ADOLESCENT INTERPERSONAL PROBLEM SOLVING AND FAMILY FUNCTIONING

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This thesis describes original research carried out by the author in the Department of Psychology of the Australian National University.

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ABSTRACT

The relationship between family functioning and interpersonal problem solving during adolescence are investigated in this study. Two self-report questionnaires were administered to a sample of 413 adolescents (183 boys and 230 girls aged between 14 and 18 years).

The first instrument comprised a MEPS Procedure specially modified for adolescents; it is a content-analysis measure of psychosocial skills displayed in different developmental task areas of adolescence. The second measure was a Family Functioning Questionnaire devised for the study; an evaluation of the level of family functioning, as perceived by the adolescent. It assesses the family system in terms of (1) Structure, (2) Affect, (3) Communication, (4) Behaviour control, (5) Value transmission, and (6) External systems. Results support the hypothesis that there is a relation between family functioning and interpersonal problem solving during adolescence.

Chapter 1

GENERAL INTRODUCTION

1.1 Background and Problem

Adolescent development has been extensively studied in different countries since 1904 when the work of Hall, "Adolescence", was published in the U.S.A. Early theorists defined the adolescent period in terms of biological changes and overemphasized adolescence as an inevitable period of "storm and stress". Under the inspiration of Freud, the main component of adolescent development was thought to be psychosexual. The last three decades have seen an enormous expansion of interest in theories and research that also include social, cultural and individual influences in understanding adolescent development.

Of all the present different approaches, psychosocial theory provides the most satisfactory overall viewpoint of adolescent development. It presents the course of adolescence as relating intraindividual stages in development to changes in environmental context and in the demands society places on young people in the transition from childhood to adulthood (Newman and Newman, 1975).

The psychosocial approach provides a systematic framework to describe major theories of adolescence, first in terms of developmental tasks (Havighurst, 1953), and second in terms of the psychosocial crisis of identity *vs* identity confusion (Erikson, 1950; 1968). A third concept important to the psychosocial approach is the coping process, whereby the individual makes an active effort to resolve stress and create new solutions to problems that face him or her in each developmental life stage (White, 1960).

'Real-life problem solving' describes a process which calls on the cognitive abilities of the individual in an effort to cope with intrapersonal and interpersonal problems in everyday life. The ability to cope with these problems is seen as a major determinant of emotional well-being and social adjustment in the personality development of the individual (Spivack *et al.*, 1976).

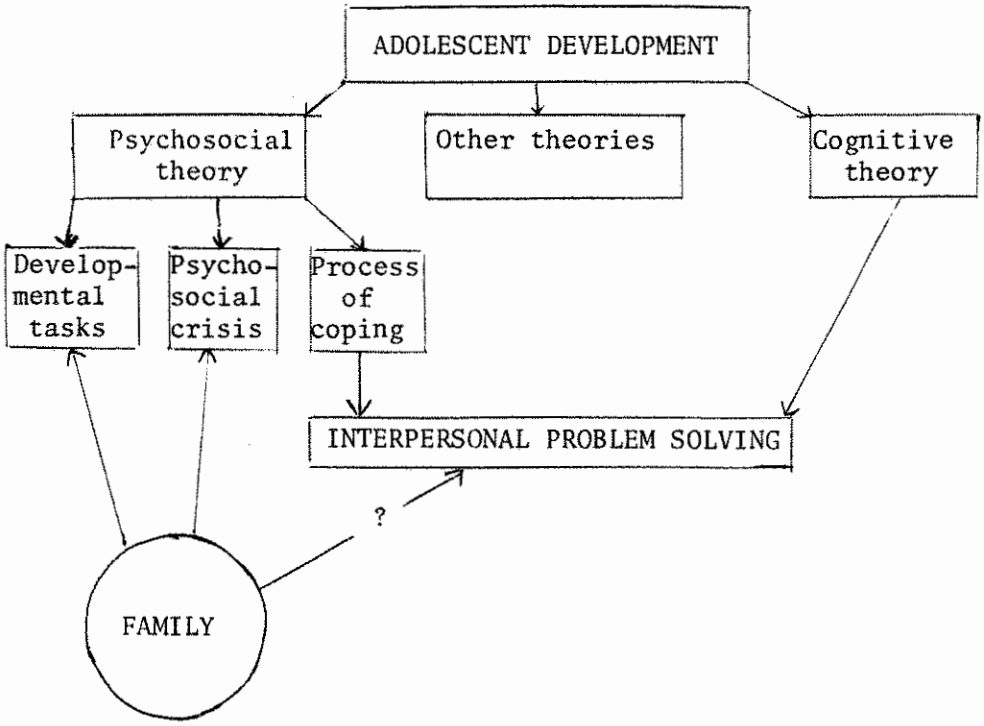
The family is generally regarded as the main matrix of personality development, laying the foundations for mental health in childhood. A relatively recent research trend has been the development of models conceptualizing the health of the family as a system which governs that of its individual members. These models are defined in terms of psychosocial characteristics of the family, which are regarded as conducive to family health as well as to the health of its individual members (Moos, 1974; Lewis *et al.*, 1976; Lewis, 1978, 1979; Beavers, 1977, 1981; Olson *et al.*, 1978, 1979; Epstein *et al.*, 1978).

