

Parents and Adolescent Depression:
Evaluation of a Model and an Intervention
Program for Parents.

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Abstract

Adolescent depression affects up to 24% of adolescents before adulthood and is linked with serious outcomes. However as only 25% of affected adolescents in Australia receive appropriate assistance the prevention of adolescent depression has a high priority. Risk and protective factors exist in the individual, family, school and society, but the connection between these factors is often uncertain. Prevention at the individual level has been found to be successful but despite the importance of family factors there is little research into prevention at the family level. Because of the difficulty in engaging parents in preventive interventions it has been suggested that convenient, flexible delivery interventions may achieve better penetration.

This study evaluates in two stages the Resourceful Adolescent Parent Program (RAP-P), a positively-focused family-based intervention for parents which has been developed to fill the need for a universal preventive intervention for adolescent depression. Firstly the study evaluates the theoretical basis for RAP-P by developing and testing models linking the family-based psychosocial risk and protective factors for teenage depression that are addressed by RAP-P, and the family systems factors underpinning these. No previous models linking these variables could be found in the literature. The study then evaluates two formats of RAP-P, one of three facilitated workshops attended by parents; the other a videotaped flexible delivery format for use at home, developed to overcome parents' poor involvement in preventive programs.

Participants were 242 adolescents in Year 8 and 361 of their parents, recruited from eleven schools in Brisbane, Australia. Schools were randomly allocated to one of three conditions: workshop intervention, video intervention and control. Adolescents and

parents completed measures at pre-test, post-test and 15 month follow-up.

Based on the current adolescent depression literature and Bowen Theory, four models were developed, tested using structural equation modeling and confirmed after minor revisions. The first model examined links between adolescents' depression and the family based risk factors of parent-adolescent conflict and adolescents' negative perceptions of their parents' interactions with them, and the protective factor of parental attachment. Other models, based on Bowen Theory, examined the trans-generational transmission of differentiation of self from the adolescents' grandparents (generation 1) to the adolescents' parents (generation 2) and the effects of parents' differentiation and anxiety on the third generation adolescents' perceptions of their mothers, attachment and depression.

The second part of the study examined the implementation and efficacy of the two formats of RAP-P. Predictions that the convenience of the flexible delivery format of RAP-P would result in better recruitment and lower attrition than for the workshop format were not supported, with the flexible delivery format encountering poorer recruitment and higher attrition. Predictions that parents' evaluations of both formats would be equally positive were not supported; the flexible delivery format was consistently evaluated less positively than the workshop format. However parents perceived both formats to be of similar benefit to them.

Parents in the intervention conditions were predicted to exhibit better differentiation and lower anxiety than those in the control condition, resulting in their adolescents experiencing less intense conflict over fewer issues and appraising their parents more positively, and consequently exhibiting better parental attachment and lower

levels of depression. The level of improvement was predicted to be related to the level of parental engagement in the interventions. However parents and adolescents in the intervention conditions did not show any positive effects of the interventions at post-test or follow-up. Parents who were engaged in the interventions and their adolescents similarly did not show any measurable benefits from the intervention.

Thus this study has found support through modeling for the theoretical basis for RAP-P. Parents' feedback strongly supported the overall thrust and ethos of RAP-P and particularly of the workshop format, indicating that the intervention targeted the right factors in the right way. However the interventions did not achieve measurable improvements for parents or adolescents within the time frame of the study. With models supporting the appropriateness of the measured variables it appears that the potency of the intervention was insufficient. Finally the study found that the use of a flexible delivery videotape intervention did not achieve its goal of increased participation and was still very costly of resources.

This work has not been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Signed.....

David R Ham

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Chapter 1

Introduction and Overview

Adolescent depression affects about one in twenty adolescents at any time and one in four adolescents prior to adulthood. It is linked with many serious outcomes in adolescence, including self-harm and suicide, and in adult life. Unfortunately only about one in four adolescents affected by depression receives appropriate professional assistance. Consequently there is a need for widely-disseminated interventions that will prevent the development of depression in adolescents.

Some of the most potent psychosocial risk and protective factors for adolescent depression exist in the family. However there has been little research into how these family-based risk and protective factors interact or how they are related to depression, or into preventive interventions that address these factors. One limiting factor is the difficulty of recruiting parents to take part in preventive interventions. Although there is little evidence for methods to improve recruitment of parents, the use of flexible delivery interventions in which parents can participate at home at their convenience has been proposed as one way of improving parental involvement.

To address some of these deficiencies this study evaluates the Resourceful Adolescent Program for Parents (RAP-P; Shochet, Holland, Osgarby & Whitefield, 1998), a family-based preventive intervention for adolescent depression which is provided in two formats. One of these formats involves three workshops attended by parents. The other is a flexible delivery format using a videotaped presentation, developed to be used by parents at home at their convenience with a view to increasing parental participation. The study is in two parts. Firstly the study

evaluates the theoretical basis of RAP-P by developing and evaluating models linking the risk and protective factors for adolescent depression that are addressed by RAP-P, and the parental factors that underlie these risk and protective factors. The study then evaluates and compares the workshop and flexible delivery formats of RAP-P. To introduce the study the prevalence and effects of adolescent depression, and the need for prevention of adolescent depression, will be discussed, after which the outline of the dissertation will be provided.

Prevalence of Adolescent Depression

Depression is a major health problem throughout the world. In a study jointly commissioned by the Harvard School of Public Health, the World Health Organization and the World Bank, Murray and Lopez (1996a) estimated that in 1990 depression was the second greatest contributor to the burden of disease, measured by cost of disability and premature death, in developed market economies, and the fourth greatest contributor in the world. Murray and Lopez (1996b) predict that by the year 2010 depression will be the second greatest contributor to the burden of disease world-wide, following only ischaemic heart disease.

Depression is a problem for both adults and adolescents. The life-time prevalence of adolescent depression in the western world is calculated at between 15% and 20%, with point prevalence variously estimated at between 0.4% and 8.3% (Birmaher et al., 1996). The child and adolescent component of the recent Australian National Survey of Mental Health and Well-being (Sawyer et al., 2000) found similar prevalence in Australian adolescents. In this survey of 4500 children and adolescents 4.8% of males and 4.9% of females aged 13 to 17 years met criteria for diagnoses of Major Depressive Disorder or Dysthymic Disorder based on structured clinical interviews with parents, while 13.6% of males and 10.7% of females aged

13 to 17 years scored in the clinical range on the *Internalising Problems* scale of the parent-report form of the Child Behavior Check List (CBCL; Achenbach, 1991). Adolescent self-reports identified 6.7% of males and 6.8% of females aged 13 to 17 years as scoring in the clinical range for anxious or depressed problems (Sawyer et al., 2000). Thus depending on the source of information and the method of diagnosis, up to 7% of Australian adolescents aged from 13 to 17 years can be identified as suffering from depression or related problems at any time. In addition to these diagnosable occurrences of depressive disorders, one study found that up to 12% of Australian adolescents feel depressed most of the time (Commonwealth Department of Health and Aged Care, DHAC, 1998a) while in another study 43% of adolescents reported feeling sad for at least two weeks in the preceding year (National Health and Medical Research Council, NHMRC, 1996). The NHMRC (1997) estimates that 24% of Australian adolescents will have suffered an episode of major depression before adulthood.

One disturbing finding of the national mental health survey is that only a small proportion of children and adolescents with mental health problems receive professional help. In the National Mental Health survey (Sawyer et al., 2000) only 25% of children and adolescents who scored in the clinical range of the CBCL for mental health problems received any professional help and the majority of assistance to adolescents was provided by school counselling services (16%) or family doctors (11%). Of the children and adolescents who were diagnosed with mental health disorders only 29% received professional assistance. Many barriers to receiving help were cited by parents whose children and adolescents were identified as having mental health problems and were diagnosed with disorders, and who recognised the need for assistance: 51% stated that help was too expensive, 48% didn't know where

to get help, 45 % believed they could handle the problem themselves, while 42% had asked for help but didn't receive it.

Consequences of adolescent depression

Numerous studies have identified many negative consequences of adolescent depression. Compas, Connor and Wadsworth (1997) in a review of adolescent depression identify social and academic impairment as very significant consequences of depression. Birmaher et al. (1996) provide evidence that these problems are not specific to depression but may be related to a wider range of adolescent psychopathology. They also draw attention to the possibility that these problems may be both precursors to depression and outcomes of depression; poor social skills and educational failure may lead to poor self-esteem, itself a risk factor for depression; thus a recurring cycle of depressive symptoms may develop (Birmaher et al., 1996; Compas, Connor & Wadsworth, 1997). Adolescent depression has been associated with social deficits, poor academic performance, poor physical health and substance abuse, and is a strong predictor of depression in adult life (Birmaher et al., 1996; Parker & Roy, 2001). In later life depressed adolescents are less likely to complete tertiary education than those who were not depressed during adolescence (Lewinsohn & Clarke, 1999). As young adults they are also more likely to have lower levels of global functioning, to have been unemployed, to have poorer quality of family relationships, poorer physical health, smaller social networks and lower life satisfaction, and to encounter both minor hassles and major adversity, than those who did not experience adolescent depression (Lewinsohn, Rohde, Seeley, Klein & Gotlib, 2003).

Adolescent depression is also linked with increased prevalence of self-harming and suicidal behaviour (Birmaher et al., 1996; DHAC, 2000) with strong

links to the development of suicidal thoughts that may lead to suicide (Martin, Rozanes, Pearce & Allison, 1995). One Australian study found that up to half of all adolescents who died by suicide in Queensland were depressed (DHAC, 1998a). There is growing concern about the prevalence of suicide among adolescents, with suicide now being a frequent cause of death among adolescents in Australia (Martin & Waite, 1994).

The Case for Prevention of Adolescent Depression

It is clear that depression will affect a significant percentage of Australian adolescents and will have serious consequences both in adolescence and later in adulthood. However for many different reasons most of the adolescents who suffer depression will not receive appropriate professional help. A case exists therefore for a focus on the prevention of adolescent depression alongside the thrust to develop effective treatments. Depression was made one of the priority mental health areas under the Second National Mental Health Plan (Australian Health Ministers [AHM], 1998; DHAC, 1998b). The current Mental Health Promotion and Prevention National Action Plan (Commonwealth Department of Health and Aged Care, DHAC, 1999) strongly supports the development, evaluation and implementation of evidence-based psychosocial preventive interventions for mental health and strategies for mental health promotion.

Part of the development of preventive interventions involves the identification of the relevant risk and protective factors and strategies to eliminate or reduce the effects of risk factors and increase the potency of protective factors. In the case of adolescent depression, risk factors have been identified at the individual level, for example negative attribution style, use of poor coping strategies and low self-esteem (Lewinsohn et al., 1994); at the family level, for example parent-

adolescent conflict, parental over-control and poor attachment (e.g. Kaslow, Deering & Racusin, 1994); and at the community level, for example low socio-economic status and membership of a disadvantaged ethnic minority (NHMRC, 1996).

Preventive interventions can be developed and implemented to target risk and protective factors at all these levels.

In the development of preventive interventions it is important to determine the strategy to be used and the target group for the intervention. Prevention can be targeted at selected individuals, for example those at heightened risk for the disorder, or at entire populations. Advantages of a universal or population approach include the potential to make small positive changes across many people, the avoidance of stigmatisation of selected at-risk individuals, and the reach of such interventions to people who would not qualify for selective interventions; the majority of cases do not come from the at-risk groups and would not be reached by selective interventions (Offord, 2000; Rose, 1992). The relative advantages and disadvantages of the different approaches will be examined in detail in later chapters.

Outline of this Dissertation

This dissertation describes firstly the development and evaluation of models describing the relationships between family-based risk and protection factors for adolescent depression, and secondly a controlled trial of one universal preventive parent intervention aimed to improve the wellbeing of adolescents, the Resourceful Adolescent Parent Program (RAP-P). RAP-P was developed by Shochet et al. (1998) to help parents of adolescents to develop and maintain an optimal family environment for the healthy development of their adolescents. The program focuses on strengthening those family-based protective factors or aspects of family life that

are known to foster adolescent well-being and protect against the development of adolescent depression, such as close attachment to parents, and reducing those risk factors of frequent and heated conflict between parents and adolescents that are known to increase the risk of depression and even suicide in adolescents. The trial was conducted with the families of Year 8 students with two forms of the RAP-P program and delayed-intervention controls.

However before describing this trial the theoretical basis for RAP-P will be evaluated by reviewing in Chapter 2 the empirical evidence related to the family-based risk and protective factors for adolescent depression that are addressed by RAP-P. In particular attention will be directed firstly towards the influence of parent-adolescent conflict and parental attachment on adolescent well-being, then towards Bowen Family Systems Theory (Bowen, 1976; 1978; Kerr & Bowen, 1988). Bowen (1976, 1978) proposes the central concept of differentiation of self which describes the processes underlying family conflict. Finally attention will be directed to the effects of parental differentiation on adolescent attachment and mental well-being. A series of models will be proposed describing (a) the interaction of the adolescent factors of conflict, perception of parents and attachment, (b) Bowen Theory and the multigenerational effects of differentiation of self, and (c) the effects of parental differentiation on adolescent well-being. In Chapter 3 the methodology for the evaluation of these models will be discussed, and in Chapter 4 the results of evaluations of the models will be presented. In Chapter 5 these findings will be discussed.

In Chapter 6 the current state of prevention research will be investigated with close examination of the different strategies for prevention. The rationale for the development of RAP-P as a universal preventive intervention, and the content and

implementation of RAP-P, will also be discussed, and hypotheses for examination of the effectiveness of RAP-P will be developed. In Chapter 7 the methodology for the recruitment of participants, the administration of the interventions and the collection of data will be discussed. In Chapter 8 the data concerning recruitment and engagement of participants in the trial project and the efficacy of the two forms of the intervention will be analysed and the results presented. In Chapter 9 these findings will be discussed and finally in Chapter 10 the conclusions of the study will be summarised.

Chapter 2

Towards a Family-based Model for Adolescent Depression

In this chapter the family based risk factors for adolescent depression addressed by the Resourceful Adolescent Parent Program are discussed, with attention to parent-adolescent conflict and attachment, and to Bowen Family Systems Theory (Bowen, 1976; 1978; Kerr & Bowen, 1988) which provides much of the theoretical basis for RAP-P (Shochet et al., 1998). Models for the processes by which the risk factors influence adolescent depression and by which Bowen theory explains the development of some of those risk factors will be developed for later evaluation.

Risk and Protective Factors for Adolescent Depression

Risk factors for any disorder are those factors that are the precursors of the disorder or heighten the probability of developing the disorder, while protective factors reduce the response to the risk factors or improve resistance to the disorder (Coie et al., 1993; Durlack, 1997; Munoz, Mrazek & Haggerty, 1996; Tolan, Quintana, & Gorman-Smith, 1998). Risk and protective factors can occur on a number of levels; many potent risk factors operate at the individual level while others may occur in the environment, for example in the family, the school or the community (Durlack, 1997).

Birmaher et al. (1996) and Roberts (1999) have reviewed the state of research into adolescent depression and identify many risk factors at all levels. Many of these risk factors are not proven to be specific to depression but may be general risk factors for adolescent psychopathology. Individual risk factors for adolescent depression include genetic predisposition to depression, which may be related to increased sensitivity to the effects of adversity. Some links have been established

between adverse life events and adolescent depression although not all adolescents exposed to negative life events develop depression. Negative cognitive styles, poor coping strategies, low self-esteem and external locus of control are also associated with adolescent depression (Lewinsohn et al., 1994; Roberts, 1999), possibly both as precursors and sequelae of depressive episodes (Birmaher et al., 1996).

At the environmental level, some of the strongest risk factors for depression operate within the community and include poverty and membership in disadvantaged minority ethnic groups (NHMRC, 1996). There are also potent risk factors for adolescent depression at the family level. One of these, having a depressed or mentally ill parent, may be partly genetic but is also to some extent related to the family environment arising from the presence of depressed parents (Birmaher et al., 1996). Other family-based risk factors include heated and unresolved parent-adolescent conflict and poor attachment to parents, often related to lack of appropriate parental support and parental over-control (Kaslow et al., 1994; Roberts, 1999). The individual and community-based risk factors are outside the scope of this paper and will not be further investigated. However the family-based risk factors of parent-adolescent conflict, often fuelled by parental over-control or lack of support for independence, and poor attachment, will be examined in detail.

Parent-adolescent Conflict

There is strong evidence linking conflict between parents and adolescents with both depression and attempted or completed adolescent suicide. Parent-adolescent hostility has been associated with increased risk of suicide after controlling for parental depression and substance abuse, with lifetime history of parent-child discord being a stronger predictor of completed suicide than discord over the last

year (Brent & Moritz, 1996). Parents of suicide completers have reported higher parent-adolescent conflict over the past year than controls although this was not significantly higher after controlling for adolescent depression, conduct disorder and substance abuse (Wagner, 1997). Parent-adolescent conflicts were reported immediately prior to about 20% of completed suicide attempts in one study and were even more likely before non-fatal attempts while in other studies unresolved conflict immediately preceded up to 70% of suicide attempts (Wagner, 1997; see also Laursen & Collins, 1994).

There is also strong evidence linking parent-adolescent conflict with the development of adolescent depression (Kaslow et al., 1994). Parent-adolescent conflict has been found to be strongly related to self-report measures of adolescent depression in a non-clinical sample, and father-adolescent conflict may be more strongly related than mother-adolescent conflict to adolescent depression (Forehand et al., 1988). Characteristic forms of interaction including critical, controlling parental behaviour and maladaptive conflict resolution strategies have been found to occur in the families of depressed children (Kaslow et al., 1994). Research reviewed below indicates that conflict occurs most frequently in early adolescence, with differences between the adolescents' expectations of increasing autonomy and the levels of autonomy granted by parents being the primary cause of conflict. This research indicates that interventions intended to reduce conflict need to occur at or before early adolescence to have the greatest effect.

Sources of conflict. A considerable body of research has investigated the causes of parent-adolescent conflict to assist our understanding of the place of conflict in the normative course of adolescent development. One of the major sources of parent-adolescent conflict arises from the disparity between adolescents'

expectations of increasing autonomy and the degree of autonomy that parents are prepared to give, as parents and adolescents struggle to find the appropriate levels of developing autonomy (Collins, Laursen, Mortensen, Luebker & Ferreira, 1997). This disparity is usually greatest in early adolescence and involves expectations concerning the passage of responsibility for decisions from parents to adolescents and expectations of when it is appropriate for adolescents to engage in adult behaviours (Collins et al., 1997). Parents who quite appropriately made decisions for pre-adolescent children concerning for example choice of clothing and personal appearance, choice of friends, curfews and choice of activities, find it difficult to see these issues as increasingly becoming matters of personal choice for the adolescents and to progressively release their hold on these issues as their children develop through adolescence (Smetana, 1988, 1995). As parents and adolescents experience these differences in expectations and resolve them the expectations gradually converge through an repetitive process of violations and realignments of expectations (Collins, 1995).

Gehring, Wentzel, Feldman and Munson (1990) found that the issues underlying parent-adolescent conflict changed over time with issues of autonomy increasing from 3% to 23% of all conflicts between early and late adolescence while conflicts related to discipline decreased from early to mid to late adolescence and those related to use of time decreased after mid adolescence. The relationship between parent-adolescent conflict and discrepancies between adolescents' and parents' expectations of adolescent autonomy is strongest for parent-daughter conflict in early adolescence and for father-adolescent conflict in mid-adolescence, but not significant in late adolescence (Dekovic, Noom & Meus, 1997).

Although most studies of the causes of parent-adolescent conflict have

involved white American families, similar disparities between parental and adolescent expectations have been found with Dutch (Dekovic et al., 1997) and Italian (Bosma et al., 1996) adolescents and with recent migrants to the United States with Mexican, Chinese, Filipino and European backgrounds (Fuligni, 1998). Adolescents in these migrant families reported similar amounts of conflict and cohesion with their parents despite differing cultural beliefs and expectations consistent with greater parental authority and less and later autonomy than accepted by most American adolescents. Adolescents who immigrated to the US with their parents displayed greater reluctance to disagree with their parents and expected autonomy later than those of the second or third generation in the US. Like their western counterparts older adolescents were less likely to accept parental jurisdiction than younger adolescents. The values of the society in which they now live appear to have over-ridden the cultural values of their ethnic origins (Fuligni, 1998).

Bosma et al. (1996) studying Italian adolescents found age related differences in the percentages of 13 year old and 15 year old adolescents who reported that they themselves made decisions on such issues such as sex, smoking, alcohol, bedtime, language and manners, with older adolescents making these decisions more frequently. More 15 year olds than 13 year olds perceived many of these issues to be the domain of adolescents rather than parents. Examination of patterns of responses showed that autonomy and compromise supported by adolescent peer group norms increased with age while acceptance of parental authority decreased with age (Bosma et al., 1996).

Smetana (1988, 1995, 1996) develops a domain model of social-cognitive development and a social-cognitive approach to the realignment of parent-child

relationships in adolescence. Smetana proposes that conflicts occur over issues in conceptually and developmentally distinct cognitive domains defined as the moral domain, constrained by justice and pertaining to issues including the welfare of others, trust and the equitable distribution of resources; the social-conventional domain which is related to conventions and the organisation of society, and the psychological domain. Within the psychological domain are three components: the psychological, relating to knowledge of self, identity, personality and attributions about self and others; the personal, relating to issues that affect only the self and are independent of social regulation, including the choice of friends, privacy, physical appearance and recreational activities; and the prudential, involving issues such as the care of one's body, health and safety. Moral concepts are seen to be obligatory, impersonal, non-negotiable and universally applicable while social-conventional concepts are consensually determined shared behaviours that are relative to the social context. Some issues include more than one domain, for example the personal and conventional domains. Adolescents and parents may have differing goals over an issue for example parents maintaining social conventions and adolescents holding personal jurisdiction.

Smetana (1988) investigated parents' and adolescents' reasoning about family conflicts and found that adolescents considered that parents should retain authority over unambiguously moral or conventional issues but that personal and multifaceted issues should be under their own jurisdiction. Parents and particularly mothers considered that personal and multifaceted issues should remain under their authority more than did adolescents.

In discussion of actual conflicts Smetana (1988) found that although adolescents rejected their parents' conventional perspectives they demonstrated their

understanding of these perspectives when asked to take their parents' perspectives by using conventional arguments; parents similarly rejected but were able to articulate their adolescents' personal arguments on issues they saw as conventional. Smetana (1988) found significant differences in reasoning between parents and adolescents in actual conflicts. With respect to performance of chores parents used predominantly conventional reasoning (75%) while adolescents used primarily personal (38%) and sometimes moral reasoning (16%) based on fairness. Over 80% of parents' justifications in conflicts over personal appearance were conventional while adolescents' justifications were predominantly personal (51%) and increasingly so from early to late adolescent, but often conventional (35%) with reference to peers' standards rather than parents' standards. Many adolescents (68%) saw parents' regulation of their activities as violating their personal jurisdiction. Parents' justifications in conflicts over bed times and curfews, finance, health and hygiene were predominantly prudential while adolescents' justifications were predominantly related to personal choice. Smetana notes that although adolescents' reasoning is increasingly personal through adolescence this is not paralleled by an increase in the personal reasoning of their parents, indicating that parents find it difficult to come to terms with the increasing autonomy of their adolescent children. Parents' continuing appeals to conventional reasoning may become increasingly maladaptive as their children progress through adolescence.

Research thus indicates that the major cause of parent-adolescent conflict is the discrepancy between adolescents' expectations of increasing autonomy and the levels of autonomy granted by parents, as parents attempt to retain control over many issues considered by adolescents to be their own responsibility. Family interventions to reduce conflict would need to be provided before or during early

adolescence to prepare the family for this transition of responsibility from parents to adolescents.

The developmental trajectory of parent-adolescent conflict. Studies of changes in the frequency and intensity of parent-adolescent conflict as adolescence progresses report inconsistent results. For example Smetana (1988) reported that frequency of conflict was high in early adolescence and did not decline significantly until late adolescence. Gehring et al. (1990) found that early adolescents (mean age 11.5 years) reported fewer conflicts than mid adolescents (mean age 16.3 years) or late adolescents (mean age 18.7 years) with mid-adolescents reporting the greatest frequency of parent-adolescent conflict. Laursen and Collins (1994) in their review found little evidence that age or pubertal maturity influenced the frequency or intensity of parent-adolescent conflict, although increases in conflict have been associated in some studies with early maturity in daughters and late maturity in sons and early maturity in sons has been associated with increased negative affect in their conflict with parents. However in meta-analysis of 37 studies Laursen, Coy and Collins (1998) found that conflict frequency was significantly greater in early adolescence than in mid or late adolescence and declined from early adolescent levels through adolescence.

Laursen et al. (1998) found that parent-adolescent conflict frequency and total conflict (combining conflict frequency and affect) were greatest in early adolescence and moderately declined with age across the period of adolescence. The affective intensity of conflict increased significantly from early adolescence to mid-adolescence. The only effect linked to pubertal maturation was a small increase in negative affect with advancing maturity. Laursen et al. consider that the evidence does not contradict suggestions that conflict peaks at the transition from childhood

to adolescence then declines over adolescence and into adulthood; one factor may be the reduction in parent-adolescent interactions that accompanies the adolescents' development of autonomy and their increased association with peers. Laursen et al. also consider that the small size of the effects found may indicate that changes in conflict through adolescence may be less robust and less distinctive facets of adolescent development than has been believed.

Flannery, Montemayor, Eberly and Torquati (1993), in one of the studies included in the Laursen et al. (1998) meta-analysis, found not only increasing negative affect but also a reduction in positive affect with increasing pubertal maturity in most parent-adolescent dyads. With the increases in negative affect, both adolescents' and parents' negative perceptions of relationship conflict increased with the increasing physical maturity of the adolescents, with the exception of mothers' perceptions of mother-daughter dyads. Reduction in fathers' expressions of positive affect had a unique effect in father-son dyads, being significantly related to sons' perceptions of conflict, but this relationship between positive affect and perceptions of conflict was not evident in other dyads. In all dyads parents' affective expression in parent-adolescent interactions was significantly related to adolescents' perceptions of conflict but adolescent affective expression was not related to parents' perceptions of conflict. It appears that parental expressions of emotion towards their adolescents are more salient to the adolescents than adolescent expressions of emotion are to the parents, with parents possibly expecting negative emotional messages from their adolescents and not placing great importance on these. Adolescents however may still expect positive emotional messages from their parents and respond to either positive encouragement or negative messages that they encounter (Flannery et al., 1993).

The trajectory of parent-adolescent conflict thus peaks in early adolescence when the adolescents and their parents are trying to establish the path of increasing adolescent autonomy. In general negative feelings between parents and adolescents increase and positive feelings decrease as adolescence progresses. The level of negative affect expressed by parents influences adolescents' perceptions of conflict. Preventive interventions to reduce conflict would therefore need to be provided before or early in adolescence to have the greatest effect. However the trajectory is not the same in all families but is influenced by the family environment. In families where the children enter adolescence in a warm supportive environment and levels of conflict are low, conflict levels remain low during middle and late adolescence and relationships with parents may improve. In families characterised by hostile conflict in early adolescence, parent-adolescent relationships deteriorate and conflict levels tend to increase as adolescence progresses (Reuter & Conger, 1995). The family environment is also one of the factors that influence the effect of conflict on adolescents' wellbeing. These factors will now be investigated.

Factors influencing the effects of conflict. Although it is widely accepted that parent-adolescent conflict is a normal part of adolescent development (Collins & Laursen, 1992), conflict does not necessarily have damaging results for either the adolescents or their parents. Where conflict happens in a family environment where there is trust and closeness it can foster the adolescent's development and the growth of further trust and confidence as the parents and their children present their points of view and work out solutions to their differences. However when conflict occurs in a family where there is hostility between parents and their adolescents, it may become very intense and result in the adolescents feeling unloved and avoiding interaction with their parents (Cooper, 1988). Conflicts that are frequent and

account for a significant proportion of the interaction within a dyad, that are very emotionally intense and that are not resolved to anybody's satisfaction are considered most likely to have the damaging consequences (Furman & McQuaid, 1992). These damaging conflicts are unlikely to arise where there is opportunity to discuss the issues and there is respect for the opinions of the others involved (Smetana, 1995, 1996).

Smetana (1995, 1996) has provided a good overview of the relationships between family environment, parenting approaches and parent-adolescent conflict. Smetana (1996) reviewed three studies of conflict between adolescents and parents in normal or non-clinical families. Smetana categorized families by cluster analysis based on conflict frequency and severity. Families with few conflicts of moderate intensity are categorised as placid families; those with very frequent but low intensity conflict are categorised as squabbling families; and those with frequent (although less frequent than in squabbling families) and on average very intense conflict, with high variability in intensity, are classified as tumultuous families. Tumultuous families generated more conflicts for discussion than other families. Smetana found relationships between membership in these categories and parental style, with tumultuous families having more authoritarian styles and placid or squabbling families more authoritative styles. Adolescents of placid families rated parents as warmer and less dominant or controlling than those from tumultuous families. Parents of tumultuous families intruded more than was developmentally appropriate into the personal domains of the adolescents and had more rules about personal and multifaceted issues than parents of other families. Fathers in tumultuous families were significantly less likely than fathers in placid and squabbling families to grant adolescents jurisdiction over personal issues (Smetana,

1996).

How conflicts are managed in families and the methods of resolution that they employ are also linked to the effects these conflicts have on adolescent wellbeing. Smetana (1996) found that resolution by joint decision making by adolescents and parents occurred significantly less frequently in tumultuous families than in placid or squabbling families; adolescents from placid families reported more resolved conflicts than squabbling families while tumultuous families reported the lowest rate of resolution. Adolescents from placid families considered the solutions to be fairer than did other categories. Interactions in placid families were characterised by respect for and willingness to listen to others' views. In squabbling families there was often respect for differences but more conflicts were left unresolved than in placid families and discussions tended to shift from one issue to another. In tumultuous families conflicts were also left unresolved and the focus shifted constantly while the conflicts appeared more contentious with less tolerance of differences and less effort to take the perspective of other members (Smetana, 1996).

Laursen and Koplas (1995) found that the conflicts identified by adolescents as most significant are differentiated from other non-significant conflicts by the level of negative affect attached to the conflict. Although the type of resolution is not related to the level of affect during the conflict, the level of negative affect after significant conflicts is lower if the conflict is resolved by negotiation than if the conflict is resolved by unwilling submission of one party to the other or was terminated by disengagement without resolution (Laursen & Koplas, 1995).

Smetana (1996) proposed that adolescents from tumultuous families appeared to be most at risk for developmental disturbance and problem behaviours, although

the process by which families became tumultuous was not clear, possibly involving complex interactions between parenting style, adolescents' personality characteristics and need for autonomy, and patterns of family interactions. However Smetana suggests that the age difference between the adolescents in squabbling families, with a mean age of 13.63 years, and placid families, with a mean age of 15.45 years, and several similarities between placid and squabbling families, may indicate that frequent squabbling may be a developmental phase leading to placid family conditions. This is supported by other findings that conflict peaks in early adolescence (Laursen et al., 1998).

Smetana (1996) concluded that optimal development involves interplay between individuation and connectedness and is likely to be promoted in an environment of open exchanges of views, warmth and trust, with parental willingness to negotiate the limits of adolescent decision making and parental jurisdiction; these characteristics are similar to those of the placid families. Smetana (1996) proposed that the emphasis of research be shifted from adolescent-parent conflict to the promotion of those healthy interactions with developmentally appropriate boundaries of adolescent autonomy and parental jurisdiction, clear communication, negotiation and compromise that promote optimum adolescent development.

Smetana's (1996) proposition is supported to some extent by one of the few reported studies using structural equation models to explore the links between family factors and adolescent well-being. This prospective study (Sheeber, Hops, Alpert, Davis & Andrews, 1997) using observer data as well as adolescent and mother reports of conflict and family support found that family conflict at Time 1 correlated strongly with Time 1 adolescent depression and predicted Time 2 depression and

conflict. In a separate model Sheeber et al. found that Time 1 family support similarly correlated strongly with concurrent depression and predicted Time 2 depression and family support. Time 1 depression did not predict Time 2 conflict or family support. However Sheeber et al. did not seek to explore any links between conflict and perceptions of support.

In summary, the evidence reviewed indicates that much parent-adolescent conflict arises from discrepancies between adolescents' and parents' expectations of adolescents' increasing autonomy. Adolescents perceive many areas of their lives as increasingly their personal responsibility, and see parents' attempts to continue to influence these aspects as intrusions into their personal domains. Expressed negative affect between parents and adolescents increases through adolescence and is linked to adolescents' increasingly negative perceptions of parent-adolescent conflict and of their parents. Where conflict occurs in an environment of warmth, trust and mutual respect and where there is willingness to hear the other's case and negotiate, it is unlikely to have damaging effects and may even have a positive effect.

In the development of models linking depression with the factors related to conflict, the reviewed evidence indicates that the number of conflict issues, the emotional intensity of parent-adolescent conflict, and the adolescents' negative appraisals of their parents interactions with them during conflict are all predictors of adolescent depression. Preventive interventions targeting adolescent depression and based on this model could then focus on increasing parents' awareness of the developmental need for adolescents to increase their levels of autonomy and for parents to progressively pass the responsibility for decisions to their adolescents as appropriate. Parents also need to ensure that conflict is avoided except in those

matters where it is necessary for the safe and morally appropriate development of their adolescents. Finally parents need to manage conflict with adolescents in such a way that they show respect for the adolescents' views and negotiate appropriate outcomes, thereby reducing the damaging intensity of conflict.

Parental Attachment

Although parent-adolescent conflict has a major effect on adolescent wellbeing, it is evident that other aspects of the functioning of the family as a system also have significant impacts on the outcomes for the adolescents as they make the transition from dependence on their parents to independence and autonomy through adolescence. Although adolescence is a time when children develop independence from their parents it is important that this increased autonomy develops alongside continuing close relationships with their parents (Kaslow et al., 1994; Smetana, 1996). Adolescents need to develop the ability to make their own decisions but also need to know that support and guidance are available from their parents when they are needed. This autonomy coupled with ongoing relatedness to parents is related to the concept of secure attachment. Insecure parental attachment is an identified risk factor for adolescent depression while good attachment is a protective factor against depression (Kaslow et al., 1994; Roberts, 1999).

The concept of attachment was investigated initially by Bowlby (e.g. 1984) and developed by others including Ainsworth (e.g. 1989) and was initially developed with relation to the behaviour of infants and children with and in the absence of their care-givers. Attachment behaviour was seen as a behavioural system related to instincts necessary for survival. Secure attachment was displayed when a child briefly showed distress when it was temporarily separated from the caregiver then clung to the caregiver briefly on being reunited with the caregiver

prior to resuming other activities. Secure attachment thus indicates close bonding with the caregiver but also freedom to carry out other activities, and develops when the child experiences the attachment figure as available, responsive and reliable (Kenny, Moilanen, Lomax & Brabeck, 1993).

Both Bowlby (1984, 1988) and Ainsworth (1989) propose that attachment influences behaviour beyond childhood into adolescence and adulthood although different behaviour patterns become appropriate as the child develops. In adolescence the child develops a sense of autonomy from parents and eventually seeks a partner of similar age and usually the opposite sex to establish a new family in which reproduction can occur. However the attachment to parents and meaningful relationships with parents usually remain although at this stage attachment no longer involves reliance on the parent for the necessities of life (Ainsworth, 1989). The pattern of attachment developed in childhood persists into adulthood and influences parental behaviour in the new generation; mothers with secure attachment to their family of origin are more likely than others to raise children with secure attachment (Bartle & Anderson, 1992).

A significant body of research has found that secure attachment is associated with many facets of adolescent well-being. Depressed adolescents report lower levels of secure attachment than non-depressed adolescents while measures of secure attachment are negatively correlated with measures of depressive symptoms (Kaslow et al., 1994). High levels of parental care coupled with parental encouragement of independence, two aspects of secure parental attachment as measured by the Parental Bonding Instrument (Parker, Tupling & Brown, 1979) have been associated with low prevalence of depression among adolescents while low levels of parental care and parental intrusiveness into the lives of adolescents

have been associated with increased prevalence of depressive thoughts (Martin & Waite, 1994). High levels of parental control with little emotional support, low levels of cohesion and disengaged uninvolved parenting have been associated with adolescent depression and elevated risk of suicide (Brent & Moritz, 1996; Martin & Waite, 1994).

Allen and associates (Allen, Hauser, Bell & O'Connor, 1994; Allen, Hauser, Eickholdt, Bell & O'Connor, 1994; Allen, Hauser, O'Connor, Bell & Eickholdt, 1996) have investigated the relationships between family environments, adolescent attachment as measured as autonomy and relatedness, and measures of adolescent well-being. Observed behaviour of adolescents displaying both autonomy and relatedness at age 14 years and fathers' but not mothers' behaviour fostering adolescent autonomy with relatedness at that time have been found to predict ego development and self-esteem at age 16 years. Behaviour by either adolescents or parents inhibiting adolescent autonomy with relatedness was negatively associated with later ego development and self-esteem. Fathers' behaviour challenging adolescent autonomy and relatedness which occurred in a generally supportive environment was found to foster enhanced or accelerated ego development and self esteem in adolescents, possibly by causing them to explore and expand their own capacity for development to meet the challenges (Allen, Hauser, Bell & O'Connor, 1994). Failure to develop autonomy with relatedness at age 14 years was found in another study to be linked with depressed affect and externalising behaviours at age 16 years. The lack of autonomy was the primary factor predicting depressed affect while lack of relatedness was the primary factor predicting externalising behaviours (Allen, Hauser, Eickholdt, Bell & O'Connor, 1994). Adolescent behaviour that inhibited individuality in interactions at age 14, for example seeking a win-lose

outcome, over-personalising issues or refusing to consider parents' thoughts or feelings, was associated with increased parent-adolescent conflict at age 16 (Allen et al., 1996).

One mechanism by which the type of attachment influences well-being appears to be through the internal working models of self and of the caregiver developed by the child and used in interpreting situations encountered through life (Bowlby, 1984). Lack of secure attachment has been linked, for example by Kaslow et al. (1994), with the development of Beck's cognitive triad (Beck & Weishaar, 1989) of negative impressions of self, the world and the future resulting in feelings of hopelessness and consequent depression. Kenny et al. (1993) proposed that secure attachment would result in positive perceptions of the self as worthy, lovable and competent, leading to resilience to stress, and perceptions of the caregiver as responsive and reliable, while insecure attachment would result in negative views of the self leading to depression. They found that a model in which adolescents' views of self mediated the effects of parental attachment on the presence of depressive symptoms accounted for a greater percentage of variance in levels of depressive symptoms than models in which attachment directly influenced depression. Although there were no significant differences between boys and girls on the measures of attachment used, they also found that the relationship between parental attachment and view of self was significantly greater for boys than for girls in this model, indicating that strong parental attachment is necessary for healthy identity development of boys (Kenny et al., 1993).

The evidence therefore indicates the role of secure attachment as a protective factor against adolescent depression. It also indicates the need for parents to relate to their adolescents in ways that foster the adolescents' self-esteem, as self-esteem

influences the development of depression. The research highlights the importance of assisting parents to foster appropriately increasing autonomy for their adolescents, while maintaining close but developmentally appropriate relationships with them. Although parent-adolescent conflict is a risk factor for adolescent depression (Kaslow et al., 1994) this is only part of the story; good parental attachment and the appropriate facilitation of developing autonomy coupled with parental warmth and support provide a positive counter to conflict and an environment in which conflict can be developmentally helpful rather than destructive. Thus a model explaining the development of adolescent depression needs to consider both conflict and attachment as factors in, and proximal indicators of, the final outcome of preventive interventions against depression.

Model of adolescent variables predicting adolescent depression

The research reviewed so far indicates that the environment which is most favourable for adolescents' development and well-being is one in which parents are able to assist their children to develop autonomy and individuality while maintaining appropriately close relationships with them and establishing negotiated and clearly understood boundaries. When disagreements occur the issues need to be discussed openly and without becoming overly emotionally charged, with both parents and adolescents respecting the others' views. Parents and adolescents both need to recognise those issues which are increasingly the responsibility of the adolescents and those where ongoing parental input is needed. An intervention intended to reduce the incidence of depression and suicide in adolescents could therefore address issues of parental attachment and conflict reduction and management. The review of research into adolescent depression clearly indicates that strong parental attachment protects against adolescent depression while emotional and

unresolved conflict are strong risk factors for depression. Based on the findings of empirical studies discussed earlier (e.g. Forehand et al., 1988; Kaslow et al., 1994), it is predicted that depression will be influenced by adolescents' perceptions of parent attachment and by the amount and emotional intensity of parent-adolescent conflict. With secure attachment arising from perceptions of parents as responsive, available and caring, it is predicted that adolescents' measures of attachment will be influenced by their appraisals of their parents and of the parent-adolescent dyad, and by their perceptions of the amount and emotional intensity of conflict. Thus it is predicted that the influence on depression of adolescents' perceptions of their parents will be mediated by attachment, while the effect of conflict on depression will be both direct and through attachment. Refer to Figure 1.

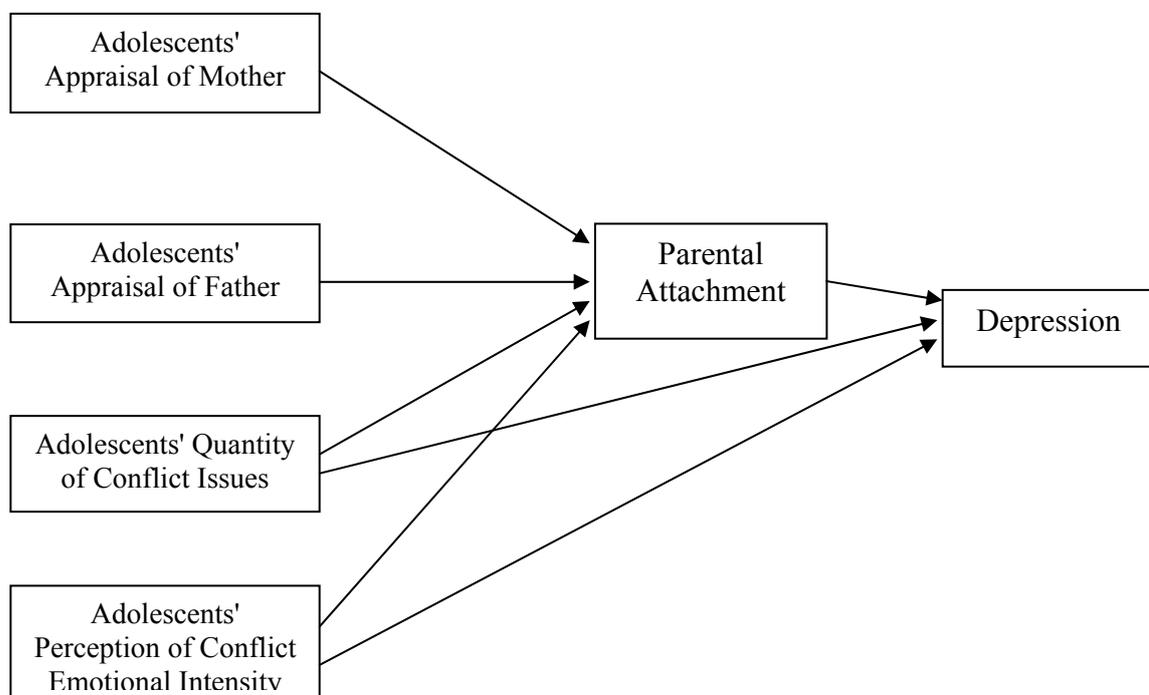


Figure 1. Proposed model: Adolescent variables predicting adolescent depression.

Bowen Family Systems Theory

The research previously reviewed links parent-adolescent conflict and negative perceptions of parents with the adolescents' level of attachment and adolescent depression, but does not identify the underlying factors in the parents that contribute to conflict and insecure attachment. Bowen (1976, 1978; Kerr & Bowen, 1988) has developed a theoretical and clinical model that explores the development of children within the family system and focuses strongly on the factors influencing both levels of conflict and attachment in the family. Bowen proposes that two counterbalancing life forces, individuality and togetherness, impact on the emotional system and influence the development of relationships. Bowen theory identifies the concepts of differentiation of self, with poor differentiation manifested in high levels of anxiety, emotional reactivity, emotional cutoff, fusion with others and inability to maintain an "I-position" or to hold to one's position or convictions when pressured to change to maintain relationships.

