other issues of concern included behaviours (8), the use of other media for training purposes (3) such as pictures, videos and movies. Family issues also appeared to be of concern (9, 10), as well as stress (9)

Question 6: What sorts of things prevent year seven and eight students from learning these skills?

The main reason preventing young adolescents from learning these skills appeared to be peer pressure (4, 5, 6). What stops them from learning is not being able to go against what peers are urging them to do. Other blockers to learning included being ego-centric (2), shyness (9), and immaturity (10). Two of the respondents (3, 8) saw no reason for year seven and eight students not to be able to learn these social problem solving skills.

Question 7: Are you different now because of the training? If so explain.

The tone of response to this question was very positive. Seven of the ten respondents agreed that they were different now because of the training (1, 2, 3, 4, 5, 6, 7). The reasons given for this included, being able to talk to their family (1), being less aggressive (3), using the method of problem solving taught in the program (5), without violence (7), and being a better listener now (6). Two of the ten said that the program had no effect on them at all (8, 9) and one was not sure, as s/he had not experienced any problems with which to use the skills (10).

Question 8: Do you think you would act differently now compared to when in year seven or eight even without the training?

This question proved to be somewhat confusing and needed clarification by the researcher in most cases. The answers were split. Half said that they would have remained the same without the training (1, 4, 5, 7, 10), meaning it had altered them in some way. The other half said the training did not really change them (2, 3, 6, 8, 9). The main impact for the latter group was explained to be maturity, which seamed to be the reason for their improved problem solving skills. One participant (7) stated that s/he would probably still solve things with violence "if it wasn't for the things learned in the training", which is a very encouraging result.

Question 9: What do you think of the year seven and eight students who are at the school now?

The participants (in year ten and eleven) had wide-ranging opinions of the younger students who were currently in years seven and eight. Statements about the younger students ranged from the sublime to the ridiculous. Responses included being

young and short (10), immature (7), childish (5), really little and shy (2), and scared (9) right through to being stuck-up and walking around with their "nose in the air" (6), to rebellious (2) and liking to fight more now (1). Two participants (4, 5) stated that they did not even notice the younger students, one of whom stated that he would "never talk to none (sic) of them" (4). One participant (6) replied that these younger students are crowd followers who "don't think for themselves." Another respondent (3) stated that these young people are "good kids" and are "no trouble." These opinions probably said just as much about the varying degrees of involvement that older students show in younger ones as providing a reliable account of the younger students' behaviour.

Question 10: What would you do if you had to train younger students (in year seven and year eight) on how to solve their problems?

In response to this question most respondents (4, 5, 6, 8, 9, 10) believed that younger students would respond better to other students as trainers because of an 'understanding' between peers (i.e. younger to older students). They also believed that older students' experiences (of problems) would be more likely to be taken on board by younger students, compared with teachers' (adults') experiences. It was stated that older students experiences are more recent and therefore more relevant. One student (1) stated that "we're students, we're together, you know, we're sort of the same people."

There was a comment about issues with authority if teachers talked about problem solving skills. They [students] are "not really listening" when adults speak, indicating that younger adolescents are dismissive of adults' knowledge of problem solving. In relation to the issue with authority, teachers were somehow seen "like parents" and "they [students] don't usually tell secrets to their parents". There was also a notion of same-ethnicities sharing information "because they've [same ethnicity] got

more understanding". With only two out of ten dissenters from these opinions it was heartening to see that the older students generally had the opinion that they have something to offer younger students. In one case, a participant believed that "older students could pass down their skills, to "teach them [younger students] a bit about listening skills".

Inclusion and discussion of real-life issues was important in a social problem solving skills training program, according to some of the interviewees. This meant they wanted assistance with issues that affected them personally, day-to-day. It also indicated a reluctance to learn about abstract scenarios as examples for other problem situations. Evidence indicating a lack of generalisation to other situations by young adolescents as discussed in chapter three, would support this lack of interest in abstract scenarios that participants consider to be irrelevant. A transcript of two of the ten interviews is provided in Appendix G.

7.7: Summary

The evaluation of the social problem solving skills training program for young adolescents in this chapter used models of coping and mood as proposed and supported in chapter six. The results from this study are as follows. Results from analysis of the first hypothesis showed that there were gender differences in PC, NPC and SAD. Females reported lower average levels of PC and higher average levels of NPC and SAD than males. Results from analysis of the second hypothesis showed that mood and coping styles were correlated to some degree. There were strong positive correlations between SAD and NPC, no correlation between SAD and PC and a very weak positive correlation between NPC and PC.

The third hypothesis, using two analyses showed that the training was not effective for the experimental group compared with the control group. The first analysis comparing pre- and post-tests between an experimental and wait group showed no effects of training on participants self-reported PC, NPC and SAD. The second analysis comparing an experimental and a control group from two different years showed no change in PC between T1 and T2 or T1 and T3 and a decrease in NPC and SAD between T1 and T3 but not between T1 and T2 for both the experimental and control groups. The program was not effective in changing young people's coping styles or mood.

Qualitative evaluations conducted at post-test, delayed six-month post-test and at three years after completion indicated encouraging results. Immediately after training, most participants reported that they enjoyed the role-plays, the opportunity to discuss issues and have their say, and that they learnt about problem solving, assertiveness, talking things out and thinking things through before acting. Some participants indicated a need for more intensive and longer lasting training incorporating more components to training such as role-plays, videos and games. Six-months after training, more females than males reported that their problem solving skills had improved. Also, more females than males reported that the way they felt about themselves had improved and some attributed this to training. Three years after training, a small group of students individually reported that, although they had difficulty remembering the training, most agreed that the training was beneficial, that they liked the training, how and who to talk to about an issue, the problems of peer pressure, that the training had changed them in some way, and that as middle to older adolescents they would have something to offer younger students as their peers. The next and final chapter discusses the implications, of

these results, the outcomes and limitations of this study and suggests recommendations for further research.

CHAPTER 8: DISCUSSION

"Such knowledge devoid of application is dry and sterile"

(Hassed, 2000)

8.0: Introduction

The purpose of this study was to evaluate a social problem solving skills training program for young adolescents in a state government secondary school through pre- and post-test assessments of mood and coping skills, and consideration of some other indicators. The training was conducted in whole-class groups in normal school hours. The results of the study are presented in the previous chapter. The purpose of this chapter is to expand on those results by discussing the outcomes and their implications, the limitations of this study and recommendations for further research.

8.1: Overview of the study

The participants in this study comprised year seven and year eight students at a secondary college in a western suburb of Melbourne, Victoria. The students were of mixed ethnicity from a generally lower socio-economic working class background. Prior to statistical analysis of the results being conducted, explorations of factorial validity were conducted for the adolescent coping scale (ACS) and the depression, anxiety, stress scales (DASS) using confirmatory factor analyses (CFA). These CFAs were conducted to verify the validity of the instruments used in this study for the young adolescent cohort. The results of these explorations provide evaluative insight into the areas of adolescent coping and mood. How young adolescents cope and feel is of great

interest, as this knowledge provides potential benefits for improving the mental health of young people in general. These results indicate potential differences from other age groups (such as children and adults) in the quality of adolescent coping and mood.

The intervention in this study comprised a short-term social problem solving skills training program for whole class groups in a classroom setting for some students, while others attended normal classes. The program was evaluated in several different ways, but quantitative data showed no significant changes in mood or coping which could be attributed to the intervention. Nevertheless, qualitative data indicated the possibility of subtle beneficial effects. In addition, gender differences in mood and coping, and the relationship between mood and coping were assessed, and these are discussed in turn prior to the program effects. Preceding these discussions however, the elements of mood and coping are elaborated to provide a basis for the discussions that follow.

8.2: Study outcomes

8.2.1a: Elements of coping

In section 6.5, three models of coping were tested to find the best fit of the data for the young adolescent sample. As described in section 6.5.2 the second model clustered effectively into the two factors of productive coping, (PC) and non-productive coping (NPC). The resultant model was similar to models proposed by other authors (e.g., Cunningham, 2002; Cunningham & Walker, 1999; Speirs & Martin, 1999) and deviates from the three-factor model proposed by Frydenberg and Lewis (1993a; 1996). The Cunningham (2002) study also used a cohort of young adolescents, similar in age to the present study. Cunningham's (2002) model is similar to the one proposed in this study and comprises productive coping strategies of focusing on the problem, focusing

on the positive, working hard, and seeking recreational diversions. The non-productive coping strategies are also similar to those she proposed including worry, self-blame, not coping, tension reduction, and keeping to self.

The refer to others factor proposed in the Frydenberg and Lewis (1993a; 1996) model was not validated in the present study, as indicated by the low response rates to certain items on the ACS. These items were subsequently removed from the final analysis because they were infrequently used by the young people as coping strategies; a finding similar to that of some other studies (Cunningham, 2002; Cunningham & Walker, 1999; Speirs & Martin, 1999). In the present study, these items were: seek social support, invest in close friends, seek to belong, join with people who have the same concern, pray for help and guidance, and ask a professional person for help.

Comment from other researchers provides some explanation for the exclusion of refer to others as a valid coping strategy for young adolescents. According to Cunningham and Walker (1999), younger adolescents possibly rely less on "socially oriented interpersonal relationships" (p. 41) than older adolescents such as those surveyed for the development of the ACS. Speirs and Martin (1999) also found an "unacceptable reliability (r = .24)" (p. 13) of the refer to others scale in their study, which meant that this factor was eliminated from the model, leaving only two factors of PC and NPC, as for this present study. The unacceptable reliability of these items means that these items did not cluster together for the age group tested in the Speirs and Martin study of year 11 and year 12 students.

Those elements that factored as productive coping strategies in the present study included the items: focus on solving the problem, work hard, focus on the positive, seek recreational diversions (leisure activities), and keep fit and healthy. Remaining optimistic and focusing on solving the problem is certainly a positive approach to

dealing with a problem at hand. They maximise the likelihood that solvable problems will be alleviated, or at least reduced in magnitude, and they signal to others that coping is occurring, thus possibly increasing levels of social support (Frydenberg & Lewis, 1993a). In addition, the optimistic person is more pleasant and easy for others to deal with, thus again increasing the likelihood of martialling support from others in solving the problem. Finally, seeking recreational or leisure activities are especially important to maintain the energy required to approach a demanding problem. Leisure and health improve mood, again allowing for more resources to be put toward solving the problem at hand.

Valid NPC items in the present study included: worry, wishful-thinking, not cope, let off steam, ignore, self-blame, and keep to self. These items suggest coping strategies which are for the most part were not adaptive in the sense that they do not lead to problem resolution, and may even exacerbate the problem (Frydenberg & Lewis, 1993a). Worry and self-blame are particularly self-defeating, and may contribute to increased anxiety and depression. Some of these strategies, although unhelpful in many situations, may be helpful at times. For example, ignoring a problem may provide needed respite from anxiety and allow for a hopeful orientation in the face of stresses which cannot be readily controlled by the person (for example, during an illness). Nevertheless, the overuse of such a strategy would be counter-productive in that it would be unlikely to facilitate problem resolution. Wishful thinking is of a similar nature – its overuse is unlikely to contribute to positive coping, but its occasional application may engender hope. The low correlation (r = .17) between the PC and NPC factors in the current model is consistent with other studies (e.g., Cunningham, 2002; Cunningham & Walker, 1999) and indicates that these are relatively independent factors. Another possibility is that the positive overlap may relate to participant

response set (to choose or not to choose any strategies). Further investigation of the stability of this overlap could be an issue for further research.