The developmental approach to the functioning of family systems views the family as passing through stages (Duvall in Goldenberg and Goldenberg, 1980). One of these stages is that of having adolescent children, the stage on which this study focuses. The stages of the developmental life cycle of both the family and the individuals within it are defined by the developmental tasks specific to each stage which must be completed if those of subsequent stages are to be met satisfactorily. During the stage of having adolescent children, the major developmental task of the family is to focus on giving gradually more independence as the adolescent matures.

The research objective of this study was to examine the extent to which family functioning influences adolescent development as

assessed by the adolescent's ability to solve real-life interpersonal problem situations within the developmental task areas of his[1] life.

The place of this study within the broad area of theory and research in relation to adolescent development, is represented in the diagram below:



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[1] I have referred throughout to "he" rather than use a clumsy formula such as "he or she". However, except where the text deals specifically with differences between the sexes, any reference to the one sex includes the other.

1.2 Outline of Thesis

Chapter 2				Chapter 3	Chapter 4	Chapters 5 & 6	Chapter 7
PSYCHOSOCIAL THEORY				REAL LIFE PROBLEM SOLVING	FAMILY FUNCTIONING	RESEARCH DESIGN AND RESULTS	DISCUSSION AND PRACTICAL IMPLICATIONS
LIFE STAGE	DEVELOPMENTAL TASKS	PSYCHOSOCIAL CRISIS	PROCESS OF COPING				
Adolescence	1) Physical change and sex-role differentiation 2) Peer culture 3) Independence 4) Relations with opposite sex 5) Intellectual and vocational skills 6) Philosophy of life	Identity *vs* role confusion	1) Cognitive: gain and process new information 2) Affective: control one's emotional state 3) Social: Move freely within one's environment	Interpersonal problem solving process: 1) Defining the problem 2) Considering the alternatives 3) Viewing the consequences 4) Means-ends thinking 5) Role taking	Dimensions: 1) Structure 2) Affect 3) Communication 4) Behaviour control 5) Value transmission 6) External systems	1) Means-Ends Problem Solving Procedure (Adolescents) 2) Family Functioning Questionnaire 3) Relationships between them	1) Hypothesis supported 2) Development of instruments 3) MEPS Procedure (Adolescents): -preventive programmes (e.g. schools) -treatment programmes (e.g. adolescents in institutions) 4) Family Functioning Questionnaire: -research use -clinical use in family therapy or in counselling

Chapter 2

PSYCHOSOCIAL THEORY

2.1 Introduction

Different approaches to adolescent development have emerged since the beginning of the twentieth century, like the biological view of Hall, psychoanalytical view of Freud, sociological view of Davis, anthropological view of Mead, and the cognitive view of Piaget (Rice, 1975). Psychosocial theory, however, contributes an overall framework which systematizes major theories and empirical studies of both the intrapersonal growth of the individual and interpersonal growth within his environment.

Psychosocial theory is seen by Newman and Newman (1975) to be based on four organizing concepts:

(1) stage of development,

(2) developmental tasks,

(3) psychosocial crisis, and

(4) the process of coping.

The aim of this chapter is to describe psychosocial theory and relevant concepts, as applied to adolescent development.