Differentiation of self. The concept of differentiation of self is central to Bowen's (1976, 1978) family theory. Differentiation of self has both intra-psychic and interpersonal aspects. Intra-psychically, differentiation of self refers to the degree to which a person's emotional and intellectual functioning are differentiated or fused (Bowen, 1976). A poorly differentiated individual is one whose intellectual and emotional functioning are so fused that their emotions dominate their intellectual functioning. On the interpersonal level, the inability to separate emotional from rational functioning influences the degree to which a person is able to balance individuality and autonomy with intimacy in relationship with others (Nichols & Schwartz, 1998; Skowron & Friedlander, 1998). Poorly differentiated individuals are very emotionally dependent on others around them and expend a lot

of energy in seeking and maintaining the approval of others; consequently these individuals live with high levels of anxiety and fear that they might not be accepted. This anxiety then drives their decision-making processes, with decisions based on the need to maintain relationships rather than on rational processes. Closely related to an individual's level of differentiation is their degree of unresolved emotional attachments to their parents, or the extent to which the individual has been able to function as a self in relationship with the parents. A poorly differentiated person will have greater difficulty in maintaining their individuality in their relationship with their parents and this will result in greater emotional distress. During periods of low stress the individual and the parents can relate to each other reasonably well. However when issues arise that place stress on the relationship the poorly differentiated individual finds safety in being emotionally isolated or emotionally cut-off from the parents, either while living with or in close proximity to the parents or by flight from the parents, using physical distance to avoid contact with the parents (Bowen, 1978).

An individual with a high level of differentiation is able to separate emotional and rational functioning so is able to experience emotions but also to make rational decisions without being unduly controlled by emotions. A well-differentiated person can maintain healthy and close relationships while functioning as an individual. The well-differentiated person is able to maintain an "I position" or hold to their convictions as an individual in a relationship despite pressures from others to conform or to restore harmony in a relationship (Kerr & Bowen, 1988). In maintaining an I-position the well-differentiated person has no need to attack the convictions of others or the position taken by others but also has no need to defend their own position. Well differentiated individuals are less affected than poorly

differentiated individuals by anxiety arising from imbalances in relationships and by needs for approval or power, so are able to differ from others without their interactions becoming emotionally charged and stressful (Bowen, 1976).

Intergenerational transmission of differentiation. In Bowen's theory, family emotional processes are passed from one generation to the next. Parents with good differentiation are able to foster individuality in their children while maintaining appropriately close relationships with them. They are not threatened by the developing individuality of their children and do not need to bring up their children as replicas of themselves. They are able to allow their children to take responsibility for themselves when this is appropriate and are likely to raise well differentiated children with good self-esteem and overall well-being (Bowen, 1976). Children of well-differentiated parents, who have been developing good levels of differentiation from early childhood, are able to continue through adolescence the process of developing increasing responsibility for themselves, rather than fighting against unresolved emotional attachments to parents. Less differentiated children are more likely to deny their unresolved attachments as they enter adolescence and act as if they are more independent than they really are, creating emotional distance between themselves and their parents to bolster this image either through physically departing from the family or through internal mechanisms. These mechanisms may include avoiding conflict or discussion of personal issues, or avoiding even being in positions where personal issues may be raised. Although geographically remaining with the family, the adolescent is emotionally insulated from their parents through emotional withdrawal, being involved with them only superficially (Bowen, 1976).

Emotional Cutoff. Bowen (1976) describes this process as "emotional cutoff." Persons with lower levels of emotional cutoff are able to treat others with

respect and are able to communicate and respond on the emotional level with others, attending to them without being distracted by emotional reactivity to what they are saying (Kerr & Bowen, 1988). It is easy to confuse emotional cutoff with the emotional maturity that results from good differentiation (Bowen, 1976; Nichols & Schwartz, 1998); both result in apparent emotional separation from the family of origin but emotion separation resulting from emotional cutoff is not a sign of maturity but of inability to cope with closeness.

Fusion. Children who have resorted to emotional cutoff from poorly differentiated parents are predisposed when married to fusion with their spouse. This fusion may lead to emotional reactivity from the spouse, marital conflict or projection on to children. Projection on to a child will often result in fusion with the child in the form of either unhealthy reciprocal dependency or parent-child conflict potentially leading to psychological dysfunction in the child; this fusion is also likely to lead to reproduction of emotional cutoff in the next generation (Nichols & Schwartz, 1998).

Thus Bowen (1976, 1978) identified a number of concepts or expressions of poor differentiation including emotional reactivity, emotional cutoff, fusion with others, and inability to take an "I-position" in close relationships with others. In the development of their Differentiation of Self Inventory Skowron and Friedlander (1998) found that measures of these manifestations of differentiation were correlated but separate factors contributing to overall differentiation.

Parental differentiation and family functioning. The families of well differentiated parents are likely to be better organised, more adaptable to changing circumstances, more orderly and less subject to anxiety. Families of less well differentiated parents are likely to be less organised, more reactive to circumstances and more prone to changes of course to reduce anxiety (Bowen, 1978). The levels

of differentiation of the parents in an adolescent's family are thus likely to predict the future differentiation of the adolescents and also the way in which differences of opinion or discrepancies in expectations between adolescents and parents are handled. When there are differences of opinion with their children, well differentiated parents are not compelled to either give in to keep their children's affection at any cost or to insist on compliance with their every wish. They are able to separate the emotional from the rational so are able to discuss issues without becoming emotional and stressed and to maintain affection for their children even through disagreements. However poorly differentiated parents could be expected to either insist on total compliance or to give in to their adolescents to avoid conflict; when there are disagreements related to parents' insistence on adolescents' compliance with the parents' wishes these could be expected to become heated as the parent's levels of emotional involvement and anxiety rise (Bowen, 1978). Differentiation thus has a two-way relationship with stress; poorly differentiated individuals are more reactive in stressful situations, and are also likely to suffer more stress arising from their difficulty with interpersonal relationships.

One of the outcomes of poor differentiation is the vulnerability of children to clinical dysfunction during adolescence or early adulthood (Kerr & Bowen, 1988). Bowen (1978) identifies depression as a good example of clinical problems associated with emotional cutoff. The child's level of differentiation is most influenced by the mother as the person who is most significant emotionally to the child, although the father's level of differentiation will also affect the child's differentiation. A mother's actions will both promote and undermine emotional separation of the child from the mother. Where the proportion of the mother's actions that promote emotional separation is greater than the proportion that

undermine separation, a better level of differentiation is passed on to the child; when the greater proportion of mother's actions undermine emotional separation, undifferentiation will be transmitted.

The child of a poorly differentiated mother is more likely to suffer from clinical symptoms than the child of a better differentiated mother. In the light of the intergenerational process Bowen's clinical approach to dealing with emotional or behavioural problems in children was based on increasing the parents' ability to manage their own anxiety. This should enable the parents to better handle the child's behaviour, and to improve the parents' ability to relate to their family of origin with less anxiety (Kerr & Bowen, 1988; Nichols & Schwartz, 1998).

The stability of differentiation. Bowen (1978) proposes that an individual's basic level of differentiation is established by the time the individual leaves their parents' family home and will not change over the lifespan unless the individual experiences unusual major life experiences or undertakes some structured intervention to change it. Small changes can occur and each small change will affect the family system in which the individual is involved (Bowen, 1976, 1978).

This basic level of differentiation is determined by the level of emotional separation from the family of origin that the individual has achieved and is stable and not dependent on what is happening in the current relationship processes. Although after the individual leaves the parents' family home there will be no great changes in the basic level of differentiation there may be changes in what Bowen (1978) refers to as the functional level of differentiation is response to emerging situations. The functional level of differentiation varies depending on the demands of relationship system impacting on the individual at the time and may be higher in less stressful situations or lower in highly stressful situations than the basic level of

differentiation (Kerr & Bowen, 1988).

One study (Griffin & Apostol, 1993) reported by Charles (2001) found that relationship enhancement training resulted in improved levels of functional differentiation and that if these improvements were maintained over time, the basic level of differentiation was also enhanced. Another study (Mcelwain, 2002) referenced in Dissertation Abstracts International found that family of origin group therapy over 10 sessions resulted in significant increases in differentiation of self. It appears then that there may be value in a program designed to alter an individual's practices that are grounded in poor differentiation; although there will be no great changes in overall differentiation, the target areas may be influenced.

One of the mechanisms by which poor differentiation affects the well-being of children appears to be through parental overprotection which is recognised as one of the risk factors for adolescent depression (Kaslow et al., 1994; Pavlidis & McCauley, 2001) and suicide (Martin & Waite, 1994; Wagner, 1997). The path by which parental overprotection is related to depression and suicide appears to be through suppression of autonomy and consequent poor self-esteem. The concept of parental overprotection appears to closely parallel the intergenerational expression of poor differentiation. Parental overprotection involves unwillingness on the part of the parent to allow the child to develop as an individual, encouragement of ongoing dependence on the parent, conditional love dependent on the child's co-operation with the parent's desires, and intrusion into the child's life beyond what is developmentally appropriate (Parker, 1983).

Parker examined the origins and effects of parental overprotection on children, and identified poor differentiation as part of the etiology of parental overprotection. Bowen (1976, p. 83) describes the process by which anxiety in a

poorly differentiated mother results in "sympathetic, solicitous, overprotective energy, which is directed more by the mother's anxiety than the reality needs of the child." Bowen (1976) also indicates that although overprotective behaviour usually originates with the mother, the father usually supports the process and assists in her over-anxious mothering. It may be that parental overprotection is an expression of rather than a result of poor differentiation.

Research into Bowen Theory. There has been little empirical investigation of Bowen Theory. A search of the *PsychInfo* literature database revealed only 96 articles referring to differentiation as proposed in Bowen's family systems theory. Nicholls and Schwartz (1998) point out that most of Bowen's work was based on clinical observations rather than on controlled experiments, while Bowen himself (1976, p. 45) proposed that "research should be directed at making theoretical contact with other fields, rather than applying the scientific method to subjective human data." Of the articles listed in *PsychInfo*, 28 concerned the relationship between differentiation of self and various aspects of individual functioning; 14 were of a general descriptive nature rather than research papers; five referred to treatment designed to improve aspects of differentiation; five related to research into the connection between differentiation and individuation or identity; seven reported the development and evaluation of scales to measure aspects of differentiation; 27 related to the impact of differentiation on marital satisfaction or to couple therapy based on Bowen theory; five related to cross-cultural applications of Bowen theory and seven reported on the relationships between aspects of differentiation and educational or vocational characteristics.

Only eleven articles reported research into the transgenerational effects of differentiation: four of these related to the predicted similarities between the levels

of differentiation of parents and of their offspring; three concerned the influence of parental alcoholism on the differentiation and functioning of the children; one referred to the effects of divorce on the differentiation of children; one referred to the effects of family of origin functioning and differentiation on fusion and intimacy in the family of procreation; one referred to the generational transmission of dating violence and one reported a link between differentiation and adolescent problem-solving skills. This latter study, an unpublished thesis by Richard (2002), was reported in Dissertation Abstracts International. With 23 mother-child dyads in a cross-sectional study, Richard found that mothers' differentiation and adolescents' self-reported attachment to mothers both predicted the adolescents' social problem solving skills.

A later literature search of the Medline and PsychINFO data bases in October 2004 revealed only three additional articles reporting research related to Bowen Theory which involved more than one generation. Two of these articles, Tuason (2000) and Tuason and Friedlander (2000), appear to report the same project involving parents and adult offspring in a Philippine sample, seeking but failing to find support for Bowen's proposition that the levels of differentiation of parents predict the differentiation of their children. Using structural equation modeling and using the DSI (Skowron & Friedlander, 1998) as a measure of differentiation, the authors found strong correlations between parents' differentiation and psychological distress, and between adult offspring's differentiation and distress, but no significant paths between parents' and offspring's differentiation or stress. Parents' differentiation did not predict their adult children's differentiation or distress.

In the other unpublished thesis Glebova (2003), also reported in Dissertation Abstracts International, examined the relationships between mothers' differentiation

measured by the DSI (Skowron & Friedlander, 1998), mother-daughter conflict measures by the Issues Checklist (Prinz et al., 1979), daughters' depression and daughters' problem behaviors. With a sample of 53 non-clinical mother-daughter dyads Glebova found that Russian mothers' differentiation correlated with their daughters' perceptions of mothers' parenting and mother-daughter conflict, which in turn influenced daughters' self-reports of aspects of adolescent development including depressive symptoms and behavioral problems. Glebova also found that more emotionally cut-off mothers reported higher levels of emotional intensity of parent-adolescent conflict. Daughters who perceived their mothers to display more maternal involvement and more behavioral control reported fewer problems. However Glebova did not provide a model linking the variables.

A recent review of basic research into Bowen Theory by Miller, Sanderson and Keala (2004) reported studies into many facets of Bowen Theory including differentiation of self, marital similarity in differentiation, chronic anxiety, the psychological and physical functioning of adults, marital satisfaction, triangulation, the multigenerational transmission of the emotional processes and sibling position. Miller et al. (p. 456) reported "However, no research has addressed Bowen's theoretical notion that level of differentiation is linked to child functioning." Miller et al. suggest that more research is needed to test Bowen's propositions related to the impact of differentiation on the functioning of children and on adaptability in the family system. Thus there is little empirical evidence to support the trans-generational aspects of Bowen theory and in particular the effects of parental differentiation on the health of children. This current study is expected to provide some empirical evidence supporting Bowen theory in these areas by proposing and evaluating models, as discussed below.

Model of the influence of parental care and protection on parent differentiation, anxiety and conflict. To explore the intergenerational transmission of poor differentiation this study will investigate the influences of differentiation across three successive generations: the adolescents participating in the study, referred to as "Generation 3"; their parents participating in the study, referred to as "Generation 2"; and the parents' parents (the adolescents' grandparents) referred to as "Generation 1". Information concerning the differentiation of Generation 1 has been provided by Generation 2 parents' retrospective perceptions of their parents' style of parenting.

In this study Generation 2 parents' differentiation of self is measured using the Differentiation of Self Inventory (DSI; Skowron & Friedlander, 1998) while the prior generation (Generation 1) parental influences on parent's differentiation are measured using the Parental Bonding Instrument (PBI; Parker et al., 1979) completed by Generation 2 parents. These measures are described fully in the Method section in Chapter 3. The PBI provides separate measures of the Generation 2 parents' retrospective perceptions of their father's and mother's levels of care and overprotection. Low care and high overprotection would be characteristic of poor differentiation of the parents' parents (Generation 1), and hence would predict poorer differentiation in parents in Generation 2. Poor differentiation, indicated by low scores on the DSI, has been proposed by Bowen (1976, 1978) and found in other studies (e.g. Skowron & Friedlander, 1998) to be related to higher levels of parental anxiety. Families with poorly differentiated parents experiencing high levels of anxiety concerning relationships and perceptions of the self would be expected to experience frequent, wide-ranging conflict with high levels of emotion. Based on these predictions, a model linking the parent variables over the first and second

generations has been proposed. Refer to Figure 2.

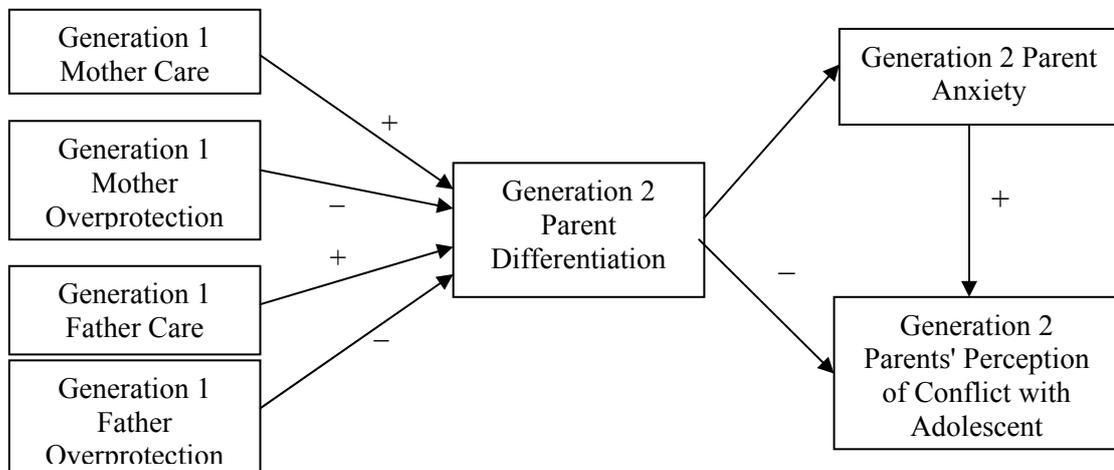


Figure 2. Proposed model: Influence of parental care and protection on parent differentiation, anxiety and conflict.

Model linking parental differentiation with adolescent variables. Bringing together Bowen theory and the proposed model of adolescent depression it is predicted that parent differentiation in Generation 2 will influence the Generation 3 adolescents' levels of depression in three ways. Firstly the actions of poorly differentiated parents will cause adolescents to perceive their parents and the parent-adolescent dyads more negatively, and these negative appraisals of the parents will result in higher levels of depressive symptoms and in poorer attachment. Secondly poor differentiation results in higher levels of parental anxiety which will result in increase levels of conflict and conflict intensity but will also directly increase depressive symptoms, predominantly through overprotective behaviour. Thirdly, poor parental differentiation will result directly in increased and more intense conflict with adolescents. Increased conflict will result in poorer attachment but will

also directly influence the level of depression. A proposed model for the interaction of parent differentiation and adolescent variables linked to depression is presented in Figure 3.

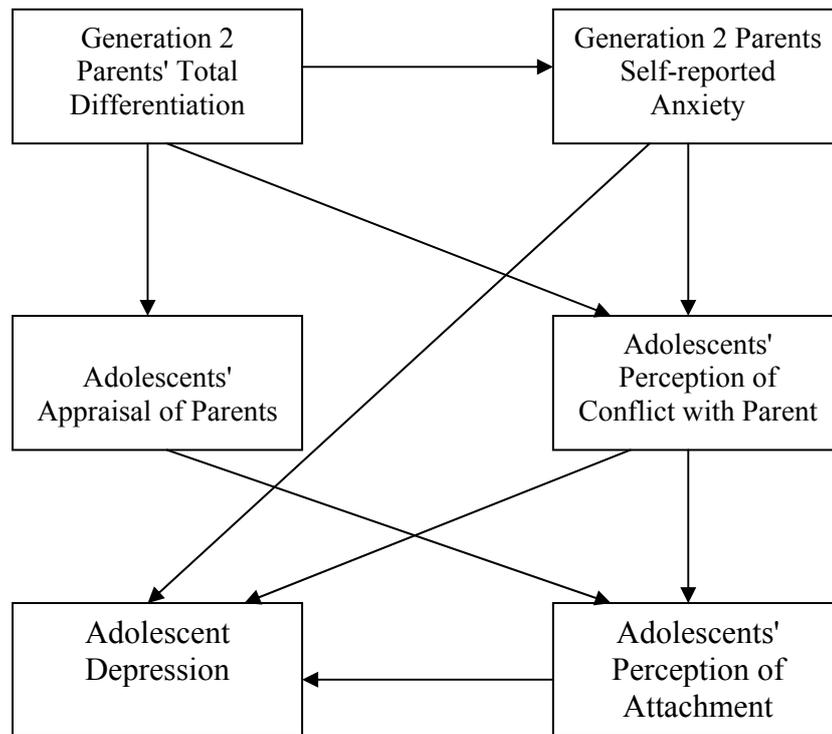


Figure 3 Proposed model linking parental differentiation with adolescent variables.

A trigenerational model linking parental differentiation with adolescent variables. The model in Figure 2 linked the differentiation of the Generation 2 parents of the adolescents in the study with the differentiation of their Generation 1 parents, measured as parental care and protection. Figure 3 links the Generation 2 parents' differentiation with the Generation 3 adolescents' perceptions of their parents, conflict, attachment and depression. A proposed tri-generational model combining these models is shown in Figure 4.

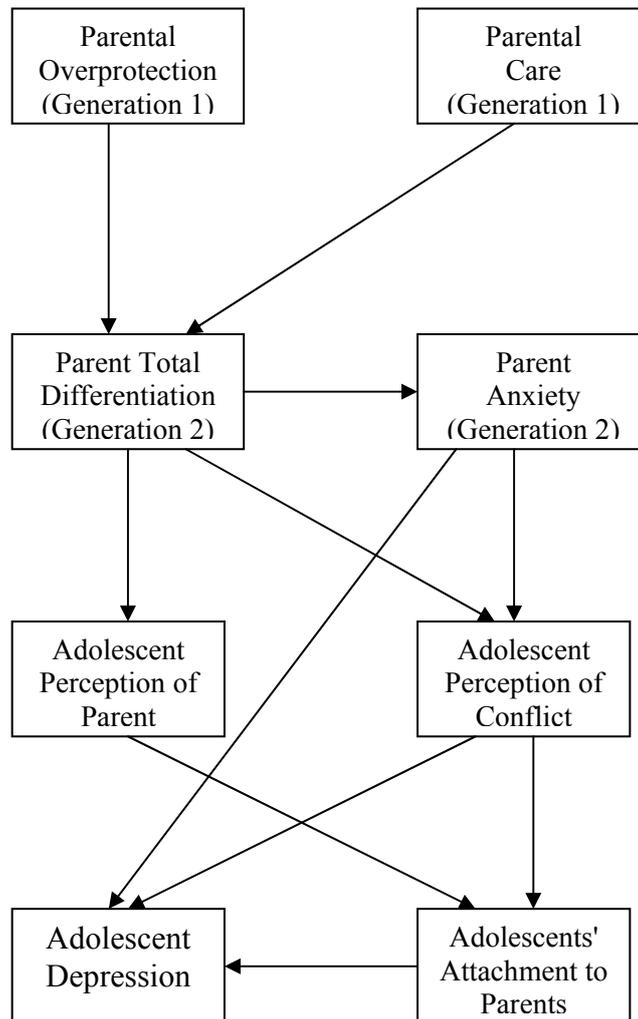


Figure 4. Proposed trigenerational model of parental differentiation influencing adolescent variables.

Summary

The research examined in this chapter provides evidence of linkages between parental behaviour, parent-adolescent conflict, adolescents' perceptions of their parents, parental attachment and adolescent depression. Bowen Family Systems Theory has been discussed and links proposed between parental differentiation,

parental anxiety, parent-adolescent conflict and adolescent mental health. The literature reveals no previous models linking all these variables.

A model has been developed for the links between parent-adolescent conflict, adolescents' appraisals of their parents' conflict interactions with them, parental attachment and adolescent depression. Another model links the differentiation of the third-generation adolescents' grand-parents in the first generation with the differentiation and anxiety of the adolescents' parents in the second generation. In another model the differentiation and anxiety of the adolescents' parents is linked with the adolescent variables, while a final model links the differentiation of the first and second generations with the adolescents' appraisals of conflict and of their parents, parental attachment and depression.

In this study data collected from adolescents and their parents for an examination of the efficacy of the Resourceful Adolescent Parent Program (Shochet et al., 1998) will be used to test these models using structural equation modeling. Data were collected at pretest before the intervention, after the intervention and at 12-month follow-up. Only pretest data will be used for model evaluation as this provided the greatest number of complete sets of data and the greatest statistical power. The adolescents completed a measure of attachment to parents, measures of the number of issues over which there was parent-adolescent conflict, and the emotional intensity of that conflict, a measure of the adolescents' appraisal of each parent and of each parent-adolescent dyad with respect to responsiveness, conflict management and general interactions, and a measure of depressive symptoms. The adolescents' parents completed a measure of Bowen's (1976) construct of differentiation of self, appraisals of the adolescent and of the parent-adolescent dyad, a measure of anxiety, and retrospective measures of the levels of care and over-

protection provided by each of their parents, referred to as Generation 1. The measures are described in detail in Chapter 3.

Thus the hypotheses in this study have been presented as a series of models which will be tested and modified as necessary to establish models which fit the data well. Although a good fit does not indicate that the model represents the only explanation of the relationships between the variables, it does indicate that the model represents one explanation that fits the data (Kline, 1998).

Chapter 3

Method for Model Evaluation

This chapter describes the methodology for the evaluation of the models proposed in Chapter 2. As the later section of the study described in Chapter 6 to Chapter 9 evaluates the RAP-P program and specifically focuses on the comparing the recruitment of participants, attrition, evaluations and efficacy of two formats of RAP-P, the details of recruitment and attrition are described in detail in Chapter 7 and are only summarised in this chapter.

Participants

Participants were initially 242 volunteer Year 8 school children, 165 females, 73 males and four whose gender was not ascertained, from 239 families, and 361 of their parents. The participants were recruited to take part in an evaluation of the Resourceful Adolescent Parent Program (RAP-P) which is described in Chapter 6. The ages of the children ranged from 11.91 years to 14.18 years ($M = 12.70$, $SD = .38$). Participants were drawn from eleven schools including six State High Schools and five non-government schools in South East Queensland. Twenty-six families formally withdrew before the completion of the trial and 15 children and 18 parents moved out of the area or otherwise became unable to be contacted, leaving 194 children and 206 parents who completed all the measures. Participants were not paid for their participation although children were offered a popular confectionery after they completed each round of questionnaires. Full details of the recruitment and attrition of participants are found in Chapter 7.

Overall only 15% of potential participants were recruited, indicating a potentially biased sample due to self-selection (Brown & Liao, 1999; Stein, Bauman & Ireys, 1991), and making it important to assess whether the sample was

representative or affected by some systematic selection bias. Examination of means reported in Chapter 4 indicated that the sample does not appear to exhibit any systematic bias with respect to the variables measured.

Measures for Adolescents

Measures completed by adolescents at pre-intervention, post-intervention and 12-month follow-up were the Children's Depression Inventory (CDI; Kovacs, 1992); the Issues Checklist (IC; Prinz, Foster, Kent & O'Leary, 1979; Robin & Foster, 1989); the Interaction Behavior Questionnaire (IBQ; Prinz et al., 1979; Robin & Foster, 1989) and the Parental Attachment Questionnaire (PAQ; Kenny, 1987).

Children's Depression Inventory. The CDI (Kovacs, 1992) is a widely used 27-item self-report inventory of depressive symptoms, with each item having three possible responses from which one is selected by the respondent. Typical items include the responses "Nothing will work out for me" OR "I am not sure of things will work out for me" OR "Things will work out for me OK" (Item 2) and "I do most things OK" OR "I do many things wrong" OR "I do everything wrong" (Item 3). The CDI produces a total score and scores on five scales: Negative mood, Interpersonal Problems; Ineffectiveness, Anhedonia and Negative self-esteem. American norms cover ages 7 to 16 years. Internal consistencies (Cronbach's alphas) for the scales range from .59 to .68. Total scores greater than 19 indicate that the child is potentially depressed (Kovacs, 1992). Only the total score was used in this study.

The CDI is the most frequently used measure of childhood and adolescent depression and has been found in many studies to be superior to other measures of adolescent depression (Reynolds, 1994). In previous studies some schools have

preferred a 26-item version of the CDI which omits an item related to suicidal ideation (Item 9); this 26-item version has been used in previous Griffith University projects and other research and was used in this study. Cronbach's *alpha* for the full scale of the 26-item version used in this study was .87 at pretest, .90 at post-test and .88 at follow-up.

Issues Checklist. The Issues Checklist (IC; Prinz et al., 1979; Robin & Foster, 1989) is a measure of parent-adolescent conflict. The IC lists 44 possible topics of parent-adolescent conflict; for each topic the respondent indicates whether the topic has been the subject of conflict over the last four weeks, the number of conflicts about that topic, and the emotional intensity of the conflicts on a five-point Likert scale with 1 = *calm*, 3 = *a little angry* and 5 = *angry*. The IC can be completed separately by adolescents and parents and is scored for number of issues, mean intensity and intensity x frequency. As the scale is over 20 years old, a convenience sample of 13-year old adolescents was asked to indicate whether there were any other topics of conflict that arose regularly for them. Two topics, the use of computers and use of video or computer games, were identified. These topics were added as items 45 and 46. Both computers and computer games were unknown when the scale was developed but both appear to be significant causes of parent-adolescent conflict. In the final round of testing 95 of 180 adolescents and 130 of 179 parents endorsed computer use as a topic of conflict with mean emotional intensity scores of 2.34 and 2.04 respectively, and 39 adolescents and 72 parents endorsed computer or video games, with mean emotional intensity scores of 2.03 and 1.93 respectively. In this project the reliability of frequency data was poor with many missing values and many uninterpretable responses such as "heaps," "all the time" and "millions;" consequently the frequency variable was omitted from

analyses. Prinz et al. (1979) and Robin and Foster (1989) report good discrimination between distressed and non-distressed families with the IC completed by either mothers or adolescents. Norms for distressed and non-distressed dyads are provided. However no internal reliability data are provided, probably because the nature of the scales with numerous items not endorsed by most respondents would preclude meaningful calculations of reliability.

Interaction Behavior Questionnaire. The Interaction Behavior Questionnaire (IBQ; Prinz et al., 1979; Robin & Foster, 1989) is a 44-item shortened version of the Conflict Behavior Questionnaire (CBQ; Prinz et al., 1979), a measure of the perceived extent of negative communication and conflict behaviour between adolescents and parents. The IBQ displays very good correlation with the longer version of .98, .98, .98 and .99 respectively for the four scales: adolescent's appraisal of parent, adolescent's appraisal of dyad, parent's appraisal of adolescent and parent's appraisal of dyad (Foster & Robin, 1997). There are forms for the adolescent to complete regarding the father and mother and for the father and the mother to complete regarding the adolescent. Items are marked as true or false and are worded so that some items reflect positive interactions and some reflect negative interactions. Typical items from the form concerning the father include "We (my father and I) joke around together"; "After an argument which turns out badly one or both of us apologizes" and "My dad nags me about a little thing, and we end up in an argument." Higher scores indicated greater levels of distress. Norms for distressed and non-distressed dyads are provided. Foster and Robin (1997) report that the CBQ has been found to discriminate between clinical and non-clinical families and to show treatment-related changes. Agreement between parent and adolescent reports is good (84%) for non-distressed families but not as good (66-68%) for

clinical families, while adolescent scores but not parent scores correlate significantly with measures of social desirability (Foster & Robin, 1997). Birmaher et al.(2000) found that reports from depressed adolescents of parent-adolescent conflict behaviour measured by the CBQ provided a strong predictor of lack of recovery from depression, chronicity and recurrence of major depressive disorder. Robin and Foster (1989) report reliabilities (Cronbach's *alpha*) for the CBQ subscales in excess of .90 but no reliabilities for the IBQ. In the current study using the IBQ Cronbach's *alphas* for the appraisal of parent or adolescent subscale ranged from .88 to .93 while *alphas* for the appraisal of dyad subscales ranged from .75 to .82.

Parental Attachment Questionnaire. The Parental Attachment Questionnaire (PAQ; Kenny, 1987) is a scale of 55 items measuring the respondent's attachment to either both parents together or mother and father separately. In this study the form for both parents together was used to reduce the time taken to complete adolescents' questionnaires, to fit in with school schedules. Responses are made on a five-point scale with one indicating *not at all* and five indicating *very much*. Twenty-five items are reverse scored. The PAQ provides scores on three factor-analytically derived scales: affective quality of relationship with parent; parents as facilitators of independence; and parents as sources of support, all indicative of secure attachment, with scale internal consistencies (Cronbach's *alpha*) of .96, .88 and .88 respectively and test-retest reliability of .92 for the whole scale over a two-week interval. In this study Cronbach's *alphas* for the affective quality of relationship scale ranged from .92 to .94 at the different testing times, for the sources of support scale from .74 to .78, and for the facilitators of independence scale from .82 to .85.

The PAQ has been validated against the Family Environment Scale (Moos & Moos, 1994) and has been widely used and validated, primarily with late adolescents

(e.g. Kenny & Donaldson, 1991; McCurdy & Scherman, 1996) but also with early adolescents (e.g. Kenny, Lomax, Brabeck & Fife, 1998; Kenny et al., 1993). Some items are: "(My mother/my father) is someone I can count on to listen to me when I feel upset", "... has no idea what I am feeling or thinking", ".....does things for me that I would rather do myself"; "When I go to my mother/father for help I feel I would have gotten more understanding from a friend".

Measures for Parents.

At pre-intervention and post-intervention parents completed the Differentiation of Self Inventory (DSI; Skowron & Friedlander, 1998); the Parental Bonding Instrument (PBI; Parker et al., 1979); the parent versions of the Issues Checklist and the Interaction Behavior Questionnaire, and the State form (STAI-S, Form Y-1) of the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg & Jacobs, 1983). At 12-month follow-up the PBI was omitted and the Trait form (STAI-T, Form Y-2) of the STAI was included.

Differentiation of Self Inventory. The DSI (Skowron & Friedlander, 1998) is a self-report scale of 43 items that provides measures of Bowen's (1976, 1978) concept of differentiation of self in adults on four subscales: Emotional reactivity, I position, Emotional cutoff and Fusion with others; and a total differentiation scale. Respondents score each item on a six-point scale with one indicating "*not at all true of me*" and six indicating "*very true of me.*" The score for each scale is the mean for responses on that scale, with higher scores indicating better differentiation. Internal consistency coefficients (Cronbach's *alpha*) for the scales range from .70 to .88. In this study at the different testing times Cronbach's *alpha* for the emotional reactivity subscale ranged from .84 to .86 at different times of testing; for the I-position subscale from .74 to .80; for the emotional cutoff subscale from .81 to .84; and for

the fusion subscale from .62 to .68.

Criterion validity has been demonstrated by the prediction of marital adjustment and satisfaction, and trait anxiety, by DSI scores. Typical items include "People have remarked that I'm overly emotional," "I tend to distance myself when people get too close to me" and "If someone is upset with me I can't seem to let it go easily". The DSI Emotional Reactivity and I Position subscales have been found to load on a factor related to emotional self-regulation while the Emotional Cutoff subscale loads on to a factor related to interdependent relating, providing support for Bowens' theory that differentiation had both intrapersonal and interpersonal dimensions (Skowron, Holmes & Sabatelli, 2003). However due to the psychometric properties of the Fusion with Others subscale this subscale was excluded from the analysis. Examination of the results of research based on the DSI indicated a problem with the Fusion with Others subscale which Skowron and Schmitt (2003) found measured both maladaptive fusion with others and elements of adaptive attachment security; this subscale has consequently been revised in the Differentiation of Self Inventory (Revised; DSI-R, Skowron & Schmitt, 2003). These problems in the original DSI used in this study may have contributed to some unexpected findings with the fusion subscale, for example positive correlations between the fusion subscale and adolescents' perceptions of parents, indicating that adolescents perceived poorly differentiated parents more positively than better differentiated parents. Consequently the fusion scale was omitted in calculations of total differentiation and in analyses of the effects of the different facets of differentiation.

Parental Bonding Instrument. The Parental Bonding Instrument (PBI; Parker et al., 1979) is a retrospective measure of adult attachment to parents. In this study

we are using parental overprotection measured by the Parental Bonding Instrument as a retrospective indication of the levels of differentiation in the families of origin of the parents of the adolescents in the study. The PBI consists of 25 items referring to the individual's parents; responses are on a four point Likert scale with anchors of *Very like*, *Moderately like*, *Moderately unlike* and *Very unlike*. Typical items are: "Spoke to me in a warm and friendly voice", "Tried to control everything I did", "Could make me feel better when I was upset" and "Did not praise me." The PBI is scored for two scales, care and overprotection, allowing the identification of four combinations of low and high care and low and high overprotection as well as average care and overprotection. For mothers the cutoffs for high care and high protection are 27.0 and 13.5 respectively; for fathers the cutoffs are 24.0 and 12.5 respectively. The PBI has been widely used and validated (Parker, 1983) and Australian norms for an age range of 12 to 74 years, mean age 36 years, are published. Means on the different scales for depressed individuals are also available (Martin & Waite, 1994). In the current study Cronbach's *alpha* for the care subscales ranged from .92 to .93 while for alpha for the protection subscales ranged from .86 to .87.

State-Trait Anxiety Inventory. The State-Trait Anxiety Inventory (STAI; Spielberger et al., 1983) provides measures of transitory state anxiety (STAI-S, Form Y-1) and long-term trait anxiety (STAI-T, Form Y-2). Each measure has 20 items with responses on four point scales with 1 = *Not at all*; 2 = *Somewhat*; 3 = *Moderately so* and 4 = *Very much so*. Ten items in the STAI-S and nine items in the STAI-T are reverse coded. A higher score indicates greater anxiety. Spielberger et al. report scale reliabilities (Cronbach's *alpha*) of .89 to .93. The STAI is widely used in research; the STAI-S is a useful measure of relative intensity of stress or

anxiety (Duckro, Korytnik & Vandenberg, 1989) while the STAI-T has been found to measure stable individual differences in proneness to anxiety (Skowron & Friedlander, 1998). To reduce negative effects on respondents the title on the STAI response sheet is "Self-Evaluation Questionnaire." Parents completed the STAI-S at pretest and post-test and both STAI-T and STAI-S at follow-up testing. In this study Cronbach's *alphas* for both scales ranged from .93 to .94 at different times.

Demographic Information. A questionnaire was developed to gather necessary demographic information about participating families and was completed by parents only at pre-testing. A copy is provided in Appendix C.

Evaluations of RAP-P. Immediately following the interventions parents in the intervention conditions completed evaluations of the interventions. Cronbach's *alpha* was .92 for both the 13-item workshop evaluation and the 12-item video evaluation. At post-test parents completed an evaluation of the perceived benefits of the interventions; Cronbach's *alpha* for this measure was also .92. Copies of these evaluation questionnaires are provided in Appendix C.

Procedure

Recruitment of participants is described in detail in Chapter 7. For the purposes of the trial of RAP-P, schools were randomly allocated to one of three conditions: *Workshop*, in which parents were invited to take part in a series of three RAP-P workshops; *Video*, in which parents were sent a copy of a videotaped format of RAP-P; and *Control*, a waitlist control condition. Parents and adolescents in all three conditions completed questionnaires on three occasions: pretest, before the intervention was administered in the workshop and video condition; post-test, after the intervention had been administered, and follow-up, approximately 18 months after pretest.

For the evaluation of models only pretest data were used. The use of pretest data provided the largest number of cases for both adolescents and parents and avoided any possible problems due to contamination of data by the effects of the interventions. Pre-testing of students and parents occurred in February and March 2000, with the exceptions of two schools which had been late additions replacing schools that had withdrawn from participation, where pre-testing took place on 12 May 2000 and 8 June 2000. All testing of students at pretest, post-test and follow-up was administered under examination conditions under the supervision of teachers and the researcher with additional support from Psychology Honours students where necessary. Parents' questionnaires were mailed to them at their home addresses and returned in reply-paid envelopes.

Chapter 4

Results: Model Evaluation

Introduction

The objectives of this study were (1) to evaluate the theoretical basis of RAP-P, including seeking empirical support for aspects of Bowen Family Systems theory; and (2) to evaluate and compare the workshop and flexible delivery formats of the RAP-P program as universal interventions. This chapter presents the results of the evaluation of the models proposed in Chapter 2 which form the theoretical basis for RAP-P.

One model has been proposed in Chapter 2 for the links between parent-adolescent conflict, adolescents' appraisals of their parents' conflict interactions with them, adolescents' attachment to their parents and adolescent depression. Other models based on Bowen Family Systems theory have been proposed for the links between parents' experience of their families of origin and their own differentiation and anxiety, and between parents' differentiation and anxiety and parent-adolescent conflict. A final tri-generational model also based on Bowen theory has been proposed linking parents' differentiation and anxiety with the adolescent factors linked to depression.

The primary approach to evaluating the proposed models will be by the use of Structural Equation Modelling (SEM) utilising Amos 4 developed by Arbuckle and Wothke (1999). SEM is most properly used as a confirmatory approach to data analysis, with the researcher proposing and testing a model based on theory (Byrne, 2000; Tabachnick & Fidell, 2001). However the most common application of SEM may involve the development of a theory-based model which is rejected because of poor fit to the data, after which the initial model is modified on the basis of either

theoretical or statistical considerations, and the modified model is then tested for goodness of fit to the data (Byrne, 2001). If this approach is used to generate multiple models the researcher needs to ensure that appropriate significance levels are applied to avoid the problem of increased probability of Type 1 error (Tabachnick & Fidell, 2001).

The Amos package includes a graphical interface allowing the researcher to draw a model based on theoretical predictions and indicating the paths by which one variable influences another. The package then tests the model against the data and evaluates the fit of the model to the data. A bad fit indicates that the model is not appropriate for the data; with such a result the model can be discarded. A good fit between the model and the data indicates only that the model fits the data and represents one possible set of relationships between the variables; it does not indicate that the proposed model is the best or only model that fits that set of data.

Several indices which are used to indicate the goodness of fit between the model and the data are reported by Amos 4. The first is the minimum discrepancy or CMIN which tests the extent to which the model specifications are valid and is usually represented as a chi-squared statistic. With a good fit the chi-squared statistic is non-significant ($p > .05$). However as the chi-squared statistic is sensitive to sample size other indices may be more useful (Byrne, 2000). One of these, CMIN/DF, should be less than 2 for a good fit (Arbuckle & Wothke, 1999). Specific goodness of fit indices include the Goodness of Fit Index (GFI) and the adjusted GFI (AGFI); both of these will be greater than .95 in a good-fitting model. The Standardised Root Mean Square Residual (SRMR) is the average value of all standardised residuals and for a good fit is less than .05. The Root Mean Square Error of Approximation (RMSEA) will also be less than .05 for a good fit but values

up to .08 may indicate a reasonable fit. The probability value for a related test of closeness of fit (PCLOSE) should exceed .5 for a good fit (Byrne, 2000)

The assumptions about the data used for structural equation modeling are similar to those for most multivariate analyses: the data are assumed to be linear, normally distributed, without outliers; there should be no systematically missing data; there should be no multicollinearity, and there should be sufficient cases for the model to be tested. Tabachnick & Fidell (2001) propose that a sample size of 200 is sufficient for most small to medium models, while fewer than 10 cases for each estimated parameter may be sufficient where there is a large effect size. Kline (1998) proposes that ideally it is desirable to have a sample which provides 20 cases for each estimated parameter in a recursive model, that is a model which has no feedback loops, but accepts that 10 cases per estimated parameter may be more realistic while fewer than five cases for each estimated parameter would be a cause for concern.

The sample for this study includes 198 adolescents who provided complete data concerning both parents, 219 adolescents who provided data concerning their mothers only, and 270 parents who provided complete data. Consequently the sample is suitable for models including up to 20 estimated parameters for adolescent data and up to 27 estimated parameters for parent data. The suitability of the sample size is discussed with each model evaluated.

In this chapter the data will be examined for assumptions of normality, linearity, missing data, univariate and multivariate outliers and multicollinearity, with transformations applied where necessary. Correlation matrices will be examined for initial evidence of the proposed relationships, after which the proposed models will be tested. Where necessary because of sample size, multiple regression

analyses will be used to eliminate unnecessary variables from the models.

Model Evaluation - Adolescent Variables

For cross-sectional model evaluation of the relationships between adolescent variables at one time the pre-intervention data set provides the greatest statistical power with 198 students provided complete pre-intervention data including appraisals of both parents. As a number of students live with only one parent, usually the mother, the number of students reporting on their relationships with their mother but not their father was greater with 219 students providing complete data excluding their appraisals of their fathers.

As mentioned in the previous chapter, with only 15% of potential participants recruited, it is necessary to examine whether the sample suffers from systematic selection bias with respect to any of the variables measured (Brown & Liao, 1999; Stein, Bauman & Ireys, 1991). With no access to measures of these variables from non-participating adolescents, the presence of selection bias can only be ascertained by comparison of the sample means with existing norms for the measures or sample means found in other studies. Table 1 shows the untransformed means and standard deviations for each adolescent measure for the sample with both mothers and fathers, and where available the normative means from other studies for comparison.