8.2.1b: Elements of mood

Confirmatory factor analyses of the DASS 21 were conducted for this community sample of young adolescents. Support was found for a single-factor negative mood state. As previously stated in chapter six, the development of the single factor SAD involved the removal of certain items from the DASS, including somatic (mouth dryness, breathing difficulty, rapid heart rate) and existential elements (meaninglessness, lack of positive feelings). This sample of young people, on the whole, did not identify these somatic and existential elements as part of their negative moods, and indeed were unlikely to report experiencing these symptoms at all. One possible explanation for this may be that somatic elements do not become apparent until anxiety and depression reach clinical levels among this age cohort (Patton, Coffey, Posterino, Carlin & Wolfe, 2000). Another possible explanation is that young people at this age do not recognise and label certain types of symptoms as part of their expression of emotion.

If indeed there is only a tenuous link between somatic symptoms and expressed feelings among early adolescents, this has particularly interesting implications for interventions to assist young people in controlling anxiety and depression. These physiological symptoms when recognized as signs of depression, anxiety or stress are normally beneficial in that they assist in the development of techniques for self-understanding and coping (as in differentiation of emotional states). For example, noticing the physiological symptoms of arousal prior to, say, giving a public performance, can be a mechanism for learning to name, manipulate and ultimately

control performance anxiety. The same may be true about learning to recognise the physiological signs of negative emotion in general.

8.2.2 Gender differences

The first hypothesis predicted that girls would use more non-productive coping than boys who would report more use of productive coping. It was also predicted that girls would report higher levels of negative mood than boys.

Girls did report higher average levels of SAD and higher average levels of reliance on NPC than boys. Equally, boys reported higher average levels of PC as a coping style than girls. In addition, the qualitative data showed that girls also reported more improvement in the way they perceived the training had changed the way they solved their problems and about the way they felt about their problems compared to boys (see Table 7.10). The finding that girls and boys in this study tended to cope differently means that social problem solving training may be more effective if it is tailored more specifically to the existing coping strengths and weaknesses of boys and girls respectively. For example, it may be useful if training for boys included more material about dealing with the emotional elements of coping, plus consideration of the ineffective aspects of using distraction as a coping style (along with a recognition that it has its place). Training for girls may usefully include more practical problem solving techniques such as focusing on solving the problem, working hard, focusing on the positive, and seeking recreational diversions such as learning to relax and doing physical activities to keep fit and healthy.

The higher average levels of SAD among girls are consistent with previously noted literature on adolescent depression (Boyd, Kostanski, Gullone, Ollendick & Shek, 2000; Clarke, Hawkins, Murphy, & Sheeber, 1993; Nolen-Hoeksema & Girgus, 1994;

Patton, Coffey, Posterino, Carlin, & Wolfe, 2000). Several studies have shown the possible reasons that girls report being sadder than boys. For example, girls use emotion focused coping such as crying (Bird & Harris, 1990), self-ruminative styles of coping (Broderick, 1998), and focusing on distress rather than taking action (Nolen-Hoeksema & Girgus, 1994) which is more likely to result in sadness. Boys use different emotion focused coping such as swearing, complaining and anger directed at others (Bird & Harris, 1990), behavioural distraction (Broderick, 1998), or cognitive distraction (Nolen-Hoeksema & Girgus, 1994), which is less likely to result in sadness.

Researchers suspect that several biological and environmental factors predispose females to a higher incidence of depression (Berk, 2003). Gender intensification often occurs for girls at puberty and increases stereotyping of attitudes and behaviour of the more traditional gender identity of passivity and dependency, which are maladaptive approaches to the problems teenagers encounter (Nolen-Hoeksema & Girgus, 1994). Reduced power in relationships with romantic partners is a feminine stereotype and a stereotypical feminine orientation which leads females to subordinate their own needs to those of others which leads girls to develop an overly reactive physiological stress response (Berk, 2003). Stressful experiences and stress reactivity are said to feed off one another and sustain depression in girls (Berk, 2003). Therefore when stress occurs, girls feel increasingly overwhelmed and cope poorly. Stressful life events and gender-typed coping styles account for girls' higher rates of depression (Berk, 2003).

Also, the results of this study in relation to the different coping styles supports the literature that girls tend to use more non-productive coping styles while boys use more productive coping, including behavioural distraction such as sporting activities (Bird & Harris, 1990; Broderick, 1998; Chapman & Mullis, 1999; Copeland & Hess, 1995; Frydenberg & Lewis, 1993b). Possible reasons for this, as stated above, are that

the styles that girls tend to use are less likely to solve the problem. Rather, these coping styles are more likely to deal with the emotion associated with the problem. Boys on the other hand tend to shy away from the emotional aspects of coping that lead to sadness and are less likely to succumb to the emotional elements, allowing a better frame of mind to attempt to solve the problem.

8.2.3: Relationship between coping and mood states

The second hypothesis predicted that there would be a relationship between mood and coping styles, such that non-productive coping would be positively correlated with negative mood and there would be a negative correlation between productive coping and negative mood.

The relationships between coping and mood states were similar to those found in other studies (Cunningham & Walker, 1999; Watson & Kendall, 1989). NPC was positively correlated with SAD, however PC was not correlated with SAD. It is possible that NPC and SAD interact, with negative mood impairing coping while poor coping leads to undesired effects, which in turn may negatively impact on mood. Thus, working to improve mood as well as reduce non-productive coping skills in an effective social problem solving skills training program is a good insurance policy against mental health problems, as previously stated by Fuller (1998). It would seem useful for prevention programs in schools, which are designed to reduce risk factors such as depression, anxiety and stress, to include training in effective coping styles. As well, it would be beneficial to help young people to identify the risks associated with and the need to change ineffective/non-productive coping styles as recommended by other researchers (Cunningham & Walker, 1999; Lewis & Frydenberg, 2002).

The result for the second part of the hypothesis showed that there was no correlation between PC and SAD. It might be expected that using productive strategies to solve problems would heighten mood but this did not occur. A possible explanation is that PC may relate to positive affect rather than negative affect, given that positive and negative affect measures do not assess the opposite ends of the same continuum, rather they represent two related but different continua (Watson, Clark & Carey, 1988). Future study may use a measure of positive affect to investigate this possibility further. Another possibility is that productive coping strategies influence mood only after recent problem solving events rather than 'in general', or that while mood averaged over time might relate to productive coping, mood assessed at any one point in time may be more a function of recent events than of more stable traits like coping strategies. Longitudinal research into these temporal relationships between mood and coping are needed.

8.2.4: Intervention outcomes

The third hypothesis predicted that there would be an improvement in productive coping and a reduction in non-productive coping and negative mood for those who completed the training compared with those who did not. The analysis of the third hypothesis involved the testing of data generated from two quasi-experimental studies.

The first analysis comprised year seven and year eight students, tested at two points (T1 and T2). The second analysis comprised year seven students only, tested at three points (T1, T2, and T3). The first analysis did not provide any support for change between the pre-test (T1) and post-test (T2) scores in coping or mood for those who completed the program compared with those who did not. The second analysis showed that there was a decrease in NPC and SAD over a six-month period, between the pre-

test (T1) and the delayed six-month post-test (T3) but it was for both the experimental and control groups. Students reported a lower average level of SAD and a lower average level of NPC. There was no reported change in levels of PC.

The first analysis compared the 1999 experimental group and the 1999 wait group and is explained separately for each of PC, NPC and SAD, respectively. The first result concerns PC. There were no significant differences between groups or times on PC, and no interaction between group and time. The only significant result was that of gender differences where males reported higher average levels of PC than females at both times and for both groups. As discussed previously, boys reported higher usage of PC than girls.

The second area concerns NPC. Non-productive coping showed a significant drop in average levels with no significant difference between the experimental group and wait group. In other words, the reported average levels of NPC were significantly lower at T2 than T1 for both the experimental and wait groups. There was a significant difference between the sexes for NPC with no interaction with time. This result means that the treatment made no difference to the experimental group's level of NPC compared to the wait group. Both groups showed lower levels of NPC at T2, which could have been a test-retest effect, or related to other environmental factors occurring for both groups, such as the second testing time being at a less stressful time of year, or both groups having matured (and developed more mature coping strategies) over the time period. Yet another possibility is that there were collateral effects of the treatment on the wait group (i.e., the experimental group discussed their training with the wait group and somehow the good effects 'rubbed off'). The study is however unable to evaluate these options. All that can be said is that there was no effect of the treatment on non-productive coping as assessed by this particular methodology.

The third area concerns SAD. Only the wait group reported a drop in negative emotions as measured by the stress-anxiety-depression factor over time. The experimental group did not report any such drop, as reflected in the significant group by time interaction. The significant group differences between the experimental group and the wait group indicated an initial significant difference. The average levels of SAD reported by the wait group were lower than the average levels reported by the experimental group, and these differences were maintained at T2. Also, the differences between gender mean that girls reported higher levels of SAD than boys at both times and in both groups, as reported previously.

It is unclear why the wait group dropped in average level of negative mood. There are several possible reasons. One optimistic possibility is that the wait group may have become more positive at the thought of receiving problem solving skills training in the future (an expectation effect). On the other hand, it may be have been that the wait group showed a lowering of negative mood due to time factors (e.g., tested at a less stressful time during the semester), while the experimental group did not, for some unknown reason, experience this drop. Perhaps the treatment raised issues of competence or other factors for the experimental group, and so they did not experience the lessening of negative mood. Perhaps the activities undertaken by the wait group were less stressful than those comprising the treatment. Again, it is not possible to resolve these speculations with the current research design, only to indicate that the treatment did not lead to mood improvement for the experimental group, at least in the short term. Nor did it lead to improvement in productive coping or reduction of non-productive coping.

The second analysis compared the 1999 combined experimental group with the 2000 control group, involving only year seven students. The results are discussed for

PC, NPC and SAD, respectively. There was no reported change for PC across time, groups or genders. Specifically, there was no effect on PC due to the training. The second result involves NPC. There was a slight decrease in the reported average level of NPC for both the experimental and control groups between T1 and T3 with no significant difference between the groups. This indicates that the non-productive coping reduced over time, but not because of the training. The third area of analysis was SAD. Both groups reported a significant decrease in average levels of SAD between T1 and T3. Thus, through the timing of the third test, or increased maturity/ development of the participants, or collateral effects of the treatment, or test-retest factors, or unknown effects, mood improved for these young people at T3, but not directly due to the treatment. Also, as discussed previously, there were significant gender differences in reported levels of SAD, with girls scoring higher at each of the times T1, T2 and T3 in both the experimental and control groups.

It is unclear why the intervention did not produce the results as hypothesised. Some possible reasons are as follows. The quantitative measures used in the present study were quite stringent in the sense that they are measures of traits (coping strategies), or mood, which has trait-like qualities. Personality traits tend to be stable and resistant to change over time (Liebert & Spiegler, 1990) and may require more intervention than the six-week program in this present study. Trait change may require follow-up interventions, homework, perhaps even one-to-one intervention, such as psychotherapy to be successful. Thus, the trait-like measures used did not detect the subtle changes indicated by the qualitative responses provided by the participants. These subtle changes suggested that at least some students found that the intervention oriented them toward positive development, in that they were thinking about better

ways to solve problems. This may be the first step in a relatively long process of change.