For the appraisals of parents and the parent-adolescent dyads (IBQ) and the conflict measures (IC) the norm means are reported by Robin and Foster (1989); community sample means for the PAQ attachment measure are reported by Kenny et al. (1998). Table 1 shows that IBQ appraisals of mothers, fathers and the parent-adolescent dyads extrapolated to equivalence with the long version of the CBQ (Foster & Robin, 1989) are .2 *SD* to .49 *SD* more negative than the comparison

means but well below the means for distressed families. There are no accessible Australian norms for these scales, and the existing norms were obtained in the 1980s in America and may not be fully relevant to a 21st century Australian sample.

Table 1.

Sample Means and Standard Deviations for Adolescent Pretest Measures, with Norms, N = 198.

Scale	Current Study		Norms	
	Mean	SD	Mean	SD
IBQ Appraisal of Mother	8.88	10.69	6.8	7.3
IBQ Appraisal of Mother Dyad	4.53	4.14	4.0	2.3
IBQ Appraisal of Father	8.65	9.86	6.1	5.2
IBQ Appraisal of Father Dyad	4.67	4.58	4.2	2.4
IC Quantity of Issues	15.60	7.76	18.46	7.25
IC Average Intensity of Conflict	1.80	.73	1.77	.49
PAQ Affective Quality (M)	104.75	18.29	90.12	19.85
PAQ Affective Quality (F)	109.08	18.23	91.43	19.30
PAQ Support of Independence (M)	48.15	10.30	53.01	9.75
PAQ Support of Independence (F)	50.69	8.75	53.99	10.28
PAQ Source of Support (M)	46.64	8.28	Not Available	Not Available
PAQ Source of Support (F)	47.98	7.02		
CDI (M)	7.28	5.98	7.64	7.11
CDI (F)	7.44	6.54	8.02	7.25

Note: M = Male ($n = 59$); F = Female ($n = 139$).

Flannery et al. (1993) found similarly elevated means. The affective quality of attachment is .75 *SD* (males) or 1.04 *SD* (females) higher and the perception of parents as facilitators of independence is .5 *SD* (males) or .2 *SD* (females) lower than the norm sample. The quantity of conflict issues is .4 *SD* lower than, and the intensity of conflict approximately the same as, means for community samples. For the CDI, in the absence of published Australian means for an equivalent sample the means from a large study of 2000 Australian students (Shochet & Ham, 2004) were used for comparison. In the current study the CDI identified 6.8% of male participants and 6.5% of female participants as being in the clinical range for depression, compared with 6.7% of males and 6.8% of females who scored in the clinical range on a self-report measure of anxious/depressed problems in the adolescent component of the Australian National Survey of Mental Health and Well-being (Sawyer et al., 2000). Overall these comparisons indicate that the sample was generally similar to the community samples with respect to the measured variables.

Gender differences. The pre-intervention sample of adolescents includes 162 girls and 68 boys. The small number of boys precludes most statistical tests or models for boys alone so the data were examined to identify initial gender-based differences. One-way ANOVA with the adolescent pretest variables as dependent variables (DVs) and gender as independent variable (IV) found that the means for depression (CDI), attachment (PAQ), quantity of conflict issues and average intensity of conflict (IC) and perceptions of the mother (IBQ) were not significantly different for boys and girls. Although there is evidence that the relationships between some of these variables may be different for males and females (Calvete & Cardenoso, 2005; Leadbeater, Kuperminc, Blatt & Hertzog, 1999), in this context of the development of a universal preventive intervention for parents of both boys and

girls these differences may not be relevant. The combined group was therefore used for all analyses.

Data screening of adolescent pretest variables. With normal distribution being assumed for most statistical tests to be conducted (Tabachnick & Fidell, 2001) descriptive statistics for all relevant scales were inspected. All IBQ, IC and CDI scales were positively skewed, as expected in a community sample. After square root transformation these scales met standards of normality. The PAQ scales were all strongly negatively skewed and were transformed by being reversed then taking the square root, then reversing again, after which assumptions of normality were met (Tabachnick & Fidell, 2001). The transformed scales were subsequently used for all analyses unless otherwise noted; any reference to analyses of these scales is to the transformed scales. Scale reliabilities (Cronbach's *alpha*) for all scales and subscales were within the expected range, with *alphas* ranging from .74 for the PAQ Parents as Sources of Support scale to .94 for the PAQ Affective Quality of relationship scale. Means, standard deviations and intercorrelations between adolescents' pretest measures, transformed as necessary, are shown in Table 2.

At pre-test, intercorrelations between subscales of the PAQ were similar to those reported by Kenny (1993) the originator of the PAQ, with correlations (Pearson's *r*) between the PAQ Affective Quality and Facilitates Independence subscales of .82, between the Affective Quality and Source of Support subscales of .75, and between the Facilitates Independence and Source of Support subscales of .57. For the IBQ, strong correlations exist between the subscales for perceptions of mothers and perceptions of the mother-adolescent dyad, $r = .74$, and between the father and father-adolescent dyad subscales, $r = .77$. These subscales thus share more than 50% of their variance. Each subscale is also singular with the total score

Table 2

Means, Standard Deviations and Intercorrelations of Adolescent Predictors of Depression at Pretest (N = 198)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. CDI	2.31	1.20		-.58***	-.56***	-.55***	-.45***	.54***	.43***	.31***	.33***
2. PAQ Total	5.95	2.04			.97***	.89***	.83***	-.75***	-.63***	-.42***	-.23**
3. PAQ Affective Quality	5.42	1.70				.82***	.75***	-.76***	-.63***	-.41***	-.25***
4. PAQ Facilitates Ind.	3.75	1.04					.57***	-.67***	-.54***	-.34***	-.24**
5. PAQ Source of Support	3.19	.88						-.59***	-.50***	-.37***	-.06
6. IBQ Appraisal of Mother	1.63	1.38							.58***	.39***	.17*
7. IBQ Appraisal of Father	1.77	1.28								.24**	.16*
8. IC Average Intensity	1.30	.30									.14
9. IC Quantity of Issues	3.84	.99									

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

for that parent with $r > .9$. As the overall appraisal of the parent was more relevant than the subscales to the present study it was decided to use only the combined score for the IBQ. It was also noted that the IBQ scales for appraisals of mothers and fathers were strongly correlated, $r = .58, p < .001$. Although these scales should be independent it appears that the adolescents tend to see both parents as having similar characteristics; a similar effect was observed by Parker (1983) in norming studies for the Parental Bonding Instrument (PBI; Parker et al., 1979) which asks respondents to rate each of their parents in terms of care and protection. With this correlation between mother and father scales, it can be expected that where appraisals of one parent have contributed variance to a dependent variable this will reduce the variance that can be contributed by the equivalent scale for the other parent (Tabachnick & Fidell, 2001). Examination of correlations between scales showed no two scales met the suggested criteria for multicollinearity of correlations above .9 (Tabachnick & Fidell, 2001); however the PAQ Total Score scale is also singular with its subscales indicating that the total score and the subscales could not be used together in the same analysis.

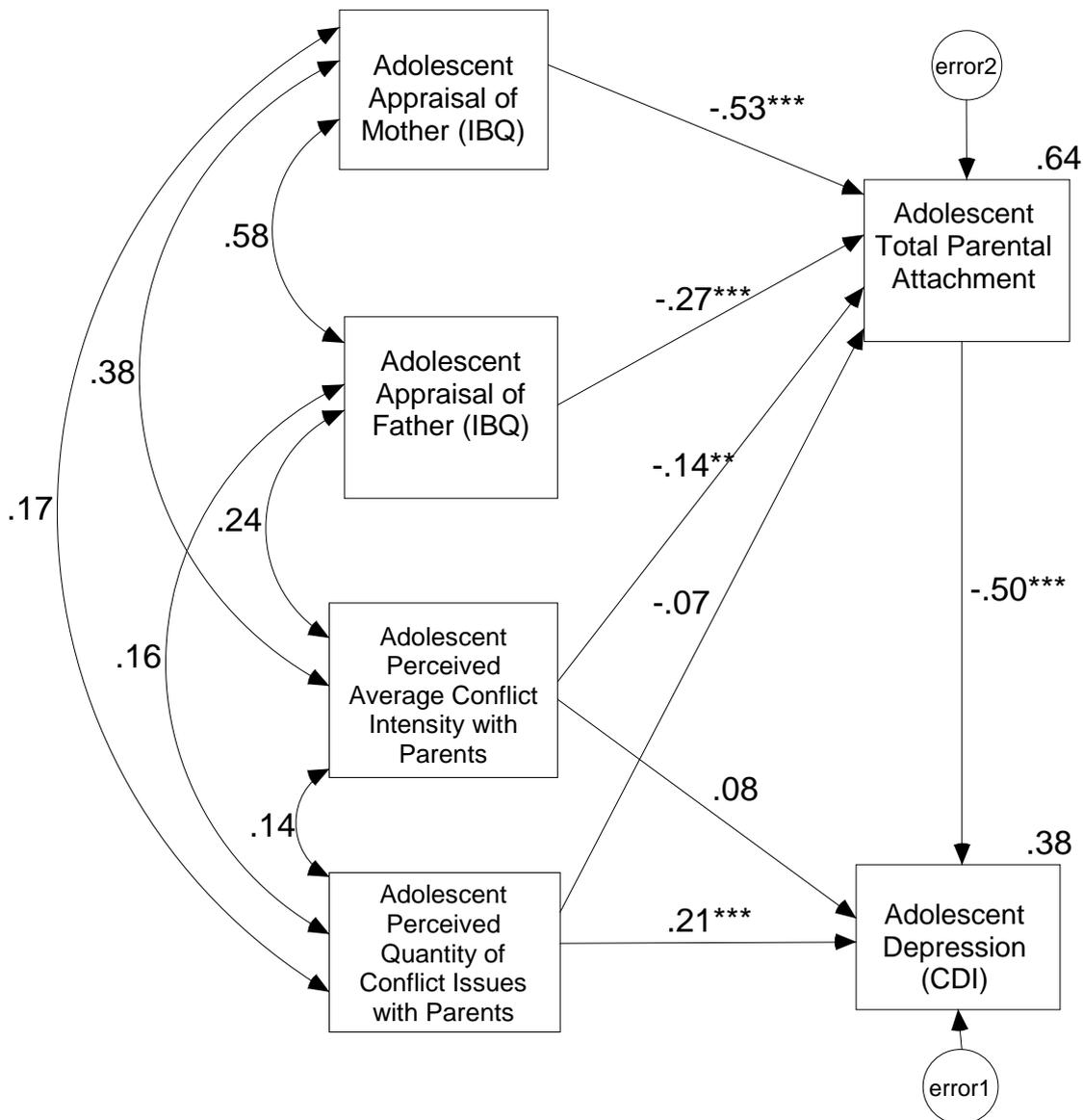
Model 1: Adolescent variables predicting adolescent depression. Based on the theory reviewed in Chapter 2, a model has been proposed in Chapter 2 (see Figure 1) that predicts that adolescents' level of attachment and the amount and intensity of conflict would directly predict the adolescents' levels of depressive symptoms. The model also predicts that adolescents' attachment to their parents would be influenced by the adolescents' appraisals of their parents, and by their perceptions of intensity and quantity of conflict. Initial support for these predictions came from the intercorrelation matrices which reveal that all measured predictor variables were moderately to strongly correlated with the measure of depression

(CDI), with Pearson's r ranging from .31 to .58, $p < .001$ for all correlations.

A Structural Equation Model (see Figure 5) replicating the proposed model was constructed using Amos 4 (Arbuckle & Wothke, 1999). The sample size ($N = 198$) is considered sufficient for a small to medium sized model (Tabachnick & Fidell, 2000). There were no missing data in the file. By convention (Arbuckle & Wothke, 1999; Byrne, 2000) observed variables, those which are measured directly by scales or measures, are represented by rectangles while unobserved variables, in this case only error variables, are represented by circles or ellipses; single headed arrows represent prediction paths and double-headed arrows represent correlations between variables. After the model has been calculated regression weights, in this case standardised weights, are shown beside the path arrows and correlation coefficients (Pearson's r) are shown adjacent to correlation indicators (double-headed arrows). The squared multiple correlation or proportion of variance accounted for (r^2) by the model is shown above and adjacent to each of the endogenous variables which are those variables predicted to be dependent on earlier variables.

This model required the estimation of 19 parameters, with 10 cases for each estimated parameter, an acceptable ratio of cases to parameters (Kline, 1998). All indices suggested that the overall model fit was not good; the chi-square test was significant, $\chi^2 = 8.87$, $df = 2$, $p = .01$, CMIN/DF = 4.44, adjusted GFI = .99 but AGFI = .85, RMSEA = .13, PCLOSE = .05. Regression weights for two paths, between average intensity of conflict and depression and between quantity of conflict issues and attachment, were non-significant, with critical ratios less than 1.96 and hence probability $p > .05$.

The elimination of the redundant paths is not likely to effect large changes to model fit (Byrne, 2001) indicating that additional paths may be required to



Chi-Squared = 8.87, df = 2, p = .01, CMIN/DF = 4.44
 SRMR = .03; GFI = .99; AGFI = .85; NFI = .98, RMSEA = .13, PCLOSE = .05

Figure 5 Proposed model of adolescent variables predicting depression.

Note: For regression weights * p < .05, ** p < .01, *** p < .001

improve the model fit. The initial model test indicates that appraisals of parents influence attachment but the theoretical basis for the models does not clearly indicate whether appraisals of parents may also directly influence depression. To avoid the development of multiple models further clarification was sought using a sequential regression analysis with depression (CDI) as criterion variable and attachment, quantity of conflict issues and appraisals of mother and father entered in that order as predictors of depression. It was predicted that all these variables would contribute significantly to the variance in depression.

With 198 cases and no missing data this analysis easily meets the requirements suggested by Tabachnick and Fidell (2000, p. 117) of $50 + 8m$ cases, where m is the number of independent variables. This regression analysis is summarised in Table 3 with R^2 after each step and change in R^2 at each step and unstandardised regression weight B , the standard error of B , and standardised regression weight β after the final step. After the final step $R^2 = .40$, adjusted $R^2 = .39$, and the intercept was 1.86.

At the final step of the analysis, the regression weight for the IBQ Appraisal of Father scale was non-significant and adolescents' appraisal of the father did not significantly change the explained variance in depression. However appraisals of the mother did directly contribute to variance in depression. Only total attachment, the quantity of conflict issues and the adolescents' appraisal of the Mother significantly directly predicted depression. Thus this regression analysis supports the theoretically defensible proposal that adolescents' appraisals of their mothers directly influence depression as well as influencing attachment although appraisals of the father do not.

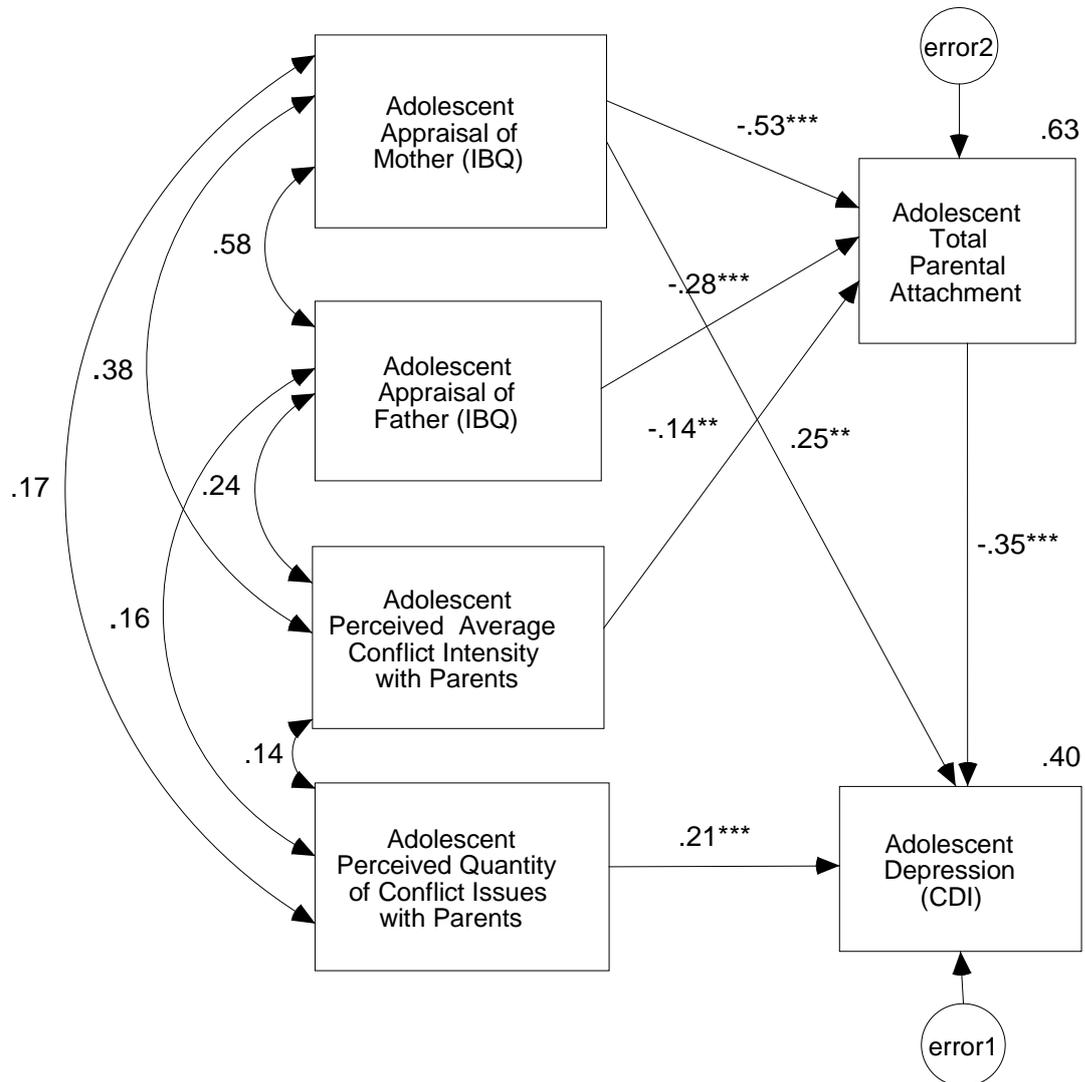
Table 3

*Hierarchical Regression Analysis Summary for Pretest Adolescent Variables
Predicting Pretest Adolescent Depression with Weights after Final Step (N = 198).*

Step and predictor variable	<i>B</i>	<i>SEB</i>	β	R^2	ΔR^2
Step 1				.33	.33***
PAQ Total	-.18	.05	-.31***		
Step 2				.38	.04***
IC Quantity Issues	.25	.07	.21***		
Step 4				.40	.03**
IBQ Appraisal of Mother	.19	.07	.23**		
Step 5				.40	.00
IBQ Appraisal of Father	.06	.06	.07		

Note: ** $p < .01$; *** $p < .001$

Another model (see Figure 6) was constructed based on the proposed model with changes as indicated by the regression analyses, omitting the non-significant paths between conflict intensity and depression and between quantity of conflict issues and attachment, and including the other significant path that was identified in the regression analysis, the direct path between perception of the mother and depression. This model requires the estimation of 18 parameters, which with $N = 198$ provides approximately 11 cases for each parameter which is within the acceptable range (Kline, 1998). With the same sample as before the overall model fit was acceptable; the chi-square test was non-significant, $\chi^2 = 4.55$, $df = 3$, $p = .21$,



Chi-Squared = 4.55, df = 3, $p = .21$, CMIN/DF = 1.52
 SRMR = .02; GFI = .99; AGFI = .95; NFI = .99, RMSEA = .05, PCLOSE = .39

Figure 6. Revised model of adolescent variables predicting depression.

Note: For regression paths * $p < .05$, ** $p < .01$; *** $p < .001$.

CMIN/DF = 1.52. Other goodness of fit statistics indicated a good fit: GFI = .99, AGFI = .95, NFI = .99, Comparative Fit Index = 1.00, RMSEA = .05, Standardised Root Mean Square Residual = .02, PCLOSE = .39. All paths were significant with critical ratios greater than 1.96, $p < .05$. The model explained 63% of the variance in attachment and 40% of the variance in depression.

Thus this model is a good fit with the data. Although this does not indicate that the model is the only possible model for the relationships between these adolescent variables, it does indicate that adolescents' appraisals of primarily their mothers but also of their fathers, and the emotional intensity of parent-adolescent conflict, all influence parental attachment, which in turn influences adolescent depression. Adolescents' appraisals of their mothers also directly influence depression. The number of issues over which conflict arises, presumably also indicating the frequency of conflict, directly influences adolescents' depression, but does not significantly influence attachment, unlike the emotional intensity of conflict which is fully mediated by attachment in its effect of depression. Thus the proposals of Chapter 2 and the model in Figure 1 were to a great extent supported by the data.

Model Evaluation – Parent Variables

One objective of this study is to examine the validity of Bowen theory (Bowen, 1976, 1978) and in particular the relationships between Bowen's central construct of differentiation of self and family-based psychosocial risk factors such as parent-adolescent conflict and poor attachment which have been found in the preceding section to contribute to adolescent depression. It was predicted in Chapter 2 that adolescents' mental health and well-being would be strongly influenced by the characteristics of their parents, and in particular their differentiation of self as defined by Bowen (1976, 1978) and colleagues, and in this study measured by the

Differentiation of Self Inventory (DSI; Skowron & Friedlander, 1998).

As Bowen proposed that parents' levels of differentiation would be reproduced in their offspring, it was also predicted that parents' differentiation would be influenced by their own experiences of parenting in their families of origin. Parents' perceptions of their parents were measured by the Parental Bonding Instrument (PBI; Parker et al., 1979). The PBI measures retrospective perceptions of the level of care and of over-protection for mother and father separately. High overprotection and low levels of care would be characteristic of poorly differentiated parents (Parker, 1983) so would be expected to predict poor differentiation in the parents of adolescents in this study. Parents' anxiety was also predicted to be related to their levels of differentiation and to influence adolescents' levels of depressive symptoms.

Based on these predictions models have been proposed in Chapter 2 for the relationships between parents' experience of parenting in their families of origin as a proxy for the differentiation of their parents, their own differentiation, levels of conflict and their levels of anxiety (see Figure 2) and for the relationships between parents' differentiation of self and anxiety and adolescents' perceptions of their parents, adolescents' perceptions of parent-adolescent conflict, attachment to parents and adolescent depression (see Figure 3). Another trigenerational model linked parental differentiation over two generations with the adolescents' perceptions of their parents and of conflict, parental attachment and adolescent depression (Figure 4). Parents' anxiety levels were measured by the State form (STAI-S, Form Y-1) of the State-Trait Anxiety Inventory (STAI; Spielberger et al., 1983). Parents' perceptions of their adolescents and of the parent-adolescent dyad were measured by the Interaction Behavior Questionnaire (IBQ; Prinz et al., 1979) while parents

perceptions of parent-adolescent conflict were measured by the Issues Checklist (IC; Prinz et al., 1979).

Data screening of parent variables at pre-test. The parent pretest variables were examined for linearity, normality and outliers. Initially the PBI Mother overprotection scale and the STAI-S were significantly skewed. After square root transformation these variables met assumptions of normality. Wherever references are subsequently made to these variables the reference applied to the transformed variable. Scale reliabilities (Cronbach's *alpha*) in all cases were similar to those found in validation studies or where available the seminal studies for the scales used. The means and standard deviations of the parent variables, and intercorrelations between the variables, are shown in Table 4.

For the DSI, scale means and standard deviations and correlations between the scales were very similar to those found by Skowron and Friedlander (1998) in their final validation study of the DSI. Correlations between the DSI scales and the STAI-S were also similar to correlations between the DSI scales and the STAI Trait Anxiety scale found by Skowron and Friedlander in the validation study.

Although PBI scores for fathers and mothers could be expected to be independent of each other, in this study there was a strong correlation between mothers' and fathers' overprotection scores ($r = .57, p < .001$) and between mothers' and fathers' care scores ($r = .55, p < .001$) possibly indicating a tendency of respondents to see both parents as similarly caring or overprotective. Similar correlations were found in norming studies with non-clinical groups (Parker, 1983).

In theory protection and care could be independent dimensions of parent behaviour; however in this study moderate negative correlations were found between protection and care scores for mothers, $r = -.35, p < .001$, and for fathers, $r = -.32, p$

Table 4

Means, Standard Deviations and Intercorrelations of Parent Pretest Measures (N = 270)

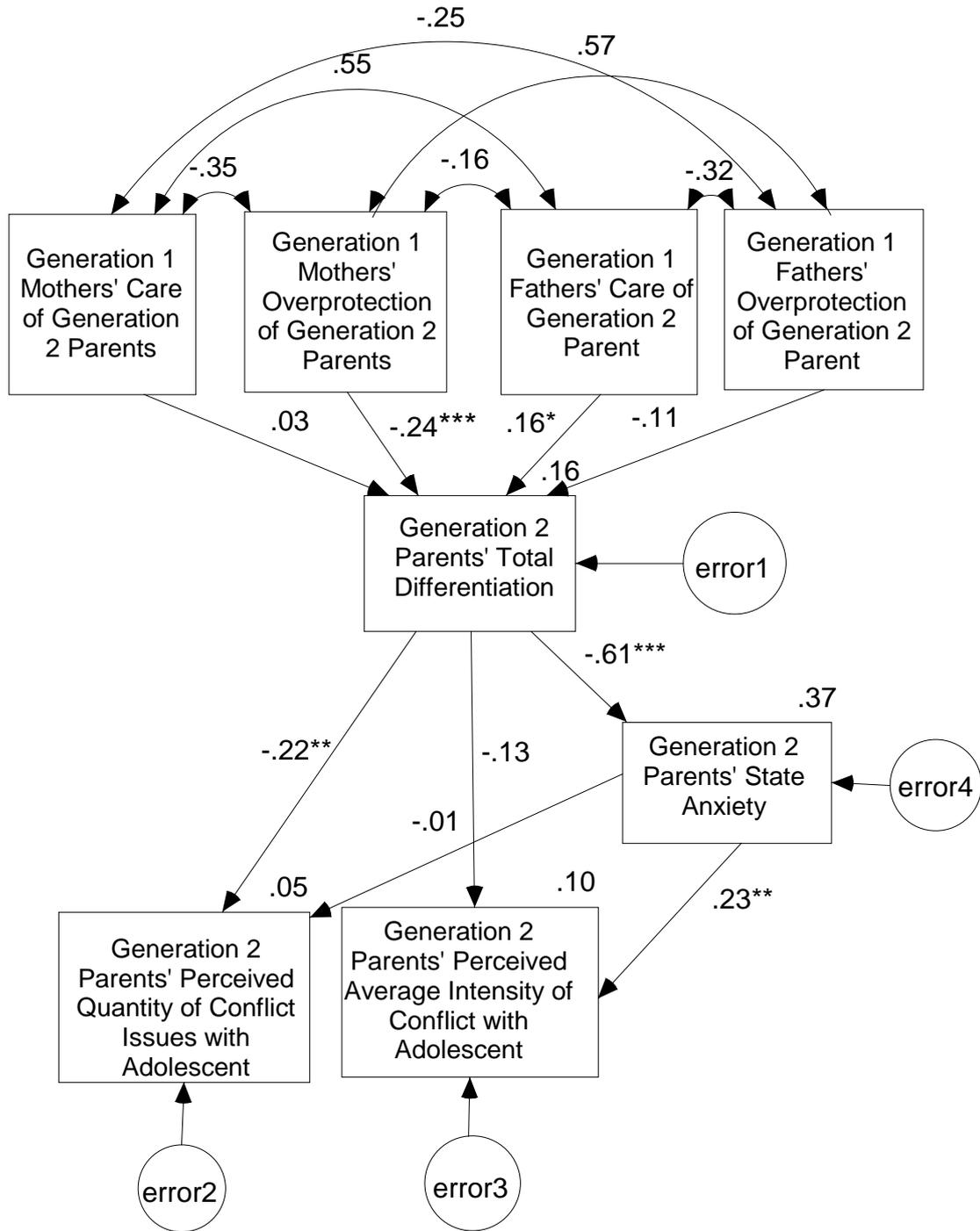
Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. PBI Mother OP	3.63	1.09		-.35***	-.17**	.57***	.25***	.16**	.19**	-.33***	-.21***	-.25***	-.34***
2. PBI Mother Care	23.18	8.80			.55***	-.25***	-.15*	-.06	-.16**	.11	.17**	.26***	.23***
3. PBI Father Care	19.81	9.10				-.32***	-.20**	-.04	-.17**	.16**	.19**	.25***	.25***
4. PBI Father OP	13.27	7.06					.17**	.11	.14*	-.30***	-.22***	-.20**	-.31***
5. STAI State	5.59	0.82						.13*	.31***	-.49***	-.48***	-.46***	-.61**
6. IC Quantity Issues	20.26	7.37							.18**	-.13**	-.20**	-.19**	-.22***
7. IC Ave Intensity	1.80	0.50								-.18**	-.24***	-.21**	-.27***
8. DSI Em Reactivity	3.57	0.95									.61***	.36***	.86***
9. DSI I Position	4.10	0.73										.28***	.78***
10. DSI Em Cutoff	4.59	0.81											.71***
11. DSI Total	3.88	0.58											

Note: * $p < .05$; ** $p < .01$; *** $p < .001$. OP = Overprotection; Em Reactivity = Emotional Reactivity; Em Cutoff = Emotional Cutoff

< .001, indicating that perceptions of protection and care are not completely independent; perceptions of overprotection may easily engender perceptions of low care and highly protective parents are perceived as less caring. Again similar correlations have been found in all norming studies of the PBI (Parker, 1983).

Model 2: Influence of parental care and overprotection on parents' differentiation, anxiety and conflict. A model describing the proposed relationships between parental care and overprotection in parents' families of origin, parents' own differentiation of self, parents' perceptions of parent-adolescent conflict and parents' anxiety (see Figure 2) was developed on the basis of Bowen Theory (Bowen, 1976, 1978; Kerr & Bowen, 1988). This model was replicated using Amos 4 (Arbuckle and Wothke, 1999) and the model was tested against the parent pretest data (see Figure 7) as this sample provides the greatest statistical power. The sample included 270 cases with no missing data so was adequate for a model of this size with 23 parameters to be estimated (Kline, 1998; Tabachnick & Fidell, 2000). In this model Generation 2 refers to the parents of the adolescents in the study while Generation 1 refers to the adolescents' grandparents.

Goodness-of-fit indices indicated that the model was a good fit to the data; the chi-squared statistic was not significant, $\chi^2 = 16.72$, $df = 13$, $p = .21$; Standardised Root Mean Square Residual was .043, GFI = .99, AGFI = .96, RMSEA = .03, PCLOSE = .72. However the model was not an acceptable fit to the data as four paths were found to be non-significant, with Critical Ratios (CR) less than 1.96: the paths between pretest mother care and total differentiation, $CR = .43$, $p = .67$, between pretest father overprotection and total differentiation, $CR = -1.61$, $p = .11$, between total differentiation and intensity of conflict, $CR = -1.73$, $p = .08$, and between quantity of conflict issues and anxiety, $CR = -0.11$, $p = .92$.



Chi-squared = 16.72, df = 13, p = .21, CMIN/DF = 1.29
 SRMR = .043, GFI = .99, AGFI = .96, FMIN = .06, RMSEA = .03, PCLOSE = .72

Figure 7. Proposed model for influence of parental care and overprotection on parents' differentiation, anxiety and conflict.

Note: For regression weights * p < .05, ** p < .01, *** p < .001

With mother care and mother overprotection and father care and father overprotection being moderately correlated, $r = -.35, p < .001$, and $r = -.32, p < .001$ respectively, once mothers' overprotection and fathers' care enter the equation mothers' care and fathers' overprotection no longer contribute significantly to the variance in differentiation. Although the quantity of conflict issues correlates weakly but significantly with anxiety, $r = .13, p < .05$, anxiety does not significantly contribute unique variance to the quantity of conflict issues after the contribution of total differentiation. A poorly differentiated parent could be expected to engage in conflict over more issues than a well-differentiated parent, but the level of anxiety concerning relationships and the value of the self would predictably be the strongest contributor to the level of emotional intensity of conflict. Hence anxiety appears to mediate the effect of total differentiation on conflict emotional intensity so total differentiation does not contribute significant unique variance to conflict intensity after the contribution of state anxiety.

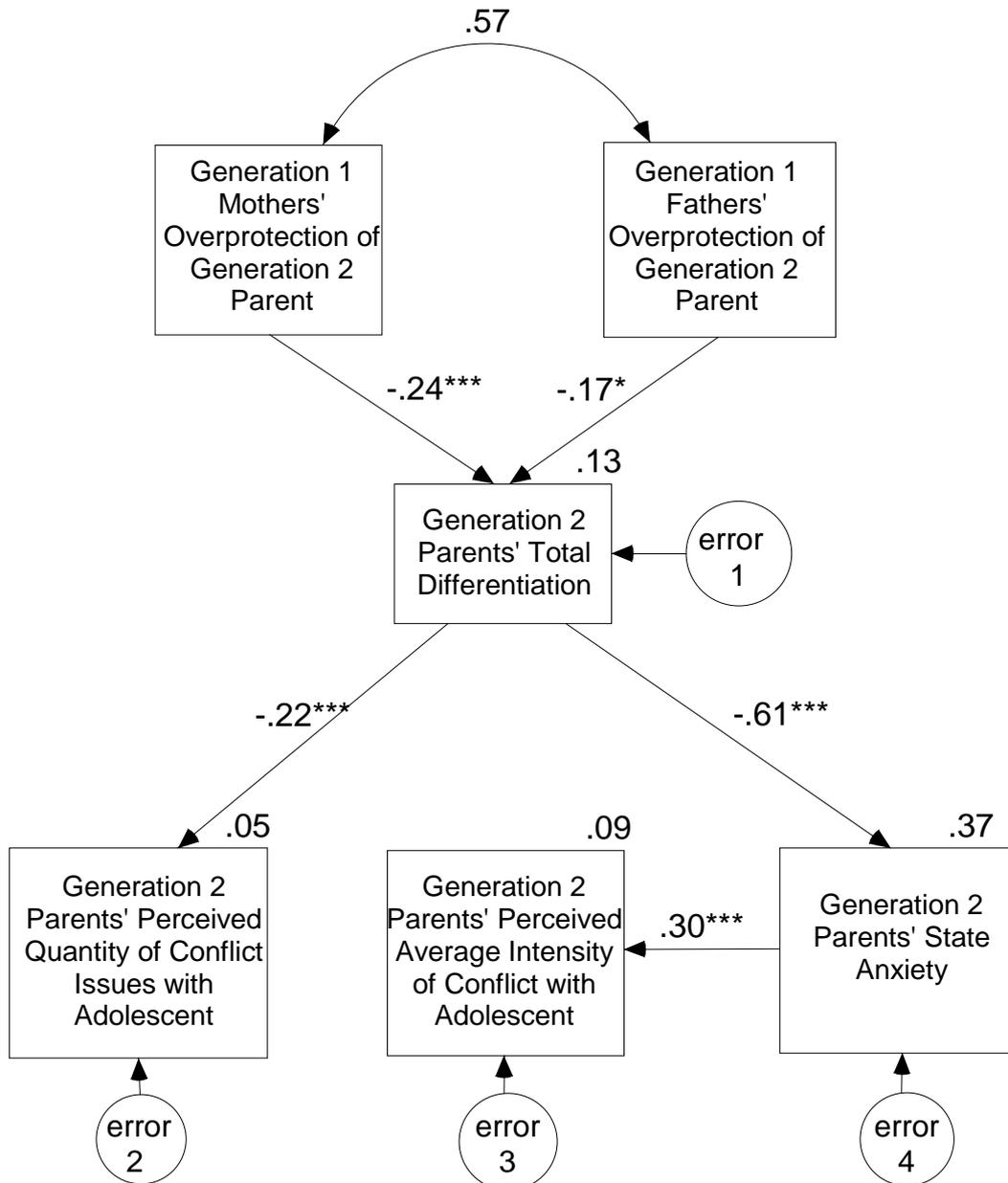
With the proposed model not acceptable because of non-significant paths it is appropriate to modify the model to produce a model that is a better fit with the data provided the modifications can be justified by theory (Byrne, 2001). In this case the deletions of the paths between quantity of conflict issues and anxiety and between total differentiation and conflict intensity are theoretically supportable. The amount of conflict is likely to be a direct expression of poor differentiation whereas the intensity of conflict is likely to arise from anxiety concerning the value of the self and maintenance of relationships with others; consequently and these paths will be deleted in the new model.

Based purely on the results of the initial model (Figure 7) it would seem appropriate to delete mother care and father overprotection as these do not

significantly contribute to the variance in total differentiation; however this does not sit well with the theoretical underpinning of the model. Parental overprotection is easily accepted as a manifestation of poor differentiation (Parker, 1983) and it could be expected that both mothers' and fathers' overprotection as markers of poor differentiation would predict poor differentiation in the following generation more strongly than the level of care. Father overprotection also correlates more strongly ($r = -.31, p < .001$) than father care ($r = .25, p < .001$) with total differentiation. With the correlation matrix indicating considerable variance shared between father and mother care and overprotection it is possible that the emergence of father care as the second strongest predictor of differentiation was a result of a poorly planned model incorporating unnecessary variables of parental care. It was decided on this basis to test a model with both mothers' and fathers' overprotection as the theory-based predictors of total differentiation.

Another model was therefore constructed with the non-significant paths between quantity of conflict issues and anxiety, total differentiation and conflict intensity removed and with mothers' and fathers' care removed (see Figure 8). The revised model was tested and several goodness-of-fit indices indicated that it was a moderately good fit with the data; the chi-squared statistic was not significant, $\chi^2 = 14.48, df = 8, p = .11$, CMIN/DF = 1.61; GFI = .98, AGFI = .96, RMSEA = .048, PCLOSE = .48. Although Standardised Root Mean Square Residual was .054, and ideally this is less than .05 for a good fit, the overall indication is that the model is an acceptable fit. All paths were now significant.

Overprotection by parents' mothers and fathers explained 13% of the variance in total differentiation; total differentiation explained 5% of the variance in quantity of conflict issues and 37% of the variance in parents' anxiety. Parents' anxiety



Chi-squared = 14.48, df = 9, $p = .11$, CMIN/DF = 1.61
 SRMR = .054, GFI = .98, AGFI = .96, FMIN = .054, RMSEA = .048 PCLOSE = .48

Figure 8. Amended model for influence of parental care and overprotection on parents' differentiation, anxiety and conflict.

Note: For regression weights * $p < .05$, ** $p < .01$, *** $p < .001$

explained 9% of the variance in average intensity of conflict. The final model (Figure 8), amended on the basis of statistical parameters but guided by Bowen Theory, differed from the initially proposed model with the removal of parental care as a factor influencing total differentiation, and of the links between quantity of conflict issues and anxiety and between total differentiation and conflict intensity. However the revised model supports Bowen's proposition that differentiation is passed from one generation to the next, with parents' differentiation in the parents' families of origin, here measured by overprotection, influencing the differentiation of the next generation, the parents of the adolescents in this study. The second generation parents' differentiation influences the number of issues involved in parent-adolescent conflict and is closely related to the parents' level of anxiety which in turn influences the emotional intensity of parent-adolescent conflict.

Model 3: Model linking parental differentiation with adolescent variables.

With the preceding analyses giving an understanding of the relationships between different adolescent variables and between different parent variables, the next step is to explore the relationships between the parent variables and the adolescent variables, and how parent characteristics influence adolescents' perceptions of their parents, attachment and adolescent mental health. A model has been proposed in Chapter 2 predicting that parental differentiation would influence the level of depression recorded by adolescents, the adolescents' parental attachment, adolescents' perceptions of their parents and adolescents' perceptions of the amount and intensity of conflict. With few fathers involved, use of father data creates problems with statistical power by reducing the number of cases available for analysis to those with both mothers and fathers involved. As Bowen predicted that mothers have the greatest influence on their children (Kerr & Bowen, 1988), and to

preserve the number of cases for analysis, only mother data have been used. For this analysis pretest data are used as these provide a greater number of cases with complete data provided by both mothers and adolescents ($N = 171$) and greater power for analyses.

A correlation matrix was constructed with the mother variables proposed to be the most likely to predict adolescent functioning, the differentiation scales and anxiety, and the adolescent variables considered to be the best proximal indicators of adolescent functioning: depression, parental attachment, appraisals of mothers and perceptions of conflict. Refer to Table 5. Comparisons with Table 2 and Table 4 show that the means for all variables are very similar to those reported for the earlier samples of adolescents and parents indicating that the current selection of adolescents and mothers does not appear to have systematically biased the sample on any of the variables involved.

The predictions of the proposed model were not strongly supported by the correlations found. Mothers' emotional reactivity is not significantly correlated with any adolescent variable; mothers' I-position and emotional cutoff correlate weakly with depression and attachment and moderately with adolescents' appraisals of their mother, and total differentiation correlates with depression, attachment and appraisal of the mother. Mothers' state anxiety correlates weakly with depression and adolescents' appraisals of their mother. No mother variable correlates with adolescents' quantity of conflict issues and only mothers' I-position and state anxiety correlate weakly with adolescents' perceptions of conflict intensity.

Although the number of cases in the analysis is only 171, this is acceptable for a simple structural equation model (Kline, 1998) so another model was constructed and tested using Amos 4 (Arbuckle & Wothke, 1999). This model

Table 5.

Means, Standard Deviations and Intercorrelations of Mothers' and Adolescents' Selected Pretest Variables (N =171)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Mo Emotional Reactivity	3.40	0.96		.64***	.38***	.86***	-.52***	-.06	-.02	-.08	.07	-.13
2. Mo I Position	4.02	0.73			.28***	.78**	-.54***	.00	-.18*	-.18*	.21**	-.25**
3. Mo Emotional Cutoff	4.64	0.86				.73***	-.54***	.05	-.08	-.18*	.18*	-.20**
4. Mo Total Differentiation	4.04	0.67					-.67***	.00	-.11	-.18*	.18*	-.24**
5. Mo State Anxiety	5.62	0.83						-.03	.19*	.20**	-.14	.18*
6. Ad Quantity conflict issues	3.82	.99							.16*	.31***	-.22**	.17*
7. Ad Conflict Average Intensity	1.31	0.28								.33***	-.48***	.39***
8. CDI	2.36	1.18									-.59***	.54***
9. Total Attachment	5.85	2.11										-.72***
10. Ad Appraisal of Mother	1.68	1.40										

Note: * $p < .05$; ** $p < .01$; *** $p < .001$. Mo = Mother, Ad = Adolescent, CDI = Childrens' Depression Inventory

reflected the model proposed in Chapter 2 (see Figure 3) but was amended to take account of the known correlations, with mothers' total differentiation predicting mothers' state anxiety, intensity of conflict and appraisal of mother; appraisal of mother influences depression both directly and through attachment, while mothers' state anxiety predicts depression and intensity of conflict, and conflict intensity also predicts total attachment. With 15 parameters to be estimated and 11 cases for each estimated parameter the sample size is acceptable (Kline, 1998). This model is reproduced in Figure 9.

The overall model fit was poor; the chi-square test was significant, $\chi^2 = 31.34$, $df = 6$, $p = .000$, CMIN/DF = 5.22, Standardised RMR = .11, GFI = .95 but Adjusted GFI = .81, RMSEA = .16, PCLOSE = .00. The regression weights for two paths were non-significant: the path between state anxiety and CDI, $p = .08$; indicating that any effects of state anxiety and differentiation on depression are mediated by attachment or perception of the mother, and between total differentiation and conflict intensity, $p = .80$, indicating that the effect of differentiation on conflict intensity is mediated by mothers' anxiety.

It is improbable that the removal of these two redundant paths would greatly improve the fit of the model, so it is necessary to turn to theory to improve the fit with the data. The research discussed in Chapter 2, for example Cooper (1988), Furman and McQuaid (1992) and Smetana (1996), indicated that emotionally intense conflict was more damaging to parent-adolescent relationships than less intense conflict. Hence it can be expected that the intensity of conflict will impact on adolescents' appraisals of their parents as well as on attachment. In the models of parent-adolescent interaction (see Figures 5 and 6) conflict intensity was treated as an exogenous or input variable correlated with other exogenous variables representing

Chi-Square = 31.34, df = 6, p = .000, CMIN/DF = 5.22

Standardised RMR = .11, GFI = .95, AGFI = .81, RMSEA = .16, PCLOSE = .00

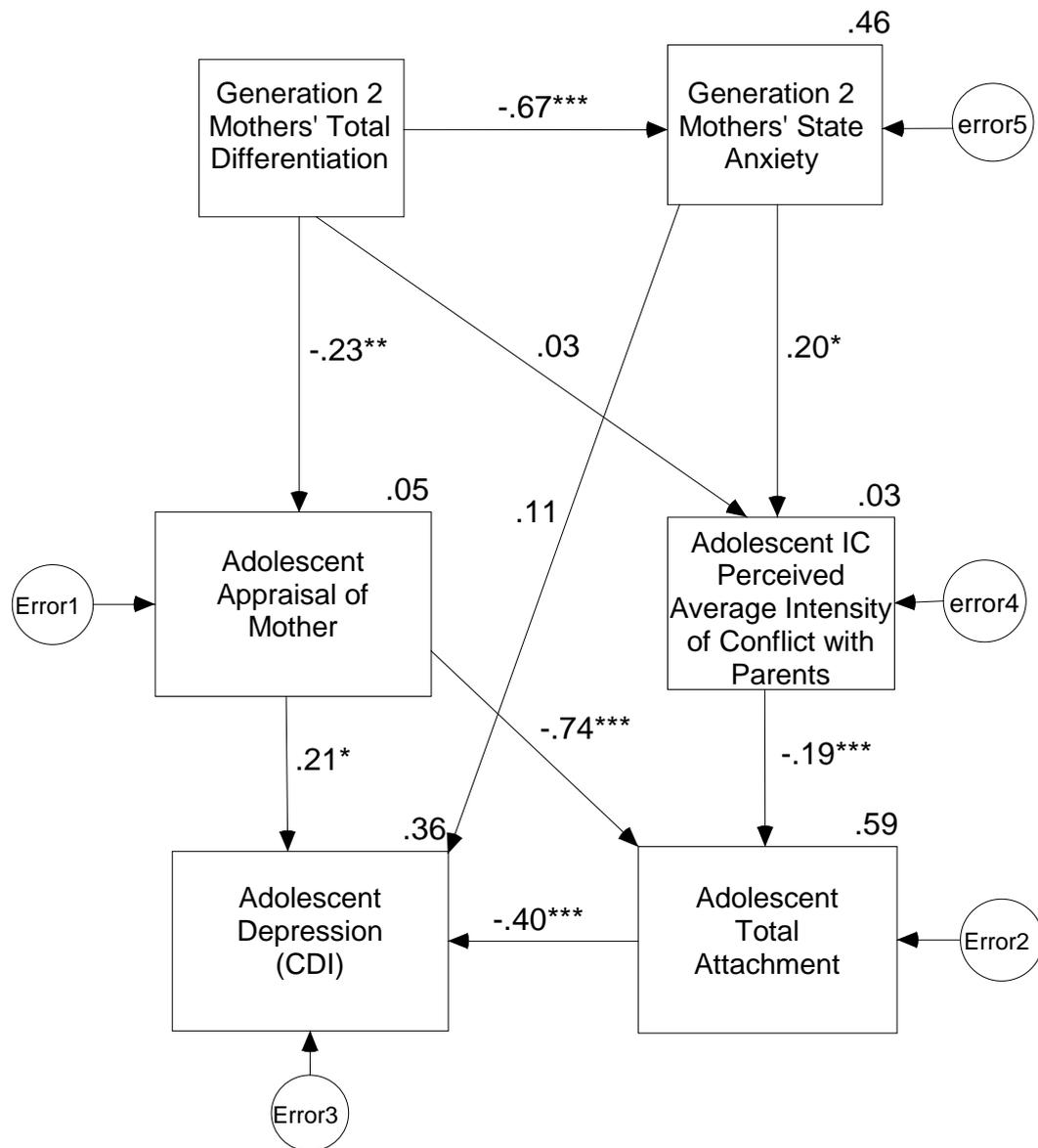


Figure 9. Initial Model for Mother Differentiation and Anxiety and Adolescent Variables

Note: For regression weights * p < .05, ** p < .01, *** p < .001

adolescents' appraisals of mother and father. However in the context of this current model with conflict intensity being predicted by anxiety and predicting attachment, the variance shared between conflict intensity and adolescents' appraisals of mothers ($r = .39, p < .001$) is not represented as a path or correlation but may well indicate that conflict intensity predicts perception of parents as well as attachment. Consequently the model was modified to include a path between conflict intensity and appraisal of the mother.

The new model (Figure 10) was a good fit to the data; $\chi^2 = 3.96, df = 7, p = .79$; CMIN/DF = 0.57, Standardised RMR = .026, GFI = .99, AGFI = .98, RMSEA = .00, PCLOSE = .91. All regression weights were significant, $p < .05$, and the model accounted for 45% of the variance in state anxiety, 3% of the variance in conflict intensity, 21% of the variance in appraisal of the mother, 64% of the variance in attachment and 37% of the variance in depression. Thus this model indicates that mother's poorer differentiation results in greater anxiety; this affects her interactions with the adolescents resulting in greater emotional intensity in conflict, poorer perceptions of the mother and lower levels of parental attachment and consequently higher levels of depressive symptoms. Mothers' differentiation and anxiety had been expected to strongly predict adolescents' reports of conflict intensity and appraisals of mothers but surprisingly predicted only 3% of variance in conflict intensity and 5% of variance (see Figure 9) in appraisals of the mothers' conflict interactions.

Model 4: Trigenerational model of parental differentiation influencing adolescent variables. One of the core tenets of Bowen Theory is the transgenerational transmission of differentiation. In this study the measures taken encompass three generations with measures of the adolescents' perceptions of their parents, the parents' perceptions of their own differentiation, anxiety and conflict,

Chi-Square = 3.96, df = 7, p = .79, CMIN/DF = .57

Standardised RMR = .026, GFI = .99, AGFI = .98, RMSEA = .00, PCLOSE = .91

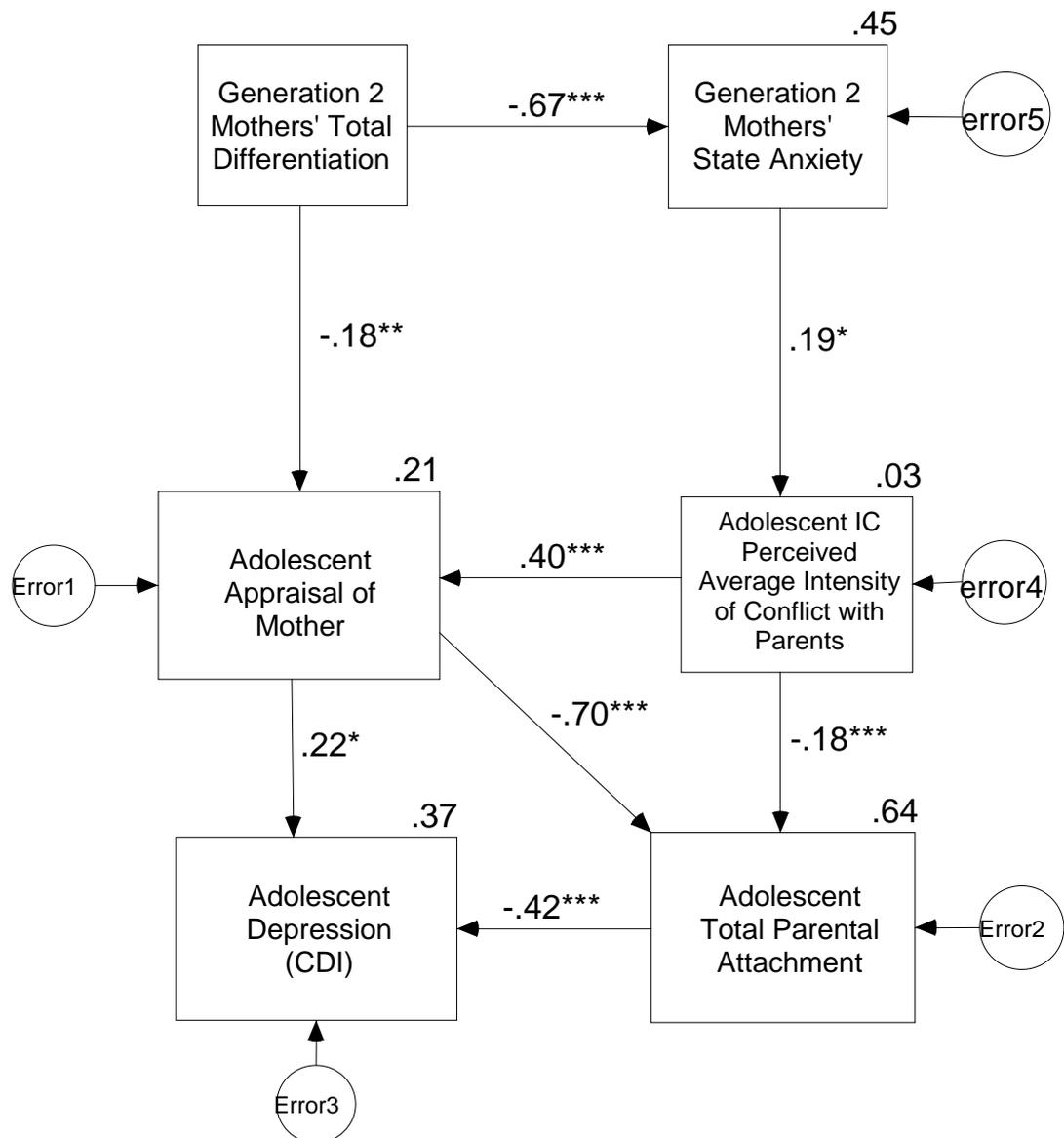


Figure 10. Amended model for mother differentiation and anxiety and adolescent variables

Note: For regression weights * p < .05, ** p < .01, *** p < .001

and the parents' perceptions of their own parents' differentiation measured as care and overprotection. To extend the model in Figure 10 to parallel the trigenerational model proposed in Chapter 2 (Figure 5) it was only necessary to include the measures of parental care and overprotection that have been found to predict differentiation in Figure 8. A correlation matrix (Table 6) shows the means, standard deviations and correlations between the mothers' pretest measures of mother and father overprotection and care and mothers' total differentiation for this sample which includes only mothers but not fathers in the second generation. A new model (Figure 11) was constructed replicating Figure 5 in Chapter 2 but modified as indicated by the previous model testing, and based on Figure 10 with mothers' and fathers' overprotection initially included as predictors of differentiation. Mothers'

Table 6

Means, Standard Deviations and Intercorrelations of Mothers' Pretest PBI and DSI (N = 171)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1 PBI Mother Care	21.89	9.40		-.43***	.58***	-.32***	.25**
2 PBI Mother OP	15.36	8.11			-.25**	.57***	-.26**
3. PBI Father Care	19.50	9.36				-.37***	.24**
4. PBI Father OP	14.63	7.29					-.27***
5. DSI Total	4.04	0.67					.

Note: * $p < .05$; ** $p < .01$; *** $p < .001$. PBI = Parental Bonding Inventory; OP = Overprotection; DSI = Differentiation of Self Inventory

Chi-Square = 15.70, df = 17, p = .55, CMIN/DF = .92
 Standardised RMR = .04, GFI = .98, AGFI = .95, RMSEA = .00, PCLOSE = .87

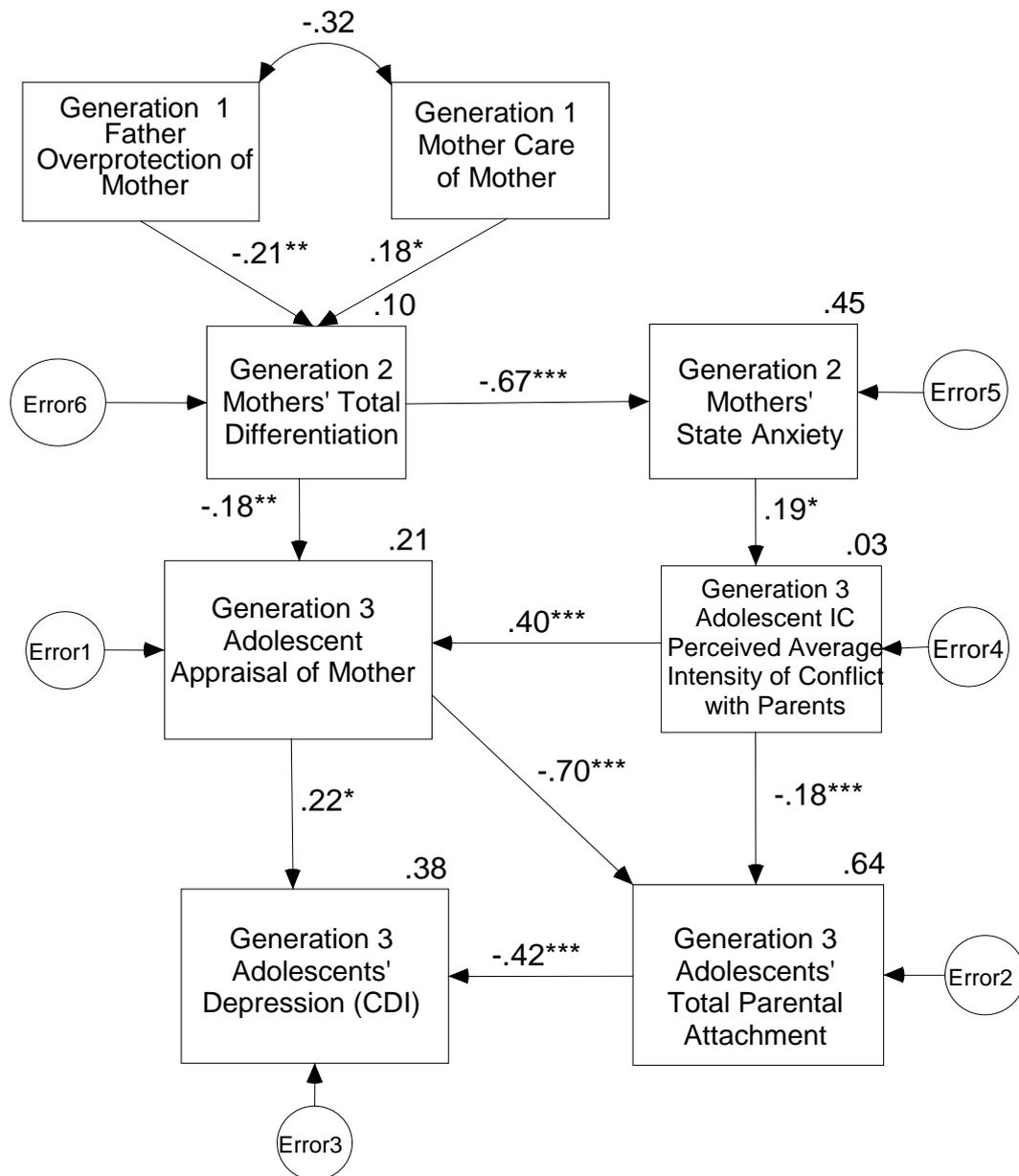


Figure 11. Tri-generational model for mother differentiation influencing adolescent variables.

Note: For regression weights * p < .05, ** p < .01, *** p < .001

overprotection was later replaced by mothers' care, as explained below. With nine cases for each estimated parameter the sample size is marginally acceptable for this model (Kline, 1998). With the sample including only second generation mothers and not fathers the regression weight for the path from mothers' overprotection to differentiation was just non-significant, $CR = 1.80, p = .07$, indicating that after father overprotection was accounted for, mother overprotection did not contribute significant variance in differentiation. However with mother care replacing mother overprotection as the second predictor of second generation differentiation (see Figure 11), which is still theoretically supportable, the model is a good fit with the data by all indices, $\chi^2 = 15.70, df = 17, p = .55$; $CMIN/DF = 0.92$, Standardised RMR = .036, GFI = .98, AGFI = .95, RMSEA = .00, PCLOSE = .87.

Thus this model represents an explanation of the paths by which higher fathers' overprotection and lower mothers' care representing poorer differentiation in the first generation predict poorer differentiation and higher anxiety in the mother in the second generation. Mothers' differentiation and anxiety in turn predict more intense parent-adolescent conflict, poorer adolescent perception of the mothers' conflict behaviour, poorer attachment and higher levels of depression in the adolescents in the third generation. Overall the model accounts for 10% of the variance in mothers' differentiation, 45% of variance in mothers' anxiety, 3% of variance in adolescents' perceptions of conflict intensity, 21% of variance in adolescents' perception of the mother, 64% of variance in attachment, and 37% of variance in adolescent depression. The model thus provides for the first time empirical evidence for Bowen's predictions that differentiation and its psychological sequelae are passed from generation to generation, over three generations.

Chapter 5

Discussion: Model Evaluation

The preceding chapter has reported the testing of proposed models explaining the relationships between a number of risk and protective factors believed to be linked to the development of adolescent depression and underpinning the development of RAP-P, and of the processes by which these factors develop. Knowledge of the ways in which these factors influence adolescent depression is essential for the development of any preventive intervention targeting depression among adolescents (Tolan et al., 1998). The testing and refinement of the proposed models has provided empirical support for the theoretical basis for the preventive intervention, the Resourceful Adolescent Parent Program (Shochet et al., 1998) described and evaluated in Chapters 6 to 9 of this study.

This study has for the first time provided a model linking adolescents' perceptions of their parents, parent-adolescent conflict and parental attachment with adolescent depression. It has also added to a very limited field of existing research into the multigenerational aspects of Bowen's central concept of differentiation of self, particularly in relation to the links between parents' differentiation and the mental health of their offspring, with the first reported models of the effects of parental differentiation on adolescents' perceptions of their parents and of parent-adolescent conflict, and consequently parental attachment and adolescent depression.

Model of Adolescent Variables Predicting Depression

The first model evaluated (Figure 5) proposed that adolescents' appraisals of their parents' interactions with them would be mediated by parental attachment in their influence on adolescent depression while the quantity and emotional intensity of conflict would influence both attachment and depression. After testing an amended

model (Figure 6) was found to be a good fit to the data. In this model adolescents' appraisals of parental interactions and of the emotional intensity of parent-adolescent conflict influenced parental attachment, which in turn influenced depression, while the number of conflict issues directly influenced depression. Adolescents' appraisals of the mother's interactions also had a direct influence on depression.

This model provides a new level of integration of these family-based factors related to adolescent depression. Previous research has demonstrated the links between attachment and depression (e.g. Kenny et al., 1993); between perceptions of the mother and adolescent well-being (Wierson & Forehand, 1992); and between conflict and depression, for example links between self-reported mother-adolescent conflict, observations of mother-adolescent interactions and adolescent depression (Forehand et al., 1988) but not the links between all these variables together. One prospective study (Sheeber et al., 1997) used observer data as well as adolescent and mother reports of conflict and family support to test models and found that family conflict correlated strongly with concurrent adolescent depression and predicted later depression and conflict. Sheeber et al also found that family support similarly correlated strongly with concurrent depression and predicted later depression and family support. Depression appeared to be the outcome of conflict and perceived support and did not predict later conflict or family support. However this study did not link conflict with concurrent or later adolescent perceptions of support

The adolescent's appraisal of the mother's interactions with the adolescent emerges as the strongest predictor of attachment, and as a moderately strong direct predictor of depression. The adolescents' appraisal of the father was confirmed as another predictor of attachment but is fully mediated by attachment in its influence on depression. The identification of the adolescents' appraisals of their mothers as

the strongest predictor of adolescent well-being, either directly or mediated by attachment, is not surprising. Bowen (1978) proposed that the mother's differentiation will have the greatest impact on a child's well-being, as the mother is usually the person who is most significant emotionally to the child. With the model in Figure 10 linking adolescents' mothers' differentiation with the adolescents' appraisals of their mothers, and Figure 6 confirming the importance of the adolescents' perceptions of their mothers as predictors of adolescent well-being, these models provide empirical support for Bowen's proposition.

Although on the basis of prior research the emotional intensity of parent-adolescent conflict had been expected to be a strong predictor of attachment and of depression, it had a relatively minor direct influence on attachment and no direct influence on depression. Figure 6 does however indicate that adolescents' perceptions of conflict intensity share significant amounts of variance with adolescents' appraisals of parents' conflict interactions, with significant correlations with adolescents' appraisal of mothers, $r = .38, p < .001$, and of fathers, $r = .24, p < .01$. Thus perceptions of parent-adolescent conflict as emotionally intense are strongly linked to negative perceptions of the mother which predictably strongly influence attachment. Unfortunately the restriction on model complexity imposed by the sample size precluded further exploration of the linkages between conflict intensity, appraisals of mothers and attachment.

The model linking mother's differentiation of self and mothers' anxiety with adolescent variables (Figure 10) casts further light on the contribution of the adolescents' perceptions of the emotional intensity of parent-adolescent conflict to adolescent well-being. In Figure 10 both adolescents' appraisals of their mothers and adolescents' perceptions of the emotional intensity of conflict are represented as

endogenous variables, influenced by the mothers' differentiation and anxiety. The correlation between adolescents' perceptions of conflict intensity and adolescents' appraisals of their mothers in Figure 6 is replaced in that model by a predictive path, with adolescents' perceptions of conflict intensity significantly contributing to the variance in adolescents' appraisals of their mothers, with a standardised regression coefficient of .40, $p < .001$. Comparison with Figure 9 which does not include this path indicates that adolescents' perceived conflict intensity contributes a further 16% of variance in adolescents' appraisals of their mothers' conflict interactions, which in turn strongly influence adolescents' perceptions of parental attachment and also adolescent depression.

Thus Figure 6 and Figure 10 provide for the first time models describing how the emotional intensity of parent-adolescent conflict is linked with adolescent depression, through the adolescents' appraisals of their parents' interaction styles and perceived parental attachment. These models integrate the findings of several earlier studies reviewed in Chapter 2. Laursen and Koplas (1995) proposed that the more emotionally intense conflicts are those identified by adolescents as the most significant and are those most likely to influence adolescents' well-being. Although adolescents' perceptions of their parents are influenced by the emotional intensity of conflict, this effect appears to be predominantly mediated by the adolescents' perceptions of how their parents deal with conflict. The ways in which adolescents perceive their parents, and in particular their mothers, to interact with them and deal with conflict are more important than how heated the conflict becomes. Hostile and emotionally intense conflict has been found to result in adolescents feeling unloved and avoiding interaction with their parents (Cooper, 1988); this would result in less secure attachment. Cooper's conclusions are supported in this study; adolescents

who report emotionally heated conflict with parents are more likely to report negative perceptions of their parents' interactions with them, and these negative perceptions of parents and in particular of mothers lead to poorer attachment and increased depressive symptomatology.

Laursen and Koplas (1995) found that the level of negative affect later attributed to conflict was related to the type of resolution of the conflict with negotiated resolution resulting in lower levels of negative affect than if the conflict was not resolved or was resolved through imposition of an outcome by one party. Smetana (1995, 1996) also found that conflict was less damaging if there was opportunity to discuss the issues and respect was displayed for the opinions of the other parties in the conflict. The models support these earlier findings. Item content of the IBQ (Prinz et al., 1979) used in this study to measure adolescents' appraisals of their parents' conflict interaction identifies aspects of interaction including perceived availability of the parent, parents' respect for the adolescent and the adolescent's views, how conflicts are resolved or left unresolved, and the processes of conflict. Where adolescents perceive parental availability, willingness to negotiate and mutual respect in dealing with conflict, they display more secure attachment and lower levels of depressive symptoms.

Flannery et al. (1993) found that adolescents' appraisals of their parents measured by a version of the IBQ were associated with parents' expressions of affect. Parent's expressions of positive affect were associated with less negative perceptions of parents while parents' expressions of negative affect increased adolescents' negative perceptions of conflict behaviour. The importance of adolescents' perceptions of primarily their mothers but also their fathers as demonstrated in this model (Figure 5) emphasises the need for parents to be available to the adolescents,

to be prepared to listen to their points of view and treat them with respect even if they don't agree, to avoid leaving conflicts unresolved and to maintain and express positive affect even in times of difficulty.

Reuter and Conger (1995) found that the environment in early adolescence predicted later levels of conflict and hostility. Where early adolescents experience warm and supportive environments, conflict levels tend to remain low and relationships with parents improve as adolescence progresses. However where early adolescents experience hostile emotional conflict, the levels of conflict and hostility increase over time, and relationships with parents deteriorate. Although this study did not investigate the trajectory of conflict, Reuter and Conger's findings combined with the findings of these models underline the importance of timing preventive interventions so that parents are aware of the need to deal with conflict sensitively and respectfully from early adolescence.

Secure parental attachment has long been identified as a strong protective factor against depression (e.g. Kaslow et al., 1994) and has been confirmed in this study as the strongest direct family-based psychosocial influence on adolescent depression. Attachment in small children is evident in the child's apparent perception of the attachment figure as their safe base and source of support, and their ability to move away from the attachment figure to explore the world before returning to the safe base (Ainsworth, 1989). This model (Figure 6) shows this concept of the parents as a safe supportive base to be very important for adolescent mental health as adolescents explore the boundaries of autonomy and independence as part of their journey towards fully autonomous adulthood. The aspects of parental attachment measured by the PAQ in this study, the affective quality of attachment, parental fostering of autonomy, and parents as sources of emotional support, reflect the

adolescent equivalent of the childhood manifestations of attachment. These dimensions of attachment appear to be close parallels to the aspects of parental care and overprotection (Parker et al., 1979) and of autonomy and relatedness (Allen, Hauser, Bell & O'Connor, 1994; Allen, Hauser, Eickholdt, Bell & O'Connor, 1994; Allen et al., 1996) found to be so important in studies mentioned in Chapter 2. Thus the model shows that adolescents whose parents maintain a strong affective bond with them whilst providing emotional support and fostering appropriately growing autonomy will experience lower levels of depressive symptoms. Conversely, the effects of parental affectionless over-control are well documented with this type of parenting associated with adolescent depression and other problems (e.g. Brent & Moritz, 1996; Martin & Waite, 1994).

The third predictor of adolescent depression confirmed in this model is the number of issues over which parent-adolescent conflict arises. Although conflict emotional intensity influences adolescents' perceptions of parental attachment, the number of conflict issues does not influence attachment but influences depression directly. Adolescents who are engaged in numerous conflicts with parents over a wide range of issues are more likely to be depressed than those who do not. Smetana (1996) found that adolescents in families with frequent wide-ranging conflict were most likely to suffer from problem behaviors and other disturbances and Smetana's finding is supported by the models. With the research reviewed in Chapter 2 indicating that the majority of parent-adolescent conflict in early adolescence is related to disparities between parents' and adolescents' perceptions of appropriate autonomy for the adolescents, this emphasises the benefits of parents' putting strategies in place to avoid these differences developing into conflict.

For the first time this model (Figure 6) has provided a depiction supported by

data of the ways in which adolescents' perceptions of the number of issues over which parent-adolescent conflict arises, the intensity of parent-adolescent conflict, parents' conflict interaction style with adolescents, and parental attachment, influence adolescents' depression. The number of conflict issues influences depression directly but does not influence perceptions of attachment, while the intensity of conflict has a minor direct influence on attachment but is moderately correlated with adolescents' appraisals of how their parents handle conflict with their adolescents and is shown in Figure 10 to contribute 16% of the variance in adolescents' appraisals of mothers' conflict interactions. The appraisals of how parents handle parent-adolescent conflict are of vital importance both to the adolescents' attachment to the parents, and in the case of mothers, to adolescents' development of depressive symptoms.

Attachment, measured as adolescents' perceptions of the affective quality of their bond to their parents, how well the parents facilitate their growing autonomy, and how the parents support the adolescents, is the strongest influence on depression.

As the basis for the development of a preventive intervention for adolescent depression (see Chapter 6) this model indicates the importance of minimising the range of issues involved in parent-adolescent conflict and of reducing the emotional intensity of this conflict when it happens. In conjunction with Figure 10 this model supports the propositions that the impact of emotionally heated conflict occurs through more negative appraisals of the parents and consequently poorer perceived parental attachment. It thus demonstrates the importance of parents' acting in such a way that their adolescents can perceive them as available, interested in the adolescents' point of view, and willing to resolve conflicts. The importance of parental attachment in the model emphasises the potential for positive benefits if parents maintain a strong affective bond with the adolescents while supporting the

adolescents' quest for appropriately growing autonomy. A preventive intervention for parents aimed at reducing the development of adolescent depression could then address all these issues.

Smetana (1988, 1995, 1996) describes the domain model of socio-cognitive development and links between the different domains and parent-adolescent conflict. The small sample size and the subsequent limitation on the number of estimated parameters in models meant this approach could not be evaluated in this study. However incorporating information from Smetana's model in a preventive intervention may assist parents in limiting conflict to those moral and safety areas in which it is appropriate for parents to retain control and in understanding the developmental need for adolescents to assume control of the other areas and assisting them to do so with parental support.

Bowen Theory: Influence of Parental Care and Overprotection on Parents' Differentiation, Anxiety and Conflict

The first model (Figure 7) involving parent data sought to confirm aspects of Bowen family systems theory which have not previously been widely tested. Bowen (1976, 1978) proposed the inter-generational transmission of differentiation of self with its links to parental anxiety and interpersonal conflict. The amended model (Figure 8) supported the hypothesised links between parental differentiation in the first generation, operationalised as second generation parents' retrospective perceptions of parental levels of overprotection and care in their families of origin, and differentiation in the second generation parents. Overprotection of second generation parents by the parents' father and mother in the first generation predicted poorer differentiation in the second generation parents and accounted for 13% of the variance in differentiation.

Second generation parents' differentiation was strongly related to their levels of anxiety, supporting a central tenet of Bowen Theory that links poor differentiation with high levels of anxiety. In turn second generation parents' anxiety predicted 9% of these parents' perceptions of the emotional intensity of parent-adolescent conflict. Second generation parental differentiation significantly but weakly predicted the number of conflict issues reported by these parents.

Although Bowen theory (Kerr & Bowen, 1988) specifically links poor differentiation with anxiety in interpersonal relationships, it seems that Bowen also links poor differentiation with more generalised anxiety which arises from the pressures of responsibility and uncertainty about a one's competence or acceptability. As an example, Kerr and Bowen (1988, pp. 117-118) in discussing the relationship between differentiation and anxiety in people with moderate levels of differentiation state:

Dealing with uncertainty, anticipating the worst, mulling over whether one is approved of, accepted, or rejected, being preoccupied with what "should" or "ought" to be done, or with one's inadequacy, and feeling overloaded by responsibility are common elements that feed people's anxiety. The more one depends on reinforcement from others, the more obsessed he will be about others' attitudes toward him and whether he is living his life the way he is "supposed" to.

Anxiety measured by the trait form of the measure of anxiety used in this study, the State Trait Anxiety Inventory (STAI; Spielberger et al., 1983), has previously been found to be strongly correlated with differentiation (Skowron & Friedlander, 1998). The STAI measures a wide range of anxious symptoms and feelings including those related to self-confidence, security, indecision and confusion, and previous research

related to differentiation of self indicates that the use of this general measure of anxiety is appropriate in this context. Differentiation has also been found to predict other forms of anxiety including test anxiety (Peleg-Popko, in press) and social anxiety (Peleg-Popko, 2002). This model supports previous research indicating that better differentiated people do experience lower levels of broadly defined anxiety.

As well as supporting Bowen's theory of transgenerational transmission of levels of differentiation the model clarified the relationships between differentiation, anxiety and conflict. Parents' perceptions of the range of issues involved in parent-adolescent conflict were directly linked to differentiation, not to anxiety, while the relationship between differentiation and conflict intensity was mediated by anxiety. Poorly or even moderately differentiated parents are driven by the need to be loved and approved of by others (Bowen, 1976) so could be expected to have great difficulty in allowing their adolescents to gain autonomy and move out from under the parent's control. This could easily result in a wide range of conflict issues as the parents sought to maintain control over the adolescents and the adolescents sought to establish themselves as autonomous individuals. Once conflict commences the poorly differentiated parent would need to either defend their stand or attack and demolish the views of their adolescents (Bowen 1976). They would become swamped by anxiety related to the potential outcomes of the conflict and find difficulty in dealing with the conflict in a rational manner, resulting in very emotional conflict. However more differentiated parents who were able to function with lower levels of anxiety would be able to calmly hold to their position without fear of the consequences to their self-esteem and would be more able to deal with differences of opinion between themselves and their adolescents rationally and without damaging emotional heat.

Model Linking Parental Differentiation with Adolescent Variables

The next proposed model (Figure 9) sought to link the parents' differentiation and anxiety with the adolescents' perceptions of conflict, perceptions of their mothers, attachment and depression. The amended model (Figure 10) demonstrates that mothers' differentiation and anxiety contribute a small but nonetheless statistically significant proportion of variance in adolescent variables. Figure 10 indicates that 21% of the variance in adolescents' appraisals of their mothers is explained by the model, however some of this variance is contributed by adolescents' perceived conflict intensity. Reference to Figure 9 indicates that 5% of variance in appraisal of the mother's interaction style is uniquely contributed by mothers' differentiation. The conflict interaction style of a poorly differentiated mother is appraised by the adolescent as more negative than the style of a well-differentiated mother, who would be able to deal with conflict more appropriately and more respectfully, and would be more able to exercise empathy than a poorly differentiated mother.

Mothers' state anxiety contributed 3% of the variance in adolescents' perceptions of the level of emotional intensity of parent-adolescent conflict. In the earlier model (Figure 8) linking parents' differentiation, anxiety and perceptions of conflict, parents' anxiety predicted 9% of the variance in parents' perceptions of the emotional intensity of conflict with the adolescents. Although adolescents' and mothers' perceptions of conflict intensity are not significantly correlated ($r = .09, p = .25$) the relationship between parents' anxiety and adolescent perceptions of conflict intensity although weak remains significant. Parents with lower levels of differentiation and consequently higher levels of anxiety deal with conflict in ways that result in heightened levels of negative emotion both in their own perceptions and

in the perceptions of the adolescents.

This model thus adds to a very small collection of research into the intergenerational effects of differentiation of self. As discussed in Chapter 2, there are very few studies linking parents' differentiation with their adolescent children's functioning. As far as we can ascertain this current study for the first time provides a model that can explain how parents' differentiation and anxiety influence the perceived mental health of their offspring.

Trigenerational Model for Parental Differentiation Influencing Adolescent Variables

The next model (Figure 11) sought confirmation for Bowen's proposition that differentiation is transmitted across generations, with one generation's differentiation predicting the next generation's differentiation, and this second generation's differentiation predicting the differentiation of the third generation. Figure 10 has demonstrated that parents' differentiation influences the well-being of their adolescents, but Figure 11 linked three generations: the adolescents (generation 3), their parents (generation 2) and the parents' parents (generation 1) and is derived from Figure 8 linking the first and second generations, and Figure 10 linking the second and third generations. Because of the small number of participating fathers the model linking parent and adolescent variables (Figure 10) was restricted to children with participating mothers but not necessarily participating fathers, and Figure 11 was also restricted to mothers, hence the relationships between first and second generation variables were slightly different to those in Figure 8 which incorporated both mother and father data. However first generation (adolescents' grand-parents) father overprotection and mother care together accounted for 10% of variance in second generation mothers' total differentiation and the remainder of the model was the same as Figure 10. Thus differentiation in the first generation

measured by the second generation mothers' retrospective perceptions of mothers' care and fathers' overprotection predicted 10% of variance in the second generation mothers' total differentiation which in turn contributed 45% of variance in second generation mothers' anxiety. The second-generation mothers' differentiation and anxiety influenced the third generation adolescents' perceptions of emotional intensity of conflict and appraisals of their mothers, thus influencing attachment and finally adolescent depression.

Summary

The purpose of this model-building exercise was to seek empirical support for the theoretical propositions on which RAP-P is based. This series of models has identified those psychosocial factors related to family interactions that impact on adolescent depression. For adolescents the strongest protector against depression is secure parental attachment, arising from a perception of the parents as available, affectionate, supportive and willing to foster suitable autonomy. Attachment is influenced by adolescents' appraisals of the parents' interaction styles on such variables as availability, willingness to hear the adolescents' points of view, and the conduct of the conflict. A further influence on attachment is the adolescents' perception of the emotional intensity of parent-adolescent conflict; emotionally intense conflict damages the adolescents' perceptions of parents as attachment figures. A risk factor for depression is the number of issues over which parents and adolescents conflict. One of the most influential variables in the models is the adolescents' appraisal of the mother; this appraisal strongly influences perceived attachment and also directly influences depression.

The parental influences on adolescent depression can be readily identified from the models. Parental differentiation and anxiety have demonstrable but small

influences on adolescents' attachment and depression. These are two potential foci for preventive interventions for adolescent depression. In this a guide is provided by Bowen therapy which aims to influence family functioning by improving parents' ability to manage their own anxiety; this allows them to deal more effectively with the challenges presented by their children (Nichols & Schwartz, 2004). With reduced levels of anxiety in the home the parents become more able to deal with problems on a rational basis rather than an anxiety-driven emotional basis.

Implications for preventive interventions for parents

The models have thus identified several key factors that can be addressed by a preventive intervention for adolescent depression. These factors and possible interventions to address them are:

1. Parental differentiation. Parents' differentiation was found to influence parents' levels of anxiety which in turn influenced the emotional intensity of parent-adolescent conflict. Differentiation also influenced the parents' conflict interactions with the adolescent, and hence the adolescents' appraisals of these interactions, impacting on adolescents' perceptions of attachment to parents and on adolescent depression. Poor differentiation is often linked to perceived threats to one's self-worth in the behaviour of others in close relationships. Interventions could assist improvements in building a solid sense of self-worth by focussing on capabilities rather than deficits and on parents' achievements rather than on the problems facing parents of adolescents. Following the Bowenian approach to family therapy (Nichols & Schwartz, 2004) which involves minimising emotionality during sessions through the atmosphere of the sessions and the therapist's approach, the creation of a collaborative, respectful, positive environment for the intervention, free from anxiety-provoking interactions, would also be helpful. Although it is unlikely that a

brief intervention could effect major changes in a parent's basic level of differentiation, improvements in functional differentiation in specific areas can be achieved through suitable interventions (Bowen, 1976; Kerr & Bowen, 1988; McElwain, 2002).

2. Parental anxiety was found to be closely related to differentiation and linked to the intensity of parent-adolescent conflict and hence to adolescents' appraisals of their parents and attachment. Interventions assisting parents to reduce and manage the levels of stress in the home and thus improve parents' management of their anxiety can be expected to bring about some changes in functional differentiation and consequently in the adolescents' appraisals of their parents and in adolescents' perceptions of the emotional intensity of parent-adolescent conflicts. Interventions to increase parents' awareness of the normal developmental stages of adolescence could enable them to see parent-adolescent conflict related to autonomy issues as developmentally appropriate rather than as rejection of themselves. This could reduce parents' anxiety caused by seeing these issues as personal threats and allow them to deal with these conflicts more rationally and calmly. Calmer methods of dealing with conflict in turn would improve adolescents' appraisals of their parents leading to better perceptions of attachment and better mental health and well-being.

3. Adolescents' appraisals of parents' conflict interaction styles were closely linked to the emotional intensity of conflict and strongly influenced adolescents' perceptions of parental attachment. Apart from the potential improvement in interaction styles resulting from reduced levels of anxiety, an intervention could assist parents to interact during conflict in such a way that the adolescents perceive them as available to talk, respecting the adolescents, ready to listen to the adolescents' point of view, and ready to negotiate meaningfully within appropriate

boundaries. In addition, positive affect expressed by parents reduces adolescents' negative perceptions of parents while expressed negative affect increases negative perceptions. Interventions could emphasise to parents the benefits of expressing positive affect and reducing expressions of negative affect during difficult interactions with adolescents.

4. Adolescents' attachment to parents was found to be the variable most strongly linked to depression. Parental attachment is strongly influenced by the adolescents' perceptions of parents' interactions with them, but is also influenced by adolescents' perceptions of a strong affective bond to the parents, and of the parents as supportive and as facilitating appropriate autonomy. Interventions could assist parents to develop an understanding of the developmental nature of adolescents' growing desire for autonomy, and to assist the parents to support growing autonomy in an environment of appropriate supportive attachment.

5. The number of parent-adolescent conflict issues was found to be directly although not strongly linked to adolescent depression. Interventions could assist parents to implement strategies to reduce the number of conflict issues and in particular those related to discrepancies between adolescents' and parents' perceptions of the appropriate levels of autonomy for the adolescents. Such strategies could include ways of preventing differences developing into conflict, for example by exercising empathy with the adolescents and attempting to see the problem from the adolescent's perspective, listening to the adolescents' points of view, and negotiating appropriate limits for autonomy. Awareness of normal adolescent development may assist parents to decide which issues can be appropriately handed over to adolescents and which issues justify parental involvement. It would then be important for the parents to demonstrate to the

adolescent that where they insist on maintaining some level of control their stand is the result of appropriate concern for the adolescent rather than intrusion for the sake of control over the adolescent.

6. Intensity of parent-adolescent conflict. The adolescents' perceptions of the intensity of parent-adolescent conflict have been identified by these models as one of the factors contributing to poor parental attachment, predominantly through adolescents' perceptions of their parents' conflict interactions. Interventions to assist parents in reducing the level of emotion in conflict with adolescents could improve the level of attachment which is a known protective factor against depression.

The first of these six key factors, parental differentiation of self, has been shown to influence the other five, namely anxiety, conflict interactions with adolescents, parents' ability to engender strong attachment by providing appropriate support for independence coupled with appropriate affective bonds, the number of conflict issues with adolescents and the emotional intensity of parent-adolescent conflict. This demonstrates the importance of an intervention that does not just attempt to provide strategies but that provides an environment in which parents' strengths can be validated, their self-esteem supported and their stress levels reduced, all factors in better differentiation. Although no brief intervention is likely to achieve great improvements in differentiation, small improvements in functional differentiation in parents' dealings with adolescents should be achievable and should have beneficial long-term effects.

Limitations of the Study

One limitation of this study was the constraint imposed on the possible complexity of structural equation models, by the limited number of participants. It is considered that around 20 cases for each parameter to be estimated is ideal although

around 10 cases per parameter is acceptable (Kline, 1998). Although models can be evaluated with smaller ratios of participants to estimated parameters the results can be unreliable. Hence modeling was constrained to models with no fewer than eight and in most cases at least ten cases for each estimated parameter. More complex models may have for example allowed the linkages between emotional intensity of conflict, appraisals of parents' conflict interactions and parental attachment to be more clearly delineated; however the benefits to be gained by such a level of detail in this case are doubtful. The limitations imposed by sample size and particularly the small number of participating fathers also precluded exploration of potential differences in the influence of fathers' and mothers' differentiation on the adolescents.

The small number of male adolescent participants similarly did not allow separate modeling for boys and girls. It may have been helpful to know whether the linkages between variables differed on a gender basis, mainly to allow intervention facilitators to highlight any significant differences in discussions with parents. Some differences between boys and girls have been noted with respect to the links between such environmental factors as parental attachment and affective outcomes (e.g. Calvete & Cardenoso, 2005; Kenny et al., 1993; Leadbeater et al., 1999) and it would have been helpful to further explore these links with the inclusion of the factors related to parent-adolescent conflict. However it may not be practicable to develop and implement different interventions for parents of boys and girls so again the benefits to be gained by separate modeling may be minimal.

Another limitation is related to the nature of structural equation modeling. Although models can be developed with good fit to the data there is no guarantee that these are the only or even the best representations of the relationships between

variables. It is essential that the models be developed as representations of the theoretical links between variables with each path able to be justified on the basis of theory. Some modifications to poorly-fitting models are obvious, for example the deletion of non-significant paths, but again these modifications must be theoretically supportable. Thus although this exercise has resulted in a series of well-fitting models there could be other equally well-fitting solutions. To construct and test all possible models would lead to unacceptably inflated probability of Type 1 errors.

Another limitation is related to the problems with the Fusion with Others subscale of the DSI discussed in the Methods section (Chapter 3). This problem was not identified until after all data collection was complete, and has meant that the concept of fusion has not been included in the DSI total score. Thus one aspect of the interpersonal dimension of differentiation could not be included in the models. However the models constructed with the DSI total score excluding fusion have been found to fit closely with Bowen's (1976, 1978) overall theory of differentiation in all other respects that have been tested.