When this study is compared to studies which did show positive changes (outlined in chapter three), many of those studies appeared to have used less trait-like measures. For example, some of the studies used measures related to learning objectives, such as questions related to how much participants know about coping strategies (Thompson et al., 1995; Thompson et al., 1996), task completion and observations (McGrath, 1996b) and multiple measures such as alternative thinking and consequences tests, social role taking, and role play tests (LeCroy & Rose, 1986). Studies which use multiple measures may be more likely to show change because more options are able to be measured.

The present program may have been too optimistic in its goals, attempting to improve mood and coping strategies, within a short-term program. Even though the number of sessions appears not to matter as much as the program itself, for those studies outlined in chapter three, there may be a lower limit to the number of sessions necessary, particularly when attempting to change trait-like qualities. It is possible that the program may have been more effective in impacting mood and coping strategies if it had been longer term; say twelve weeks, like the programs that showed a reduction in depression for example (e.g., Gillham et al., 1995; Jaycox et al., 1994).

Despite lack of change in mood and coping, many of the participants at follow-up reported enjoyment of the program. This suggests that they might have become open to the idea of learning more about coping in the future. A longer term or follow-up program to enable enough time to include homework and put into practice the skills of problem solving may be needed to affect coping and mood. Further possible reasons for the failure of quantitative changes are discussed in greater detail in the section

concerning the limitations of the study (section 8.3). However, the qualitative analyses of the program, to be discussed next, were much more encouraging.

8.2.5: Participant feedback

All students who participated in the training were asked to provide information immediately after training and six-months after training. As well, a small number of students was interviewed and provided information three years after training. These results suggest the possibility of some positive, though subtle effects of the training, and provide information useful for the design of future programs.

It was evident that young people enjoyed the role plays and having the opportunity to have their say in a training program such as this. They indicated that they would like programs such as this to last longer and include more role-plays, games, videos, and other visual/kinaesthetic training materials. Many students reported that they had learnt what they perceived as valuable problem solving skills, and felt better about themselves due to the training. This tendency was more evident among the girls, whose comments were overall more positive (see Table 7.10).

The small group interviewed three years after training provided the most positive information. Many of these students reported not only enjoying the training, but learning about problem solving as well as suggesting the need for support of peers to facilitate a social problem solving skills training program. At this three-year follow-up, the more mature adolescents discussed the program in a way that would be expected for a formal operational thinker (Piaget, 1947) displaying the consequential-thinking skills required for problem solving. Of course this was a select group of volunteers, likely to be those who got the most out of the training, but the comments are suggestive nevertheless.

The students interviewed at this time also appeared more able to express an understanding of themselves, consistent with Erikson's (1950) proposition of the stage of identity versus identity confusion. The comments as summarised in chapter seven (para. 7.6.7) showed mature, independent, insightful suggestions, including the suggestion to use older peers to facilitate this training. Other comments about the problems of peer pressure faced by young adolescents and a reluctance to go against what peers urge them to do are indicative of a lack of ability to display individuality at that earlier age. They suggested that, at this older age they might be able to influence their younger peers better than adults (e.g., teachers, psychologists) in this training forum. As Josselson (1987) asserts, the stage of identity in psychosocial development requires the influence of peers as a normal part of identity formation. This may be what the older peers, at the three-year follow-up are alluding to by offering their involvement and assistance.

8.3: Limitations of the study

There were several limitations to the study including: aspects of the design of the study; use of a single-school cohort; limitations of the measures; limitations of the program materials; and the possibility of a mismatch of the program material and the developmental level of the participants. These limitations are discussed in the following paragraphs.

8.3.1: Study Design

The design method used in this study involved a potential cohort and time confound (i.e., experimental and control groups from different years), limiting the study to be interpreted cautiously (Shochet et al., 2001). This occurred even though attempts

were made to take corresponding measurements at a similar time in the following calendar year. The cohort limitation in the design of the study presented the possibility of a treatment contamination of the experimental and control group participants talking to each other about treatment, as is quite possible in a school setting. An attempt to eliminate an age bias involved using year seven students only in the second study.

It is also possible that a selection confound occurred due to the method of recruitment differences in the first year compared to the second year. In 1999 approximately 200 students from four year-seven classes and four year-eight classes were recruited by an extremely enthusiastic student welfare teacher. Almost all of the students in these eight classes volunteered to participate with an almost a 100 percent return of consent forms. In the year 2000 a control group was recruited using newly incoming students to year-seven involving a smaller group that would suffice as a comparison group (see Shochet et al., 2001). A new student welfare teacher provided consent forms to only five year-seven classes (out of a possible eight classes). To avoid contamination of the sample, participants from year-eight classes were not sought, as they were now distributed throughout that year level in classes with students trained in the previous year-seven classes (in 1999). The participant response rate was low for the year 2000 cohort. Only 50 students out of approximately 100 students returned their consent forms. Those students who did volunteer to participate were included in the study as the year 2000 control group. This meant that the control group participants possibly possessed some different characteristics from the experimental group by being more willing self-referrers. It is possible that they could have possessed more positive attitudes toward research. These students may also have been more positive in their mood and have possessed more productive coping skills and fewer non-productive coping skills. As shown in Table 7.6, there were no initial significant differences

between the two groups. However, there was a trend for the control group to score more adaptively on two of the three measures (i.e., NPC and SAD). This possibly affected the validity of the control group as a direct comparison group. Finally, there may have been some effects due to seasonal fluctuations that were unable to be controlled, such as the time of year (e.g., holidays due, test time, workload and material difficulty). These seasonal events may have impacted on the effects of the program.

The training was conducted by a school psychologist as leader and a teacher as co-leader. McGrath (1996a) asserts that there are some problems raised in relation to teacher implementation of social skills training in schools. These include role conflict of teachers, loss of gains due to change in teacher from one year to the next, and ambivalence about the time investment for social skills training compared to curriculum driven, academic subjects. On the other hand, the Framework for Student Support Services (Department of Education, Employment and Training, 1998) points out that, "students are better prepared for learning when they are healthy, safe and happy. Therefore, student welfare is the responsibility of all staff working in a whole school context. Student learning cannot be separated from welfare" (p. 1). However, if the teacher who provides social skills training primarily has a welfare focus, such as the student welfare coordinator, the problem of role conflict and time investment is only of minor consideration, and rather is viewed as a benefit (McGrath 1996a).

The research also highlighted problems associated with conducting a study in a school setting. It is very difficult to access all students in a class over several sessions. Students may be absent from their class due to elective classes, yard duties, illness, roll collection, lateness, as well as many other reasons. Sometimes the whole class is cancelled, due to classroom changes, timetable changes, excursions, and camps, to name a few. For these reasons, maintaining a reasonable number of students in the study who

have been tested at Time 1 and attended all the intervention sessions is very difficult. Similarly it is difficult not to experience dropouts from the study when retesting occurs at Times 2 and 3 as occurred in this study. Another school-based difficulty relates to obtaining sufficient volunteers. Although students may be willing to be part of the study, ethics requirements which involve parental permission can lead to reduced study numbers, not usually because parents object, but because students forget to bring permission slips home. This may have accounted for the low response rate in the year 2000 cohort.

8.3.2: The single-school cohort

Using a single school setting for this study limits the extent to which the results can be generalised to other year seven and year eight students. For example, the specific demographic make-up of the young people at the school in this study is most likely different from that at other schools in areas with differing socio-economic and ethnic characteristics.

Also, the number of students included in the analyses, especially the second study in 2000, which only included year seven students, was relatively low. The second study only included the year seven students to reduce the possibility of differences in selection. Therefore, the relatively low number of participants in the analysis meant that had there been a tendency toward a quantitative change it might not have registered as statistically significant. Overall, results of this study need to be treated cautiously when comparing to the general population of young adolescents.

8.3.3: The Measures

Attempts to validate the measures used in this study were made utilising confirmatory factor analyses. The results of these analyses as shown in chapter six indicate support for a model approximating a two-factor model of coping and a single-factor of mood. The CFAs were conducted due to the limitations of both the Adolescent Coping Scale – ACS – short form (Frydenberg & Lewis, 1993c) and the Depression Anxiety Stress Scales – DASS – short form (Lovibond & Lovibond, 1996) as detailed in the following paragraphs.

The ACS (Frydenberg & Lewis, 1993c) was developed specifically for young people between 11 and 18 years of age, with the short form as used in this study being developed for brevity. The structure of this measure was not valid when it was scored via the method suggested in the manual, as discussed previously. The new structure did not include the refer to others factor because the items were not reliably used by the sample. Nevertheless, different items may have tapped this potential factor, had a different scale been used. In addition, the PC factor used in the study contained relatively few items, and may not have been as sensitive to change as a scale which included a wider range of positive, productive coping strategies. The ACS may indeed work differently for younger than for older adolescents, and there is some evidence (already discussed) that this might be the case (Cunningham & Walker, 1999; Speirs & Martin, 1999).

Also, the ACS is a self-report measure. Reynolds (1994) argues that self-report measures are valid and reliable tools for assessing depression in adolescents. However, Shochet et al. (2001) argue that studies would be strengthened with independent clinical assessments. This study may have been improved by using independent clinical assessments or observer reports by teachers or parents.

The DASS was specifically developed for adults with a lower age limit of 17 years but has been stated as suitable for people as young as 12 years of age, given they have the necessary language proficiency (Lovibond & Lovibond, 2001, p. 2). As mentioned previously, samples of children and adolescents have consistently found moderate to high correlations between measures of anxiety and depression (Axelson & Birmaher, 2001; Finch, Lipovsky, & Casat, 1989; King, Ollendick, & Gullone, 1991), with few studies reporting correlations between these two mood states of less than .50. There may be several reasons for this. For example, it may be that the individual constructs are difficult to separate and measure, or valid measures may have been difficult to develop to assess the individual constructs, or it maybe that they may not actually be separate constructs. The confirmatory factor analyses conducted on the self-report data gathered on this cohort of young people in this study indicated support for a single-factor of stress, anxiety and depression (SAD), by eliminating the existential and physiological items on the DASS. This produces a construct similar to the construct of negative affectivity proposed by Watson and Clark (1984, 1991, 1992).

The DASS is a self-report measure and as for the ACS mentioned above, there is both support for (Reynolds, 1994) and arguments against self-report measures used without other supporting reports in the measurement of mood and clinical states (Shochet et al., 2001). The study could have been strengthened by inclusion of alternative measures for coping and mood, such as teacher or parent reports.

8.3.4: Program Material

Based on well-known theories and current empirical research, the training program used in this study was developed by the researcher. The program was designed as a brief prevention program to teach social problem solving skills to young

adolescents in whole-class settings. Materials were developed from other well-known problem solving models incorporating communication skills-training to support the problem solving process. This study attempted to investigate whether a short-term program would improve the use of effective problem solving skills evidenced by an increase of productive coping, a decrease in non-productive coping, and a reduction in negative mood states. The benefits, although not quantitatively measurable were evident to some degree through the beneficial reports by a considerable percentage of the participants, immediately after training, six-months after training and (for a select group only) three-years after training.