With these limitations accepted, this exercise has provided a sound basis for the development of a preventive intervention that addresses family-based psychosocial risk and protective factors for adolescent depression. This intervention will be described in the next chapter.

Chapter 6.

Prevention of Mental Health Disorders

Introduction

This study evaluates the Resourceful Adolescent Parent Program (RAP-P; Shochet et al., 1998) in two stages. The first stage reported in Chapters 1 to 5 found support for the theoretical basis of RAP-P by developing and testing models linking the family-based risk and protective factors addressed by RAP-P. The second stage of the study covered by Chapters 6 to 9 investigates the theory and practice of prevention particularly with reference to the prevention of adolescent depression and the development of RAP-P, then describes and reports the evaluation of two formats of RAP-P.

In this chapter the developing focus on prevention in the area of adolescent mental health will first be reviewed. The factors influencing the development and implementation of preventive interventions will then be addressed; these include the theoretical and developmental basis for the intervention and the selection of the target population. Previous prevention strategies for adolescent depression will be reviewed, with a particular focus on family-based interventions and the problems encountered with the implementation of interventions involving parents. RAP-P, which is the focus of this dissertation, will be described and the hypotheses to be tested in the evaluation of RAP-P will be formulated.

The Developing Focus on Prevention in Adolescent Mental Health

The early history of prevention as a health science was concerned with improvements in hygiene and sanitation and the developments of vaccines to reduce the spread of infectious and often deadly diseases in the nineteenth century (Mrazek & Haggerty, 1994). In the mental health area prevention generally refers to activities

or interventions that occur before the onset of a mental disorder in order to reduce the occurrence of new cases of the disorder (Mrazek & Haggerty, 1994) or delay the onset of new cases of the disorder or of new symptoms (Compas et al., 1997).

Durlack (1997) lists four primary aims for prevention in mental health: to prevent the appearance of new problems, to prevent the development of early or mild forms of a disorder into more serious manifestations of the disorder, to reduce the seriousness of new problems, and to delay the onset of new problems.

Being generally directed towards healthy people, prevention in mental health aims to minimise or reduce those factors that may increase the probability of individuals developing the disorder, known as risk factors, or to strengthen the protective factors that reduce the response to the risk factors or improve resistance to the disorder (Coie et al., 1993; Munoz et al., 1996; Tolan et al., 1998). Prevention usually involves a multi-disciplinary approach including among others medical professionals, psychologists, social workers, teachers and other education professionals (Durlack, 1997) although psychology is considered to be the discipline that has contributed the most to prevention in the mental health area (Munoz et al., 1996).

Although it was an under-emphasised area for many years (Compas et al., 1997), the development of interventions for the prevention of mental health problems in children and adolescents is now a growing field of research (Durlack, 1997) and is receiving strong Government support in many countries. The need for preventive interventions for young people is highlighted by the finding of the Australian National Mental Health Survey (Sawyer et al., 2000) that only one in four young people with diagnosed mental health problems received professional help, for a number of reasons. In Australia prevention has been a strong focus of the recent

national mental health strategies. The National Mental Health Policy 1992 (Australian Health Ministers, AHM, 1992a) focussed primarily on restructuring the provision of mental health care but also set objectives for the development and evaluation of primary, secondary and tertiary preventive programs, and the encouragement of further research into the causes of mental disorders and the development and evaluation of primary prevention mental health interventions based on this research. The reported achievements of the National Mental Health Plan 1992 (Australian Health Ministers, AHM, 1992b) which put these policies into effect included advances in prevention strategies for youth suicide and in school-based mental health promotion (Commonwealth Department of Health and Aged Care, DHAC, 1998a).

In Australia there is also a specific emphasis on the development of family-based prevention programs targeting mental health problems in adolescents and children. In 1994 a government sponsored Scientific Advisory Committee on Families and Mental Health sought to sharpen the focus of mental health initiatives on families, and recommended that the first National Mental Health Plan be amended to reflect the importance of family relationships in determining mental health, and the effects of mental illness on families. This Committee recommended that mental health workers should be better trained in methods of effective family interventions, and that research into family risk and protective factors and family preventive interventions should be a priority for the National Health and Medical Research Council (Sanders, 1995).

The 1999 Australian Mental Health Promotion and Prevention National Action Plan (DHAC, 1999) focused primarily on evidence-based psychosocial preventive interventions. This Action Plan encourages the implementation of those

interventions with strong empirical support and potential for improvements in human and economic costs, while also providing for the development, piloting and evaluation of further innovative approaches to prevention and health promotion (DHAC, 1999). The 1999 Action Plan has been refined and updated by the National Action Plan for Promotion, Prevention and Early Intervention for Mental Health (Action Plan 2000; DHAC 2000) in response to feedback from stakeholders and users; Action Plan 2000 incorporates more recent developments in mental health, and in particular includes early intervention strategies.

With depression prevention identified as a priority mental health area, and with coercive, aggressive parenting considered a risk factor and supportive care considered an important protective factor, the family is seen in Australia to be a critical setting for preventive interventions aimed at reducing the future incidence of depression, (AHM, 1998; DHAC, 1998b). The Action Plan 2000 (DHAC, 2000) lists several desired outcomes of mental health prevention for young people aged 12-17 years including "positive parenting skills and optimal family functioning" (p. 30) and includes as one of the agreed national activities required to achieve the outcomes "Support development and evaluation of adolescent parenting programs" (p. 31).

Alongside the National Mental Health Plans the Australian Government also administered the National Youth Suicide Prevention Strategy for the period July 1995 to June 1999 (Commonwealth Department of Health and Family Services, 1997). Adopting a biopsychosocial model, the Strategy utilised a range of interventions including primary prevention, early intervention, crisis intervention, treatment and support, and prevention of access to means of harm. The Strategy focussed on the adoption of evidence-based practice across all the relevant service systems with activities including policy development and planning, research and

evaluation, communication, education and training, networking and collaboration and community development. An evaluation of the National Youth Suicide Prevention Strategy (Mitchell, 2000) made generally positive findings about the strategy but concluded that at the time there were no data to indicate that the strategy had resulted in significant improvements in the well-being of young people or that the strategy had been associated with changes in risk or protective factors relevant to youth suicide. However some trial programs funded under the strategy had provided some evidence for positive outcomes for some target groups (Mitchell, 2000).

While the field of evidence-based prevention research is still in its infancy, many preventive interventions designed to improve adolescent mental health have been found to be effective. Durlack and Wells (1997) conducted a meta-analysis of 177 evaluations of primary prevention mental health programs for children and adolescents. To be included in the analysis studies were required to include some form of control groups, and to be primary prevention interventions with a mental health thrust. The mean effect size for the reviewed studies was 0.34. For studies in which the measured outcome variable was related to internalizing symptoms, predominantly anxiety or depression, the mean effect size at post-intervention was 0.32 while at later follow-up the mean effect size was 0.40. Durlack and Wells (p.137) state "These outcomes are impressive since participants are functioning in the normal range to begin with and thus should not be expected to change dramatically."

Population Approaches to Prevention

The focus of preventive interventions is on populations that are for some reason at risk of the development of the targeted disorder (Tolan et al., 1998). Preventive interventions target groups of individuals who do not meet the criteria for diagnosis of the disorder, or do not display more than very early indications or

symptoms of the disorder; once the disorder becomes evident a treatment intervention is indicated (Mrazek & Haggerty, 1994). Although the probability of negative outcomes increases with the presence of one or more risk factors, some individuals exposed to risk factors do not develop problems. It is not possible to predict which individuals within populations, and even within at-risk populations, will develop the disorder, so it is appropriate for prevention to focus on reducing the risk within populations rather than on the risk to individuals (Durlak, 1997; Rose, 1992).

Preventive interventions may take one or more of three population-based approaches: universal, selective or indicated (Munoz et al., 1996; Mrazek & Haggerty, 1994). Universal preventive interventions are designed to reduce the incidence of particular outcomes in a normal or healthy population in which most individuals do not exhibit symptoms of the disorder, and are offered to all individuals within that population. Selective preventive interventions are intended to target a sub-population considered to be at heightened risk because of certain shared characteristics associated with increased risk of the disorder, for example children of depressed parents, members of families with low income or members of disadvantaged minority groups. Indicated preventive interventions target individuals within a population who are identified as being at high risk for further development of the disorder because of the presence of early symptoms or conditions found during some screening process.

The different target populations for universal, selective and indicated preventive interventions influence the cost per person and hence the intensity of the intervention for each individual, the importance and required accuracy of screening processes, and the amount of incremental change achievable in each person. Because

of the large numbers of potential participants universal interventions will use the least resources for each individual and have the lowest intensity while indicated interventions use most resources per person and have the highest intensity. Consequently the incremental change in participants is likely to be smallest in universal interventions and greatest in indicated interventions in which all participants have been chosen because of known risk and hence known need for risk reduction (Tolan et al., 1998). No screening is usually carried out in universal interventions, participants in selective interventions are screened on the basis of their existing membership of specific groups, and accurate screening is required for indicated interventions (Offord, 2000; Tolan et al., 1998). The selection of the appropriate population strategy will now be considered in more detail.

Selection of population approach. The choice of a universal, selective or indicated prevention approach is very important and will affect the design and implementation of the intervention. With a problem like adolescent depression, universal interventions could be directed towards whole populations such as communities, schools or school cohorts and could address individual, family, school or community risk and protective factors; selective interventions could be directed towards particularly at-risk groups such as children of mentally ill parents or ethnic minority children from lower socioeconomic areas, and indicated interventions could be directed towards adolescents showing early symptoms of depression.

The greatest advantage of indicated interventions is that by targeting only people who already show some signs of predisposition to the disorder, the number of participants can be reduced and the intensity of the intervention for each person can be increased (Tolan et al., 1998). For this to happen a screening process is required to identify the potential candidates, so that resources can be properly directed to

those at high risk and in need of the intervention (Offord, 2000; Tolan et al., 1998). The accuracy of screening will determine how many potential participants will be identified and how well the intervention meets the needs of the identified individuals. If the screening process fails to identify potential participants who are indeed at high risk, these people will miss out on the benefits of the intervention. If the screening process falsely identifies healthy people as at high risk the number of participants could be greater than necessary, increasing the cost of the intervention or diverting available resources from those who need them.

There are two major disadvantages with indicated preventive interventions. Firstly, the identification of potential participants through screening can also have negative consequences. Selection to take part in a preventive intervention could result in negative self-labelling of the individual, or labelling by others (Greenberg, Domitrovich & Bumbarger, 2001; Offord, 2000; Rose, 1992; Stein et al., 1991), resulting in stigmatisation and perception of being different. This may be a particular problem for adolescents for whom it is important not to be seen as different to the peer group.

The second major drawback is that the intervention reaches only those individuals who are selected on the basis of high risk; consequently individuals who are healthy at the time of screening or do not meet criteria for high risk status do not benefit from the interventions. Unfortunately our ability to predict future disorders is poor, and over time more cases will come from initially low risk, healthy people than from the identifiable high-risk groups (Offord, 2000) and more of the burden of ill-health will be contributed by many people at low inconspicuous risk than by the few at high risk or with identifiable problems (Rose, 1992). Thus although targeted interventions may benefit the majority of participants, many future cases of the

disorder are not prevented.

Universal preventive interventions are offered to whole populations irrespective of risk status, usually without screening or prior assessment of the status of potential participants. The potentially large number of participants in universal interventions raises significant problems of cost so it is necessary to balance cost and effectiveness in universal preventive interventions (Sanders, 1998; Webster-Stratton, 1996). This means that the intensity of the intervention for each individual participant will not be as high as for targeted interventions, and the incremental change for each participant will be less (Offord, 2000; Tolan et al., 1998). For some participants at strongly elevated risk the intervention may not be sufficiently potent to prevent the development of the disorder (Offord, 2000). At the same time, only a minority of the population, possibly around 20% for disorders such as depression, will ever suffer from the disorder and so justify the intervention (Collins, 1990; Offord, 2000). Consequently much of the effort and resources invested in the intervention could be seen as achieving nothing and thus seen as wasted.

However the wide reach of universal interventions has advantages compared with targeted interventions. With all members of a population involved, the problems of labeling and stigmatisation are overcome. For example, interventions targeting adolescents can be administered as part of school curriculum involving whole classes of students without any selection process, so no individual feels singled out as needing the intervention and consequently different or inferior (Offord, 2000). In addition, by being administered to all members of the population the intervention provides some benefit to those individuals who may be healthy or not identifiable as at high risk at the time, but later due to circumstances become at higher risk or may contract the disorder. These individuals would not have received

help through a targeted intervention, but with a universal intervention they may receive input that may reduce the potency of the risk factors and provide additional resources to prevent or reduce the development of the disorder. Small incremental changes over a large number of individuals can have a greater effect of the burden of disease than larger changes in a few high-risk individuals (Rose, 1992).

The wide reach of universal interventions means that they often involve large numbers of participants whose risk status is unknown and whose response to the intervention may not be closely observed. It is therefore important that there is minimal risk or no risk of negative outcomes for any potential participants and the intervention must be essentially benign (Mrazek & Haggerty, 1994; Tolan et al., 1998).

Prevention Approaches to Adolescent Mental Health

With the focus of this dissertation being a preventive intervention for adolescent depression, it is appropriate to examine the current status of prevention for adolescent mental health and in particular adolescent depression. The literature reports a range of different types of interventions with universal, selective and indicated target populations, and at different ecological levels (Bronfenbrenner, 1979). At the microsystem level, the setting may be the family or the school, or the immediate circle of acquaintances who interact with the individual. Risk and protective factors for problems such as depression exist within the individual and within each of these settings, and these risk and protective factors may be addressed by preventive interventions.

A strong theoretical and developmental basis for preventive interventions is essential, primarily to gain a thorough understanding of the role played by the risk and protective factors in increasing the probability of the development of the disorder

or in reducing the impact of the risk factors (Brown & Liao, 1999; Durlack & Wells, 1997; Tolan et al., 1998). The theoretical model should also identify the proximal outcomes that are predicted to be affected by the intervention, and explain the relationships between the intervention, these proximal outcomes, and the distal or final outcome intended for the intervention, and how the intervention will eventually impact on the distal outcome and reduce the incidence of the targeted disorder (Tolan et al., 1998). This is necessary because with interventions related to adolescent depression or suicide the long-term or distal outcomes of reduced adolescent depression and suicide will not be measurable until the end of adolescence.

With an appropriate theoretical and developmental foundation, the intervention can be timed to occur at a point in the developmental trajectory when its effects will be maximised (Sanders, 1998; Tolan et al., 1998). For example an intervention designed to decrease the incidence of adolescent depression and suicide by fostering adolescent wellbeing may be based on the known connections between depression and risk factors including emotionally charged parent-adolescent conflict, negative perceptions of parents and poor levels of parental attachment (Birmaher et al., 1996; Kaslow et al., 1994). Such an intervention may provide parent training and education to enable parents to improve these aspects of family life. The intervention could recognise the intergenerational effects on adolescents of poor differentiation in the parents arising from their own families of origin and assist the parents to interact with their adolescents in less stressful ways and to reduce their own stress levels as well as building the self-esteem of the parents by focusing on their strengths and successes in parenting. Such interventions would optimally be timed to occur at or just before early adolescence when these issues and their effects become prominent in many families; they would be of much less value later in adolescence when

negative interaction patterns have become entrenched in the family.

Times of transition, for example from one level of schooling to another, are important developmental milestones (Bronfenbrenner, 1979) with the potential for either positive or negative outcomes depending on how successfully the transition is negotiated, and are times when preventive interventions may be particularly effective (Durlack & Wells, 1997; Roberts, 1999). Interventions to assist parents to guide their adolescents through transitions such as the move from primary schooling to high school may be both sought after by parents and advantageous to their children.

As discussed in Chapter 2, identified risk factors for adolescent depression within the individual include genetic predisposition as well as negative cognitive processing styles, poor self-esteem, external locus of control and maladaptive coping strategies (Lewinsohn et al., 1994). Risk and protective factors exist in the different microsystems in the individual's environment: within the school poor school connectedness is a risk factor for behavioural problems and poor well-being (Kuperminc, Leadbetter & Blatt, 2001; Resnick et al., 1997) while within the family poor attachment, parental overcontrol and emotionally heated parent-adolescent conflict are risk factors for depression and other mental health problems (Kaslow et al., 1994; Roberts, 1999). Risk and protective factors also exist within other systems and may be related to some factors in the community such as low income and membership of disadvantaged ethnic groups (NHMRC, 1996); however these factors are beyond the scope of this paper. Environmental preventive interventions for adolescents and children can therefore focus on risk and protective factors in the individual, the family, the school or the community (Durlak, 1997).

Many of the preventive interventions developed for adolescent depression have focussed on risk and protective factors within the individual, while some have

focussed on the school and surprisingly few on the family (Roberts, 1999). Until recently there were no recorded universal preventive interventions for adolescent depression with most of the earlier preventive interventions being either indicated or selective interventions.

Evidence for prevention in adolescent mental health. One trial of an indicated preventive intervention reported by Clarke et al. (1995) addressed individual risk factors in high school students identified as at heightened risk for depression by elevated but sub-clinical levels of depressive symptoms. Participants were randomly assigned to a cognitive group intervention or a "usual care" condition. At 12-month follow-up the intervention significantly reduced the development of depression in the intervention group compared to the usual care group. In this trial the final sample of 150 was 32% of the at-risk potential participants, with an additional 46 (10%) referred to other services. Attrition over 12 months was 27%.

Another trial of an indicated preventive intervention for adolescent depression (Jaycox, Reivich, Gillham, & Seligman, 1994), targeted 10 to 13 year old adolescents who were selected on the bases of elevated depressive symptoms and family conflict. The group intervention provided training in cognitive skills, social problem solving skills, coping skills, negotiation skills and assertiveness. The authors found significant improvements in explanatory style and depressive symptoms for intervention group participants compared with controls at post-intervention tests and at 2-year follow-up (Gillham, Reivich, Jaycox, & Seligman, 1995). At 6 month follow-up fewer children from the intervention groups than from the control groups had developed moderate levels of depression. At 3-year follow-up there were no between-group differences in depressive symptoms but differences in explanatory style persisted (Gillham & Reivich, 1999). Recruitment rates for this

study were low at less than 20% of potential participants and attrition over two years was about 30%.

More recently there have been reports of trials of school-based universal preventive interventions for adolescent depression. There are good reasons for offering preventive interventions through schools: firstly nearly all children and adolescents attend schools making the schools very attractive sites for delivery of prevention (Dishion & Kavanagh, 2000), and secondly the promotion of preventive interventions through schools has benefits as the support of schools often provides credibility (Hogue, Johnson-Leckrone & Liddle, 1999).

In an early trial of a school-based universal preventive intervention for adolescent depression, Clarke, Hawkins, Murphy and Sheeber (1993) exposed adolescents in Years 9 and 10 to a three-session educational intervention. Compared with the control group, males but not females in the intervention group showed some short-term reduction in depressive symptoms after the intervention but the reduction was not sustained even over 12 weeks. In another study reported in the same article Clarke et al. administered a five-session behavioral training educational intervention to Year 9 and 10 adolescents but after the intervention no differences were found between the intervention and control groups. These brief interventions were insufficient to achieve any sustained benefit, unlike the cognitively-based indicated preventive program by Clarke et al. (1995) discussed earlier, which achieved significant benefits for participants. The findings support the conclusion of Durlack (1997) that education-only programs although easy to administer are ineffective in prevention.

The Resourceful Adolescent Program for Adolescents (RAP-A; Shochet, Holland, & Whitefield, 1997) is one example of a universal intervention to address

some of the individual risk factors for adolescent depression. RAP-A was developed as a resilience-building universal school-based intervention to be offered as part of normal curriculum, thus avoiding any selection process and potential labeling and stigmatisation problems. Although delivered in the school environment RAP-A addresses individual risk and protective factors through strategies including cognitive restructuring, building self-esteem through a positive focus on strengths, conflict management and building and maintaining personal support networks.

RAP-A was found in the initial controlled trial (Shochet et al., 2001) to impact on both initially depressed and initially healthy students. In this trial RAP-A was presented to Year 9 students by specially trained mental health professionals. Students in intervention groups exposed to RAP-A showed significantly lower levels of depressive symptoms after the program than their counterparts in the no-intervention control groups. Students with sub-clinical levels of depression at the commencement of the trial who were exposed to RAP-A were significantly less likely to have developed clinical levels of symptoms and significantly more likely to have become healthy at follow-up than those in the control group, while initially healthy students in the intervention groups were significantly less likely than those in the control groups to have developed sub-clinical or clinical depressive symptoms at follow-up.

In a further trial of RAP-A to examine its effectiveness in a real world situation (Montague & Shochet, 2000; Shochet, Montague & Ham, 2002) RAP-A was presented by specially trained education professionals (predominantly teachers and guidance officers) with mental health professionals used only where needed. RAP-A was found to achieve significant improvements on one measure of depression for girls at post-intervention, but made no significant difference for boys.

However both boys and girls reported improvements in their own behaviour and were able to provide instances of their use of the strategies they had learned from RAP-A. No differences in outcomes were found between teachers and mental health professionals as group leaders.

A version of RAP-A adapted for use in New Zealand has been found to reduce depressive symptoms in intervention group participants compared to control group participants, and to provide a net improvement in the condition of students in the intervention groups contrasted to a net deterioration in the control group (Merry, McDowell, Wild, Bir & Cunliffe, 2004). This study attracted 73% of potential participants and retained over 70% of participants to 18-month follow-up. A Dutch translation of RAP-A has also been found to be effective as an indicated intervention with positive effects on anxiety, depression and self-efficacy (Muris, Bogie & Hoogsteder, 2001).

In another trial of a school-based universal intervention designed to prevent adolescent depression (Spence, Sheffield, & Donovan, 2003) teachers who had undergone a special training program provided cognitive restructuring and problem-solving skill training to students. The intervention was delivered in class over eight weeks. Students were classified as at high risk on the basis of scores on the depression inventories or of meeting other established criteria. At post-intervention high-risk students in the intervention group displayed greater reductions in depressive symptoms and increases in problem-solving scores than high risk students in control groups; low-risk students in the intervention groups showed significant reductions in depressive symptoms while low-risk students in the control group showed increases in depression scores. Low risk students in the intervention groups showed significantly greater increases in problem-solving scores than low-risk

students in control groups. However none of these effects persisted at 12-month follow-up.

Thus there is some evidence for the efficacy of prevention programs for adolescent depression that address the risk and protective factors in the individual, whether targeted or universal, although in most cases the positive effects have not been found to persist in the long term. However the trials of universal interventions have demonstrated that these interventions do provide some benefits to healthy students who would not have been included in targeted interventions. In addition, while the targeted interventions have generally reported poor recruitment rates and high attrition, the universal interventions have reported good recruitment rates (better than 70 %) and low attrition, thus providing more reliable results than those of the indicated trials which may have been influenced by self-selection biases.

Preventive Interventions Involving Families

It is widely recognised that parents and families exert considerable influence on the development of children; this influence is demonstrated by the much of the research reviewed earlier in Chapter 2. Remarkably, however, very few preventive interventions have focused on families or family systems as a means of improving the well-being of children and adolescents (Roberts, 1999; Tolan et al., 1998), and many of these have not been rigorously evaluated (Spoth, Redmond & Shin, 1998). Family-based interventions have been developed targeting a range of outcomes for children and adolescents, but most of these have targeted problems such as conduct disorders and substance abuse. Shepard and Carlson (2003) evaluated 20 school-based intervention programs involving parents, and found eight of these met criteria to be considered successful, with five of the eight involving adolescents and their parents in programs for the prevention of substance abuse. Most of the other

programs reviewed targeted conduct problems in younger children.

One apparently successful program reported by Kosterman, Hawkins, Spoth, Haggerty and Zhu (1997) aimed to improve parent-child relationships in sixth and seventh grade children in a rural area in the US with the long-term objective of preventing later substance abuse. After a multistage intensive recruitment process involving schools, press advertisements and telephone follow-up this program recruited 57% of potential participants and retained about 80% of these to post-testing. The intervention group displayed improved proactive communication, improved parent-child relationships, improved problem solving, reduced conflict and reduced negative mother-child interaction, all known predictors of reduced substance abuse. The authors claim that this is the first parent training intervention to demonstrate actual behaviour change in a community sample. As far as can be ascertained no successful preventive interventions for adolescent depression that involved parents have been reported in the literature.

Compas et al. (1997) in their review of prevention of adolescent depression, commented on the lack of interventions addressing contextual risk and protective factors including those related to the family environment. Greenberg et al. (2001) in their review of effective prevention programs for children did not include any family-based programs related to childhood or adolescent depression. Roberts (1999) in reviewing the state of prevention of childhood and adolescent depression reported no programs targeting the family-based psychosocial risk and protective factors and identified this area as one needing future research. Shepard and Carlson (2003) in their review of school-based intervention programs that involved parents similarly did not report any parent programs targeting adolescent depression. This is a

significant omission in the development of preventive interventions for adolescent depression.

One notable exception is the study of a selective intervention by Beardslee and colleagues (Beardslee et al., 1993; Beardslee, Wright, Rothberg, Salt & Versage, 1996) which involved the whole families of depressed mothers in a psycho-educational program. With parental affective disorder recognised as a risk factor for adolescent depression (e. g. Birmaher et al., 1996) this intervention focused on family competencies and strengths and on improving the participants' understanding of the effects of parental depression. In this study families of depressed mothers were assigned to either a lecture based intervention providing information about the impact of parental depression on families, or to a clinician based intervention in which families were provided with information similar to that provided in the lecture-based intervention, but parents and children also met individually with the clinician to discuss their specific experiences.

At post-intervention both groups reported satisfaction with the intervention and decreases in concerns but the group receiving the clinician based intervention reported greater levels of satisfaction and more behaviour and attitude change after the intervention. Assessments over a three-year period indicated that the changes were maintained and indeed additional improvements were reported at later assessments. The effect of the intervention on depression in the children was not reported. This study indicated that improvements can be achieved through psychoeducational means addressed to family systems rather than to individuals, and particularly when the information was linked to the family's own experiences.

Beardslee et al. (1997) further examined the effects of these interventions in a trial involving 36 families with at least one depressed parent and at least one non-

depressed child aged between 8 years and 15 years. Families were allocated to either lecture based or clinician based interventions, with no control group. In this trial the mental health and functioning of the children were assessed at each of three times of testing as well as the children's perceptions of the parents' depression and family functioning. Parents' perceptions and functioning were also assessed. Children in both groups reported significant benefits from the interventions. No differences were observed between groups on measures of the children's mental health but children in the clinician group showed better functioning, better understanding of the parents' disorder, better communication and more identified changes. Parents in the clinician group reported more changes in behaviors and attitudes than those in the lecture group while parents in both groups reported significant reductions in concerns about their children. Parents' behaviors and attitude changes were significantly related to children's increased understanding of the parents' disorders, children's behaviors and attitudes.

Beardslee, Gladstone, Wright and Cooper (2003) conducted a large-scale trial of the same interventions with families with at least one parent with an affective disorder and at least one non-depressed child. The sample included 93 families, 121 children and four times of testing over three years. Scores of measures of internalizing problems decreased significantly for children in both groups, with no group difference. Parents in both groups reported significant changes in children's behaviors and attitudes over the time of the study, with the amount of change increasing during the third year of the trial. Parents in the clinician group reported greater changes in child-related behaviors and attitudes than those in the lecture group, with the most change in the children of parents who changed the most. Child-reported changes in understanding of the parents' disorders were associated with the

amount of parent-reported change in child-related behavior.

Beardslee et al. (2003) concluded that children's understanding of their parents' disorders promoted resilience in the children. They also concluded that the the greater family focus of the clinician based intervention, with all family members involved, as well as the close cognitive links between matters discussed in the clinician intervention and the families' own experiences, provided the greater improvements found with the clinician intervention compared with the lecture intervention attended only by parents. Beardslee et al. also concluded that the success of these interventions supported the use of family-based approaches to prevention of childhood and adolescent depression.

There is ample evidence that interventions or treatments addressing both adolescents and their parents are more effective than those addressing only adolescents (Durlack, 1997; Greenberg et al., 2001) and such interventions are recommended by Greenberg et al. as best practice. Some family-based interventions that provide ongoing family support from infancy have recorded significant long-term improvements in parent and child functioning compared with controls, but these interventions were very expensive of resources and consequently limited in their application (Weissberg, Caplan & Harwood, 1991).

However the literature does not show significant benefits from involving parents in interventions targeting adolescent depression. Clarke, Rohde, Lewinsohn, Hops and Seeley (1999) report that a cognitive behavioral treatment intervention for depressed adolescents resulted in positive effects with better recovery rates and lower levels of self-reported depression but the addition of a parent component to augment the adolescent therapy did not significantly improve the outcomes. Brent et al., (1997) found that although systemic behavior family therapy, cognitive therapy and

nondirective supportive therapy all resulted in significant improvements in depressed adolescents, cognitive behavior therapy was more effective than family therapy and nondirective supportive therapy, resulting in more rapid and more complete treatment outcomes.

Programs involving parents and intended to assist in improving adolescent well-being by reducing parent-adolescent conflict have often focussed on the development of social skills, problem solving skills and communication training (Robin & Foster, 1989). Some studies of problem solving and communication skills training have produced mixed results in terms of parent-adolescent conflict but have seldom measured the effects on the well-being of the adolescents (Foster, 1994). In one study (Openshaw, Mills, Adams & Durso, 1992) a commercial social skills training course was provided for families with high levels of conflict. Openshaw et al. reported improvements in methods of handling conflict but no improvements in the adolescents' perceptions of their relationships with their parents, factors which have been found to be critical factors moderating the effects of conflict on the wellbeing of adolescents (Cooper, 1988; Reuter & Conger, 1995).

A possible reason for the lack of success with interventions of this type is suggested by Brent et al. (1997) who compared Systemic Behavioural Family Therapy (SBFT) with Cognitive Behavioural Therapy and non-directive supportive therapy as treatments for adolescent depression. Brent et al. proposed that the focus of one phase of the SBFT on identifying family conflict and developing new ways of family interaction may have caused reemergence of symptoms at that time, delaying the response to the therapy. Although family conflict is a known risk factor for adolescent depression, the prevention of depression through addressing interaction styles alone does not seem to be the best approach to this problem. Smetana (1996)

suggests a shift in focus from parent-adolescent conflict to the promotion of those positive family characteristics that foster optimal adolescent development.

It has been suggested (Hogue et al., 1999) that positively oriented programs that recognise and build on strengths are more favourably received and more attractive than those that explicitly or implicitly focus on overcoming deficits, for example programs claimed to improve parenting skills. Strength-building programs that acknowledge the parents' expertise and authority in parenting and normalise the developmental issues that arise in all families are also more likely to gain the interest of parents who are unaware of any current specific parenting problems (Hogue et al., 1999). Any focus on deficits in the child or parents, or any potential negative labeling of either child or parents needs to be avoided, with a focus on the potential positive outcomes more likely to attract the interest of parents (Prinz et al., 2001). However the literature reveals very few interventions of this type.

There is evidence that strong age-appropriate attachment is a protective factor against adolescent depression and indeed against many other adolescent problems. There is also evidence that positive parent self-esteem and hence good differentiation will improve the quality of parent-adolescent relationships. However this approach seems to have been neglected. No family based preventive interventions to strengthen attachment and parental differentiation could be identified, although one study (Diamond, Reis, Diamond, Siqueland & Isaacs, 2002) reports the development of an attachment-based family therapy treatment for depressed adolescents. The Resourceful Adolescent Parent Program (RAP-P; Shochet, Holland, Osgarby & Whitefield, 1998) which is the subject of this research was developed to fill this need.

The Resourceful Adolescent Parent Program RAP-P

RAP-P has been designed to operate as an environmental intervention at the family level. RAP-P supplements the Resourceful Adolescent Program for Adolescents (RAP-A; Shochet et al., 1997) which is a school-based universal preventive program addressing adolescents' individual risk and protective factors. Both RAP-A and RAP-P are designed to be administered as universal interventions and offered through schools, with RAP-A provided to adolescents as part of their curriculum and RAP-P offered to their parents. Both programs are designed to be positive, strength focused, resilience building programs. As universal interventions offered to entire school cohorts, the RAP programs are intended to avoid the stigmatisation of selection for an indicated program, and to provide skills and resources to adolescents who are currently healthy, and to their parents, to equip them to deal with unpredictable future challenges. The first trial of RAP-A demonstrated that RAP-A achieved these goals and not only helped depressed students but also reduced the probability of healthy students becoming depressed a year later (Shochet et al., 2001).

RAP-P was developed to foster adolescent well-being by addressing the aspects of the family environment that foster or inhibit adolescent well-being. RAP-P is different to many other preventive interventions in that it is directed towards parents and is particularly concerned with promoting parental well-being. Benefits to the adolescents are expected to arise through the improvement in the parents' wellbeing which affects the family systems and thus the adolescents. The stated aims of the program are: to help parents boost their own self-esteem and the self-esteem of their adolescents; to help parents reduce their own negative emotional over-reactions to their adolescents, and to help parents manage their adolescents'

negative emotional over-reactions to them (Shochet et al., 1998, p. 10).

The program was developed to be administered to the parents of adolescents in Years 8 and 9 and is most often promoted to parents of Year 8 (12 to 13 years) adolescents. Year 8 has been chosen as the optimal time for parents to participate in RAP-P as this is a time of transition from primary to secondary school and a point in normal development when it may be particularly helpful to parents. In addition, research previously reviewed (e.g. Laursen et al., 1998) identifies early adolescence as the time when parent-adolescent conflict can be expected to be greatest, and indicates that lower levels of conflict at early adolescence predict better parent-adolescent relationships and levels of parent-adolescent conflict in later adolescence, and better adolescent mental health (Reuter & Conger, 1995). It is the time when parents may be experiencing for the first time the challenge of the need to increase the autonomy that they give to their children, and the need to balance this autonomy with continuing but changing supportive relationships with their adolescents (Collins, 1997).

RAP-P has been developed primarily as a universal preventive intervention rather than as an intervention for selected participants considered to be at heightened risk, or as an indicated preventive intervention for participants who display evidence of specific risk and need for intervention (Tolan et al., 1998). As well as helping troubled families to function at an improved level it is also directed towards healthy families where there are no indicators of problems with their adolescents, with the intention of increasing parents' competencies and well-being and strengthening the positive family environment and thus protecting against the development of adolescent depression

In its original and most common form RAP-P involves three workshop

sessions of between two and three hours, usually presented weekly, although other formats such as Friday night and Saturday morning and afternoon may be used (Shochet et al., 1998). The workshops are presented by trained and accredited facilitators and include presentation of material by the facilitators, facilitated small group discussions and facilitated large group summary sessions. A Group Leader's Manual (Shochet et al., 1998) provides a step-by-step outline of the program, although facilitators and leaders are encouraged to become so familiar with the material that the Manual is used only as a check to ensure adherence to the program. Representative extracts from the Group Leaders' Manual are provided in Appendix E. When RAP-P is part of a school-based resilience-building program, possibly in conjunction with RAP-A, the workshops may be held at the school attended by the adolescents either during school hours for parents who are available then, or after hours for parents who find this a more appropriate time. Each parent receives a copy of the Participant's Workbook (Shochet, Osgarby & Dyer, 1999) in which they record their responses in the activities. Extracts from the Participants' Workbooks are provided in Appendix F.

RAP-P draws on an integration of Bowen family systems theory, cognitive-behavioural theory and a developmental psychoeducational approach. From the family systems perspective RAP-P focuses on the inter-generational effects of the levels of differentiation of parents on their adolescents, and the inter-relationships between differentiation, stress and conflict. From the cognitive behavioural approach the program presents strategies for stress management, cognitive restructuring, and management and prevention of conflict, and introduces parents to cognitive-behavioural principles related to self-managed change in behaviours and emotions. In an application of social learning theory, group facilitators model to participants those

interpersonal processes such as active listening, validating, positive reinforcement and showing empathy that are central to good family relationships. The process of delivery of RAP-P is thus of great importance. A psychoeducational approach is adopted to assist parents to be aware of and understand the normal developmental needs of early adolescents; with the understanding that what is happening is part of the normal development of their adolescents the parents are less likely to react emotionally and more likely to provide support to the adolescents. Perceiving the difficulties of adolescence as a developmental stage rather than as a result of poor parenting is also less threatening to the parents' self-esteem.

The RAP-P program seeks to assist parents to reduce and manage conflict with their adolescents by drawing on the parents' experiences of adolescence to foster empathy with their children and to provide an intergenerational and developmental perspective. It provides education for the parents about the adolescents' need for increasing autonomy in an environment of close relationship with parents and facilitates this by addressing the parents' emotional reactivity to their adolescents through stress management and stress reduction. Parents are encouraged to recognise their adolescents' strengths and accomplishments as this will help to build the adolescents' self-esteem and to foster their differentiation (Shochet et al., 1998).

The program has three parts, each with three major themes. Each part occupies one workshop session. Part 1, "Parents are people too!" conveys the key message that "Parents do a great job and deserve a pat on the back." Part 1 has themes of identifying what we do well as parents, understanding how stress affects us as parents, and managing our stress. Identifying and underlining parents' competencies is related to Bowen's concept of differentiation of self in which low self-worth is seen as one aspect of poor differentiation; with self-worth dependent on

the approval of others, poorly differentiated individuals devote considerable energy to achieving the approval of others or fighting against a relationship system in which they have been unable to achieve approval (Bowen, 1976). Bowen theory describes how poorly differentiated parents are likely to find the adolescent individuation process very painful, and to attempt to retain their control over their children, making it difficult for adolescents to maintain appropriate attachment to their parents as they move through this phase. The research into the origins and effects of parent-adolescent conflict reviewed in Chapter 2 indicates that the results of poor differentiation are factors in much of this conflict; hence any improvement in differentiation should reduce the amount and intensity of parent-adolescent conflict. RAP-P draws parents' attention to their competency as parents as a strategy to improve parental self-esteem and differentiation of self. Bowen theory also postulates the connection between differentiation, anxiety and stress; in this part of RAP-P parents identify how their parenting is better when they are not stressed than when they are stressed, and are provided with strategies for the reduction of stress.

The key message of Part 2, "What makes teenagers tick?" is "Parents are important in teenage development." The themes of Part 2 are: understanding my teenager better, building up my teenager's self-esteem, and supporting teenage independence with attachment. The session commences with the reading of the book "Love You Forever" (Munsch, 1986) emphasising the need for appropriate unconditional love for children, and the transmission of this love across generations. The parents are asked to recollect their teenage years, and the proudest moments of their own adolescence, and identify the impact of the presence of important others in those moments. Parents also think back to the difficulties they experienced as adolescents and relate these to the difficulties their teenagers experience as the

facilitator draws out the themes of self-esteem and independence with appropriate attachment and parental support. Parents are invited to "step into the shoes" of their adolescents and attempt to understand how their adolescents' think and feel, particularly in their highest and lowest times. The session continues with a psycho-educational segment discussing the age-appropriate development of independence supported by appropriate attachment and how parents can support this process.

For Part 3, "Promoting positive family relationships," the key message is that "Positive family relationships increase self-esteem and well-being for all." Part 3 has themes of promoting harmony in our families, preventing and managing conflict between teenagers and parents, and looking forward to a positive future. Parents discuss strategies for promoting ongoing harmony in families as "money in the bank" for times when inevitable conflict occurs. Parents also discuss their approaches to preventing differences turning into conflict, managing conflict when it occurs, and moving on after conflict by signaling the end of conflict and re-establishing harmony. In this session parents also consider their sources of support at times when different problems occur. The session and the program finish by imagining how the parents' teenagers will be dealing with life in five years, and what positive things they will say about their parents at that time.

The RAP-P workshops have been well received prior to this study, with feedback from more than 200 participants indicating high levels of satisfaction. However recruitment rates for RAP-P workshops have not been high, possibly due to the investment of time required (Hogue et al., 1999; Tolan et al., 1998). In an initial controlled trial of RAP-A and RAP-P (Shochet et al., 2001) in 1996 only 10% of children in the RAP-P condition had a parent who attended all three workshops, with the result that no useful data about the efficacy of RAP-P could be obtained. This is

not uncommon with preventive interventions involving parents; this problem will now be discussed.

Problems with Engagement of Parents in Preventive Interventions

It has been found to be notoriously difficult to recruit parents to participate in preventive interventions or prevention research (Capaldi, Chamberlain, Fetrow & Wilson, 1997; Durlack, 1997; Hogue et al., 1999; Toumbourou & Gregg, 2002) and in particular to participate in interventions involving parent attendance at schools or at evening sessions (Durlack, 1997). Durlack cites one parent intervention in which only 55 out of 1500 parents invited to participate actually took part in the intervention. It is commonly found that the parents who are recruited are those who least need the intervention while those who can benefit most are often the least likely to participate (Hogue et al., 1999). Good recruitment is essential for prevention trials as poor recruitment rates of less than about 50% severely threaten the ability to generalise the results of prevention research. The factors leading to refusal to participate are unknown, and the self-selected sample may include people who did not need the intervention because of low risk but not those at higher risk (Brown & Liao, 1999; Hogue et al., 1999; Stein et al., 1991).

One problem that is relevant not only to parent interventions but to all universal preventive interventions is that there may be no motivation for potential participants to become involved. Preventive interventions are not sought by clients because of recognised need but are offered to a certain population or part of a population on the basis of perceived risk (Tolan et al., 1998). Consequently many parents who have reasonably good relationships with their adolescents do not have the motivation to participate in the program to obtain relief from an identified problem, and possibly have little recognition of the risk of problems to which they or

their adolescents are exposed. Such parents may have little motivation to commit themselves to three workshop sessions of two or three hours duration each, about parenting adolescents.

Despite these reservations there is evidence that school-based interventions that involve parents can recruit sufficient numbers of parents to be considered successful. Shepard and Carlson (2003) evaluated 20 school-based interventions involving parents and found that 15 of these achieved positive results while eight met criteria to be considered either proven to be efficacious or probably efficacious. Of these eight studies five involved students in Years 6, 7 or 8, including the age range of the present study. All these five studies concerned substance abuse (alcohol, drugs or smoking) prevention, areas of significant concern for most parents where the potential benefits are significant and understood by most parents.

Emphasising the potential concrete benefits of the intervention is helpful in engaging parents' interest and providing motivation to become involved (Hogue et al., 1999). This may best be achieved by considering the parents' perspectives and engaging the parents' goals for their children (Prinz et al., 2001). As an example, at the commencement of high school many parents are aware of the potential pitfalls of adolescence and want to give their children the best possible start in the high school years. If the parents are unable to identify specific problems that may be addressed by the intervention, they may become involved if they see the program as improving their child's future, but they are unlikely to become involved in an intervention that they see as targeting a possible problem that may arise some years later if ever (Tolan et al., 1998). Recruitment material that recognises the parents as the best resources and as sources of information about rearing adolescents are also more likely to attract parents than those that focus on need or problems (Hogue et al.,

1999; Shepard & Carlson, 2003).

Durlack and Wells (1997) found that of all the categories of interventions reviewed in their meta-analysis of preventive interventions for children and adolescents only parent training programs did not result in significant improvements, and proposed that one reason for this may be that it is difficult to involve the parents who need the intervention. Durlack and Wells recommended that researchers continue efforts to develop effective environmental interventions involving parents. Despite this finding of ineffectiveness there is good evidence for the effectiveness of preventive interventions addressing adolescent depression and good justification for the development of further programs in this field. Demands on parents' time and conflicts in scheduling can be among the strongest disincentives to participation (Hogue et al., 1999; Tolan et al., 1998). Durlack (1997) finds no proven way to involve parents but suggests the provision of interventions in the home or in workplaces to improve parent participation rates. Hogue et al. suggest that convenience to parents and flexibility in provision of interventions are important in maximising parent participation. There is thus some motivation to develop flexible delivery formats of preventive interventions in which parents can participate at their convenience in their homes without having to schedule time to attend sessions at schools or elsewhere. It would seem that such flexible interventions may be more attractive to parents and increase recruitment for preventive interventions.