Areas for improvement include use of a longer-term program to allow practice leading to generalisation and maintenance of social problem-solving skills. Otherwise a short-term program could be more narrowly focused on a single area, for example depression reduction. A longer term-program would possibly be more effective when trying to teach the large amount of material necessary for effective problem solving skills and mood improvement. In this respect the students themselves offered advice on what this might involve. They suggested there might be more role-plays involving scenarios based on the participants' experiences, use of relevant training skills videos, taping sessions to provide feedback, class discussions about participants' experiences, and more opportunities for homework and practice of skills.

8.3.5: Program match to developmental level of participants

The program may not have matched the developmental level of participants, even though it was hypothesised to be at an appropriate level at which to maximise benefits. The cognitive developmental level of 'almost full formal functioning' is determined to occur at about 12 to 14 years, with full formal functioning beginning at

about 15 years (Piaget, 1947). This cohort with a mean age of approximately 13 years meant that most participants were theoretically functioning at the almost full level of abstract thinking, with very few at an age to be functioning at the full formal level.

People are most likely to display formal operational thinking in situations and contexts in which they have had extensive experience (Berk, 2003). For example, DeLisi and Staudt (1980) have shown that college students show formal operational reasoning in accordance with their college majors. It makes sense that the better someone is trained in a particular competency the better they will be able to reason through issues related to that competency. Also, Fletcher and Johnson (1982) discuss the myths of formal operational thinking. They assert that formal operations has been commonly used as an explanation of adolescent thinking and behaviour in general, and that such explanations are frequently combined with general misconceptions. They argue three in particular. First, there is the assumption that adolescent thinking can be generally characterised as formal operational. Piaget (1972) himself has suggested that formal operations is not a universal achievement and may be limited to specific applications, depending on experience as demonstrated by DeLisi and Staudt (1980). A second misconception is that formal-operations develops automatically through maturation. The nature of educational experiences may be crucial here. Third, there is the misconception that formal-operations universally represents the best form of thinking, for which there are two main criticisms (Fletcher & Johnson, 1982). The first criticism is that concrete operations is replaced by formal operations, which is not correct or helpful. Concrete operational thinking continues to serve a valuable function including role taking and class inclusion, for example. The second criticism is that formal operational thinking is not necessarily the final stage of cognitive developmental progress (Fletcher & Johnson, 1982). More recently, a post-Piagetian cognitive theory

has been proposed that extends critical, feminist and postmodern thought (Kincheloe & Steinberg, 1993). This theory proposes a post-formal operational cognitive stage and although it does not impact on the outcome of this program it offers the possibility of other stages of cognitive development. When these arguments are considered, the social problem solving skills training program may need to be more intensive for students to become more expert in problem solving skills to optimise full formal operational thinking in this subject area.

The psychosocial development of these young people as proposed by Erikson (1950/1975) is also hypothesised to be approaching the stage where the formation of identity is occurring. As Apter (1990) asserts, the main task of adolescence is to achieve an identity through a set of references by which to make sense of one's responses and justify one's decisions and goals. This is theoretically supposed to occur sometime after the age of 12 years. As previously mentioned, this involves peers in the formation of one's identity (Josselson, 1987). It is possible that peers also influence a reluctance to change behaviour, since identity confusion in adolescence may mean indulging in self-destructive behaviour or being preoccupied with others' opinions (such as those of peers), according to Erikson (1950/1975). Some adolescents may rebel against parental (adult) dominance and value systems in order to separate their own identity from their family (Muuss, 1988). The current training program differed from the usual content driven curriculum academic subjects and at times touched on more personal and behavioural topics involved in communication and problem solving with peers. It is possible that it may have challenged young people's beliefs with the possibility of initially causing concern or even rejection of someone else's beliefs (such as teachers). This possibility was hinted at by the student who was interviewed three years after training who stated that, teachers are somehow "like parents" and "they [students] are

not really listening" when adults speak (para. 7.6, question 10), especially about the more weighty concerns of how young people deal with their problems and their feelings.

8.4: Further studies

The results of this study are consistent with previous study results, such as evidence for gender differences in coping and mood styles, the relationship between coping styles and mood, and support for two factors of coping. There is also evidence for a single factor of mood for young adolescents. Although no quantitative evidence was shown for the success of the program, this study revealed beneficial results in support of conducting social problem solving skills training programs in a school setting. These results have implications for further prevention studies.

Because there is evidence that girls and boys tend to use different styles of coping, future training might modify programs to teach social problem solving skills in different ways for females and males. For example, girls might be instructed in ways to reduce depression and anxiety and non-productive coping, as well as ways to increase productive coping as compared to boys. Further studies might also include attempts to replicate a two-factor model of coping, using a modified ACS (Frydenberg & Lewis, 1993a) or other measures of coping which are suitable for young adolescents. Also, researchers may conduct a replication study investigating a single factor of mood for young adolescents using a modified DASS (Lovibond & Lovibond, 1996) or other anxiety/depression/mood scales. Studies similar to the present one could be conducted over a longer duration, for example several months, to explore whether more time is required to provide more exposure and practice of the skills to effect and measure changes in coping and mood. As recommended by participants at the three-year follow-

up, peers from later years may be included in the training programs to investigate whether they are able to positively encourage younger peers to improve social problem solving skills.

8.5: Summary and conclusion

The implementation of preventative programs, such as the present social problem solving skills training in a school poses many practical implementation problems. These problems include the recruitment of participants, minimisation of attrition of participants, a need for careful planning and cooperation by the school(s) involved, an effective training program and valid evaluation instruments.

However, these universal programs can be cost-effective and time-effective, reaching many young people simultaneously. Although this particular brief prevention program did not show quantitative improvements it did deliver several other positive results. Analysis of the data collected using the DASS provided evidence of a single factor of stress, anxiety and depression for early adolescents as well as the potential for further investigation and comparison of this SAD factor with other age cohorts. Evidence was also found for a model of coping in early adolescence, approximating two-factors. The participants provided many good suggestions for the conduct of further preventative programs for young people in school settings. Suggestions include, utilising slightly older peers to deliver the training, longer term training programs involving more use of videos, role-plays and real-life scenarios.

Studies such as this can be conducted in an attempt to prevent mental health problems in young people. This study has given insight into young peoples' moods and coping that will hopefully benefit other young people to recognise their problems and take steps to deal with them before they become more serious problems. It is also hoped

that results from studies such as this will assist further research into the important field of mood and coping in young people and assist the development of better prevention programs.

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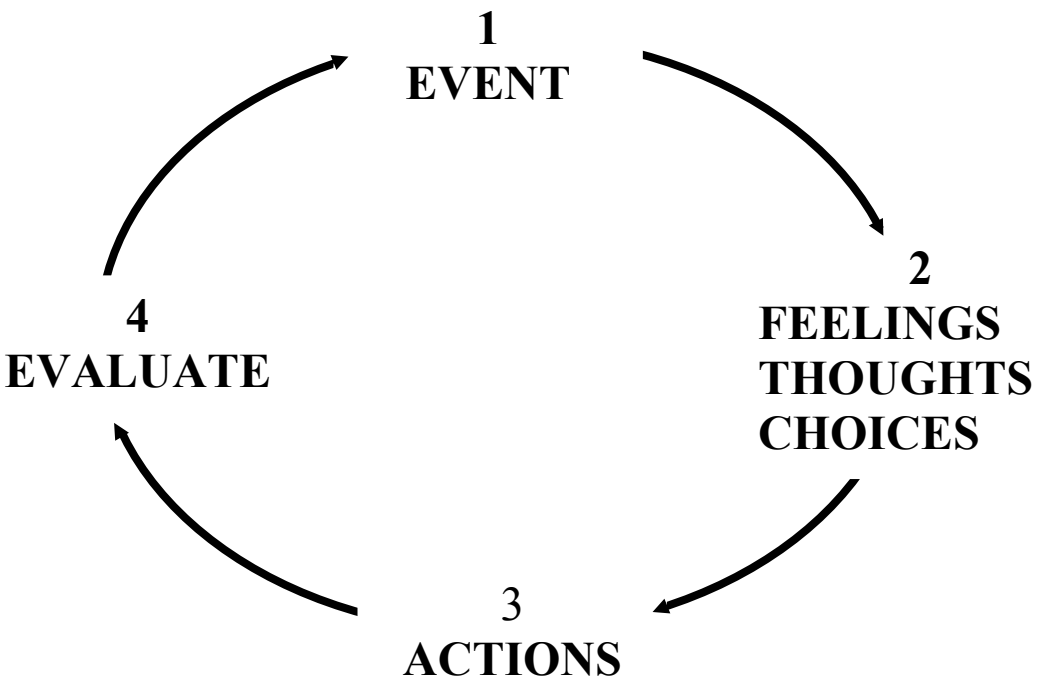
Appendix A

SOCIAL PROBLEM SOLVING WHEEL



Appendix B:

SOCIAL PROBLEM SOLVING SKILLS TRAINING FOR YOUNG ADOLESCENTS

Program Outline

(Four Sessions)

Developed by Christopher Duffy

SESSION 1: **AIM: TO LEARN SOCIAL PROBLEM SOLVING SKILLS**

TOPIC	EXERCISE	RESOURCES	TIME
Warm up exercise			5
Check that everyone has completed consent forms Read and Explain the Plain Language Statement **Objective:** To make sure everyone has completed the consent forms and that everyone has provided informed consent. To inform participants that they are welcome to discuss any part of the program or any issues with either the researcher or the SWC.		• Check sheet for names & DOB	5
Pre-test **Objective:** To gather pre-test data with participants' questionnaires.		• Cover Sheet • DASS21 • ACS	15
Rules for the group **Objective:** To develop rules for the group whilst training.	Students to provide rules Make sure that everyone agrees to the rules so that they can be read out later on if there are any problems in the training program.	Write up on butchers paper and hang on wall	5
Explain Skills **Objective:** To learn the elements of a model of social problem solving.	See Appendix A Feelings Thoughts Actions/Choices Evaluate your Actions	• Diagram on board/butchers paper • Appendix A	5
Exercise **Objective:** To practise social problem solving skills.	Hand out feelings, thoughts, choices cards (about three each) students will have to trade with others to have a group of cards Hand out 2-3 Scenarios Cards to a couple of students - have them read them aloud Have students group around the Scenarios Card holders with thoughts, feelings and choices cards	• Scenarios • Thoughts Cards • Feelings Cards • Choices Cards	10

Evaluate - Discussion to evaluate the choices made by students **Objective:** To evaluate the social problem solving-skills model.	Encourage students to provide feedback about what they have learned	• Write up comments students' comments • What did they learn?	5

SESSION 2: AIM: TO LEARN ACTIVE LISTENING SKILLS

TOPIC	EXERCISE	RESOURCES	TIME
Warm up exercise			5
Review Session 1 **Objective:** To review what has been learnt in session 1	Use model to discuss the need for problem solving in social situations	Model on butchers paper - make notes of any comments made by students	5
Active listening **Objective:** To demonstrate two type of listening - active listening, and not listening.	• Demonstration of active listening and not listening by leaders	Leaders role play a typical situation for active listening and not listening	10
Explanation **Objective:** To explain what the listener did when actively listening	Explain what the active listener did and what the non listener didn't do	Notes on butchers paper	5
Question opportunity **Objective:** To give participants the opportunity to ask questions and discuss active listening.	Students have the opportunity to ask questions		5
Exercise **Objective:** To practise active listening skills.	• Students form dyads • Each student is given a topic card to talk about and the other has to employ active listening skills to learn something they learned from the other student	Topics cards	10
Evaluate - Discussion to evaluate the choices made by students **Objective:** To evaluate active listening-skills.	Encourage students to provide feedback about what they have learned	• Write up comments students' comments • What did they learn?	5

SESSION 3: AIM: TO LEARN ASSERTIVENESS SKILLS

TOPIC	EXERCISE	RESOURCES	TIME
Warm up exercise			5
Review Session 2 **Objective:** To review what has been learnt in session 2	Use discussion to explore the need for active listening	Make notes of any comments made by students	5
Assertiveness Skills **Objective:** To explain the elements of a model of assertiveness	• Identify your own feelings • Use 'I' terms to express your feelings • State what you would like to happen Explain the need for assertiveness skills as compared to passive or aggressive approaches to conflict.	Have notes on butcher's paper of what to do.	5
Assertiveness **Objective:** To demonstrate assertiveness skills for the participants to observe.	• Demonstration of assertiveness skills by leaders	Leaders role play a typical situation for assertiveness	10
Exercise **Objective:** To practise assertiveness skills.	• Students form dyads • Each student is given a topic card to talk about and the other has to employ assertiveness skills to make their point with the other student	Topics cards	10
Evaluate - Discussion to evaluate the choices made by students **Objective:** To evaluate assertiveness-skills through discussion.	Encourage students to provide feedback about what they have learned	• Write up comments students' comments • What did they learn?	10

SESSION 4: AIM: TO REVIEW THE TRAINING (SOCIAL PROBLEM SOLVING SKILLS, ACTIVE LISTENING SKILLS AND ASSERTIVENESS SKILLS)

TOPIC	EXERCISE	RESOURCES	TIME
Warm up exercise			5
Review Session 3 **Objective:** To review what has been learnt in session 3	Use discussion to explore the need for assertiveness skills	Make notes of any comments made by students	5
Review everything learnt in the first three sessions **Objective:** To evaluate social problem solving skills, active listening skills and assertiveness-skills through discussion.	Use training aids, butchers paper, models etc to review the things learned in first three weeks. Discussion about what was learned in the sessions How valuable will it be? Has it helped? Has anyone used it? Does anyone want to talk about his or her experiences?	Make notes of any comments made by students	15
Post-test **Objective:** To gather pre-test data with participants' questionnaires.		• Cover ½ Sheet • DASS21 • ACS	15
Evaluation sheet **Objective:** To gather any qualitative data about the training to be used in future training programs,	What did you like, what did you learn?	Evaluation sheet	5
Thank You Objective: To thank the participants for their participation in the training program and offer any follow-up if required.	Thank students for participating and offer follow-up for anyone who wishes to talk more about anything.		

Appendix C

SOCIAL PROBLEM SOLVING SKILLS TRAINING QUESTIONNAIRE

PLEASE ANSWER ALL QUESTIONS.

DATE OF BIRTH						
	D	**D**	**M**	**M**	**Y**	**Y**

MALE ☐ **FEMALE** ☐

CLASS (e.g. 7.6)_____

PLEASE ANSWER THE FOLLOWING 3 QUESTIONS BY TICKING THE BOX WHICH BEST ANSWERS THAT QUESTION.

1. I WOULD LIKE TO LEARN BETTER WAYS TO SOLVE PROBLEMS

Strongly agree	**Agree**	**Don't Know**	**Disagree**	**Strongly Disagree**

2. I KNOW HOW TO SOLVE MOST OF MY PROBLEMS

Strongly agree	**Agree**	**Don't Know**	**Disagree**	**Strongly Disagree**

3. I AM ABLE T0 SOLVE MOST OF MY PROBLEMS

Strongly agree	**Agree**	**Don't Know**	**Disagree**	**Strongly Disagree**

PLEASE CONTINUE NEXT PAGE

PLEASE NOTE

The Depression, Anxiety, Stress Scales (DASS21) in Appendix C is unable to be reproduced online.

Please consult print copy held in the Swinburne Library or click on the link below.

Lovibond SH & Lovibond PF (1995) *Manual for the Depression Anxiety Stress Scales, 2nd ed*, Psychology Foundation, Sydney
http://www2.psy.unsw.edu.au/groups/dass/

PLEASE NOTE

The Adolescent Coping Scale in Appendix C is unable to be reproduced online.

Please consult print copy held in the Swinburne Library.

Appendix D

Correlation tables for ACS items and DASS items

Correlation table for the Adolescent Coping Scale items 1 to 18 for the young adolescent cohort of 1999 & 2000

	Adolescent Coping Scale Items																
	Cope1	Cope2	Cope3	Cope4	Cope5	Cope6	Cope7	Cope8	Cope9	Cope10	Cope11	Cope12	Cope13	Cope14	Cope15	Cope16	Cope17
Cope2	.25***																
Cope3	.16*	.43***															
Cope4	.30***	.21**	.03														
Cope5	.27***	.08	.09	.20**													
Cope6	.28***	.24***	.23**	.25***	.29***												
Cope7	.17*	.06	.06	.35***	.08	.14*											
Cope8	.20**	.23**	.10	.32***	.16*	.19**	.32***										
Cope9	.14*	.10	-.03	.32***	-	.08	.32***	.24***									
Cope10	.35***	.31***	.27***	.29***	.16*	.31***	.24***	.15*	.19**								
Cope11	.03	.15*	.11	..35***	.09	.10	.33***	.25***	.42***	.28***							
Cope12	.17*	.12	.06	.43***	-	.11	.33***	.27***	.40***	.33***	.48***						
Cope13	-	.12	.17*	.35***	.12	.16*	.26***	.19**	.21**	.13	.31***	.37***					
Cope14	.11	.08	.05	.31***	.02	.15*	.26***	.25***	.09	.01	.27***	.23**	.33***				
Cope15	.16*	.29***	.30***	.11	.22**	.19**	.21**	.15*	-.03	.23**	.18**	.07	.14*	.27***			
Cope16	.21**	.21**	.19**	.10	.10	.14*	.07	.19**	-	.30***	.19**	.20**	-	.12	.33***		
Cope17	.22**	.17*	.21**	.03	.13	.12	.24***	.08	.10	.15*	.08	-.05	.10	.07	.25***	.08	
Cope18	.23**	.27***	.26***	-.06	.20**	.20**	.08	-	-.07	.22**	.07	-	.05	.16*	.32***	.17*	.35***

*p<.05, **p<.01, ***p<.001, N =213

Correlation table for the Depression Anxiety Stress Scales, Items 1 to 21 for the young adolescent cohort 1999 & 2000

	Depression Anxiety Stress Scales Items																			
	DASS1	DASS2	DASS3	DASS4	DASS5	DASS6	DASS7	DASS8	DASS9	Dass10	DASS11	DASS12	DASS13	DASS14	DASS15	DASS16	DASS17	DASS18	DASS19	DASS20
DASS2	.27***																			
DASS3	.41***	.14*																		
DASS4	.22**	.25***	.31***																	
DASS5	.47***	.23**	.18*	.11																
DASS6	.28***	.09	.29***	.18*	.35***															
DASS7	.22**	.17*	.24**	.12	.16*	.10														
DASS8	.23**	.20**	.25***	.20**	.12	.18*	.22**													
DASS9	.43***	.11	.26***	.13	.21**	.25***	.21**	.36***												
DASS10	.31***	-.01	.37***	.17*	.23**	.18**	.13	.22**	.30***											
DASS11	.31***	.13	.34***	.24**	.22**	.29***	.27***	.23**	.28***	.26***										
DASS12	.43***	.25***	.43***	.22**	.25***	.33***	.22**	.23**	.22**	.29***	.34***									
DASS13	.32***	.21**	.39***	.24**	.18*	.33***	.31***	.31***	.23**	.23**	.40***	.40***								
DASS14	.38***	.02	.40***	.20**	.32***	.37***	.17*	.26***	.34***	.35***	.35***	.30***	.35***							
DASS15	.29***	.18*	.31***	.17*	.28***	.33***	.31***	.41***	.35***	.29***	.37***	.36***	.45***	.34***						
DASS16	.42***	.11	.25**	.13	.41***	.28***	.34***	.25***	.46***	.46***	.28***	.29***	.17*	.36***	.39***					
DASS17	.34***	.12	.30***	.30***	.20**	.19**	.22**	.28***	.34***	.37***	.41***	.31***	.34***	.37***	.32***	.48***				
DASS18	.21**	.09	.15*	.18*	.19**	.39***	.19**	.27***	.27***	.24**	.31***	.28***	.22**	.35***	.28***	.27***	.33***			
DASS19	.14*	.15*	.16*	.40***	.05	.08	.17*	.07	.13	.09	.17*	.14*	.16*	.08	.21**	.03	.17*	.03		
DASS20	.28***	.05	.36***	.16*	.17*	.29***	.26***	.33***	.33***	.42***	.34***	.27***	.36***	.25***	.55***	.34***	.30***	.33***	.26***	
DASS21	.22**	.10	.23**	.15*	.14	.22**	.23**	.27***	.28***	.49***	.38***	.34***	.41***	.32***	.34***	.39***	.51***	.30***	.14	.38***

*p<.05, **p<.01, ***p<.001, N=203

Appendix E:

Responses to four question evaluation

1. What did you like?
2. What did you learn?
3. What could be improved?
4. What could be done in future?

Evaluation of Training
(not exact transcripts but express the essence of meaning)

What did you like?	**What did you learn?**	**What\ could be improved?**	**What could be done in future?**
Chance to act	Solve my problems quicker	Do games	fun
Chance to act and understand people more	Solve problems without a fight	To understand them more	To solve problems instead of arguing
Acting and how to solve problems	How to solve problems	Improve talking about it	Take the steps and solve the problem
Some of the (role) play	How to calm myself down and what to do	What to do when I'm sad and how to treat others	Tell people how I feel
Acting and solving the problem	Think before you do something	Improve talking about it	Take the steps and solve the problem
Working together to answer the questions	To solve problems and cooperate with other people		How to cooperate with people and do it themselves
The (role) play	Not to do actions first	Nothing	Nothing
The (role) play	Not to do actions first	Nothing	Nothing
The (role) play	Nothing	Not the same stuff	
The (role) play	To solve your own problems	Nothing	Nothing
Acting	Nothing	Thinking things over	?
I liked the teachers and the way to solve problems using methods	I learnt methods to solve problems	Thinking things over	Take things easy
Acting	How to solve problems better	Nothing	Nothing
The teachers acting	To be kind and don't bully	Using my own model	Learn to like people
Everything and the acting	Everything	Nothing	Nothing
Don't have to do science and acting	Don't know	Don't know	Don't know
Acting and role play	How to deal with feelings and problems	More fun things	More acting
The questions we did	Fighting doesn't solve anything	Nothing	Nothing
Acting	Actions for problem solving	The handouts	More roles
The question things	Not to fight	Nothing	No fighting it will take

			a miracle
Acting and dialogue	Feelings, Looking after myself	Don't repeat things	Don't need things repeated
The last session	Not to be aggressive	Make it more interesting	More detailed
The fun stuff	To stop fighting	My behaviour and actions to get to know people	To evaluate something that might happen
Liked the lessons, not much and lets you discuss things	The many ways to solve problems	Use 10 and 12 (students as teachers)	More fun games and actions
I liked it all most of it as fun	To deal with problems rather than leave them alone	None	More role play
The (role) plays	Not to deal with things in a way that would end in a disaster	Involve more people so they can express their feelings and understand the problems	Lots more activities so it's more exciting
Don't really like anything	To listen to people when they have problems	The DASS 21 questions are weird & the activities are boring	Change the DASS21 and do better activities
Problem solving activities and acting	To talk to adults to say how you feel	?	Follow the instructions listen to the adults
When other people act in front of class	Dealing with problems		
Some activities	Lots	?	More visual demonstrations
When I talk about my problems to my friends	You could always trust a friend for your problems and they are always there for you	I need to talk to my friends about my problems more often	Believe in myself and talk to my friends more often
The role plays the leaders did	How to solve problems without violence	Less talking and more hands on experience and games	More role play