Efficacy of flexible delivery interventions. One approach found to be appropriate for broadly distributed flexible delivery interventions for use in the home is the use of videotaped material. The use of videotaped, self-directed presentations of educational material and of modeling of desired behaviours has been found to be both economical and effective in altering parental attitudes and behaviours in

interventions ranging from less than one hour (e.g. Mayer, Anderson, Gabriel & Soweid, 1998) to several hours (e.g. Webster-Stratton, 1996).

A 20 minute self-directed videotaped intervention intended to raise parent awareness of the risk of lawnmower injuries to children, the severity of possible injuries and strategies to prevent injuries, resulted in significant increases in beliefs about the severity of injuries and changes in several targeted behaviors (Mayer et al., 1998). A videotaped, self-directed intervention which provided psychoeducation and modeling of parent behaviours to parents of children with behaviour disorders in 10 programs of 25 minutes duration each (Webster-Stratton, 1994) has been found to be very economical but effective in reducing undesired parent behaviour and improving parental attitudes (Webster-Stratton, Hollingsworth & Kolpacoff, 1989). A shortened version of this program has been found to be effective with Head Start families as a selective preventive intervention against the development of conduct disorders (Webster-Stratton & Hancock, 1998).

RAP-P Videotaped Flexible Delivery Format

With the evidence briefly reviewed above and other evidence for the value of videotaped interventions, a videotaped format of RAP-P (Shochet, Osgarby, Dyer & Wurfl, 1999) was developed as a flexible delivery intervention to make it less costly of parents' time and thus more attractive for parents to be involved in the program. This flexible delivery version of RAP-P, which can be used at the family's home at their convenience, uses videotaped presentations and a workbook. The videotaped presentation has a duration of one hour, but when used with the workbook it would require at least two hours to watch the video and complete all the exercises. It was difficult to include all the matter presented at the workshops in a videotaped presentation that was not so long that parents were unlikely to watch it, so some

sections of the program were presented in a slightly different format. The group discussion times could not be replicated in the video so these were replaced by sections in the video and in the workbook in which some contributions from parents at workshop sessions are reported. Parents are asked to record their own experiences and strategies in their workbook as they would be at the face-to-face workshops. The directions in the workbook lead the parent through the process, referring the parent to the appropriate parts of the workbook for the exercises. A pilot study (Douglas, 1999) found generally good acceptance of the video program, although no attempt was made in this study to measure the efficacy of the program. Parents in this pilot study considered that personal contact with a telephone facilitator was an essential part of the intervention.

Thus in this evaluation of RAP-P two forms of RAP-P will be evaluated: the workshop version and the videotaped flexible delivery version. It is predicted that engagement rates for the videotaped format will be higher than for the workshop format while consumer satisfaction for both formats is predicted to be similar. It is also predicted that both formats will be similarly efficacious in improving the well-being of the adolescent participants.

Evaluation of RAP-P

The desired long-term or distal outcomes of RAP-P as a universal preventive intervention are reductions in the proportion of adolescents who meet criteria for depressive disorders. With these distal outcomes not measurable until the end of adolescence, an indication of the effectiveness of the intervention could be obtained post-intervention and at 12-month follow-up by comparisons between participants who do and do not receive the interventions on measures of the proximal effects known to predict the desired distal effects (Tolan et al., 1998). The modeling study

(Chapters 3 to 5) showed that the starting point for change and hence the target of the intervention and the first desired proximal outcome would be improvement in parents' functional differentiation and levels of anxiety which have been found to be linked to conflict and hence to the adolescent variables. Improvements in parents' differentiation and reductions in parents' anxiety should result in reduced frequency and intensity of conflict, leading to improved appraisals of the parents by the adolescents and of the adolescents by the parents, and as consequences of these, improved secure parental attachment. These effects have been shown by the models to be related to the target outcome of reduced depressive symptomatology and have widely been found to be useful predictors of later incidence of depression and suicide. The methodology for the evaluation of RAP-P is described in the *Method: Engagement and Efficacy* chapter (Chapter 7).

One problem with this evaluation is that parents and adolescents in most participating families in this trial will be enjoying warm and supporting relationships with one another and will be at little risk for the development of damaging conflict or other risk factors for depression (Collins, 1990). In these families there may be little scope for change attributable to the intervention as the initial levels of conflict may be low, and the adolescents may be securely attached to their parents and may show few depressive symptoms; thus these participants can not show significant reduction in risk after the intervention (Mrazek & Haggerty, 1994). This may reduce the apparent effectiveness of the program when averaged across each group (Mrazek & Haggerty, 1994; Tolan & Brown, 1998). However it can be expected that a proportion of the participants, possibly up to one in five (Collins, 1990), will be from troubled families and are at greater risk of adolescent depression or suicide. A secondary analysis focusing on these families would provide results comparable to

those expected if the intervention were used as a selective or indicated intervention, or even as a treatment, effectively providing a dual evaluation of the intervention (Mrazek & Haggerty, 1994).

Measures of conflict, parental stress and adolescent depression should allow the identification of the more troubled families or those where adolescents are at higher risk for depression. In these families there is greater scope for change, and examination of the effects of the program on these families separately would not be limited by floor or ceiling effects. It is predicted that in troubled families who participate in either form of the RAP-P program there will be reductions in conflict and in adolescents' depressive symptoms from pretreatment to post-treatment and follow-up while in troubled families in control groups there will be no reduction and possibly increases in these variables. Clinically significant improvement for these troubled participants will be indicated by movement to below the threshold for identification as subclinical for the CDI and the thresholds for troubled families on the IBQ and IC.

The RAP-P program aims to improve the wellbeing of adolescents through reducing parental stress and increasing parental self-esteem as means of improving the parents' differentiation. To allow examination and confirmation or disconfirmation of the process by which the intervention influences the final outcomes, parents' differentiation and levels of stress will be measured before the intervention to establish baselines for these variables. Parents' stress levels and differentiation will also be measured at post-test and follow-up. It is predicted that parents exposed to the RAP-P program will display lower levels of stress and higher levels of differentiation at post-test and follow-up than matched parents in the control groups. A similar analysis for those parents identified as at greater risk by poor

initial parental attachment or poor levels of differentiation is expected to find greater incidence of significant change in differentiation and stress in parents exposed to the RAP-P program compared with controls.

There is evidence that the degree of improvement through psychotherapy is related to the amount of exposure to therapy, or dosage, usually measured by the number of sessions attended, with significant change often occurring in the first few sessions (Bloom, 1992; Howard, Kopta, Krause & Orlinsky, 1986; Lambert & Bergin, 1994). Although there appears to be little research on dose-effect relationships in preventive interventions, it is considered important to monitor both dosage and compliance with the intervention manual in any evaluation of a preventive intervention (Mrazek & Haggerty, 1994). The extent to which program facilitators deliver the program as it was designed to be delivered, often referred to as implementation integrity, will impact on the outcomes of the intervention; for example if one important or foundational section of the intervention is omitted or glossed over, this may render the whole program ineffective (Brown & Liao, 1999; Domitrovich & Greenberg, 2000; Durlack, 1997). Dosage will be measured through recording of attendance at workshops or self-reported completion of the video program in accordance with the workbook, and integrity will be measured by workshop facilitators' self-reported compliance with the Group Leader's Manual.

Hypotheses to be tested

Based on these considerations, these hypotheses will be tested in the evaluation of RAP-P:

1. Engagement in the interventions measured by recruitment rates and attrition will be significantly better for the videotaped format of RAP-P than for the workshop format with the video format achieving higher recruitment rates and lower

attrition than the workshop format.

2. Consumer satisfaction evaluations and perceived benefits of both formats of RAP-P will be positive and will not be significantly different for the two formats of RAP-P.

3. On an intention to treat basis parents in the intervention groups will report higher levels of differentiation, lower levels of anxiety, more positive appraisals of adolescents' interactions, lower quantity of parent-adolescent conflict issues and lower emotional intensity of parent-adolescent conflict, than parents in the control group.

4. On an intention to treat basis adolescent children of parents in the intervention groups will show lower levels of depressive symptoms, better secure parental attachment, more positive appraisals of parents' interactions, lower quantity of parent-adolescent conflict and less emotionally intense parent-adolescent conflict at post-treatment and at follow-up, compared with children of control group parents.

5. For both parents and adolescents the improvements in measured variables will be related to the parents' engagement in the intervention, with parents who were engaged in the intervention showing improvements in the parent variables compared with those who were not. Similarly the improvements in adolescent variables will be greater for adolescents with one or both parents are engaged in the intervention, compared with those adolescents whose parents were not engaged in the intervention.

6. The effects of the intervention will be magnified in the subgroup of parents and adolescents who are initially identified as troubled by scores in pre-intervention measures of depression, adolescents' appraisals of parents or parents' appraisals of adolescents, or differentiation.

7. In categorical terms it is predicted that the movement of adolescents between healthy, subclinical and clinical depression will be more positive for adolescents whose parents participated in the RAP-P program than for adolescents in control groups. In the intervention groups more adolescents who initially record subclinical levels of depression indicated by scores above the subclinical threshold on the depression measure will become healthy at post-intervention and follow-up than in the control groups, while fewer initially healthy or subclinical adolescents in the intervention groups will move into the subclinical or clinical ranges on the depression measures at post-intervention or follow-up.

Chapter 7

Method: Engagement and Efficacy

Participants

Participants were initially 242 volunteer Year 8 school children, 165 females, 73 males and four who did not complete any questionnaires and whose gender was not ascertained, from 239 families, and 361 of their parents. The ages of the Year 8 students ranged from 11.91 years to 14.18 years ($M = 12.70$, $SD = .38$) at the start of the school year and from 12.03 years to 14.33 years ($M = 12.83$, $SD = .39$) at the time of pretesting. Participants were drawn from eleven schools including six State High Schools and five non-government schools in South East Queensland. Of these participants 26 families withdrew before the completion of the trial and 15 children and 18 families moved out of the area or otherwise became unable to be contacted, leaving 194 children and 206 parents who completed the trial. Participants were not paid for their participation although children were offered a popular confectionery after they completed each round of questionnaires. Overall 15.0 % of the total Year 8 cohorts were recruited. Recruitment and attrition rates are reported in detail in the results in Chapter 8.

Selection of participating schools. It was decided that the trial should include both government or State schools and non-government or private schools drawing their students from lower, middle and upper-middle socioeconomic populations. Initially it was decided to engage schools with Year 8 cohorts totaling approximately 500 for each condition with one large government school in each condition and non-government schools making up the remainder. Where necessary two smaller schools would be grouped for assignment to conditions. The involvement of all schools was negotiated on the basis that the schools would be allocated to conditions after they agreed to participate. It would have been

preferable to allocate schools to conditions after recruitment had been completed (Brown & Liao, 1999) but after discussion with some schools it became apparent that it would be difficult to engage schools on this basis. School authorities were prepared to commit themselves to involvement in the trial project without knowing to which condition they would be allocated, but wanted to be aware of details of the school's involvement prior to the commencement of the school year to allow them to make any necessary preparations or allocations of staff. This would not have been possible if the schools had been allocated to conditions after recruitment had been completed two or three weeks into the school term.

Representatives of one government school and one non-government school approached the researcher after they became aware of the proposed trial at a training session for Resourceful Adolescent Program facilitators, asking to be involved in the trial. These schools were included. Approval was then obtained from the State Education authorities to approach Principals of State High Schools seeking the participation of their schools in the project.

Three large State High schools and three non-government schools in similar lower to middle socioeconomic areas were approached and indicated interest. At the initial meeting with each school the Project was explained and the school representative was given material describing the RAP-P program, sample promotional material, a sample Informed Consent letter and form, and a copy of a journal article describing a previous trial of RAP-A and RAP-P. Copies of sample information packages provided to these schools are included in Appendix B.

In all eleven government schools and nine non-government schools were approached and asked to participate. One large government school and two non-government schools withdrew after allocation to conditions, so new schools were recruited to replace these. Three other large government schools and three non-

government schools declined to participate. Eventually eleven schools were involved in the project: six coeducational government high schools, two non-government schools for girls and three coeducational non-government schools. Of these, three schools with a total Year 8 population of 576 were randomly allocated to the workshop condition, four schools with a total Year 8 population of 545 to the videotape condition, and four schools with a total Year 8 population of 491 to the control condition.

Recruitment of participants. The process for the recruitment of participants was similar in each school although variations were introduced at the request of some schools. The basic process negotiated with the schools was for the school to distribute to the students an informed consent package including information about the trial project, an invitation for parents to participate, Informed Consent forms and envelopes in which the consent forms could be returned. School Principals were asked to indicate their support for the Project either in school newsletters or directly to parents and students. Table 7 shows the variations from the basic process. Predominantly these involved presentations and support for the Project at parent orientation meetings at six schools and the use of University reply-paid envelopes to return consent forms at four schools. So many schools sought two-week extensions to maximise the return of consent forms that this became the norm.

Brown and Liao (1999) in discussing recruitment for preventive interventions suggest randomly allocating different target groups to different invitation strategies to allow assessment of the impact of the different strategies. However because in this case the differences in approaches were dictated by schools,

Table 7

School Information and Recruitment Strategies

School ID	School Type	Condition	Year 8 Population	Parent Orientation	Support in Newsletter	Consent Return	Reminder in Newsletter	Return Time Extended
1	Priv	Workshop	146	Yes	Yes	To school	Yes	2 weeks
2	State	Workshop	280	Yes	Yes	To school	Yes	2 weeks
3	Priv	Video	45	Yes	Yes	To school	Yes	2 weeks
4	Priv	Workshop	150	Yes	No	To school	Yes	2 weeks
5	State	Video	195	No	Yes	Reply Paid	Yes	2 weeks
6	State	Video	225	Yes	No	Reply paid	Yes	n/a
7	State	Control	65	Yes	No	To school	Yes	2 weeks
8	State	Control	110	No	Yes	Reply paid	No	n/a
9	State	Control	220	No	Yes	Reply paid	Yes	n/a
10	Priv	Control	96	No	Yes	To school	Yes	3 weeks
11	Priv	Video	80	No	Yes	To School	Yes	n/a

Note: Priv = Private, non-government school; State = Government school

as is common in "real world" studies, randomisation of recruitment strategies was not possible but the differences were recorded to allow some examination of the impact of recruitment strategies on the recruitment rates. It was predicted that use of reply-paid return envelopes would be associated with poorer recruitment rates as there is no opportunity for the schools to monitor return rates and further encourage participation, while strong endorsement of the project by schools would be associated with improved recruitment rates (Brown & Liao, 1999).

Attempts to obtain copies of school newsletters and letters to parents referring to the Project were successful in only one case (School 1). Copies of School 1 newsletter articles are included in Appendix D. In at least one case (School 4) the promised supporting article was later found not to have been included in the newsletter although reminders to return consent forms were published. Administration staff or contacts agreed to provide copies of the material but with recruitment occurring in the first few weeks of the school year this was obviously not a high priority for these staff, and the researcher was unwilling to exert a lot of pressure as this may have damaged very necessary working relationships. However in most cases the experimenter was told by parents that the school's strong support was indicated in information to parents. As a result of this experience, in a later Project (Shochet & Ham, 2004) letters of support were obtained from the Principals and copies included in the information packs, ensuring that the parents were informed that the School supported the project.

Interventions

The interventions evaluated in this study were two formats of the Resourceful Adolescent Parent Program (RAP-P; Shochet et al., 1998). One format involves parent attendance at three workshop sessions and the other is a flexible delivery videotaped format. These interventions have been described in Chapter 6.

Workshop intervention. For schools in the workshop condition, suitable times and locations for workshop sessions were negotiated with the school representatives who were able to advise on suitable times on the basis of prior experience with parent involvement. Parents were sent information about the times of proposed sessions and asked to nominate which series of workshops they would prefer. Confirmation letters were then sent to parents with full details of locations. Parent workshops were held during March and April, after pre-testing. Workshop facilitators were mental health personnel who had undertaken the RAP-P facilitators' training program under approved RAP-P trainers. This training program takes approximately six hours and includes presentation of the theoretical basis for RAP-P, evidence from prior evaluations of RAP-P, considerations involved in setting up a RAP-P group, and the context and process for facilitating the intervention. Trainee facilitators undertake some of the group exercises in the intervention as participants, while the trainer models the positively focussed strength-based style of the intervention.

Workshop group sizes ranged from 18 to six participants. With two exceptions each group was facilitated by one lead facilitator who had extensive experience in facilitating RAP-P, accompanied by one less experienced facilitator. The exceptions were two small groups of less than 10 participants at School 2 which were each led by one experienced facilitator.

Video intervention. Parents in schools in the Video condition were initially contacted by telephone facilitators to introduce the facilitators and the video program. The telephone facilitators were all registered psychologists or graduate students in psychology. The facilitators received a two-hour training session conducted by the researcher in which the protocols for the interviews were introduced and discussed and the required microskills were reinforced. Copies of

the pre-intervention and post-intervention protocols are provided in Appendix G. The need to show respect for and build rapport with parents was emphasised. Participants in each video condition school were equally distributed among the five facilitators to avoid confounds related to facilitator characteristics.

In the initial interview the facilitators checked that the parents had returned the pre-test questionnaires. If not the parents were asked to return the questionnaires as soon as possible and a new date was set for another interview after the questionnaires were returned. If the questionnaires had been returned the facilitators enquired about the adolescents in the family, introduced the program, described the participants' involvement and answered any questions. The participants were asked to nominate a date for the next phone interview, when the participants expected to have viewed the video. Following initial contact by telephone facilitators, video and workbook packages were mailed to the families.

After the initial interview the participants were mailed the videotape and either one or two workbooks depending on how many parents were involved. In the post-intervention interview the facilitators discussed with parents how the program had helped them and answered any questions. If the parents had not watched the video a new date was negotiated for another follow-up call. Extensive delays were experienced with many participants due to difficulties making the first or later contacts or because participants had not watched the video. Following post-intervention interviews, program evaluations were sent to participating parents during the period May to September.

Implementation integrity. After each workshop session at least one facilitator from each group completed a compliance checklist to check the integrity of delivery of the intervention. All groups reported 100% compliance with the specified 2.5 hour format.

Measurement of engagement. The attendance of parents at workshops was monitored by facilitators to enable an estimation of engagement. Participants in both forms of the program were asked to complete evaluations of the program, at the end of the last workshop or as soon as possible after completion of the videotape. Copies of these evaluation questionnaires are provided in Appendix C. Self-reports of attendance at workshops and compliance with the videotape program were included in these evaluation questionnaires.

Measures

All measures are described in detail in Chapter 3. As previously reported in Chapter 3, measures completed by adolescents at pre-intervention, post-intervention and 12-month follow-up were the Children's Depression Inventory (CDI; Kovacs, 1992); the Issues Checklist (IC; Prinz et al., 1979); the Interaction Behavior Questionnaire (IBQ; Prinz et al., 1979) and the Parental Attachment Questionnaire (PAQ; Kenny, 1987).

At pre-intervention and post-intervention parents completed the Differentiation of Self Inventory (DSI; Skowron & Friedlander, 1998); the Parental Bonding Instrument (PBI; Parker et al., 1979); the parent versions of the Issues Checklist and the Interaction Behavior Questionnaire, and the State form (STAI-S, Form Y-1) of the State-Trait Anxiety Inventory (STAI; Spielberger et al., 1983). At 12-month follow-up the PBI was omitted and the Trait form (STAI-T, Form Y-2) of the STAI was included. Parents also provided demographic information at pretest. These measures have been described in detail in Chapter 3 and a copy of the demographic questionnaire is provided in Appendix C.

Evaluations of RAP-P. Parents also completed evaluations of the interventions immediately after the interventions, and an evaluation of the perceived benefits of the interventions at post-test. The initial evaluation questionnaires

included seven common items related to parents' overall perceptions of the programs. In addition the evaluation for the workshop format included six items related to the process of delivery of the workshops while the evaluation for the video format included five items related to the video. These items were all scored from 1 indicating the lowest level of satisfaction to 5 indicating the highest satisfaction. Parents also completed a free-form response to items asking what they liked most about the allocated format and what was needed to improve the intervention.

The evaluation of the perceived benefits of the intervention included 12 items on a scale of 1 to 5 asking whether parents believed that the interventions had assisted them in different aspects of parenting. Parents were also asked to give a rating out of 10 for each section of the intervention, and to report whether others had noticed changes in their parenting after the intervention.

Cronbach's *alpha* was .92 for the relevant items in all three questionnaires: the 13-item evaluation of the workshop intervention, the 12-item evaluation of the video intervention, and the 12 items of the perceived benefits questionnaire. Copies of the program evaluations and the perceived benefits evaluation are provided in Appendix C.

Procedure

Design considerations. Although a fully randomised experimental design would be optimum for this study this may be difficult with a widely distributed intervention because of problems with treatment contamination (Brown & Liao, 1999; Mrazek & Haggerty, 1994; Tolan et al., 1998). Pragmatic limitations precluded the use of true experimental design so a quasi-experimental non-equivalent control group design (Cook & Campbell, 1979) with pre-test, intervention, post-test and follow-up testing with wait-list control groups was utilised.

Ideally the unit of randomisation would be as small as possible to increase the statistical power in the analyses, preferably being the same as the unit of intervention which in this case would be the family. However when an intervention is offered through schools it is usually not practicable to have a unit of randomisation smaller than the school, partly because to offer an intervention to some students' families and not others may be seen as unacceptable to the schools (Brown & Liao, 1999). Randomisation within a school also increases the possibility of contamination from one condition to another due to social interactions between parents (Brown & Liao, 1999; Cook & Campbell, 1979). Consequently randomisation was at the school level with geographical separation between schools providing the barrier against contamination between conditions.

Allocation to conditions at the school level does increase the potential for intervention effects to be confounded by school-based differences such as events that may occur at a particular school, or school culture (Campbell & Stanley, 1966). With no comparison group within the school it becomes difficult to isolate these confounding effects although they may be identifiable as differences between the different schools receiving each form of the RAP-P program or between the different control schools. The researcher became concerned that differences in school cultures and practices observed during pre-intervention testing may have affected recruitment rates and may influence the mental health of students. The schools involved include both government and non-government schools which could be expected to have significantly different cultures even within these groupings. The ideal method for analysis to allow for potential school-based effects would be the use of hierarchical linear modeling (Bryk & Raudenbush, 1992) with the individual as the first level, the school as the second level and the condition as the third level; however the small sample size and the small number of schools would

severely limit the statistical power of any school-level analyses, effectively precluding this approach. With awareness of this problem the researcher could examine data at the school level if the results indicated possible school-based problems.

With all measures being by self-report there is a problem of possible bias due to unknown extraneous variables and common method variance influencing the findings of the study (Shaughnessy & Zechmeister, 1994). To some extent this has been overcome by the use of reports from both the adolescents and their parents on the measures of conflict and parent-adolescent interactions.

Experiment Schedule. Approval of the research protocol by the Griffith University Human Research Ethics Committee (Approval HLS/30/99/hec) was received in July 1999. The approval of Education Queensland to approach Principals was received in November 1999 after which approaches were made to Principals of State schools. Copies of approvals are included at Appendix A. As previously described, contact with families was made as early as possible after the start of the school year, commencing in February 2000.

Pre-testing occurred in February and March 2000, with the exceptions of two schools, one in the control condition and one in the video condition, which joined the Project late, where pre-testing was conducted in May and early June. These schools had been late additions to replace schools which had withdrawn. The potential for seasonal effects between these schools and the others is recognised; such effects may be reflected in school-based differences in pretest scores. As well as establishing a baseline for comparison with post-test and follow-up data, pre-testing allowed the identification of any adolescents with existing high levels of depressive symptoms who may have required attention beyond the resources of this program. Students were identified as at-risk after two depression measures (pretest

and post-test) were returned with scores in the clinical range. As requested by Education Queensland these were referred in the first instance to the School Principals who then made referrals to appropriate services for further assessment or assistance. Following this pre-testing period, in March - April 2000 the appropriate forms of the RAP-P program were provided in the selected schools but not in the control schools. Due to delays within the school video and workbook packages were sent to families in School 11 commencing in August. Post-intervention data from this school have been examined separately to quarantine any seasonal effects.

The same measures were administered at post-intervention testing as at pre-testing, under the same conditions that applied to pre-testing. Post-testing was administered between May and August. Post-testing in the workshop condition schools and two control schools was completed in May and June. As it became obvious that the delays in implementation of the video intervention would delay post-testing in the video condition until the second semester, the post-testing of two control schools was delayed until July and August to match testing dates for the video schools. This was arranged to ensure that control schools and intervention schools were tested at similar times to allow for any seasonal effects. Although some parents had not completed the video intervention it was necessary to complete post-testing in the schools to retain viable comparisons with the control schools, so post-tests for adolescents in the video condition need to be treated with caution. Any adolescents whose scores on the CDI at both pretest and post-test indicated potential depression were referred to their schools for further investigation and follow-up as required.

Post-tests for parents in the Workshop and Control conditions were mailed out within a week of the administration of post-tests to adolescents in the schools. Post-tests for those parents in the Video condition who had already completed the

intervention and evaluation were mailed out concurrently with the post-tests in the schools while for the remaining parents post-tests were mailed out on receipt of the program evaluation questionnaire or in those cases where the evaluation had not yet been received, in October.

Follow-up testing of all students was administered between 6th August and 12th September 2001. Follow-up questionnaires were mailed to parents during the same week as the testing of students. When questionnaire packs were returned as undeliverable further investigation was undertaken to try to obtain current addresses of the families and packages were mailed to these addresses. In late October a second pack of questionnaires was mailed to those parents who had failed to return follow-up tests.

Chapter 8

Results: Engagement and Efficacy

In this chapter the hypotheses formulated in Chapter 6 will be tested.

Hypotheses 1 and 2 relate to recruitment, attrition, engagement and consumer satisfaction evaluations of the two formats of RAP-P. Hypotheses 3 to 7 relate to the efficacy of the interventions on the parents and adolescents.

Recruitment and Attrition: Hypothesis 1

Recruitment rates varied widely between schools, ranging from 5.5% to 48.6% of the Year 8 cohort. A total of 242 Year 8 students and 361 parents were recruited. Table 8 provides details of recruitment rates for each school and condition with the Education Queensland calculations of SES for the catchment area of the government schools and the mean SES of participating parents in each school. The Education Queensland list rates schools for SES on a range of 813.9 to 1129.5, with mean of 977.5, median of 980.0 and standard deviation of 47.50.

Hypothesis 1 in Chapter 6 predicted that engagement measured by recruitment rates and attrition for the video format of RAP-P would be better than for the Workshop format. Chi-squared tests of goodness of fit showed that the recruitment rates, as a proportion of the Year 8 cohort who consented to participate, differed significantly between conditions, $\chi^2(2, n = 1612) = 12.40, p < .005$.

Contrary to the hypothesis that the video condition would achieve the greatest penetration, the recruitment rate for the Workshop condition at 19.1% of the cohort was significantly higher than for the Video condition at 11.9%, $\chi^2(1, n = 1121) = 10.93, p < .005$, and for the Control condition at 13.6%, $\chi^2(1, n = 1067) = 5.69, p < .025$. Recruitment rates for the Video (11.9%) and Control (13.6%) conditions were not significantly different, $\chi^2(1, n = 1036) = .70, ns$. Recruitment

Table 8

Recruitment of Parents and Students with Education Queensland and Mean SES.

Condition	School	SES		Yr 8	Cons	% Cohort	Pars	
		Ed Qld	<i>M</i>					<i>SD</i>
Workshop	1		47.12	9.89	146	71	48.6	100
	2	918	31.32	8.80	280	16	5.7	23
	4		44.45	9.61	150	23	15.3	33
	All		44.75	10.80	576	110	19.1	156
Video	3		36.67	8.46	45	9	20.0	15
	5	1018	41.20	8.96	195	28	14.4	42
	6	1005	43.42	9.76	225	18	8.0	31
	11		48.06	12.09	80	10	12.5	15
	All		42.15	9.98	545	65	11.9	103
Control	7	1014	43.32	11.02	65	14	21.5	23
	8	1017	38.30	7.25	110	17	15.5	22
	9	991	33.05	11.70	220	12	5.5	17
	10		43.14	8.56	96	24	25.0	40
	All		40.36	10.10	491	67	13.6	102
All	All		42.92	10.52	1612	242	15.0	361

Note: Ed Qld = Education Queensland; Yr 8 = Number in Year 8 cohort; Cons =

Number of consenting students; Pars = Number of consenting parents

rates differed significantly between schools in the Workshop condition, $\chi^2(2, n = 576) = 51.40, p < .005$; and between schools in the Control condition, $\chi^2(3, n = 491) = 26.77, p < .005$, but not between schools in the Video condition, $\chi^2(3, n = 545) = 7.21, ns$.

Table 9 shows the number of participants and the percentage of consenting parents and adolescents who completed each stage of testing for the three conditions. Chi-squared tests for goodness of fit showed that the rates of attrition for students did not differ significantly between conditions at pre-testing, $\chi^2(2, n = 233) = .19, p > .05$; at post-testing, $\chi^2(2, n = 220) = .10, p > .05$; or at follow-up, $\chi^2(2, n = 194) = .69, p > .05$. The proportion of consenting parents who completed tests did not differ significantly between conditions at pre-testing, $\chi^2(2, n = 298) = 3.01, p > .05$; or at follow-up, $\chi^2(2, n = 206) = 4.31, p > .05$; but differed significantly at post-testing, $\chi^2(2, n = 190) = 28.05, p < .005$. Specifically, post-tests were completed by a significantly smaller proportion of consenting parents in the video condition at 21.4% than in either the workshop condition at 61.8%, $\chi^2(1, n = 116) = 44.2, p < .005$; or the control condition at 72.5%, $\chi^2(1, n = 96) = 80.24, p < .005$.

In the first year 26 participants formally withdrew from the Project; of these 12 withdrew from the video condition before or during the intervention. Eight participants gave no reason for withdrawing, six believed that parts of the questionnaires were too intrusive, eight cited time constraints, two had moved from participating schools, one cited marriage breakdown and one cited hearing difficulties preventing them from benefiting from the workshops. No further withdrawals were notified but by follow-up testing at least 15 more students had moved from participating schools and 18 parent follow-up packages were returned as not deliverable after the families had moved from their addresses and new

Table 9

Number and Percentage of Consenting Adolescents and Parents Completing Pre-intervention, Post-intervention and Follow-up

Condition	Pre-intervention				Post-intervention				Follow-up			
	Adolescents		Parents		Adolescents		Parents		Adolescents		Parents	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Workshop	109	99.1	140	92.1	102	92.7	94	61.8	91	82.7	92	60.5
Video	62	95.4	83 ^a	80.6	59	90.8	22 ^{ab}	21.4	47	72.3	46 ^b	44.7
Control	62	92.5	75	73.5	59	88.1	74	72.5	56	83.6	68	66.7
All	233	96.3	298	83.5	220	90.9	190	53.2	194	80.2	206	57.7

Note: Values sharing the same superscript differ significantly, $p < .05$

addresses could not be found.

To assess whether there was any systematic relationship between attrition and variables measured in the study, one-way ANOVAs were conducted with attrition at post-test and follow-up as IVs and each pretest measure as DVs. There were no significant differences between adolescents who completed post-testing and those who did not on IBQ appraisals of parents and of parent-adolescent dyads, quantity of parent-adolescent conflict issues and average intensity of parent-adolescent conflict, total attachment or depression. Similarly those who completed follow-up testing did not differ significantly from those who did not on any adolescent pretest variable. The parents who withdrew or failed to complete questionnaires at post-test or at follow-up did not differ significantly on any pretest measure from those who completed all testing. Thus there is no indication that the attrition systematically biased the analyses or was influenced by any measured variable.

Engagement in Interventions: Hypothesis 1.

One of the key hypotheses (Hypothesis 1) was that the convenience of the flexible delivery video intervention would result in better engagement in the video condition than in the workshop condition. Comparison of engagement in the two formats measured by attendance at workshops and completion of the video intervention did not support this hypothesis.

Workshop condition attendance. In the workshop condition, 106 of the 156 participating parents attended at least one workshop session. The numbers and percentages of consenting parents who attended 1, 2 or three sessions are shown in Table 10. Of the parents who attended any workshop session ($n = 106$), four or 3.8% attended only one session, 19 or 17.9% attended two sessions and 83 or 78.3%

attended all three sessions. Session 1 was attended by 102 parents, Session 2 by 97 parents and Session 3 by 90 parents. Evaluations of the workshops were completed by 97 parents.

Table 10

Number and Percentage of Consenting Parents Attending 1, 2 or 3 Workshop Sessions, by School

School	Consent		1 Session		2 Sessions		3 Sessions	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1	100		3	3.0	14	14.0	51	51.0
2	23		0	0	0	0	11	47.8
4	33		1	3.0	5	15.2	21	63.6
All	156		4	2.6	19	12.2	83	53.2

Video condition engagement. Table 11 shows the numbers and percentage of parents who completed the stages of the intervention in the Video condition. Initially 88 parents in 57 families consented to participate in the video condition. A further 15 parents in 9 families were later recruited in School 11. Following initial telephone interviews video and workbook packages were sent to 78 parents in 51 families in April and May. Two parents could not be contacted, apparently having left the address, and eight indicated at that time that they could not continue in the study. In School 11, packages were mailed to thirteen parents with two parents withdrawing. Following post-intervention interviews, program evaluations were

Table 11

Engagement in Video Condition

School	Consent		Sent Video		Post Interview		Evaluation	
	<i>n</i>	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
3	15	15	100.0	11	73.3	7	46.7	
5	42	37	88.1	26	61.9	16	38.1	
6	31	26	83.9	17	54.8	10	32.3	
11	15	13	86.7	3	20.0	3	20.0	
All	103	91	88.3	57	55.3	36	35.0	

sent to participating parents over the period from May to September. A further six parents indicated that they were unable to continue in the trial at this stage.

Completed evaluations were received from 36 parents. By 10th October, 28 parents had not indicated that they had withdrawn but had not completed the post-intervention interview. No further action was taken by telephone facilitators to follow up these participants although evaluations and post-test questionnaires were mailed to them in October.

The mean time for the video intervention, from dispatch of the video package to completion of the post-intervention interview, was 98.56 days ($SD = 42.55$). One-way ANOVA showed that the intervention times differed significantly between facilitators, $F(6,45) = 19.72, p < .001$. No post-hoc tests could be performed as some affected cells were too small; however the means for facilitators varied from 62 days to 144 days. The attrition rates differed greatly between

facilitators, with no withdrawals for two facilitators, one withdrawal for one facilitator, three for another, and eight for the fifth facilitator. Non-parametric tests to compare these rates were not possible as most cell sizes were very small.

Comparison Between Conditions

Engagement: Hypothesis 1. Contrary to predictions the rate of engagement for the video condition, with 57 of 103 consenting parents (55.3%) completing the program, was not significantly greater than the rate for the workshop condition with 83 of 156 consenting parents (53.2%) attending all workshops, $\chi^2(1, n = 259) = .11$, $p > .05$.

Evaluation of formats: Hypothesis 2. Hypothesis 2 in Chapter 6 predicted that consumer satisfaction evaluations of the workshop and video formats of RAP-P would not be significantly different. Immediately after the intervention parents completed evaluations of their allocated format of RAP-P. All ratings were scored from 1 indicating the lowest level of satisfaction to 5 indicating the highest level of satisfaction. Parents' consumer satisfaction evaluations of the workshop and video formats of RAP-P were compared using two-tailed t -tests. See Table 12. Contrary to predictions that both formats would be similarly evaluated, participants rated the workshop format significantly more favourably than the video format on all consumer satisfaction variables.

Parents also evaluated the process of delivery of the two formats of RAP-P. Parents' ratings of the process variables which are unique for the workshop and video formats are shown in Table 13. All evaluations were scored from 1 indicating the lowest level of satisfaction to 5 indicating the highest level of satisfaction with the exception of the item asking whether video condition participants would have preferred to attend three workshop sessions; for this item 1 was endorsed to indicate

Table 12

Consumer Satisfaction Evaluations of the Workshop and Video Formats of RAP-P

Variable	Workshop, <i>n</i> = 97		Video, <i>n</i> = 36		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Overall satisfaction	4.45	.63	3.97	.88	3.50***
How helpful	4.10	.71	3.61	.90	2.94**
Met expectations	3.93	.82	3.44	.94	2.88**
How encouraging	4.41	.67	3.92	.73	3.69***
Presentation of material	4.36	.74	3.78	.93	3.76***
Recommend to others	4.49	.68	4.11	1.01	2.45*
Overall how enjoyable	4.43	.68	3.61	.87	5.75***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

no preference for workshops and 5 indicated a strong preference for workshops.

Although direct comparisons between the unique process variables were not possible, comparison using a two-tailed *t*-test of the averaged evaluations of the six workshop process variables and the four video process variables excluding the preference for workshops showed that the workshops were evaluated significantly more positively ($M = 4.49$, $SD = .52$) than the video format ($M = 3.53$, $SD = .93$), $t(131) = 7.41$, $p < .001$.

Table 13

*Parents' Evaluations of Unique Process Variables for the Workshop and Video
Formats of RAP-P*

Format	Variable	<i>M</i>	<i>SD</i>
Workshop (<i>n</i> = 97)			
	Facilitators demonstrated understanding & respect	4.69	.58
	Facilitators established relationships with parents	4.66	.74
	Felt encouraged to contribute	4.39	.77
	How helpful were small group activities	4.31	.80
	Facilitators kept workshops focussed on topics	4.51	.71
	How helpful were contributions of other parents?	4.36	.78
Video (<i>n</i> = 36)			
	Video program convenient	3.81	1.06
	Likely to watch video again	3.08	1.56
	How helpful was workbook	3.53	1.00
	How well could you relate to parents in video	3.72	1.09
	Would prefer workshops to video	2.36	1.20

Table 14

Comparison of Perceived Benefits of the Workshop and Video Formats of RAP-P

Variable	Workshop, <i>n</i> = 84		Video, <i>n</i> = 23		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Value to parent of teenager	3.76	.88	3.52	.67	1.21
Value in relating to teenager	3.54	.93	3.57	.66	-0.11
Helped confidence as parent	3.58	.95	3.61	.66	-0.15
Helped manage your stress	3.11	1.02	3.09	.79	0.09
Helped react calmly to teenager	3.38	.89	3.39	.84	-0.08
Helped see teenager's perspective	3.64	.87	3.70	.64	-0.27
Helped boost teenager's self-esteem	3.60	.87	3.78	.67	-0.96
Helped supporting independence					
with attachment	3.55	.80	3.83	.58	-1.83
Helped promote harmony	3.60	.80	3.57	.90	0.16
Helped deal with conflict	3.39	.90	3.35	.98	0.18
Helped positivity about parenting	3.68	.97	3.65	.57	0.12
Look forward to positive future	4.26	.75	4.09	.73	0.96

Note: All comparisons were non-significant.

Parents also completed an evaluation of perceived program benefits in conjunction with other post-test questionnaires. These evaluations for the workshop and video formats were also compared using two-tailed *t*-tests. See Table 14. As

predicted all *t-test* comparisons were non-significant; there were no significant differences between program formats on any parent ratings of perceived benefits.

Qualitative Evaluations: Hypothesis 2

As part of the immediate evaluation of the interventions, parents were asked to identify what they liked most about the intervention, and what they believed needed to be changed to improve the intervention. For the Workshop condition participants, Item 14 asked "What did you like about the RAP Parent Program workshops?" while Item 15 asked "What could we do to make the RAP Parent Program workshops better?" Of the 97 parents who completed evaluations of the workshop format, 91 provided responses to Item 14 and 69 provided responses to Item 15. Of these 69 responses to Item 15, 10 were positive and did not offer suggestions for improvement while two others made very positive comments while offering suggestions for change. For Video condition participants, Item 13 asked "What did you like about the RAP-P video parent program?" and Item 14 asked "What could we do to make the RAP-P video parent program better?" Of 36 parents who provided evaluations of the video format, 33 responded to Item 13 while 27 responded to Item 14, including five who offered no suggestions for improvement. Participants' qualitative feedback is recorded verbatim in Appendix H. Themes repeated by three or more parents are listed in Table 15 for the workshop condition and in Table 16 for the video condition.

The author and an independent rater separately extracted the themes from the verbatim comments of the participants. Initial agreement between raters was 84% for the workshop Item 14 (what parents liked) and 94% overall for the three remaining qualitative items. Many of the differences for the workshop Item 14 resulted from lack of awareness by the independent rater of the program content and

were resolved when this was corrected. Complete agreement between raters was achieved through discussion.

Table 15

Workshop Condition Parents' Free-form Responses to Item 14 and Item 15

Theme	<i>n</i>
Item 14 - What parents liked about the workshops.	
Sharing experiences and ideas with other parents, getting new solutions	44
Finding others have similar problems; normalising my family, experience	29
Affirmed my parenting, improved my self-esteem, confidence; encouraging	29
Topics covered - relevance, helpfulness	16
Focus on positives	13
Helpful guidance or input, answers to questions	12
Facilitator characteristics - input, personal sharing, encouraging etc..	11
Opportunity to think about relationships, express feelings	10
Enjoyable, fun, relaxing, social opportunity to meet other parents	9
Increased hope, optimism	5
Small group activities	5
Helped to deal with parents' own issues	5
Program organisation, time, length etc..	3
Participants' workbook	3
Item 15 - What could be changed to improve workshops	
Increase number of sessions, shorter nights	20

Provide more information on specified topics	10
Maintain focus, keep to topics, better use of time	7
Recruit more appropriate/needy parents or schools, advertise more widely	6
More case studies or scenarios with solutions, more specific techniques	5
Run program in Year 9/10 or run follow-up program in later years	5
Provide more information, information from different approaches	5
Start earlier, different time, advertise longer time	4
More time in groups, deeper discussion in groups, smaller groups	4
Provide all OHP material as handouts or in workbook; refer to book pages	4
Too superficial, need more depth, too much parent input	4
Include all parents in discussions, not just talkative parents	3

Table 16

Video Condition Parents' Free-form Responses to Item 13 and Item 14

Theme	<i>n</i>
<hr/>	
Item 13: What parents liked about the video intervention	
Affirmed my parenting, improved my self-esteem	11
Helpful, informative, easy to follow, enjoyable	9
Finding others have similar problems; normalising my family, experience	6
Practical, real, everyday, relevant, common-sense	6

Hearing experiences and ideas of other parents, getting new solutions	5
Raised awareness of teenagers' issues, needs, rationales; thought provoking	5
Specified parts of the program, specific strategies	5
Convenient, able to proceed at leisure	4
Specific sections of the video, or strategies described	3
Item 14: What could be changed to improve the video	
More information on specified topics	8
Families too perfect/happy, unreal, not convincing; too restricted SES	5
Too plastic, clinical, patronising, make some feel inadequate	4
Process problems (facilitation, video quality)	4
Wider range of parents, greater dissemination	3

Preliminary Analyses: Efficacy Data

Data preparation – parent data. In the small proportion of cases where 5% or less of item level data were missing, values were imputed by mean substitution (Tabachnick & Fidell, 2001); cases with more than 5% missing were excluded. Parent pretest, post-test and follow-up data were examined for normality and outliers. At each time of testing the IBQ scales and the STAI anxiety scores were positively skewed, as expected in community samples in which most people are healthy, so square root transformations were applied to these measures after which they met assumptions of normality. The IBQ appraisal of adolescent and appraisal of parent-adolescent dyad scales were combined to provide a total IBQ score as the total score has been found to be highly correlated with the subscale scores. Note that

numbers of participants for each measure may differ slightly from the quoted number due to missing data.

For the intention-to-treat analyses all cases that provided acceptable data were included in analyses whether or not they were engaged in the interventions (Altman et al., 2001). No data imputation was used where participants failed to provide data. With 79% of post-test data missing in the video condition replacement of this large amount of missing data (which may or may not have indicated changes related to the intervention) could have significantly biased the outcomes of analyses (Streiner & Geddes, 2001) so only complete data were used in these analyses. For consistency a similar approach was applied to the adolescent data. Tables 17, 18 and 19 record the means, standard deviations and correlations for parent pretest, post-test and follow-up measures respectively, transformed where needed.

Table 17

Means, Standard Deviations and Intercorrelations of Parent Pretest Measures (N = 298)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1 DSI Total Differentiation	4.10	0.66		-.62***	-.36***	-.22***	-.29***
2 STAI-S State Anxiety	5.60	0.82			.33***	.13*	.34***
3 IBQ Total Appraisal	2.52	1.34				.34***	.38***
4 IC Quantity of Issues	20.25	7.63					.15**
5 IC Average Intensity	1.83	0.56					.