The role plays the leaders did and the program was interesting	To solve my problems in a better way	No suggestions	No suggestions or maybe more role plays
Learning new stuff	How to express feelings	More exciting things	Learning new, more exciting stuff
I liked the activities	I learned how to handle problems		I want the children to do some (role) plays
I liked doing the activities	I learned the way to handle problems		I want more (role) plays
I like how we learned to break a fight	How to break up a fight and how to keep out of trouble	Make a (role) play to see who learned what and if they didn't learn much then talk to them	Make students teach to see what they learned throughout the year
To make friends and be more kind. I like to work hard in all the subjects	L learnt that when I am in trouble my friend will be there. I learned that we can solve any problem we like	I can improve in class and be happy with my friend	I could have a family of my own and how to live with my parents
I like when we did the acting and the talking	I learned how people will feel when there is an event happening in their life and how to	It could be improved by writing and essay about how you feel and how many events you	

	solve the problem and end the event	have been through and what kind of feeling came up	
I like to be happy always and work hard	I learn everything	I can be improved in class	Do something in future
I didn't like anything at all	Problem solving	Nothing	Nothing
I like learning	I learnt to deal with problems in a better way	?	ask people every week what problems they had
Doing the work and role play	To keep my temper down and solve the problem	Nothing	help solve people's feelings
Talking as a group	Aggression isn't the only way to solve a problem	The period could be repositioned so that no one has to miss out on a lesson	More skills could be taught, lessons should happen more often
I liked it how it was a waste of time	I learned how to solve my own problems	Nothing	?
I liked it how it was a waste of time	I learned how to solve my own problems	Nothing	Nothing
I like watching other people do role play	I learnt a bit about social problem solving skills	Nothing or ?	Bring like equipment things in
Doing the role play	I learnt about how to solve your problems	By not getting angry over little things	Bring equipment in the future
I like the role plays with the class	How to deal with a problem and how to evaluate	Nothing	Make it more interesting with games
I like discussing about the problems	I learnt how to deal with my problems	The program should go on for more than a term	Every class should do this program
The role plays, watching people do the role plays	A lot of things from active listening to problem solving and I learnt how to solve problems better	?	?
The role play, talking about solving problems	I learnt how to solve problems	?	?
I liked the role plays and how everyone spoke openly	I learnt about active listening and being assertive and not aggressive	Nothing, it's great but very short	In the future it could take longer eg. 5 weeks instead of 4
All the role plays You could say what you wanted to they didn't make you feel stupid	That it is not good to be aggressive. It is better to stop and think about what you are going to do before you do it.	I didn't like that every week we had to do the survey, I had to hear all the questions three times	?
The games	Angry isn't the way to solve your problems		I know what to do when it happens to me
Nothing it was alright sometimes, it was boring	How to help myself and problem solving	Nothing much I hated the whole thing	Nothing at all everything's fine
Watching people do role plays and when the teacher did them as well	I learnt how to control myself in a fight or argument and I have also learnt how to deal with my problems better	The program should be extended so that more people can learn	Every class should do this even people outside should have this sort of training

Games	Give some problems		
I liked the role plays and discussing problem solving	If someone is annoying you, you first have to think about what you're doing and I learnt how to solve my problems	The program should go for twice a week	Maybe every class should do it from year 7 to 11
The talking activities	A lot	Nothing	Nothing, it might be able to help somebody
The performing	How to deal with difficult situations	Noting really, keep it up	The same thing, encourage people to talk things through
Missing out on maths	To be assertive	More activities	Funner activities
I like the acting	How to solve problems	Get more kids involved	Just keep it up, Not for the whole year but go around more schools
I didn't like it at all	I didn't learn anything because I knew how to solve my problems	Nothing	Nothing
I like that they made it fun and we got out of work	I learnt how to solve problems	Nothing really	Keep doing it and keep having fun
I like not doing work and it was kind of fun	To solve problems a different way	There could be some games involved	Keep doing it
Training a soccer match	Skills with the ball	Better surface on the ground, grass	Fix it
I liked most of the things	I learnt a lot	Nothing	?
Nothing	How to solve problems	No	Go back in time and go through the problem solving activity
Getting out of maths	Nothing	Less work	?
Nothing	That you can solve your problems by talking	Everything	?
Nothing	To solve problems	Some of the questions	Nothing
Missing out on 6th period. and it was alright the social skills	A bit of social skills	Some of the questions	Some different questions
Noting at all, Missing out on 6th period	Nothing at all	Make it more interesting	Make it not boring
I liked the acting especially the leaders	I learnt that you can solve problems and how to solve problems	Nothing	Nothing just do the same as now
I liked how the teachers told me what to do when involved in a fight	Problem solving	Nothing	?
What I liked was the acting, the booklets and getting out of double maths	That there are easier ways to sort things out other than being aggressive	The problem solving wheel could be used a little less	Nothing
The role plays	How to solve things without fighting	Don't repeat everything	The course could be longer
That the teachers got involved too	The easy way to solve problems without making it worse	Not talking about the same thing every week	To keep on doing it
I liked the acting, especially the leaders	I learnt to solve my problems by talking to	My aggressiveness towards people I argue	The same thing

	people about the actual problem	with	
The acting	Solving problems	Solving problems	Nothing
Not doing maths in this period, listening	Not much, Actually I learned that you could be very helpful to people	Nothing, listening skills	I don't have a future, I would like to be helpful;
I liked everything we learned in the class	I learned much more than I know	How I can use more things in some situations to improve	I can still learn more about some things
Hearing the bell for next period, I liked nothing	That adults are really boring and I like kids better	If the whole program was shut down	Make sure nobody else has to live through this, ever again, please.
Session 4, talking about things	Almost everything	My ability to release my feelings	?
Talking and listening to people's opinions	Being assertive, but I already knew most of this stuff from my experience I think	Patience	Become a psychiatrist
Noting much, A lot of things I do different and work better	Nothing, I knew all of this from before, even from primary school	Yous done a good job, nothing should be improved but I don't like it personally	?
I like how we work together and try to work things out	I learnt more different ways to solve problems	?	Make it more fun
The acting out feelings	Nothing	Nothing, it was all good	Nothing it was all good
Nothing (not joking)	Nothing (joking) That you have to be good to people	Nothing (not joking)	Nothing (not joking)
Miss out on maths	How to solve problems	Make it more interesting	Do some games
Talking and listening to others and miss out on class	How to solve problems, how things can improve	Just make things more exciting	Some games
Nothing	I learnt how you calm someone down and how you talk to them	Make it exciting and should play games	Shouldn't talk a lot
The acting	That listening has got to do with talking too	?	?
Getting to know how to solve problems	How to solve problems	Have more than a class of this	Games about what we are learning
Nothing much	Talking to them when they are upset	Make it more exciting and should play more games	Shouldn't talk a lot
It helped me solve problems easier	I learned lots on how to communicate with people in a better way	More fun activities like acting, games	Should do more programs like these in schools
The acting	That I have to face my problems not leet them go	More group things	?
I liked the acting it was fun	To try to cope with problems to do with friends, family, etc	Nothing I think it was absolutely fantastic	More excitement in my life, it's very boring
The acting	Noting much, I knew most of what I learned	More fun activities	More fun activities
The acting	How I might be able to deal with my parents	More action (a bit boring) more acting	More excitement fun activities

Alright	Some new words	Games	?
Alright	I learnt that you can solve problems	Games	
Everything	How to control my temper	Nothing	Nothing
Talking to the class	Active listening, assertiveness, problem solving	More to talk about it's a bit boring	More things to talk about
Problem solving, active listening, assertiveness	We learnt how to solve problems		
Active listening	How to cope in situations	Noting	More games
Talking in class	Active listening	Nothing	Nothing
The talks and conversations	How to speak to another person	Nothing much	The advice could be used
It's great fun learning to deal with my problems	How to speak politely	The way I should deal with my problems	Remember what I learnt
I didn't like anything	Not much, just how to deal with problems	everything	Not to have any filling out sheets (questionnaires)
Watching the role plays	How to solve problems a different way	Play problem solving games	Play problem solving games
	I learnt that I don't have to tease someone without a reason		
We missed out on science and it was great fun to learn about behaviour	How to speak politely	Nothing much, everything is spread out nice	For people not to bully
Assertiveness and active listening	How to solve problems	Give more problems to solve	Give more problems to solve
Assertiveness	How to solve a problem	Play problem solving games	Play problem solving games
To listen to the class	How to help others	Two periods a week	More periods
I like how you get to act in front of the class. Join in class discussion	I learnt that it's best to not scream if possible	II could stop throwing tantrums and explain a bit more	Be as calm as possible
Getting out of science	How to be assertive	Nothing much	Have more (role) plays
Getting out of science	How to be assertive	Nothing much	Have an excursion
I liked working with my friends	I learnt everything	Waist more time	Plays, excursions
Not having science	Nothing	?	?
Act	The technique of solving problems	Nothing	Find any other ways of solving a problem because the technique sometimes doesn't
Nothing	How to solve problems	Less talking more activities	Nothing
Nothing	Something	Fun activities, less talking and don't repeat the same words over and over again	Nothing
Nothing	How to solve problems	Less talking and don't repeat the same thing all the time	Nothing
I like to speak English as well as write	How to write and speak English	Will try to make it better with hard work	?
Nothing	Nothing	everything	Play good games