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 18

Means, Standard Deviations and Intercorrelations of Parent Post-test Measures (N = 179)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1 DSI Total Differentiation	4.08	0.67		-.69***	-.37***	-.24**	-.28***
2 STAI-S State Anxiety	5.25	0.88			.42***	.23**	.29***
3. IBQ Total Appraisal	2.32	1.27				.37***	.48***
4. IC Quantity of Issues	19.08	7.76					.18*
5. IC Average Intensity	1.84	.54					.

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 19

Means, Standard Deviations and Intercorrelations of Parent Follow-up Measures (N = 205)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1 DSI Total Differentiation	3.88	0.58		-.47***	-.19**	-.11	-.26***
2 STAI-S State Anxiety	5.65	0.93			.17*	.07	.27***
3. IBQ Total Appraisal	2.52	1.46				.29***	.60***
4. IC Quantity of Issues	19.37	8.83					.15*
5. IC Average Intensity	1.90	0.65					.

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

Data preparation – adolescent data. Adolescent data at pretest, post-test and follow-up were examined for normality and outliers. Examination of adolescent pretest data for the evaluation of models reported in Chapter 4 resulted in square-root transformations of the IBQ appraisals of parents and parent-adolescent dyads, IC quantity of parent-adolescent conflict issues, the CDI, and the PAQ attachment scales were all significantly skewed, as expected with non-clinical samples. After appropriate transformations reported in Chapter 4 these scales met assumptions for normality and the transformed scales are used for all analyses. Examination of adolescent post-test and follow-up data revealed the same lack of normality in the IBQ, IC quantity of issues, CDI and PAQ scales at each time of testing, so appropriate transformations were applied in each case, and the transformed measures were used in all analyses. The IC Average Intensity scales at pretest and post-test were also skewed but could not be transformed satisfactorily so the untransformed scales were used. Tables 20, 21 and 22 record the means, standard deviations and intercorrelations for the adolescent measures at pretest, post-test and follow-up respectively, transformed where necessary. As with parent data, the IBQ appraisal of parent and appraisal of the parent-adolescent dyad subscales for each parent were combined into an IBQ total score for each parent.

Testing for equivalence of groups. One-way ANOVA with pretest variables as dependent variables and condition as the independent variable revealed that there were no significant differences between conditions at pretest on any adolescent or parent pre-intervention scale. Thus there is no evidence of pre-existing systematic differences between the conditions on any variables measured in the study. As previously reported in this chapter, one-way ANOVA established that no measured variable was systematically related to attrition at post-test or follow-up.

Table 20

*Means, Standard Deviations and Intercorrelations of Adolescent Pretest Measures**(N = 230)*

Variable	<i>M</i>	<i>SD</i>	2	3	4	5	6
1 CDI	2.42	1.22	-.59***	.55***	.44***	.31***	.41***
2 PAQ Total Attachment	5.76	2.09		-.77***	-.63***	-.19**	-.49***
3 IBQ Appraisal of Mother	2.43	1.49			.59***	.16*	.48***
4 IBQ Appraisal of Father	2.46	1.45				.16*	.28***
5 IC Quantity of Issues	3.82	1.01					.17**
6 IC Average Intensity	1.80	0.73					

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 21

*Means, Standard Deviations and Intercorrelations of Adolescent Post-test Measures**(N = 218)*

Variable	<i>M</i>	<i>SD</i>	2	3	4	5	6
1 CDI	2.26	1.34	-.60***	.54***	.52***	.15*	.44***
2 PAQ Total Attachment	6.38	2.24		-.75***	-.67***	-.14*	-.43***
3 IBQ Appraisal of Mother	2.32	1.36			.69***	.16*	.47***
4 IBQ Appraisal of Father	2.32	1.52				.17*	.40***

5. IC Quantity of Issues	3.51	1.05						.30***
6. IC Average Intensity	1.87	0.81						.

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 22

Means, Standard Deviations and Intercorrelations of Adolescent Follow-up

Measures (N = 195)

Variable	M	SD	2	3	4	5	6
1 CDI	2.43	1.31	-.53***	.54***	.44***	.23**	.41***
2 PAQ Total Attachment	6.03	2.20		-.70***	-.62***	-.17**	-.52***
3 IBQ Appraisal of Mother	2.54	1.47			.53***	.19*	.52***
4 IBQ Appraisal of Father	2.59	1.58				.12	.31***
5 IC Quantity of Issues	3.83	1.17					.20**
6 IC Average Intensity	2.03	0.66					.

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

Effects of Socio-economic Status. Socioeconomic status (SES) has been found to have an impact on health status, not only when associated with extreme poverty but at all levels, although the mechanisms linking SES and health are far from clear (Adler et al., 1994). To allow for investigation of possible connections between SES and adolescent well-being or parents' involvement in preventive programs, SES for each participating family was calculated using the Hollingshead

Four Factor method as described by Bornstein, Hahn, Suwalsky and Haynes (2003).

Useable SES information was provided by the parents of 206 adolescents. Mean SES for each school and condition is shown in Table 8.

One-way ANOVA showed that mean SES differed significantly between schools, $F(10, 195) = 4.86, p < .001$. One-way ANOVA also revealed a significant difference in SES between conditions, $F(2, 203) = 3.27, p = .04$, with post-hoc testing showing that the workshop condition ($M = 44.75, SD = 10.80$) reported higher SES than the control condition ($M = 40.36, SD = 10.10$), $p = .014$, while the video condition ($M = 42.15, SD = 9.98$) did not differ significantly from either the workshop condition or the control condition. The higher SES of the workshop condition appears to be due to the high recruitment in the school with the highest mean SES, although the school with the lowest SES is also in that condition, with a very low recruitment rate. With these differences in SES between conditions and schools it will be necessary to control for SES in any analyses where SES is related to the dependent variables.

Analyses of Intervention Effects for Parents: Hypotheses 3, 5, 7

Ideally the analysis of the parent and adolescent data, with data grouped at individual, school and condition levels, would use hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992) to allow for school effects, but the small sample size and small number of schools would provide insufficient power for HLM, particularly at the school level. The alternative approaches taken will be described for each analysis.

Intention-to-treat analysis: Hypothesis 3. Table 23 shows descriptive statistics for parent measures at pre-intervention, post-intervention and follow-up testing for each condition. It was predicted in Hypothesis 3 that on an intention to

treat basis parents in the intervention conditions would report higher levels of differentiation, lower levels of anxiety, more positive appraisals of adolescents' interactions, lower quantity of parent-adolescent conflict issues and lower emotional intensity of parent-adolescent conflict, than parents in the control group. Initial analyses to determine the effects of the interventions were conducted on this intention to treat basis. To allow for pre-existing differences in the measured

Table 23

Means and Standard Deviations for parent measures at pre-intervention, post-intervention and follow-up by condition.

Measure	Workshop			Video			Control		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Total Differentiation									
Pre-intervention	137	4.11	.63	78	4.07	.75	74	4.13	.61
Post-intervention	87	3.96	.65	22	4.37	.76	64	4.14	.63
Follow-up	91	4.03	.55	46	4.11	.70	67	4.10	.66
State Anxiety									
Pre-intervention	138	5.55	.80	79	5.70	.86	73	5.59	.83
Post-intervention	87	5.65	.93	23	5.37	.80	68	5.43	.83
Follow-up	91	5.84	.93	46	5.49	.89	68	5.49	.93

Measure	Workshop			Video			Control		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
IBQ Total Appraisal of Adolescent									
Pre-intervention	139	2.53	1.31	80	2.56	1.40	76	2.48	1.35
Post-intervention	87	2.25	1.31	22	2.18	1.14	65	2.45	1.27
Follow-up	92	2.46	1.43	42	2.48	1.38	66	2.65	1.56
Quantity of conflict issues									
Pre-intervention	141	19.84	7.66	81	20.95	8.30	78	20.27	6.85
Post-intervention	87	19.36	8.16	23	19.91	7.92	67	18.43	7.22
Follow-up	92	19.73	8.79	46	19.00	9.18	68	19.13	8.76

Measure	Workshop			Video			Control		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Average intensity of conflict									
Pre-intervention	140	1.80	.55	81	1.83	.56	77	1.89	.56
Post-intervention	84	1.81	.52	20	1.78	.61	66	1.89	.55
Follow-up	91	1.88	.66	45	1.94	.62	68	1.91	.68

Note: No comparisons between conditions were significant at $p = .012$.

variables parents' post-test total differentiation, state anxiety, appraisals of adolescents (IBQ), quantity of parent-adolescent conflict issues and average intensity of parent-adolescent conflict, were analysed using analysis of covariance (ANCOVA) with the condition as the independent variable and the relevant pretest variables as covariates. For these analyses parents' total differentiation and parents' state anxiety were combined in a multivariate analysis of covariance (MANCOVA) as differentiation and anxiety are seen by Bowen (1976, 1978) as inextricable linked aspects of poor differentiation. Parents' perceptions of the intensity of parent adolescent conflict, and of the quantity of conflict issues, and parents' appraisals of the adolescents' conflict interactions (IBQ) were analysed in univariate ANCOVAs. To reduce the impact of family-wise error with multiple analyses the *alpha* level was reduced to .012 for these analyses.

With SES believed to be related to health and well-being (Adler et al., 1994) and found to vary significantly between conditions in this study, it appeared necessary to allow for the differences in SES in analyses of the intervention effects. SES could be entered as a covariate in analysis of covariance if it is shown to be correlated with the DV and preferably not with other covariates (Tabachnick & Fidell, 2001). SES was found to correlate with no parent variables at pretest but with parents' appraisals of adolescents' conflict interactions and the quantity of conflict issues at post-test and follow-up, so was entered as a covariate with the appropriate pretest measures in analyses of these two variables. Table 24 shows correlations between SES and the parent variables at each time of testing.

Contrary to the predictions these analyses found a no significant multivariate effect of condition at post-test on parental differentiation and anxiety, $F(4, 296) = 2.04, p = .09$; and no univariate effects on quantity of conflict issues, $F(2,$

Table 24

Correlations Between Family Socio-Economic Status and Parent Variables at Pretest, Post-test and Follow-up

Variable	Pretest	Post-test	Follow-up
Total Differentiation (DSI)	.00	.11	.06
State Anxiety (STAI-S)	.02	-.10	-.00
Total Appraisal of Adolescent (IBQ)	-.03	-.27***	-.23**
Quantity of Conflict Issues (IC)	.07	-.20**	-.23**
Average Conflict Intensity (IC)	-.05	-.08	-.12

Note: ** $p < .01$. *** $p < .001$. DSI = Differentiation of Self Inventory. STAI-S = State-Trait Anxiety Inventory (State). IBQ = Interaction Behavior Questionnaire. IC = Issues Checklist.

162) = 0.40, $p = .67$; on average intensity of conflict, $F(2, 158) = 0.30$, $p = .74$; or on IBQ appraisal of adolescents, $F(2, 154) = 0.54$, $p = .58$. There were no significant univariate effects of condition on any parent post-test variable.

At follow-up, again contrary to predictions, similar analyses with the follow-up variables found no significant multivariate effect of condition on differentiation and anxiety, $F(4, 350) = 1.82$, $p = .13$, and no univariate effect on differentiation or anxiety. There were no univariate effects of condition on quantity of conflict issues, $F(2, 183) = 0.09$, $p = .91$; on average intensity of conflict, $F(2, 186) = 0.30$, $p = .74$; or on parents' appraisals of adolescents' conflict interactions, F

(2, 174) = 1.23, $p = .30$. Again the probability level was set at .012 to allow for multiple tests. Thus contrary to predictions the analyses showed no effect of the intervention on an intention to treat basis either at post-test or at follow-up.

Analysis of effects of engagement: Hypothesis 5. Analysis on the basis of intention to treat includes in the analysis participants in the intervention groups who did not engage in the interventions at all or to an extent that could be expected to achieve some results. Consequently the effect of the intervention on those individuals who did participate in the interventions is diluted within the overall intention to treat group and this form of analysis does not provide an indication of the effects of the interventions at the individual level. It was predicted in Hypothesis 5 in Chapter 6 that for both parents and adolescents the improvements in measured variables would be related to the parents' engagement in the intervention, with parents who were engaged in the intervention showing improvements in the parent variables compared with those in the control group.

To gain an indication of the effect of the intervention on those who did participate in the interventions, a further series of analyses were conducted with engagement in the interventions as the independent variable. For parents, engagement was defined as attendance at two or three workshop sessions, or completion of the videotaped intervention. Attendance at two or more workshop sessions was selected as the level of engagement in the workshop as involvement in two sessions could be expected to influence parents positively, and a significant number of parents were unable to attend all sessions. Table 25 records the means and standard deviations on pretest, post-test and follow-up parent variables for parents who were engaged in the interventions compared with parents in the control group. No significant differences on any pretest variable were found between

Table 25

Means and Standard Deviations for Parent Measures at Pre-intervention, Post-intervention and Follow-up for Parents Engaged in the Interventions and in the Control Condition

Measure	Engaged in Workshop			Engaged in Video			Control		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Total Differentiation									
Pre-intervention	97	4.01	.59	54	4.13	.74	74	4.13	.61
Post-intervention	79	3.96	.64	19	4.40	.64	64	4.14	.63
Follow-up	78	4.04	.56	39	4.18	.71	67	4.10	.66
State Anxiety									
Pre-intervention	98	5.56	.78	55	5.70	.81	73	5.59	.83
Post-intervention	79	5.62	.92	20	5.29	.69	68	5.43	.83
Follow-up	78	5.83	.96	39	5.49	.83	68	5.49	.93

Measure	Engaged in Workshop			Engaged in Video			Control		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
IBQ Total Appraisal of Adolescent									
Pre-intervention	99	2.60	1.24	54	2.71	1.30	76	2.48	1.35
Post-intervention	80	2.28	1.30	19	2.12	.94	65	2.45	1.27
Follow-up	79	2.40	1.47	36	2.57	1.35	66	2.65	1.56
Quantity of conflict issues									
Pre-intervention	100	20.83	7.76	56	21.11	8.66	78	20.27	6.85
Post-intervention	79	19.35	8.34	20	19.50	7.59	67	18.43	7.22
Follow-up	79	19.62	8.56	39	19.46	9.64	68	19.13	8.76

Measure	Engaged in Workshop			Engaged in Video			Control		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Average intensity of conflict									
Pre-intervention	99	1.81	.53	56	1.80	.54	77	1.89	.56
Post-intervention	76	1.82	.52	17	1.69	.46	66	1.89	.55
Follow-up	78	1.90	.69	38	1.90	.57	68	1.91	.68

Note: No comparisons between conditions were significant at $p = .012$. CDI = Children's Depression Inventory. PAQ = Parental Attachment Questionnaire. IBQ = Interaction Behavior Questionnaire. IC = Issues Checklist.

parents in the intervention conditions who were engaged in the interventions and the control group, indicating that there was no pre-existing bias on any parent variable included in the study.

ANCOVAs were conducted with the parent post-test variables, combined where appropriate as in the earlier analyses by condition, as the dependent variables, with engagement in each intervention or membership in the control condition as the independent variable with three levels: engaged in workshop, engaged in video, and control. To allow for initial differences the pretest scores on the relevant measures and SES where relevant were entered as covariates. Again probability levels were set to .012 to allow for multiple comparisons.

Contrary to predictions these analyses found no multivariate effect of parent engagement in the interventions at post-test for differentiation combined with anxiety, $F(4, 138) = 0.59, p = .55$, and no univariate effect on differentiation or anxiety. There was no significant univariate effect of engagement on post-test quantity of conflict issues, $F(2, 152) = 0.30, p = .74$; on average intensity of conflict, $F(2, 147) = 0.04, p = .96$; or on IBQ appraisals of the adolescents' interactions, $F(2, 145) = 0.75, p = .48$.

Similar MANCOVAs at follow-up revealed no multivariate effect of engagement on differentiation and anxiety, $F(4, 316) = 2.03, p = .09$, and no univariate effects of parent engagement on either differentiation or anxiety. There were no univariate effects of parent engagement on quantity of conflict issues, $F(2, 173) = 0.16, p = .85$; on average intensity of conflict, $F(2, 163) = 0.29, p = .75$; or on parents' appraisals of adolescents' conflict interactions, $F(2, 159) = 1.39, p = .25$. Thus the predictions that parents' engagement in the interventions would result in better differentiation, lower anxiety, fewer conflict issues and less intense conflict

were not supported.

Analyses of Intervention Effects for Adolescents – Hypotheses 4, 5, 6, 7

As with parent data, the small sample size and the small numbers of groups at the school level precluded the use of hierarchical linear modeling, although HLM would have allowed the examination of effects related to schools. Consequently the analyses of adolescent data were carried out using ANCOVA or MANCOVA where appropriate.

Intention-to-treat analysis: Hypothesis 4. Means and standard deviations for adolescent variables for the three conditions at each time of testing are shown in Table 26. It was predicted in Hypothesis 4 that on an intention to treat basis adolescent children of parents in the intervention groups would show lower levels of depressive symptoms, better secure parental attachment, more positive appraisals of parents' interactions, lower quantity of parent-adolescent conflict and less emotionally intense parent-adolescent conflict at post-treatment and at follow-up, compared with children of control group parents. Analysis of the effects of the interventions on the adolescents on an intention to treat basis used analysis of covariance (ANCOVA) with the relevant adolescent post-test measures as dependent variables, the corresponding pretest variables as covariates, and condition as the independent variable. Total attachment and IBQ appraisals of the father and mother were combined for multivariate analysis of covariance (MANCOVA) as these three variables together represent a construct of the adolescents' relationship with the parents. The IC quantity of conflict issues, IC intensity of conflict and CDI depression scales were analysed separately by analyses of covariance (ANCOVA) as unrelated and discrete variables. For these four analyses probability level *alpha* was set to .012 to allow for the multiple comparisons.

Table 26

Means and Standard Deviations for Adolescent Measures at Pretest, Post-Test and Follow-up, by Condition

Measure	Workshop			Video			Control		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Depression (CDI)									
Pre-intervention	108	2.40	1.18	62	2.34	1.28	62	2.53	1.26
Post-intervention	99	2.25	1.33	58	2.37	1.43	59	2.19	1.28
Follow-up	92	2.54	1.30	47	2.37	1.40	58	2.28	1.27
Total Attachment (PAQ)									
Pre-intervention	104	5.87	1.94	61	5.51	2.20	62	5.80	2.22
Post-intervention	100	6.38	2.32	56	6.22	2.43	58	6.55	1.93
Follow-up	91	5.91	2.22	47	5.99	2.29	55	6.26	2.10

Measure	Workshop			Video			Control		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
IBQ Total Appraisal of Mother									
Pre-intervention	103	2.29	1.36	61	2.68	1.71	61	2.43	1.47
Post-intervention	98	2.28	1.30	55	2.71	1.45	58	2.02	1.32
Follow-up	90	2.65	1.44	43	2.63	1.55	55	2.27	1.46
IBQ Total Appraisal of Father									
Pre-intervention	97	2.43	1.46	52	2.60	1.44	53	2.38	1.47
Post-intervention	94	2.38	1.47	45	2.43	1.56	52	2.11	1.58
Follow-up	84	2.63	1.65	42	2.46	1.45	49	2.62	1.58

Measure	Workshop			Video			Control		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
IC Quantity of conflict issues									
Pre-intervention	103	3.97	.99	61	3.66	.98	62	3.71	1.05
Post-intervention	100	3.46	.98	57	3.51	1.19	58	3.58	1.05
Follow-up	91	3.79	1.16	44	3.91	1.22	55	3.84	1.16
IC Average intensity of conflict									
Pre-intervention	103	1.77	.63	61	1.82	.89	61	1.83	.72
Post-intervention	100	1.92	.72	57	2.02	.95	58	1.65	.76
Follow-up	91	2.08	.66	43	2.09	.76	55	1.92	.58

Note: No comparisons between conditions were significant at $p = .012$. CDI = Children's Depression Inventory. PAQ = Parental Attachment Questionnaire. IBQ = Interaction Behavior Questionnaire. IC = Issues Checklist.

Table 27 shows SES to be correlated with total attachment, depression, appraisals of mother and father at post-test, and with depression, appraisal of father and average intensity of conflict at follow-up. Consequently SES was entered as a covariate in the analyses in which these variables were the dependent variables, to allow for potential effects of the differences in SES between conditions. As not all parents provided SES data, with SES as covariate the numbers of cases is reduced due to missing SES data.

Table 27

Correlations between Family Socio-Economic Status and Adolescent Variables at Pretest, Post-test and Follow-up

Variable	Pretest	Post-test	Follow-up
Total Attachment (PAQ)	.20**	.19**	.13
Depression (CDI)	-.14	-.15*	-.16*
Total Appraisal of Mother (IBQ)	-.17*	-.15*	-.09
Total Appraisal of Father (IBQ)	-.14	-.17*	-.18*
Quantity of Conflict Issues (IC)	-.15*	-.12	-.09
Average Conflict Intensity (IC)	-.05	-.08	-.15*

Note: * $p < .05$. ** $p < .01$. PAQ = Parental Attachment Questionnaire. CDI = Children's Depression Inventory. IBQ = Interaction Behavior Questionnaire. IC = Issues Checklist.

The hypothesis was not supported. There was no multivariate effect of condition on relationships with parents at post-test, $F(6, 294) = 1.75, p = .11$. There was no effect of condition on post-test depression, $F(2, 185) = 0.51, p = .60$; on quantity of conflict issues, $F(2, 202) = 2.79, p = .06$; or on emotional intensity of conflict, $F(2, 201) = 2.40, p = .09$.

At follow-up similar analyses were performed with the follow-up total attachment combined with IBQ total appraisals of each parent, quantity of parent-adolescent conflict issues and the average intensity of parent-adolescent conflict, as dependent variables, the equivalent pretest measures as covariates and condition as independent variable. Dependent variables were combined in MANCOVA where appropriate as in the post-test analyses. These analyses found no significant multivariate effect of condition at follow-up on relationships with parents, $F(6, 278) = 1.07, p = .38$; and no univariate effect on CDI, $F(2, 168) = 1.05, p = .35$; quantity of conflict issues, $F(2, 178) = 1.13, p = .33$; or average emotional intensity of conflict, $F(2, 160) = 1.76, p = .18$. There were no univariate effects of condition on any of the variables included in the MANCOVA.

Effects of parent engagement: Hypothesis 5. Hypothesis 5 proposed that the impact of the interventions on parents and adolescents would be related to the parents' engagement in the interventions. The next test was to identify the impact of the interventions on the adolescents whose parents were engaged in the intervention compared with those in the control condition. Engagement was defined as having either parent who attended two or more workshop sessions or completed the video intervention and was scored at two levels, any parent engaged or no parent engaged.

Table 28 lists the means and standard deviations for each adolescent variable for adolescents with parents engaged in the different interventions

Table 28

Means and Standard Deviations for Adolescent Measures at Pre-intervention, Post-intervention and Follow-up for Adolescents with Parents Engaged in the Interventions and in the Control Condition.

Measure	Parent Engaged in Workshop			Parent Engaged in Video			Control		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Depression (CDI)									
Pre-intervention	77	2.44	1.21	40	2.40	1.45	62	2.53	1.26
Post-intervention	72	2.18	1.36	41	2.34	1.55	59	2.17	1.28
Follow-up	67	2.49	1.28	35	2.52	1.37	56	2.28	1.27
Total Attachment									
Pre-intervention	77	5.90	2.12	40	5.58	2.45	62	5.80	2.22
Post-intervention	72	6.56	2.39	39	6.21	2.69	58	6.55	1.93
Follow-up	66	5.99	2.28	35	5.79	2.40	55	6.26	2.10

Measure	Parent Engaged in Workshop			Parent Engaged in Video			Control		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
IBQ Total Appraisal of Mother									
Pre-intervention	76	2.38	1.40	39	2.60	1.93	61	2.43	1.47
Post-intervention	71	2.17	1.35	38	2.68	1.40	58	2.02	1.32
Follow-up	66	2.52	1.46	32	2.67	1.58	55	2.27	1.46
IBQ Total Appraisal of Father									
Pre-intervention	72	2.50	1.51	34	2.70	1.43	53	2.38	1.47
Post-intervention	67	2.22	1.54	31	2.43	1.66	52	2.11	1.58
Follow-up	65	2.68	1.73	31	2.56	1.55	49	2.62	1.58

Measure	Parent Engaged in Workshop			Parent Engaged in Video			Control		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
IC Quantity of conflict issues									
Pre-intervention	76	4.00	1.01	40	3.76	1.10	62	3.71	1.05
Post-intervention	72	3.47	.92	40	3.48	1.21	58	3.58	1.05
Follow-up	66	3.84	1.18	34	3.99	1.27	55	3.84	1.16
IC Average intensity of conflict									
Pre-intervention	76	1.77	.65	40	1.84	.86	61	1.83	.72
Post-intervention	72	1.89	.68	40	1.98	.97	58	1.65	.76
Follow-up	66	2.06	.66	33	2.16	.81	55	1.92	.58

Note: No comparisons were significant at $p = .012$. CDI = Children's Depression Inventory. PAQ = Parental Attachment Questionnaire. IBQ = Interaction Behavior Questionnaire. IC = Issues Checklist.

compared with the control group. Analyses of covariance were carried out with adolescent CDI, total attachment and IBQ appraisals of mother and father, quantity of conflict issues and average intensity of parent-adolescent conflict at post-test and at follow-up, with parent engagement in the workshop or video intervention and membership in the control group as the three-level IV and the relevant pretest measures as covariates. The dependent variables were combined for MANCOVA where appropriate, as previously described, with minor reduction in the number of cases due to list-wise exclusions arising from missing data.

Contrary to predictions there was no significant multivariate effect of parent engagement on relationships with parents at post-test, $F(6, 242) = 0.91, p = .49$, or at follow-up, $F(6, 236) = 0.70, p = .65$, and there were no univariate effects of parent engagement on the adolescent variables included in these MANCOVAs at either post-test or follow-up. There were no univariate effects of engagement on quantity of conflict issues at post-test, $F(2, 160) = 1.86, p = .16$, or at follow-up, $F(2, 147) = .72, p = .49$; on average intensity of conflict at post-test, $F(2, 159) = 2.21, p = .11$, or at follow-up, $F(2, 135) = 2.22, p = .11$; or on depression (CDI) at post-test, $F(2, 150) = 0.56, p = .57$, or at follow-up, $F(2, 139) = 0.79, p = .46$. The prediction that parents' engagement in either format of the intervention would result in improvements for the adolescents was not supported.

Effects on troubled adolescents: Hypothesis 6. As the majority of participating adolescents would be experiencing good family environments and could not expect significant improvement after the intervention, any analyses would be affected by the limited range of expected movement in these adolescents from healthy families. However troubled adolescents have the potential for significant improvement on several measured variables. Adolescents from troubled families

can be identified by sub-clinical or clinical range scores on the CDI so that the effects of the intervention on these adolescents can be examined separately. It was proposed in Hypothesis 6 that the effects of the intervention would be greater in these participants than in the whole group. Forty adolescents were identified at pretest as experiencing clinical or sub-clinical levels of depression. Of these 30 completed at least some post-tests and 26 completed follow-up tests. Analyses of covariance were conducted with multivariate analysis of the parent relationship variables (attachment and IBQ appraisals of parents) and univariate analysis of the quantity of parent-adolescent conflict issues and average intensity of conflict and of depressive symptoms.

These analyses found no multivariate effect of parent involvement in the interventions on parent relationships at post-test, $F(6, 24) = 0.97, p = .47$; or at follow-up, $F(6, 22) = 0.51, p = .79$; and no univariate effect on quantity of conflict issues at follow-up, $F(2, 22) = 1.04, p = .37$; on average intensity of conflict at post-test, $F(2, 27) = 0.44, p = .65$, or at follow-up, $F(2, 22) = 1.10, p = .35$; or on depressive symptoms at post-test, $F(2, 27) = 0.31, p = .74$, or at follow-up, $F(2, 24) = 0.67, p = .52$. The only significant effect of treatment was on quantity of conflict issues at post-test, $F(2, 26) = 6.65, p = .005$, with adolescents whose parents were engaged in the video intervention reporting more issues for conflict ($n = 8$, adjusted $M = 4.65, SD = .26$) than those with parents engaged in the workshop intervention ($n = 12$, adjusted $M = 3.57, SD = .21$), $p = .002$, or the control condition ($n = 10$, adjusted $M = 3.54, SD = .24$), $p = .005$. Thus with this one exception there was no difference between at-risk adolescents whose parents were involved in either intervention and those in the control group.

Clinical significance: Hypothesis 7. It was predicted in Hypothesis 7 that

the clinical significance of the effects of the interventions would be measurable by positive movements between the clinical and subclinical and healthy categories of students. However with no evidence of any effect of the interventions even on students classified as clinical or subclinical at pretest there appeared to be no benefit in pursuing evidence of clinical significance.

Summary

In summary, the prediction that the video format of RAP-P would be more attractive to participants was not supported, with the video format attracting a lower percentage of potential participants than the workshop format. Engagement in the video format was not significantly better than engagement in the workshop format. Consumer satisfaction evaluations for the two formats were predicted to be similar but the evaluations of the video format were consistently less positive than evaluations of the workshop format. However the parents' perceived benefits of the two formats were not significantly different.

Parents provided qualitative appraisals of the workshop intervention indicating that parents responded most positively to sharing information with other parents, having their own experiences normalized, and having their parenting practices affirmed and their self-esteem and confidence boosted, the relevance and helpfulness of the topics, and the positive focus. Parents in the video group most enjoyed the affirmation of parenting practices and boosting of their self-esteem, the helpful, easy to follow format, and having their experiences normalized. Parents in the workshop condition suggested that the workshop format could be improved by having more, shorter sessions, providing more information on nominated topics, and using the time better. Parents in the video condition suggested the inclusion of more information on nominated topics, and found the parents and families portrayed in the

video to be too perfect, too happy, not convincing, and of too restricted SES, potentially leading to feelings of inadequacy in viewers.

Contrary to the predictions made in Chapter 6 examination of parent variables related to the desired distal outcome of improved adolescent mental health, namely differentiation, anxiety, parents' perceptions of parent-adolescent conflict and parents' appraisals of the adolescents' conflict interactions, found no significant differences between conditions, showing that on an intention to treat basis the intervention had no effect. Further examination found that actual parent engagement in the intervention did not result in any intervention effects on parent variables at post-test or at follow-up when compared with the control condition.

Examination of intervention effects on adolescents on an intention to treat basis also found no differences between conditions at post-test or follow-up on parental attachment or appraisals of parents' conflict interactions, or on depressive symptoms. Examination of the effects of parents' engagement in the intervention on adolescent variables also found no significant effects of parental engagement in the interventions. When only those adolescents whose pretest CDI identified them as either clinically or sub-clinically depressed were included in the analyses there was only one variable, quantity of conflict issues at post-test, on which adolescents with parents engaged in either intervention differed from those in the control group. At-risk adolescents with parents engaged in the video intervention reported significantly more conflict issues at post-test than those in the workshop or control groups; however the small numbers involved make this finding questionable.

Chapter 9

Discussion: RAP-P Engagement and Efficacy.

RAP-P was developed as a program for parents to parallel the Resourceful Adolescent Program for Adolescents (RAP-A; Shochet et al., 1997) which has been found to improve the well-being of sub-clinically depressed adolescents and to prevent the development of depression in initially healthy adolescents (Shochet et al., 2001). RAP-P was intended to be disseminated through schools beside RAP-A to build on parents' existing skills and improve the home environment so that benefits gained by the adolescents through RAP-A would be supported at home. This second part of this trial project investigated the relative merits of two formats of RAP-P, the workshop format and the videotaped flexible delivery format, in terms of recruitment, attrition, subjective evaluations by parents and outcomes for parents and adolescents.

Recruitment

Evaluations of preventive interventions involving parents have historically been plagued by poor recruitment of participants and the resulting poor statistical power for analyses and difficulties in generalisation of results (Brown & Liao, 1999). There is very little research into recruitment methods or strategies for family-based prevention (Prinz et al., 2001) and little empirical evidence for any particular method of increasing parent involvement in preventive interventions, particularly at middle-school or high school level (Durlack, 1997). Recruitment through schools and the provision of interventions in which parents can be involved at home at their convenience have been seen as ways of improving recruitment for parent preventive interventions (Brown & Liao, 1999; Durlack 1997; Hogue et al., 1999). In this trial an intervention requiring parent

attendance at workshop sessions at the adolescents' schools was compared with a flexible delivery videotaped format on which parents could work at their own pace at their convenience. Contrary to predictions the flexible delivery format did not attract a greater proportion of the potential participants than the workshop format, nor did it result in lower attrition.

Like many other prevention studies involving parents this study achieved a very poor overall recruitment rate of 15% of the potential participants. Recruitment rates below about 50% make it difficult to draw conclusions about the overall effectiveness of interventions while non-representative samples affected by significant self-selection negatively affect the external validity of the findings (Brown & Liao, 1999). Chapter 4 reports that despite the poor recruitment rate the sample in this study was found to be similar to Australian norms where available and appears to be representative of the Australian population on the variables measured.

Although on the basis of flexibility and the parents' ability to utilise the intervention at their convenience it had been predicted that the videotaped flexible delivery format of RAP-P would attract a higher recruitment rate than the workshop format (Durlack, 1997; Hogue et al., 1999), surprisingly this was found not to be the case, with the workshop format attracting 19.1% of the potential participants compared with 11.9% of potential participants in the video condition and 13.6% in the control condition. Contrary to the suggestions of Durlack and Hogue et al., parents appeared to be more attracted to the intervention requiring attendance at workshops than to the videotaped intervention in which they could participate at their own convenience at home. However the differential recruitment rates may have been affected by factors

other than the attractiveness of the interventions. The presence of other powerful factors affecting recruitment rates may be demonstrated by examination of recruitment rates in the different schools in the workshop condition, which recorded the highest overall recruitment rate.

In the workshop condition recruitment rates for the three schools were 48.6% of the cohort, the highest in the project; 5.7% of the cohort in the largest school; and 15.3% of the cohort in the third school. Thus this one condition included the school with the highest recruitment rate in the project, the school with the median recruitment rate which is also the closest to the mean recruitment rate, and the school with second lowest recruitment rate. As suggested by Brown and Liao (1999) and Prinz et al. (2001) the possible factors influencing the differences in recruitment rates within this one condition can be examined, in this case as a *post-hoc* exercise as the differences in recruitment strategies were not controlled by the researchers but imposed by the schools.

Factors that have been linked with improved recruitment for research projects in schools have included the endorsement by the school of the project, and the parents' level of identification with the person or organisation extending the invitation, in this case the school (Brown & Liao, 1999; Hogue et al., 1999). Both Brown and Liao and Hogue et al. also report that the use of a multi-stage approach with initial approaches followed up by either telephone contact or personal visits by skilled visitors has been found to increase recruitment rates. Prinz et al. (2001) also emphasise the benefits of a personal approach such as phone calls or visiting potential participants compared with a general advertisement or other impersonal approaches. In this study the use of telephone follow-up or personal visits to follow-up parents who had not returned consent forms

was not possible as the researchers were not given access to the contact details or mailing addresses of potential participants by the schools; however the use of follow-up procedures involving repeated messages to potential participants through the schools was possible. Post-hoc examination of the variations in the recruitment process and the rates of recruitment indicates that, as well as the flexibility of the intervention, these factors as well as other factors not yet identified have affected the recruitment rates.

The strength of the endorsement by the school (Brown & Liao, 1999) has been proposed as a factor in improving recruitment to preventive interventions but does not appear to have been the only influence on the recruitment rates in some schools, with strong endorsement of the project being given in two of the schools with the second lowest and third lowest recruitment rates, School 2 and School 6. The researcher was told by parents attending workshops at School 2 that the Deputy Principal responsible for Year 8, who was the researcher's contact person in the school, gave a very supportive endorsement of the project at the Year 8 Parents' night. At School 6 the researcher was invited to address a Year 8 parents' orientation night attended by at least 200 parents at which both the Principal and the Deputy Principal who was the nominated contact in the school indicated the school's strong support for the project and urged parents to participate. In both these schools the researcher was told by parents that the project was also supported by the School Principal in material sent to parents. Despite these strong endorsements, the parents of only 5.7% of students in School 2 and 8% of students in School 6 were recruited for the project. However at other schools where the project was strongly supported by the schools recruitment rates were higher, again indicating the presence of other unknown factors.

The prevention literature does not provide comment on aspects of recruitment such as how participants' responses are returned to the researchers. Some schools requested the use of reply-paid envelopes to return consent forms directly to the University although this was considered likely to result in lower recruitment rates as the schools would have no indication of rates of return and no basis for following up the return of forms. In schools where consent forms were returned to the school the staff could be aware of the rate of returns and suitably encourage students to return the forms. With one exception schools that used reply-paid envelopes recorded below-median recruitment rates with the recruitment rates from schools using reply-paid envelopes varying from 5.5% to 15.5%. The monitoring of returned consent forms allows personal follow-up representations to students who have not returned their forms, similar to the multi-stage approach suggested by Brown and Liao (1999), although this must be handled in a way that does not become coercion to participate.

Examination of Table 9 shows that the three schools with the lowest recruitment rates, Schools 2, 6 and 9, were also the three largest schools with Year 8 cohorts exceeding 220. It appears that the size of the school may be a factor in the recruitment of participants for this prevention trial although the relationship between the size of the school and recruitment may not be direct and may be influenced by other factors. One problem is that the responsibility for promotion of the intervention and follow-up is an onerous responsibility which falls on already busy school staff. Nicholson, Oldenburg, Mcfarland and Dwyer (1999) found that the demands of mental health interventions on teachers' time were seen by education staff in primary or elementary schools as a barrier to mental health interventions in schools, and this was

found to be the case in this study. Although the author observed that the contact persons within these schools, all at Deputy Principal level, were very enthusiastic and strongly supportive of the Project, each indicated to the author that they were unable to devote as much time as they would have liked to the Project due to pressures from their day-to-day work. Consequently in these schools the follow-up of consent forms was reported by the contacts themselves to be minimal with few if any regular personal representations on a class basis encouraging students to return consent forms. To reduce workload for the school staff two of these schools used reply paid envelopes to return consent forms directly to the researcher, and consequently the schools had no indication of the rates of returns. In the third the return envelopes were placed by students in a box in the school administration office and the number of forms returned was checked only once, when an extension of the return time was sought by the school and the students were urged to join the Project.

In contrast in the school with the highest recruitment rate the Project contact in the school reported visiting every Year 8 class daily over the recruitment period to collect consent forms and encourage the return of the forms. School contacts in other schools with above-median recruitment rates, including the smaller government schools, also reported similar follow-up activities although class visits were less frequent than daily. Although the schools' privacy policies prevent personal approaches to and follow-up of non-consenting parents by research personnel the strength of follow-up activities within the classroom and the school does appear to impact on the number of parents who consent to participate in the interventions. Although there is little discussion in the literature concerning factors impacting on parents' involvement in middle school

prevention activities, the students' level of interest in prevention programs and their support for their parents' involvement has been identified by Hahn, Simpson and Kidd (1996) as among the strongest cues to parent involvement in elementary school preventive programs. The consistent support of the school expressed through repeated classroom visits by the representative of the intervention in the school would be expected to increase students' interest and their pressure on parents to participate. Overall it appeared from the author's observations and anecdotal evidence that the level of engagement of the Project's representative in following up the return of consent forms within the school was the strongest single factor that influenced recruitment rates.

The level of parents' identification with the schools as the sponsors of the invitation may also have been a factor in the recruitment of participants (Brown & Liao, 1999; Hogue et al., 1999). The literature provides little empirical evidence concerning parent identification with high schools. Hahn, Simpson and Kidd (1996) while investigating parent involvement in elementary schools found that a culture that invited parents to be meaningfully included in students' activities in the early years fostered good relationships with parents and strengthened parent identification with schools. However parent involvement in most high-school activities would not be appropriate, so this means of increasing parent identification with the schools would not be available.

There is some but not unequivocal support for the identification of school size as a factor in increased engagement with the school (Furlong et al., 2003). Some studies report links between school size and various positive outcomes, with smaller schools thought to foster better levels of engagement (e.g. McNeely, Nonnemaker & Blum, 2002), while some find no links (e.g. Anderman, 2002). In this study the four schools

with recruitment rates higher than 20% included three private schools and the smallest government school, where the researcher observed that the Principal appeared to know all students by name and often asked after family members and family circumstances when walking in the school grounds. It may be that parent identification with schools may be stronger when they have chosen to invest financially in their children's involvement in a private school, as suggested by cognitive dissonance theory (Festinger, 1957), or when the size of the school is small enough that relationships with school staff are likely to be more personal than in a large school.

Although this study encountered very poor recruitment rates there is evidence that preventive interventions can attract sufficient parent involvement to be considered successful (Shepard & Carlson, 2003). Shepard and Carlson reviewed 20 school-based preventive intervention programs involving parents and evaluated eight of these as successful, with five of these eight studies involving parents of early adolescents in programs focusing on prevention of the abuse of alcohol and other drugs. With substance abuse being a well-documented and common problem for adolescents with potentially disastrous sequelae, the potential benefits of these interventions may have been seen by parents as justifying their involvement (Prinz et al., 2001) in a way that could not be matched by an intervention designed to help parents through the general difficulties of adolescence. Although many parents who were involved in the interventions identified the normalisation of their experiences and families as a very positive part of the program, indicating an awareness that all was not as good as they would have liked in their families, other parents who did not choose to become involved may not have had the same level of concern about their families or their adolescents.

Implementation of the Videotape Format

The implementation of the videotaped format encountered a number of unforeseen problems. The major problem was the difficulty in establishing the first telephone contact with some participants. Participants had been asked to provide a telephone number for contact and suitable times for the telephone contact. When using these telephone numbers and calling at the appropriate times the facilitators were able to establish contact with some participants quickly and introduce the intervention and arrange for the package to be sent to the parents. However facilitators experienced considerable difficulty in contacting some parents and consequently delays in mailing packages to parents ranged up to 37 days.

Further delays were experienced in making the follow-up contact with participants, with many participants being phoned several times before they advised the facilitators that they had watched the video and completed the workbook. The mean period between mailing the package to the parents and the post-intervention interview was 99 days and mean times for facilitators ranged from 62 days to 144 days. Although it is clear that the average delays differed between facilitators and to some extent were possibly a function of the facilitator's level of persistence and the time devoted to the project by facilitators, the process for these participants was very time-consuming and would be expensive if the facilitators were implementing a large-scale universal intervention. Without the efforts of the facilitators it is clear that many if not most participants would never have watched the video and completed the exercises, severely impacting on the effectiveness of the intervention. Many participants told facilitators that they were finding it difficult to allocate the time to watching the video; contrary to

the accepted wisdom it became less likely rather than more likely that participants would actually engage in this more convenient format of the intervention.

Unexpectedly the rates of withdrawals from the video condition differed greatly between facilitators, ranging from no withdrawals for two facilitators to eight withdrawals for another. All facilitators were psychology graduates and two were post-graduate clinical psychology students, so all could have been expected to use appropriate communication skills in dealing with participants. In addition all facilitators had completed a two-hour training session conducted by the researcher at which the format of the interviews was discussed, the required microskills were reviewed and the RAP-P approach of appropriate respect for parents was reinforced. The facilitators were allocated equal numbers of participants from each school to avoid confounds between facilitators, schools and SES, so the large differences in withdrawal rates between facilitators would appear to be related predominantly to facilitator characteristics.

The differential withdrawal rates may indicate that the approaches of the facilitators to the parents differed significantly, possibly due to personality differences between facilitators, with some facilitators encouraging participants to continue their participation while others apparently attracted negative reactions from participants. Based on evidence from other interventions Brown and Liao (1999) and Prinz et al. (2001) conclude that characteristics of research staff interacting with participants and the quality of those interactions can result in significant variations in recruitment and attrition rates and the difference in attrition rates between facilitators in the video condition of the current study is congruent with that finding. Prinz et al. identify the ability to establish rapport with interviewees as the primary concern for project

personnel, and although this factor was covered in the training of telephone facilitators it appears probable that the communication style of one of the facilitators may have impeded the establishment of rapport and potentially resulted in a lack of engagement by the participants and subsequent withdrawal. This reinforces the need for the selection and training of facilitators with appropriate communication styles who will be able to both engage and retain participants in any intervention that requires telephone facilitation.

One of the primary reasons for the use of a videotaped flexible intervention was the apparently low cost of the intervention compared with interventions requiring face-to-face contact with participants, for example parent workshops. The cost in facilitator time and consequently the financial cost of providing facilitation for parent groups is considerable, while lecture formats are relatively inexpensive but have not been found to be effective (Webster-Stratton, 1996). The involvement of facilitators in videotaped flexible delivery programs appears necessary; Webster-Stratton (1994) and Webster-Stratton and Hammond (1997) found that the addition of face-to-face therapist contact with participants, usually in groups, significantly added to the positive outcomes; while parents in the pilot study of the RAP-P video format strongly supported the involvement of telephone facilitators (Douglas, 1999). Although this study specifically did not involve video condition parents in groups, but provided facilitation by telephone, the results indicate that many parents would probably not have proceeded with the intervention without the facilitator involvement.

The cost of the provision of videotapes and workbooks for the flexible delivery format is minimal, but the need for telephone facilitation to accompany the videotape

and workbook has been found in this study to incur very considerable costs in the involvement of appropriate personnel. With the difficulty in establishing contact with some parents and the need for repeated calls because parents had not watched the video, the expenditure of facilitator time for each participant in the video condition was at least 30 minutes and in many cases more than 60 minutes, approaching the facilitator time required for each participant in the workshop format.

The review of the prevention literature provided evidence for the effectiveness of some videotaped parent interventions, particularly those developed by Webster-Stratton and associates (Webster-Stratton, 1994; Webster-Stratton & Hammond, 1997; Webster-Stratton & Hancock, 1998; Webster-Stratton, Hollingsworth & Kolpacoff, 1989) which are among those interventions found to be effective by Shepard and Carlson (2003). When the difficulties encountered with the videotaped format of RAP-P are considered it is appropriate to examine the differences between Webster-Stratton's programs and the videotaped format of RAP-P. The most easily identified difference is that Webster-Stratton's programs are not universal preventive interventions but are either treatments for conduct problems in young children (e.g. Webster-Stratton, 1994) or indicated preventive interventions intended to prevent the further development of conduct problems in children with early symptoms of these problems (e.g. Webster-Stratton & Hammond, 1997; Webster-Stratton & Hancock, 1998). Consequently all parents involved in these interventions are aware of the existence of a problem, so have motivation to participate in the interventions and gain the potential benefits. Under these circumstances the parents are much more likely to become engaged and remain engaged in the intervention than the parents in the RAP-P trial who are mostly enjoying

good relationships with their adolescents and may not believe they have much to gain by their involvement.

Parents' Evaluations of RAP-P

It was predicted that both formats of RAP-P would receive similar consumer satisfaction evaluations by parents but this was found not to be the case. The workshop format was evaluated significantly more positively than the video format for overall satisfaction, how enjoyable parents found the program, degree of helpfulness to parents, meeting parents' expectations, how encouraging the program was to parents, and the presentation of material. Parents also rated the process variables unique to each program more positively for the workshop format than for the video format. For the workshop format parents rated each group process variable between 4.31 and 4.69 on a five-point scale, with the highest ratings being for facilitator characteristics, specifically the understanding and respect demonstrated by facilitators (4.69), the facilitators establishing relationships with parents (4.61), and the facilitators keeping the workshops focussed on the topics (4.51). Parents felt encouraged to contribute (4.39) and thought that the contributions of other parents were helpful (4.36). Parents also rated the small group activities as helpful (4.31). These ratings indicate that the process objectives of the groups, to model respectful, affirming and accepting communication to the parents, were met. They also indicate that the parents perceived the groups to be facilitated appropriately.

For the video format, parents rated the convenience of the video program most highly (3.81). The next highest rating was for parents' ability to relate to the parents in the video (3.72) followed by the degree of helpfulness of the workbook (3.53) and the

probability of watching the video again (3.08). This evaluation coupled with qualitative feedback and the feedback to telephone facilitators in the video condition indicates that parents who actually engaged in the video intervention did find the format convenient once they commenced the intervention. Feedback to phone facilitators indicated that parents either engaged in the intervention within the first few days after receipt of the intervention package of video and workbooks and enjoyed it, or found it increasingly difficult to set aside the time to commence the intervention.

RAP-P was developed as a positively focussed strength building program in which parents were seen as the experts on parenting adolescents, with the dual objectives of boosting parents' self-esteem and of allowing parents to hear about the successes of other parents with their approaches to particular situations. In the workshops parents' ideas were shared in the small groups and summarised for presentation to the large group sessions, with considerable time allocated to sharing input for each of the sections of the program. One of the problems with the video format of the intervention was the need to present a range of other parents' experiences and suggestions in a suitable format and this was achieved through presenting actors as parents discussing their own experiences. Feedback in a pilot evaluation of the video format had suggested that some parents from different socio-economic backgrounds might find it difficult to relate to the parents in the video so this item was inserted in the evaluation. The mean rating of 3.72 indicates that many parents did find it easy to identify with the families in the video, with a breakdown of responses showing that 28% of parents rated this item at 5 and a further 33% rated it at 4. However 39% rated this item at 3 or below, indicating that a considerable proportion of the participants had

difficulties identifying with the families in the video. Qualitative evaluations also indicated that approximately one quarter of the parents found the families in the videos unrealistic or likely to result in viewers developing feelings of inadequacy by comparing their families with those in the video.

Despite the significantly less positive evaluations given by parents in the video condition, parents in both workshop and video groups rated the likelihood that they would recommend the program to other parents above four on a five-point scale, with this being the only rating above 4.0 given to any evaluation item by parents in the video condition. However the rating given by workshop condition parents on this item was still significantly higher than the rating given by video format parents.

As well as consumer satisfaction evaluations, parents also rated the programs on perceived benefit to themselves. These ratings reported in Table 15 did not differ significantly between the two formats of RAP-P, and with one exception ranged between 3.09 and 3.78 on a five-point scale with five indicating the greatest value or benefit. The one exception was the evaluation of how much the intervention helped parents to look forward to a positive future, which was rated at 4.09 by the video group and 4.26 by the workshop group. Although parents perceived some benefits of the program in each of the targeted aspects of parenting and relating to teenagers the greatest perceived benefit was in parents' perceptions of the future. A significant thrust of the program and the major thrust of the third workshop session and the equivalent section of the video intervention was that the future could be very positive as parents and adolescents negotiated the developing independence of adolescence with the associated conflict and tensions while providing age-appropriate support. The strong positive evaluation of this

item indicates a good level of success in this objective. Unfortunately none of these perceived benefits translated into measurable improvements for the parents or the adolescents.

Parents also provided qualitative free-form feedback about the interventions, recording what they liked most about the interventions, and what they suggested could be changed to improve the interventions. Parents who completed the workshop intervention indicated that sharing experiences and ideas with other parents and finding new solutions was what they liked most about the workshops, mentioned by 48.4% of parents who completed the evaluations, followed by normalisation of the families' problems and experiences (31.8%) and affirmation of their parenting practices and improved self-esteem (also 31.8%), the relevance of the topics covered (17.6%) and the positive focus of the intervention (14.3%). Parents in the video condition liked the affirmation of their parenting (33.3%), the convenience of the flexible format of the intervention (27.3%), normalisation of their experiences (18.2%) and the practical, every-day common-sense nature of the intervention (18.2%).

It is not surprising that parents in the workshop condition found the sharing of ideas by other parents and gaining new solutions to problems to be a strong positive of this program. Throughout the program facilitators reinforced the idea that parents are the experts on parenting (Prinz et al., 2001, Shepard & Carlson, 2003) and encouraged all parents to contribute what they had found to be effective. Facilitators validated parents' input and were supportive even where there was a need to redirect parents. In every section of the program there was an opportunity for participants to share their experiences and solutions. From the feedback given this thrust was very acceptable to

parents and the high point of the program. This was also a positive for parents in the video condition, reported by 15.2% of parents, although the format of the video intervention and the high probability that parents would participate in this intervention at home without a group of other parents to provide input considerably restricted the range of shared experiences and solutions available to the input contained in the video, which was provided by the "parents" in the video after being identified from earlier workshop sessions. One video condition parent suggested as a potential improvement that participants within each school should meet to discuss ideas, which would have made this similar to the workshop format, supporting the idea that sharing of information by parents was a strength of the workshop format.

Affirmation of parenting practices was a specific goal of the first session of the first workshop and the equivalent section of the video intervention but was also a goal of the overall program and was reinforced throughout the program. The primary strategies used to achieve this in the workshop groups were the sharing of parents' strengths in parenting and the sharing of parents' solutions to problems, allowing solutions offered by one parent to be affirmed by other parents and by facilitators. In the videotaped intervention, the lack of face-to-face interaction precluded direct feedback to parents about their ideas but the objective was obviously achieved for many parents through the information conveyed by the parents in the video. The nomination of this aspect by 31.8% of workshop participants and 33.3% of video participants provides strong support for this approach.

Normalisation of the parents' experiences and problems was another widely recognised positive outcome of both interventions. Two strategies were utilised to

achieve this: a developmental psycho-educational approach explaining the developmental process of increasing autonomy and the need for age-appropriate support for adolescents; and the sharing by parents of their own experiences. Informal feedback from parents during the workshops indicated that while both strategies were effective, the sharing by other parents may well have been the most effective. Like the affirmation of parenting practices, normalisation of their experiences affected parental self-esteem as parents found out that their problems are not due to their incompetence as parents, as many indicated they had previously thought, but were the normal experience of parents of adolescents and were essential in the developmental process (Collins et al., 1997; Smetana, 1988, 1995).

The item asking parents' suggestions for the improvement of the workshop intervention was completed by 67 parents of whom 10 indicated no changes were necessary. The most common suggestion was to reduce the length of each night and have more sessions, made by 20 parents. Other suggestions included an earlier starting time or advertising a longer time (four parents), and better use of the available time (seven parents). These suggestions indicate that some parents at least found the sessions too long, or longer than expected, and linked this to poor use of time. The researcher became aware that at least one group consistently went over the agreed time and this may have prompted these remarks.

Parents also suggested the incorporation of more information on specific topics for both interventions, or the use of different strategies such as case studies. Some of the suggested topics would have been outside the scope of a strength-focused intervention such as RAP-P, and some were related to unusual approaches which would be unlikely

to be empirically supported. Other suggestions by small numbers of parents related to utilising an approach more dependent on the expertise of the facilitators than on the input from parents, which is an approach specifically avoided by the developers of RAP-P and is not supported by other empirical evidence (for example Hogue et al., 1999; Prinz et al., 2001, Shepard & Carlson, 2003). Prinz et al. and Shepard and Carlson both report that interventions in which the expertise of the parents is sought and valued, and parents are accepted as the experts on parenting, have been found to be much more acceptable than interventions in which the presenters take a position as experts giving their knowledge to the needy parents. The suggestions for more reliance on facilitators' expert input are at odds with the overall thrust of parent feedback which strongly supported the recognition of parenting skills and the sharing of parents' experiences and strategies.

The qualitative feedback as well as the quantitative evaluations indicated that the development of RAP-P had successfully achieved many of the process goals. The sharing of ideas and the support for parents as the experts, the affirmation of parents' practices and the normalisation of families' experiences were among the overall goals of the program and in particular the first section related to the recognition of parents' strengths. The affirming, respectful approach taken by workshop facilitators was generally appreciated. Only four participants criticized the work or approach of the facilitators, and some of this criticism appeared to be related to a perception that the facilitators should have been the "experts" contrary to the collaborative approach taken by RAP-P, while 12% of participants who completed evaluations mentioned facilitator actions or characteristics as positive aspects of the programs and workshop facilitation

was rated above 4.5 on a five-point scale in three quantitative evaluation items.

Apart from the suggestions that more information be provided on specific topics, made by eight participants, most suggestions for improvement from parents in the video condition related to the presentation of the "parents" in the video. The "parents" were seen as too plastic, too patronising, too perfect, too happy, unconvincing, and of too restricted socio-economic status. Some video condition parents thought the "parents" portrayed could make some participants feel inadequate. As a result of this feedback and the difficulties encountered in the implementation of the video format, this format was withdrawn from further dissemination.

Efficacy of RAP-P

The RAP-P interventions were developed to improve the family environment for adolescents with a long-term goal of reducing adolescent depression. This was to be achieved through reductions in parent-adolescent conflict, recognised as a potent risk factor for adolescent depression (Kaslow et al., 1994; Collins et al., 1997); improvements in adolescents' perceptions of their parents interactions with them, and consequently increased parental attachment which is a strong protective factor against adolescent depression (Brent & Moritz, 1996; Kaslow et al., 1994; Kenny et al., 1993). RAP-P sought to achieve these outcomes through boosting parents' self-esteem and self-confidence and providing strategies for reducing parental stress, resulting in improvements in parents' functional differentiation of self and consequently reduced reactivity to their adolescents. Strategies were provided to assist parents in reducing and managing parent-adolescent conflict.

It was predicted that, on an intention to treat basis, parents in the intervention

conditions would report better differentiation, lower levels of state anxiety, fewer issues for parent-adolescent conflict and less intense parent-adolescent conflict, and less negative appraisals of the adolescents' conflict interaction styles, after the intervention and at 12-month follow-up. However despite the parents' positive evaluations of the interventions and the parents' evaluations of the perceived benefits to them as parents of adolescents there were no significant differences between groups on any of these variables at either post-test or follow-up after allowing for pretest scores on the different variables. Thus on an intention to treat basis, which is the primary basis for evaluation of preventive interventions, the interventions had no measured effect. Overall, the whole process including recruitment, parent engagement in the interventions, the interventions themselves and the delivery of the interventions, did not result in any measurable benefit to the parents who were allocated to the intervention conditions compared with the control group participants.

With only 65% of consenting parents in the workshop condition attending two or more workshop sessions, and only 55% of consenting parents in the video condition engaging in the video intervention, any effects of the intervention on those parents who were engaged in the interventions and thus had the potential to change as a result of the intervention would be diluted by the responses of those who were not engaged in the interventions and consequently would not be affected by the interventions. This intention to treat evaluation therefore does not measure the actual efficacy of the interventions on those who participated, but may have implications for other aspects of the process including the recruitment and engagement of parents.

To measure the effects of the intervention on those who actually participated in

the interventions further analysis was conducted on the basis of parents' actual involvement in the interventions. This analysis found that parents who were engaged in the intervention did not differ from those in the control group on any post-test or follow-up variables. Thus actual engagement in the interventions had no effect on parents' reports of differentiation, anxiety or conflict, and a small positive effect on parents' appraisals of adolescents.

The adolescent measures of conflict and appraisals of parents' interaction behaviour were in effect the adolescent's perceptions of the parent outcomes so can be seen as input about the parents from another observer. While parents would be aware of the content of the program and the desired outcomes, and their responses to questionnaires could be influenced by demand characteristics (Shaughnessy & Zechmeister, 1994) the adolescents' responses may provide a more reliable indication of changes in parent behaviour. Adolescents' self-reported parental attachment and depression were the measures of the desired outcomes for the adolescents which were predicted to result from changes in the parents and were shown by the models in Chapters 2 to 5 to be related to adolescents' perceptions of parents and of parent-adolescent conflict.

With no evidence of significant changes due to the interventions in the parents' differentiation and anxiety, the primary parent variables linked to the desired outcomes for the adolescents, it could be expected that there would be no significant changes in the adolescent variables. Analysis on an intention to treat basis comparing conditions found this to be the case. Examination of the effect on adolescents of parents' actual engagement in the interventions by attending workshops or working through the

videotaped format of RAP-P showed that adolescents whose parents were involved in the interventions did not differ from adolescents whose parents were in the control condition on any post-test or follow-up variable. Thus although both the workshop format and the video format of RAP-P were positively evaluated by parents and were believed by parents to have been helpful in all the target areas that were evaluated, there is no measured evidence that parents' involvement in RAP-P made any significant difference to the lives and well-being of the adolescents, at least in the variables that were measured and at the times when the measures were completed.

Unfortunately this finding is not unusual with preventive interventions targeting adolescent depression. The review of the prevention literature (Chapter 6) found that despite strong evidence for the effectiveness of family based prevention in some areas such as prevention of substance abuse (Durlack, 1997; Greenberg et al., 2001) there was no evidence supporting the involvement of parents in prevention for depression (Compas et al., 1997; Greenberg et al., 2001; Roberts, 1999; Shepard & Carlson, 2003). Studies have found that the addition of a parent component to an intervention targeting adolescent depression has not resulted in improved outcomes (Clarke et al., 1999), while family therapy approaches have not been as effective as other approaches for the adolescents alone (Brent et al., 1997). No record could be found in the literature of any successful parent program to prevent adolescent depression.

The model-testing exercise of Chapters 2 to 5 found evidence that the parental variables targeted in RAP-P were all related, although not strongly, to the ultimate outcome variable, adolescent depression. One goal of RAP-P, supported by these models, was to strengthen parents' differentiation by increasing self-esteem, thus

reducing anxiety in the parent-adolescent relationships and reducing the motivation for parental over-control and conflict arising from incongruence between parents' and adolescents' perceptions of appropriate autonomy. In this aspect RAP-P differs from other parent interventions for adolescent depression in that RAP-P aims to achieve improvements in the adolescents' home environments in part by addressing parental well-being through improving differentiation by boosting parents' self-esteem, and reducing parents' stress. Along with strategies for increasing parents' ability to empathise with their adolescents and managing conflict, this could be expected to improve adolescents' relationships with their parents and parental attachment, resulting in decreased likelihood of adolescent depression.

Although neither parent nor adolescent self-esteem was measured in this study, parents' qualitative feedback indicated that parents' self-esteem was boosted by the positive strength-based approach of RAP-P and by the normalisation of their own experiences and families, as well as by reinforcement of their existing parenting strategies, particularly in the workshop groups. Poor self-esteem is one of the concomitants of poor differentiation and is related to individual's relationship anxiety resulting from the need to gain or maintain the approval of important others (Bowen, 1976) so improvement in self-esteem and confidence in one's parenting strategies could be expected to improve functional differentiation. Parents also found the stress management strategies helpful, and this could also be expected to reduce parental anxiety which is closely linked by Bowen to differentiation. However there were no measured improvements in differentiation related to the interventions.

One reason for this may be that the measure of differentiation used, the DSI

(Skowron & Friedlander, 1998) may be more a measure of basic differentiation than of functional differentiation (Miller et al., 2004). Differentiation as measured by the DSI has been found in one study by Tuason and Friedlander (2000) to be not affected by current environmental stress as functional differentiation would be (Kerr & Bowen, 1988), potentially indicating that the DSI measures basic differentiation which is not affected by the social environment. It is however more probable that the potency of the interventions was insufficient to effect changes in either functional differentiation or basic differentiation. The aspects of RAP-P that aimed to improve differentiation were related to boosting parents' self-esteem and self-confidence, both of which could be expected to result in lower levels of relationship anxiety and emotional reactivity and improved ability to take an "I-position," as well as strategies to reduce stress and anxiety. These changes in self-esteem, self confidence, relationship anxiety, emotional reactivity and ability to maintain an I-position all relate to functional differentiation (Bowen, 1976; Kerr & Bowen, 1988) in the role of the parent of an adolescent.

There is evidence that changes in functional differentiation may be effected in group therapy by interventions of six sessions of relationship enhancement training (Griffin & Apostol, 1993) or 10 sessions of family of origin therapy (Mcelwain, 2003). However the RAP-P interventions occupied only three 2.5 hour workshop sessions or approximately two hours of parent involvement in the videotaped format including all exercises, and this may not be sufficient exposure to the Bowen Theory therapeutic aspects of the program to affect significant change. It may be necessary to strengthen the thrust of the intervention addressing differentiation, possibly by specifically addressing parents' experiences in their families of origin and their unresolved

attachment issues as part of the retrospective sections intended to help parents to empathise with their adolescents.

The models indicated that although the mothers' differentiation and anxiety contributed to variance in adolescents' appraisals of their mothers' interactions and to adolescents' perceived emotional intensity of conflict respectively, the proportions of variance accounted for by the mother variables were small at 5% and 3% respectively. Thus it could not be expected that changes in parental differentiation alone would effect great changes in adolescent perceptions and mental health. It was also necessary to include other strategies which would assist parents in creating the supportive environment that the adolescents need. Apart from the approach based on Bowen theory and the level of parental differentiation, RAP-P also included strategies gained from the cognitive behavioural approach including stress management, conflict management and cognitive restructuring. Many parents reported that they had implemented these strategies and found them useful. Parents' implementation of these strategies in their parenting could be expected to result in changes reported by the adolescents, however the adolescents did not record any significant changes in their perceptions of parent-adolescent conflict, their appraisals of the adolescents' conflict interactions, or their level of attachment to parents.

It is important to take into account the common problem encountered with universal preventive interventions that most of the participants will not come from the families that will most need the intervention, and in most cases there is little scope for significant improvement in parent-adolescent relationships or levels of depression (Brown & Liao, 1999; Offord, 2000; Tolan et al., 1998). Many universal prevention

programs achieve the most beneficial outcomes in the most at-risk participants (Offord, 2000). Use of the most reliable indicator in this study of difficulties for adolescents, the sub-clinical cutoff for the pretest CDI, identified only 40 adolescents who were sub-clinically or clinically depressed and who could potentially benefit significantly from the interventions. Evaluation of the effects of the intervention in this group would provide measurement of effects similar to a treatment trial where each participant has scope for improvement (Mrazek & Haggerty, 1994), free from the diluting effect of a majority of participants who being healthy showed little scope for change. After attrition only 30 of these completed post-test questionnaires (ten on the control group, twelve in the workshop group and eight in the video group) and 26 completed follow-up questionnaires (ten in the control group, nine in the workshop group and seven in the video group) leaving a sample that was severely limited in statistical power. With these cell sizes only very large effects would be identified.

Even in this group of adolescents at heightened risk there was no evidence of positive change related to their parents' involvement in the interventions. The only significant measured difference between groups at either post-test or follow-up was a greater mean number of conflict issues reported at post-test by the at-risk students whose parents were engaged in the video intervention compared with the workshop intervention and the control group. Examination of this group of eight adolescents revealed that the mean was elevated by the presence of three of the five highest scores on the quantity of issues scale, although none of these were classed as outliers as defined by Tabachnick and Fidell (2000). The parents of these three adolescents had completed the intervention promptly and evaluated it positively, making it unlikely that any

difficulties associated with the video intervention had led to elevated family tensions and stress. The quantity of issues reported by these three adolescents had increased markedly since pretest, with increases of 20%, 46% and 100%, although the quantity of issues for the other five students in this group had decreased since pretest. The reasons for these increases remain unknown, but are unlikely to be related to the intervention. It seems probable that with the very small numbers in this group the presence of a few very high scores produced a spurious result.

It appears then that the interventions were not sufficiently potent to achieve the significant changes in parental behaviour and attitudes that would improve the well-being of the adolescents through reductions in conflict and intensity of conflict and parental attachment. This study, although limited by small numbers, has provided evidence that RAP-P does not achieve the needed changes over the time frame of measurements in the study. However this finding does help in establishing the lower limits for effectiveness in parent interventions. One of the factors that needs to be considered in the development of universal preventive interventions is the balance between effectiveness and cost (Sanders, 1998; Webster-Stratton, 1996), and to establish this balance the lower limits of effectiveness must be probed. Particularly with the known difficulties of involving parents in preventive interventions it is important to attempt to achieve change with an intervention that is acceptable and attractive to parents and this includes finding the minimum duration for the intervention that is effective. The workshop format with three sessions of approximately two and a half hours was seen by most parents as an appropriate length for the intervention although a few parents in their feedback suggested lengthening the program. The interventions, and

particularly the workshop intervention, were positively evaluated by parents and perceived by parents to have had positive effects on all the targeted outcomes. However either because the potency of the intervention was insufficient or because of a ceiling effect preventing significant change in the participants who were recruited, this intervention did not achieve its goals of measurable improvements in either parent or adolescent variables of interest.

Limitations of the Study

Several limitations of this study are acknowledged. The first is that schools were not always able to be properly matched on some potential confounding variables prior to random allocation to conditions. It was intended to match schools by randomly allocating similar schools to each condition and this was done prior to the end-of-year holiday break. However at the beginning of the new school year and shortly before the scheduled commencement of the project, the withdrawal of one of the large government schools and two larger non-government schools necessitated the rapid recruitment of new schools. Lower than expected recruitment rates also necessitated the recruitment of additional schools to bolster numbers. With few schools prepared to participate it became necessary to include schools which did not closely match those already in the trial. The use of pretest measures as covariates in efficacy analyses to some extent compensates for this short-coming but it is acknowledged that the lack of accurate matching does restrict the validity of the findings.

In common with many similar studies, this study was limited by the low recruitment rate and small numbers of participants. Although there was the potential for over 500 participants in each condition only 15% of the potential participants were

recruited and not all of these actively participated in the study. With less than about 50% recruitment rates the problems of self-selection and lack of ability to generalise to the population as a whole become significant (Brown & Liao, 1999; Capaldi et al., 1997; Stein et al., 1991), even though the sample appeared to be generally representative of the population on significant variables including the incidence of depression. We are unable to identify the factors that led 85% of the potential participants to refuse participation, and some of these unknown factors could be important factors that need to be addressed in a preventive intervention.

With poor recruitment rates numbers in each condition were low, limiting the statistical power of analyses and precluding the identification of outcomes with small effects sizes. The small sample size also precluded analyses on the basis of gender for either parents or adolescents. Consequently analyses of parent variables could not be carried out separately for mothers and fathers, although this would have been helpful. Analyses of effects on adolescent variables similarly could not be carried out separately for boys and girls although there is evidence that factors related to internalizing disorders including depression operate differently for girls and boys (Calvete & Cardenoso, 2005; Leadbeater, Kuperminc, Blatt & Hertzog, 1999). The small sample size also precluded analyses using hierarchical linear modeling which would be the method of choice for analysing nested data with three levels of analysis, individuals, schools and conditions, as cell sizes would have been too small to give satisfactory statistical power and the number of schools was insufficient to give sufficient power at the second level.

Another limitation was the total reliance on self-report measures for both

parents and adolescents. Self-report measures of internalising problems are considered to be reliable and desirable (Reynolds, 1994) but there remains a problem of common method variance strengthening relationships between adolescent variables and between parent variables at any one time. The problem of self-report measures is to some extent overcome by the use of both adolescent and parent measures, with the adolescent measures of conflict and adolescent appraisals of parents' interaction behaviour providing assessment by the adolescents of parents' behaviour and vice versa. Although only parents report on their own differentiation of self and anxiety, the adolescent measures provide an independent report on the outcomes of parents' conflict management and interaction behaviour hypothesised and shown by models to be related to improved differentiation and reduced anxiety.

Summary

Despite these limitations the study has made useful contributions to the field of prevention research. RAP-P is a unique intervention with the approach of improving adolescent well-being by improving parents' self-esteem and well-being. No previous examples of this type of parent intervention in any format could be found so there was no evidence for the potential attractiveness or effectiveness of this intervention in either the workshop or videotaped format. One positive finding has been that parents strongly appreciated the format and presentation style of the workshop format of RAP-P and evaluated the program very positively. The parents were particularly positive about the focus on hearing parents' opinions and solutions, the normalisation of parents' experiences, the affirmation of their parenting practices and the boost to their self-esteem, and the positive focus of the intervention. It appears that RAP-P has the right

objectives and an appropriate presentation style; the intervention just seems to lack the intensity needed to achieve results. The study has established that a more potent intervention is needed to affect change in parents' functional differentiation that could improve the family environment for their adolescents.

Another contribution has been the finding that the use of a videotaped universal preventive intervention for a potential but not necessarily experienced problem such as the problem of parenting adolescents may not be appropriate. Without the motivation of a need to solve a current problem parents who receive a videotape seem likely to find it difficult to find a suitable time to sit and watch the video although parents who have made a commitment to attend workshops seem to be prepared to honor that commitment. The need to provide telephone contact to follow-up parents' participation and the difficulties in establishing contact with parents at appropriate times meant that the videotaped intervention demanded a very considerable amount of facilitator time which significantly reduced the cost advantage of this format. The withdrawal of the videotaped flexible delivery format of RAP-P after the results of this study became available and its replacement with a format using a series of booklets both providing information from other parents and assisting parents to think through and record their own experiences and practices has produced positive results (Gittens, 2002). The booklets have achieved significantly more penetration and more favourable evaluations than the videotaped format.

Future research could attempt to find more successful ways of involving parents in preventive interventions related to potential adolescent problems other than substance abuse and conduct problems, for which there are already successful interventions. The

effectiveness of RAP-P as an indicated or selective preventive intervention could also be explored. With parents who are already experiencing problems the intervention may have the potential to attract and retain the interest of parents. There could also be benefit in including in RAP-P a more intense intervention to improve functional differentiation in parents while still retaining the major thrust of RAP-P; based on the usual methodology of Bowenian therapy this may involve a stronger focus on parents' relationships with their families of origin.

Chapter 10

Summary and Conclusions

This study sought to achieve two goals. The first was to evaluate the theoretical basis of the Resourceful Adolescent Parent Program (RAP-P), a universal preventive program for parents targeting adolescent depression and based on the family based psycho-social risk and protective factors for adolescent depression, with a focus on Bowen family systems theory (Bowen, 1976, 1978). To do this models linking the risk and protective factors for adolescent depression that are addressed by RAP-P were constructed and tested, confirming the theoretical basis for RAP-P. The second goal was to evaluate two formats of RAP-P. RAP-P was presented as either a series of three facilitated workshops attended by parents or as a videotaped flexible delivery format. Participants in the study were 242 adolescents and 361 of their parents recruited from six government schools and five non-government schools, who were allocated to three conditions: the workshop condition, offered participation in the workshop format of RAP-P; the video condition, offered the flexible delivery format of RAP-P; and a delayed intervention control group.

The study found support in the modeling for the theoretical basis of RAP-P and in parent evaluations for the process of delivery of the workshop format; in effect RAP-P is targeting the right factors in the right way. However despite high levels of consumer satisfaction the interventions did not result in any measurable improvements in either parents or adolescents, indicating that either the dosage was insufficient, the measurements were inappropriate, or consumer satisfaction is not related to clinical outcomes. Finally the flexible delivery format of RAP-P did not result in the expected

improvement in recruitment of parents but in fact encountered worse recruitment rates than the workshop.

The evaluation of the theoretical basis for RAP-P involved modeling with a number of family-based risk and protective factors for adolescent depression that have been identified in the literature and form the theoretical underpinning of RAP-P. Previously identified risk factors include heated parent-adolescent conflict (Kaslow et al., 1994), much of which is related to discrepancies between parents' and adolescents' perceptions of the appropriate degree of autonomy for the adolescents (Collins et al., 1997; Smetana, 1988, 1995). Poor attachment to parents, often related to lack of parental support and over-controlling parenting, is another identified risk factor (Kaslow et al., 1994). Conversely, strong and appropriate parental attachment is seen as a protective factor against adolescent depression.

Structural equation models with adolescent self-report data showed that the intensity of parent-adolescent conflict, and the adolescents' appraisals of their parents' ways of dealing with conflict, influence the level of self-reported attachment to parents, which in turn influences the levels of depressive symptoms. The number of issues for parent-adolescent conflict directly influenced depression, while adolescents' appraisals of their mothers' conflict interactions also directly influenced depression. The model indicates that a reduction in the number of conflict issues will directly reduce depression, providing some motivation for deciding which issues are important and thus really worth becoming involved in conflict, and which issues may be put aside in the interests of harmony, a feature of the third section of RAP-P. The ways in which parents deal with conflict, their availability to their adolescents, and the emotional intensity of

conflict all contribute to the adolescents' perceptions of their parents as sources of support and affection, measured as attachment. This reinforces the need for parents to be careful in conflict with adolescents to listen, to provide reasons for decisions, and to keep conflict from becoming heated wherever possible (Smetana, 1995, 1996), all aspects of parent behaviour covered in RAP-P.

Bowen Theory (Bowen, 1976, 1978; Kerr & Bowen, 1988) provides an explanation of the development of conflict between parents and adolescents based on the construct of differentiation of self, the ability of a person to balance autonomy and intimacy in close relationships, and to differentiate emotional and rational functioning. Poorly differentiated parents who lack these abilities experience high levels of anxiety in relationships and will be very vigilant to detect any sign of rejection of themselves in their children's behaviour. Consequently poorly differentiated parents will perceive as threats to themselves any attempts by their adolescents to establish themselves as autonomous individuals, although this development of autonomy is a part of normal adolescent development and is in effect the goal of adolescence. This process ensures that parents' differentiation is replicated across generations, with poorly differentiated parents raising poorly differentiated offspring.

Modeling with parent data supported Bowen's theory of the multigenerational transmission of differentiation of self, with the differentiation and anxiety levels of parents (generation 2) of the adolescents (generation 3) in the study being related to the differentiation of their parents, the adolescents' grandparents (generation 1). With insufficient fathers responding to questionnaires precluding analysis of father data, modeling with both mother and adolescent data showed that mothers' differentiation

influenced adolescents' appraisals of their mothers, while mothers' anxiety influenced adolescents' perceptions of the emotional intensity of conflict. As in the adolescent models, both of these variables influenced adolescents' parental attachment, which in turn influenced depression, while appraisals of mothers also influenced depression directly.

A tri-generational model linked the grandparents' differentiation with the parents' differentiation and finally the adolescents' perceptions of conflict and of their mothers and consequently attachment and depression. The adolescents' grandparents' differentiation operationalised as parents' retrospective perceptions of parental over-protection and care (Bowen, 1976; Parker, 1983) in their families of origin was shown to contribute significantly to the parents' differentiation and anxiety which in turn contributed to the adolescents' perceptions of their parents and the intensity of parent-adolescent conflict, which in turn contributed to adolescents' parental attachment and to depression. Unfortunately the Fusion with Others subscale of the DSI, the measure of differentiation used, proved to be psychometrically unsound (Skowron & Schmitt, 2003) so measurement of parents' differentiation did not include the impact of parents' fusion with others.

Thus the first part of the study provided, for the first time as far as could be ascertained, models linking the adolescent risk and protective factors for depression, and models supporting Bowen theory and in particular the trans-generational transmission of differentiation of self and links between parental differentiation and adolescent mental health. These models supported the theoretical basis on which RAP-P was developed and the strategies used in RAP-P. The models indicated that a three-

pronged approach was needed. The first was to improve parents' differentiation of self and reduce their anxiety with the objective of improving their ability to accept adolescent demands for increasing autonomy without seeing these demands as threats to themselves. The use of psychoeducational means to help parents to accept that the adolescents' demands were part of normal adolescent development as the adolescents move from being dependent children to being autonomous adults (Collins et al., 1997; Smetana, 1988, 1995) would assist by reducing the perception of this behaviour as a failure as a parent and thus a threat to the parents' value. The third approach was to provide parents with strategies for reducing their stress, maintaining harmony, and dealing with conflict, without a focus on reducing the negatives associated with parent-adolescent conflict. All these approaches are included in RAP-P.

The second part of the study investigated the implementation and efficacy of two formats of RAP-P, one in which parents attend three facilitated workshop sessions, and the other a flexible delivery format in which parents were sent by mail a videotaped program and workbook leading parents through the same processes as in the workshop format without requiring their attendance at workshops. This flexible delivery format was developed to overcome the commonly experienced difficulties in recruiting parents to attend preventive interventions. It has been proposed that an intervention that allowed parents to participate at their leisure at home would be more attractive and result in higher recruitment rates (Durlack, 1997; Hogue et al., 1999). Parents in the video condition were contacted by telephone facilitators who established contact with the parents, outlined the process and set a date for the next call, when the parents expected to have watched the video. It was expected that the two formats would be

similarly efficacious and similarly well accepted by parents and that the flexible delivery format would result in significantly better recruitment.

The predictions were not supported by the study. The videotaped flexible delivery format of the intervention achieved a lower recruitment rate than the workshop format or the control condition. Parent engagement for the video format was not significantly better than for the workshop format while attrition was higher. Parents' evaluations were significantly higher for the workshop format than for the video format. However one of the predictions was supported in that the perceived benefits of the two formats were similar.

In addition to failing to meet expectations of increased recruitment, the flexible delivery format of RAP-P encountered several significant implementation problems. Although parents had indicated a time for telephone facilitator to make contact multiple calls were required to make the first contact with many parents. While many parents watched the video soon after receiving it and were able to complete the intervention quickly, many procrastinated and multiple calls were required before the intervention was completed. Several parents withdrew without completing the intervention. There were significant differences between facilitators in completion times and in withdrawal rates, indicating that many participants found the communication styles of at least one facilitator to be not helpful.

Parents' evaluations of both formats but particularly the workshop format supported the general thrust of RAP-P as a positively focused intervention recognising and building on the parents' strengths, and acknowledging the parents as the experts in parenting. Parents appreciated the opportunity to interact with other parents of young

adolescents and to hear other parents' solutions to the problems they had experienced. They also appreciated the affirmation of their own parenting and the normalization of their families and of their experiences as parents of adolescents. Parents in the workshop condition evaluated the facilitation of the groups, including the attitudes of the facilitators towards parents, very positively.

Many parents in the video condition perceived the presentation of parents and families in the video as unrealistic and too perfect, and potentially unacceptable to participants of lower socio-economic status. These negative perceptions and the implementation problems led to the withdrawal from dissemination of the videotaped format of RAP-P and the substitution of a series of workbooks which have achieved significantly greater acceptance and penetration in a later study (Gittens, 2002).

At post-test immediately following the intervention and at follow-up 15 months later neither format resulted in measurable improvements in parents' differentiation, anxiety, appraisals of the adolescents' conflict behaviour or perceptions of parent-adolescent conflict, either on an intention-to-treat basis or when parents' actual engagement in the interventions was considered. Similarly neither format resulted in measurable improvements in adolescents' perceptions of conflict, appraisals of the parents' conflict behaviour, self-reported parental attachment or depressive symptoms, even when only adolescents with initially elevated levels of depressive symptoms were included in the analyses. Although the intervention was generally positively evaluated, with the exceptions mentioned above, and met the process goals set by the authors of RAP-P, it did not result in significant improvements in the targeted variables.

The limitations of this study include a small, self-selected sample which

impacted on the ability to generalize the findings beyond the current sample and on the statistical power to identify small effect sizes. The real-world inability to adequately match schools in the different conditions also impacts on the validity of the efficacy study. The small sample size limited the complexity of models that could be evaluated. Analyses of adolescent effects for males and females separately and the inclusion of fathers in models combining parent and adolescent data were also precluded by the sample size. The use of self-report measures was a limitation but was to some extent overcome by the use of multi-source data from parents and adolescents. The psychometric problems with the fusion subscale of the DSI, not identified until after all data collection was completed, also limited the findings with respect to parental differentiation.

Despite these limitations the contributions of this study are twofold. Firstly the study provided for the first time models linking parent-adolescent conflict, adolescents' perceptions of parents, parental attachment and adolescent depression. Although conflict, perceptions of parents and parental attachment have consistently been linked with adolescent depression, no earlier models linking all these variables could be found in the literature. The models confirmed the proposed links between the adolescent variables and supported the theoretical basis for RAP-P. The study also filled a gap in the sparse empirical support for Bowen Theory by providing for the first time models linking parents' differentiation across generations with adolescent mental health.

The further contributions of the study relate to the evaluations of the two formats of RAP-P. One finding was that the success of recruiting parents to participate in the study in any of the three conditions was strongly dependent on the ability of the

nominated representatives in the schools to devote significant amounts of time to encouraging students to participate and to following up the return of consent forms. In the largest schools the availability of staff to do this was particularly constrained although the staff concerned were very enthusiastic and the schools strongly supported the project.

It also appeared that despite empirical evidence that with sufficient motivation parents can be involved in school-based preventive interventions, particularly those related to future substance abuse (Shepard & Carlson, 2003), most parents did not have sufficient motivation to become involved in a program to help them through the general problems of adolescence. Another finding was that although there is evidence for the effectiveness of video-taped interventions as treatments or targeted preventive interventions, particularly addressing conduct problems (e.g. Webster-Stratton & Hammond, 1997; Webster-Stratton & Hancock, 1998), it seems that where parents do not have the motivation of seeking a solution to an existing problem they are likely to delay their involvement in a videotape based intervention and this may lead to eventual refusal to participate.

The study also found that despite very positive perceptions of RAP-P, the interventions failed to achieve significant measurable improvements in parental differentiation or anxiety, or to achieve a level of change in parent behaviour that would result in improvements in adolescents' perceptions of their parents or of parent-adolescent conflict. Consequently there were no measurable improvements in adolescents' self-reported parental attachment or depression.

In summary, the study found that the theoretical basis for RAP-P was

supported by the models based on previous research that were constructed and confirmed with minor changes. Parents' evaluations strongly supported the positive, strength-based thrust of RAP-P that recognised parents' strengths and their expertise as parents of adolescents. Parents also positively evaluated the process of delivery of the workshop format of RAP-P. Thus it can be concluded that RAP-P is based on the right theory, targeting the right factors, and in the right way. However RAP-P did not produce the expected positive effects or measurable improvements for parents or adolescents.

There are three possible explanations for this apparent inconsistency. Firstly, the positive consumer satisfaction evaluations may be unrelated to clinical outcomes. It is not surprising that parents enjoyed the positive, affirmative approach of RAP-P and the process which specifically modeled positive, encouraging communication. Parents saw the interchange of ideas with other parents as very positive and indicated that they learned new strategies this way. However any changes that resulted from the intervention were not sufficient to impact on any measured variable.

Another possible explanation may be that the study used inappropriate measurements of outcomes. However the models clearly linked all the parent and adolescent variables with adolescent depression, indicating that they were appropriate variables to target and measure. Two of the key variables that were measured, and two of the identified proximal indicators of the desired distal outcome of reduced adolescent depression, were adolescents' parental attachment and parents' differentiation. These factors are believed to be stable and were found to be stable in this study. It is possible that the measure of differentiation (DSI) measures basic differentiation rather than

functional differentiation so is not sensitive to changes in functional differentiation; however there were several other measures that should have identified any changes.

The third possible explanation for the lack of intervention effects may be that the intervention lacked sufficient potency to make measurable changes in these stable variables or in the behavior of the parents. There is evidence that interventions of six (Griffin & Apostal, 1993) or ten (McElwain, 2003) sessions based on Bowen theory can achieve changes in functional differentiation; however the three sessions of RAP-P, possibly compounded by the indirect approach to improving functional differentiation, appear to have been insufficient. Without changes in differentiation and subsequently in parental behaviour, there would be no effect on the adolescents. This is the most likely explanation for the failure to achieve an intervention effect.

This finding that RAP-P had no measurable positive effect on parental or adolescent variables although negative does establish that the RAP-P intervention is below the lower limit for achieving a measurable positive outcome. This provides an impetus to either strengthen RAP-P or to develop other interventions that will be more likely to achieve improvements in differentiation and parental approaches to their adolescents.

Once again this study encountered the well-known problems of universal preventive interventions involving parents. When the study was first mooted the literature recorded no successful family-based preventive intervention for adolescent depression although the importance of risk and protective factors related to the family is well known. The importance and relevance of these factors has been demonstrated by the modeling in the first part of this study. However there is still a mismatch between

what is known about risk and protective factors and what can be achieved in positive outcomes from interventions involving parents, with the greatest problem being the recruitment of the parents. The study has identified some examples of what not to do. It explored one potential method of improving recruitment through a videotaped flexible delivery program and found it wanting. However other flexible delivery formats may be more successful. The study also found that to be successful the intervention needs to be made more potent if it is to achieve improvements in parental or adolescent well-being, presumably by extending the time of interaction with the parents. However if the intervention were to require parent attendance for more sessions it could be expected that it would be even more difficult to recruit parents.

At the time of concluding this thesis there is still no reported successful universal preventive intervention targeting the family-based psycho-social risk and protective factors for adolescent depression. The search for successful prevention strategies in some medical areas has been long and iterative, but success has often been achieved after many years of searching. The search for successful prevention interventions addressing the family-based factors associated with adolescent depression may be similar. In the prevention of adolescent depression we still need to develop an intervention that is attractive to parents and sufficiently potent to make a difference in the lives of adolescents. Let the search for the "Holy Grail" continue!

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