Nothing	Nothing	everything	Play good games
Nothing	Nothing	everything	Do something that is more fun
I liked it when people acted a situation out	I learned that you don't have to fight you can just talk about it	You can stop going over the same things every lesson	Have more activities in stead of all the tests
It was ok it helped me a bit	That there's a lot more ways than fighting	I found that you kept saying the same thing. Say t different (keep on over doing it)	Every week two classes
Football, motorbikes, cars, cricket, girls	Nothing	?	?
Most things	How to deal with problems	More fun activities, role plays	Use real life situations eg. drugs, violence
I liked most things	How to deal with problems	More role plays, plays for the kids to do and more activities to do with real life situations that kids have eg. offered drugs.	Same as previous
How they talked about solving the problem	I learnt how to solve the problem	Nothing	Nothing
I lie something is good to me	I learn about good to me	Maybe you could allow the student to create a play, problems	In future I done something good
Solving your problems	Being patient talking to each other		
Acting	Think first before action		
They know how you feel	How to overcome problems		
The acting	I learnt that violence is not the only way to cope with problems	There could be more acting	Could play some games
I liked the way we learnt different ways to solve our problems	Depending on the way you approach the problem you will get a different answer. Now you should help other people with problems	Not much, I thought the program was alright	You could solve problems off a video
I like the people acting	I learnt what passive is	The acting	Could play games or do more activities
The acting and reading from booklets	Be a better listener, solve problems	The little booklets, some activities	More acts
I like the acting	I learnt violence is not the only way to solve the problem	More acting	Could play lots of games or activities
I like the acting only	I learn that to concern other peoples	Nothing	Games
The leaders were kind	Feelings about	More activities	Play more sport
When we were given our opinion	We learned how to solve your problems with others	More fun activities and less talk	Act out the problems
Acting	A lot	Nothing	Nothing
I liked everything	I learned how to deal with problems	Nothing	Nothing
I liked the acting	A little bit	Nothing	Nothing
Trying to solve problems with others in	How not to cause trouble and to think	Not much, maybe you could allow the	Watch a video and try to solve problems

a group activity	about what could happen. Also to listen and to help out others in need	students to create a play, problems	
How they talk about it	How to help your problem	Help more people	

Appendix F

Question 1 and 2 responses at six-month follow-up

*case missing
$no response

CASE	QUESTION 1	QUESTION 2
001F	Helps a little	not much change
002F	I can now think properly before I act I know I can talk to someone about something I am worried about and get help from them before its too late	I have learnt to control my anger in a better way I know I can get help to change my feelings
003F	No	No
004M	The same	No change
005F	I've learnt to deal with it by talking about it more	A lot because I'm sort of more patient now
006*		
007F	I look at my problems more clearly	I feel more like I can solve them by myself
008F	I don't think it has. I cope with my problems the way I always have been coping	I don't know. I don't think it's changed. It's the way it always was.
009F	It hasn't	I don't have any problems
010M	$	$
011F	Did not change anything	Did not change anything
012M	hum dunno can't help ya!!!	Sorry can't help ya yet!!!!
013F	Nothing much	A bit better
014F	I don't think about it	It hasn't
015M	I learned to walk away	It hasn't
016F	More bravely Listen to people more	Better
017*		
018F	It might have changed the ways I cope with my problems but I'm not sure what	It's made me feel more confident
019M	$	$
020M	Stop fighting use your head Think more	Good
021M	The training has not changed the way I cope with my problems	It hasn't changed at all
022M	It hasn't changed a lot	The same as before
023M	In no ways It didn't do anything	It didn't
024F	It hasn't	It hasn't either
101M	The same way I've listened to people's problems a bit	Very calm
102F	It make me think before jumping	It gave me a new perspective

103*		
104F	I think more before I acted	Not so bad
106M	First we talk out what the problems and find a way to work out the problem	I feel happy and not sad
107F	$	tell to friend and family
108M	I got in trouble less	Good
109F	It hasn't changed the ways	Hasn't changed the feel
110F	$	$
112F	It changes my future	It makes me feel good
113*		
114*		
115M	Well some problems but not much	I feel the same
116M	No change	No change
117M	Thinking It didn't get me in trouble	$
118F	Now I talk to people about my problems or to people I have a problem with	It help me to realise it no good to keep everything inside, it good to talk to someone
119M	It has no	It has not
120F	It has help me by instead of fighting back or getting involved I learned to just walk away	I don't feel hurt or angry anymore when a problem occurs. I take it as it comes
121F	I've learnt to speak out with any problems I've had I've been more patient	$
122M	I started to talk instead of using violent	It hasn't changed the ways I feel about my problem
123M	It has helped to keep off and not to resort to violence I got into trouble less	Good
124F	$	$
125*		
126F	I've learnt to be more patient I've learnt to speak out about my problems	$
201F	I can solve my problems more easily	Didn't change
202F	It helps me solve my problems easier	I feel more relaxing
203M	It hasn't changed me	It hasn't changed me
204M	No	It hasn't changed me Too many's no good man what's up man
205F	No	No
206*		
207*		
208F	$	$
209*		
210F	It hasn't changed anything	It hasn't changed
211*		

212F	There's been no change	It hasn't
213M	Hasn't changed	Had no problems
214F	Makes me think about my actions	Yes has changed. It makes me think about my actions
215*		
216	More interested in learning Don't need to ask the teacher that much	Feel more confident in myself
217F	It has not change anything	It has not change anything
218M	Normal	Good
219*		
220F	No	No
221M	No change	No change at all
222*		
223*		
224F	It hasn't I haven't had any	It hasn't
301F	Nothing has changed	No change
302M	It has not changed as all	It hasn't that much
303*		
304M	No change	No change
305M	No change	No change
306*		
307F	No change	No change
308M	There is no change	I feel better
309M	It has not changed	No
310M	No change	No change
311*		
312F	The hasn't change at home	I have problem with brother bully me
313F	It made it better for me	Better
314F	The training has changed a little bit of how I solve my problems	The training has made me think twice about things
315F	No change	No change
316M	No	No
317M	No change I can think of	No change
318F	Well it has because now I know how to solve my problems	It has not
319M	No change	No change
320M	I think before I do something Getting better scores Solving problems	Not much at all
321M	No change at all	No change
322M	There is no change from me	No change
323M	Yeah I listen better	No
324*		
325M	No change	No change
401F	I can face my problems	Not scared of my problems
402M	avoid	I make me feel better
403*		

404M	I haven't had non	$
405F	None	I don't know
406F	It hasn't change	$
407F	I'm not sure I think I still chuck tantrums sometimes but I learnt to be more calmer	It makes me talk about my problems and I stop panicking too much
408M	It has not changed anything	Some of it has
409F	No it hasn't changed anything	It hasn't
410F	$	$
411F	I payed more attention to it	I feel that I could tell anyone about it
412M	Made me handle them in a more mature way	Has not changed much still the same
413F	None	None
414F	I don't solve my problems by fighting anymore	It has not change
415F	$	$
416*		
417M	It taught me to walk away	I feel safe
418F	It hasn't	It hasn't
419F	Be nice to everyone don't argue with them	Great, not bad
420F	It has helped me a little bit because not all problems can be solved that way	Yes and no because it depends on the problems I have
501M	It changed it in minor circumstances	Not that much
502F	I haven't had any problems since I had the training six months ago	As I said in No1 I haven's had any problems so I wouldn't know
503M	It changed a little bit	It did not change
504F	Help me work them out	$
505F	It helped me with talking my problem out Not to get angry and to listen to other people's side of the story	My problems are not that bad There are other people with worse problems than me
506F	To be honest it hasn't	Again if you want to know it hasn't
507F	Makes me think about my actions	The training has changed the way I feel about a lot of things one about what my actions are
508M	It hasn't changed anything	Nothing
509M	It is still the same	Same
510*		
511F	I think more than I talk after I've thought about it	Not really
512M	It hasn't	It didn't change anything
513F	Well it helped me to think better and help me solve problems	Well my problems have been resolved better and I haven't had so many problems since
514*		
515M	Nothing much just the same it helped	Practically the same as what it used

	a bit	to be like nothing much
516M	It has not changed nothing	It has not changed nothing
517*		
518*		
519F	They haven't changed	No problems
520M	It hasn't changed the way	It hasn't changed the way
521F	?	I haven't really
522M	None	The same
523F	Nothing	It hasn't
524M	Nothing has happened to me	$
525F	I stop to walk away from a fight	It made me look at who
526M	It has not	It has not
601F	It hasn't change	hasn't change
602F	$	Yes it has because its easier now for me to fix my problems by using the things we learned
603F	Nothing	Nothing
604*		
605F	I now talk more about my problems with friends	I can talk about them now
606*		
607F	It make me change the way I feel It make me change my problem It make me change the person	It makes me feel good and better It makes me know how to work it out It make me know them
608M	$	$
609*		
610F	Hasn't changed anything	Hasn't changed anything
611*		
612F	Cooperate with friends	$
613F	It made me think differently	$
614M	It hasn't really changed the way I cope with problems	It hasn't changed the way I feel about problems
615M	$	$
616*		
617F	$	It changed the way I feel about my problems
618F	No because I don't have any problems that serious	I don't know
619*		
620F	It hasn't really changed anything	It hasn't changed much really
621M	I sort it out with other people	I do not feel too deeply about them
622*		
623F	I didn't have any problems so didn't my friends but if they did I would listen and try to help	$
624*		
625*		
626M	$	$

627*		
628M	It didn't really help me!!!!	Not really
701M	None	Hasn't changed
702*		
703*		
704M	Nothing has changed because I don’t give it *****	Normal I have no problem
705M	It didn't change anything	The same as always
706*		
707M	I'm better at soling problems	They're easier to solve
708F	Nothing	Nothing
709F	$	$
710M	It hasn't changed nothing	It hasn't changed anything
711M	It didn't change anything	The same it always
712F	It easier to solve my problems	I don't really know
713F	I now talk to the person instead of getting really peed off - I talk the problem through	Not really, It just helps me to solve my problems easier
714M	None	Made me feel better
715*		
716M	No change	No change
717F	I talk to the person	Face up to them
718F	$	$
719M	$	$
720M	Not much because I don't get into such situation s to use the training	It hasn't
721*		
722F	Well it has because now I know how to solve my problems	Hasn't changed
723F	It hasn't really changed the way I cope with my problems	It hasn't really changed the way I feel about my problems
724F	It hasn't	It hasn't
725M	It has not changed the way I cope with my problems	no
726*		
727M	It changed because I know what to do	$
728*		
729M	The training hasn't changed nothing because I've got nothing matter with me	Normal, I got no problems. I was a waste of time

Appendix G

Interviews with ten participants at three-year follow-up

(Legend: I = Interviewer, P = Participant)

Interview participant 001 (13.5.2002)
(Male, 16 years 1 month)
I: Do you remember the sessions on social problem solving training?
P: Yeah, bits of it.
Can you tell me which bits of it you do remember?
P: Ah, something about bullying and I remember you and the teacher acting out scenarios and asking us what we would do.
I: Fantastic, do you remember who the teacher was?
P: Uhm, I remember she had short hair, that's all.
I: Ms [name]
P: Yeah that's it.
I: what were your general impressions of the training?
P: At first I thought it was quite silly, but when you started explaining it and that, I knew there was good meaning behind it.
I: OK, so can you give me an example of that good meaning?
P: Ah just how us kids what happens at playtime and at lunch and that.
I: Were there any benefits from the training you did three years ago?
P: Um oh, probably didn't change me much, because I wasn't much of a bully
I: What about if you were being bullied, would it have helped you then?
P: Yeah, because when I was a kid I probably thought like that, but now I know other people have taught me to just walk away from it, don't worry about it.
I: Were there any things you didn't like?
P: No, I can't remember anything I didn't like.
I: What topics do you think should be covered in a social problem solving skills training program?
P: Ooh, I don't know, that's hard.
I: Maybe if I just explained what the social problem solving training was for. Like for example, you said if you were being bullied, so what sort of things do you think? You mentioned one about walking away, were there any other things that would be helpful, remember that you were in year seven or eight.
P: Other things that would be helpful for bullying?
I: Yeah
P: Ask someone else, talk to someone else about it, a teacher, a student, even a friend.
It helps to have access to teachers to ask those sort of questions?
P: Yeah
I: How would you do that? Like would you just go to the teacher, would the teacher have to explain it to you?
P: Like me I I'm pretty open, I'd just go to the teacher, just talk to 'em
I: What about someone who was a bit closed off and didn't have the skills you have?
P: Alright, I'd probably tell them to go talk to a friend, and with their friend go talk to a teacher.
I: Are you different now because of the training?
P: I'd probably way I am sir, I've probably changed, probably more mature, probably wouldn't fight now.

I: Is that because you've just matured a bit or because the training gave you some [skills]?
P: Oh, I think the training sort of, It gave me, oh, I dunno sir. It's a bit hard because like, when I heard about that, went home talked to the parents about it. They said yeah that's right, you should walk away talk to other people about it,
I: Yeah
P: Sisters and brothers gave different opinions about it. When I heard about what my family thought about it , I thought about it and thought yeah that'd be right.
I: So at least maybe, at least it gave you somewhere to start discussing things with your family.
P: Yeah
I: Um, do you think you would act differently now compared to when in year seven or eight, even without the training?
P: Um, without the training I'd probably actually probably fight, without the training
I: Yeah
P: Yeah I'd probably have a fight. I wouldn't talk to anyone or walk away.
I: Yeah. So you actually think you're different because of it?
P: Yeah, because sort of the training was like a starting point, like I started to talk to other people about it, got different opinions, but some people thought nah, it's still better to fight. Parents thought it better to walk away, better to talk to people
I: Yeah.
I: What do you think of year seven and eight students who are at school now?
P: I actually reckon they are like me sir, I reckon kids now sort of like to fight. You see a lot of fights with young kids now.
I: Yeah
P: I reckon they all wanna fight, yeah
I: So, do you think the training might be helpful for them?
P: Yeah I reckon it would be helpful, yeah.
I: What about the kids who don't want to know about it, like the kids who still just want to fight? How would you do it differently?
P: Um, I dunno, you'd probably tell em, you'd get someone else like me to tell em how it helped me or how it helped others
I: Oh, so get some older students involved at the school?
P: Yeah
I: And what would you do if you had to train these younger students what would you do if you had to train them in solving their problems how would you do that, what would you do?
P: I'd probably tell them how I'm a better, different person how it probably helped me a few times. Um and what could happen if you did fight. What happens at school, you know and what could happen with other people if you keep going on and on.
I: Would you give them some examples of things you've been involved in?
P: Oh, I haven't been in anything big, but I had a, bumped into people and people bumped into me. But I've just said why did you do that? They're like, you know, you don't care and I don't care either, and you just walk away.
I: Yep
P: Some other kids try to pick a fight and keep going on and on.
I: Why would they listen to you, like if you were doing the training, why would they listen to another student instead of a teacher or trainer?
P: Because, they probably feel like, we're students, we're together, you know, we're sort of the same people. Teachers are sort of different.

I: So it's them and us?
P: Yeah
I: Why do you think it would be, well do you think it would be harder for younger people to understand that or?
P: I reckon it would be harder, I reckon if I was a kid now I probably wouldn't believe it.
I: Yep
P: I probably wouldn't believe an older kid, like me but, it's just something [?]
I: So, it wouldn't have worked for you then? If I had have got older students in?
P: I probably would of, it probably would have worked for me. It probably wouldn't have worked for other kids, some other kids are just why be bothered, 'cause they're bored or something else like that
I: That's the hard one. That's what I'm trying to get at. How do you get to those kids that?
P: Um, I wouldn't know. You couldn't, you shouldn't get their family in, you'd probably just get the older kids, get some teachers around, try to get their friends to understand and hopefully, yeah.
I: Do you think the training was a bit short?
P: Yeah, I thought it was a bit short.
I: 'Cause it was only over four sessions.
P: I was away for one or two of them
I: Do you remember what class you were in?
P: Yeah: [class]
I: [class] did you say?
P: Yeah
I: (looking at past attendance roll) You were there for all of them. You missed the first assessment, where I did the questionnaires, but you were there for all the training.
P: Oh, yeah
I: Any other things you'd like to say about?
P: Just that ah, I dunno, you've gotta help the young kids sort of understand. That's just about it.
I: Maybe I could just go back over a couple of things. You said it would be helpful to get older kids in. What about the acting? You've remembered that Ms [name] and I did some acting out the front of the class. Do you think that would be a good way to train the kids?
P: Yeah, I liked that, I reckon that was good
I: Yep
P: Yeah, I liked that
I: So would you get students to do that, other students to do that, maybe?
P: Yeah, that's a good idea, get other students to do that.
I: Yep, and then they learn by watching
P: Yeah
I: Anything else?
P: No. Just that, you've gotta get through to the young kids, because, I dunno, because some of them, they just like to fight.
I: Yeah.
P: Especially at this school, you know you see kids they like a fight and that.
I: Yeah. Do you think there's more kids like to fight now than say when you were that age?
P: I reckon there is. It's got worse.

I: Do you know why?
P: I dunno sir, maybe it's just the area around here or, I dunno.
I: You think it's a bit tougher?
P: Yeah
I: Alright, thanks very much
P: OK

Interview participant 002 (13.5.2002)
(Female, 15 years 3 months)

I: Do you remember the social problem solving skills training you did three years ago?
P: I doubt it.
I: You don't? Do you remember any of the things we did?
P: Uhm, I think three pages of questionnaires and asked us what we feel, if we feel depressed
I: Yeah
P: Yep
I: Was that the boring part?
P: It was alright, I don't mind.
I: OK. Do you remember the in-class stuff we did, the classes we did?
P: Yeah, I think it was that.
I: Yep, alright. What were your general impressions of the training? What did you think of it?
P: I don't really mind because I'm not in that situation, if I feel really bad and everything.
I: OK. Are you saying it wasn't helpful for you personally?
P: For me not really, because I haven't been in any of those problems, like I've been.
I: OK. Have you been in any difficult situations where you might have been able to use some of that stuff?
P: I guess so, uhm, family problems
I: Yep. So were there any benefits from the training, that you did three years ago and what were they?
P: Uhm, like to sort things out, never get angry and yelling [laugh].
I: Yeah, so you remember those bits of the training then?
P: Yeah, pretty much.
I: Were there any things you didn't like?
P: Uhm, I don't mind
I: No? You didn't mind the training at all?
P: No.
I: OK. What topics do you think should be covered in a social problem solving skills training program?
P: [When] someone's abusing you.
I: Yeah. So would I give examples of that?
P: I guess so.
I: And how to deal with it?
P: Probably, I dunno, its up to the person and if it gets further you might as well tell someone that will do something about it.
I: OK. Like? Teacher [smile]
P: [laugh]
I: Not police [laugh]
P: [laugh] yeah police
I: OK police or teacher [laugh]. What sorts of things prevent years seven and eights from learning these skills?
P: Ah, because when you're in year seven you think you're big.
I: Yeah
P: You think you're all that, and everything.
I: Yeah.

P: You know you try so hard [laugh] and everything, and then like, you think you know a lot of people and all that, start trouble and everything.
I: Yeah
P: That's why it's always like that. But when you get older you get out of the habit, I guess.
I: Yeah. OK. So, what you're saying is, when you said you think you're big, what does that mean?
P: Yeah, everyone thought that, oh everyone thought oh I'm in high school now, I can do whatever I want.
I: Yeah
P: Yeah
I: OK so you feel a bit brave and a bit like you know everything?
P: Yeah Yeah
I: OK
P: But I guess not.
I: OK so are you different now because of the training?
P: Yeah, uhm kind of.
I: Yeah, How?
P: Because when I was in year seven, I was really bad [laugh]
I: Yeah?
P: Yeah, I used to always like, I used to always be in a fight, but now, no.
I: Is that a bit to do with maturity or something?
P: Yeah, I reckon.
I: Alright. Do you think you would act differently now, compared to when you were in year seven, even without the training?
P: Yeah I guess so, because, yeah, you grow out of it.
I: You grow out of it, yeah.
P: And you realise what's right and wrong.
I: Yeah
P: But some people, I guess not.
I: So is growing out of it part of what's learning what's right and wrong, is it?
P: I guess so.
I: How do you learn that?
P: Because you just do [laugh], your family tells you, your friends, you know if you're doing it really bad and they tell you about it.
I: Yeah.
P: Yeah and you should change it.
I: Yeah. OK. Why don't you do that in year seven?
P: I don't know, because other people did it too and I wasn't really listening to my parents, at the time.
I: OK. So you do listen to other people and your parents now, is that what you're saying?
Yeah.
I: Does that come with a bit more maturity?
P: Yeah, and it's important to listen to others so you know what other people think of you.
I: Yeah.
P: And you can change it
I: OK. What do you think of year seven and eight students who are at the school now?
P: I look back, think how sad [laugh].

I: How sad [laugh]. Can you explain that a bit?
P: [laugh] Because like some of the smirks and all that. They're all so young. I never did those stuff when I was young but still a lot of them just get on and everything. All this stupid stuff.
I: Yeah
P: So annoying.
I: Yeah. What do you mean, get on?
P: [laugh] With guys, for fun
I: Oh, OK. Yeah. Do you think they're worse now.
P: Yeah
I: Yeah?
P: Worser than before, I reckon.
I: Yeah. In what ways?
P: They're more rebel, outgoing.
I: Yeah. And you weren't like that?
P: Nah, I still had limits.
I: What about the other kids who were in year seven and eight with you, were they a bit like that?
P: They weren't that bad.
I: So you think kids now are worse than they were three years ago?
P: I guess so. Well what I've seen so far.
I: Do you have any reasons for that?
P: Uhm, I dunno. Probably, because it's like the new thing
I: The new thing?
P: I dunno, It's just like the future
I: OK. The future. So what would you do if you had to train younger students on how to solve their problems? What would you do?
P: I reckon I'd give an example about myself and tell them what happened about it and tell them, like, it's not really worth doing.
I: OK
P: And yeah they should really change their act
I: Why would they listen to you?
P: Because it already happened to me.
I: OK. But just 'cause it happened to you why.
P: No. No I dunno, I guess because other people have had it happen to them too.

I: Yeah. But why would they listen to a student say, I mean teachers..?
P: Because They're kind of in our age and teachers they're already, grown-up and everything and its hard to listen to grown-ups rather than students.
I: They'd rather listen to students rather than teachers?
P: Yeah
I: Have you tried this with any teachers in year seven and eight?
P: No I don't really teach them
I: Yeah. So do you think it might be helpful if I was to run this training again I get some years ten and eleven students maybe to come back and talk.
P: I dunno, I guess so
I: Yeah
P Pretty good try
I: It would be worth a try?
P: Yeah

I: And you think they would be more willing to listen to other students instead of teachers?
P: Yeah
I: Were there any god bits you liked about the training really that were helpful?
P: Not really.
I: Say you did come back in and talk to the students, what sort of things would you tell them?
P: If they're having problems, and like if its in the family or friends or whatever
I: Yeah
P: Even if it were work
I: Alright. Is there any other things you would like to talk about?
P: No I dunno. Probably when I get there [class] I'll remember. I dunno right now.
I: Yeah, OK, alright. So it wasn't too embarrassing to be taped?
P: No.
I: OK. Good. Thanks very much.
P: Alright.
I: Fantastic