2.2 Stage of Development: Adolescence

Writers consider the adolescent period to consist of one, two or three stages, depending on the age range with which they are concerned, and whether they focus on the overall conflict of identity formation *vs* role confusion during adolescence, or a more fine-grained

analysis of developmental tasks (Andersson, 1969; Coleman, 1971, 1975). For the present study Year 10 students in the A.C.T. were chosen. They represent a relatively homogeneous group in relation to age (so it can be assumed that all have reached puberty), and in being school-attenders, and thus confront a homogeneous group of developmental tasks which are the concern of the research.

2.3 Developmental Tasks

Each developmental task represents a need of both the individual and society. Whether the adolescent is able to resolve stress in mastering a task successfully will depend on how effectively the individual is able, simultaneously, to satisfy his individual need and the demands of society (Havighurst, 1953).

The developmental tasks reflect needs and gains in physical, intellectual, social, and emotional spheres of life. Successful completion of developmental tasks leads to satisfaction, adjustment, and preparation for harder tasks ahead on the way to maturity. Failure leads to unhappiness in the individual, societal disapproval, and difficulty with later tasks (Rice, 1975).

In 1953 Havighurst stated the original developmental tasks during adolescence to be as follow:

(1) achieving new and more mature relations with age mates of both sexes,

(2) achieving a masculine or feminine social role,

(3) accepting one's physique and using the body effectively,

(4) achieving emotional independence of parents and other adults,

(5) achieving assurance of economic independence,

(6) selecting and preparing for an occupation,

(7) preparing for marriage and family life,

(8) developing intellectual skills and concepts necessary for civic competence,

(9) desiring and achieving socially responsible behaviour,

(10) acquiring a set of values and an ethical system as a guide to behaviour (Havighurst, 1953, pp. 111-158).

To suit the purposes of their studies, authors summarized, combined and sometimes modified the ten original developmental tasks (Hurlock, 1968; Havighurst, 1976; McKinney *et al.*, Nitzberg, 1980).

The following summary represents the focus of the developmental tasks for the purpose of this study of 15 and 16 year olds who are still at school:

(1) accepting change in physique and sex role differentiation (combined with Hurlock, 1968; McKinney *et al.*, 1977),

(2) relating to adolescent peer culture (Havighurst, 1976),

(3) achieving emotional independence from parents (Rice, 1975),

(4) developing relationships with opposite sex (Nitzberg, 1980),

(5) developing intellectual and vocational skills (McKinney *et al.*, 1977),

(6) developing a philosophy of life (a combination of original tasks numbered 9 and 10 by Havighurst, 1976).

A brief description of each developmental task, its goals, conflicts experienced, and the process of coping, will illustrate how major are changes that must be made during adolescence.

2.3.1 Physical Change and Sex Role Differentiation

The onset of adolescence is often associated with rapid physical change, the maturation of the reproductive system, and the appearance of secondary sex characteristics (Grinder, 1973; Newman and Newman, 1975;

Collins, 1978a, 1978b). Self-consciousness is very common for both sexes as many of the changes can be readily observed as outward signs of physical maturity (McCandless, 1970).

According to Thornburg (1970), the adolescent has to learn:

(1) to live with his or her own body,

(2) to accept his or her particular physique and unique pattern of growth,

(3) to regard his or her body positively so that "appropriate social use is extended", and

(4) to be aware of appropriate adult sex roles, accepted by self and society (pp. 468-471).

Adolescents feel at first uncomfortable and clumsy with their new body image. It is frequently different from the glamorized concept of what they want to be. It takes some time to revise their ideal self concepts and to learn ways to improve appearance or accept their own physical characteristics as part of the unique self (Hurlock, 1968).

How the adolescent perceives his or her body, and the assessment of his or her physical appearance by peers, are of primary importance in social relations with the peer group. Studies indicate that visual observation of another adolescent precedes decisions to associate with him (Gottlieb and Ramsey, 1964; Allen and Eicher, 1973; Cavior and Dokecki, 1973).

The blurring of the clear-cut sex roles of earlier generations has occurred in parallel with such social changes as feminist movements (McCandless and Evans, 1973), asexual dress modes (Thornburg, 1970), and a greater proportion of mothers working and fathers participating in

child-rearing and domestic tasks (Matteson, 1975; Rice, 1975). Important aspects of sex role differentiation in present society are the adolescent's acceptance of his or her own sexuality as a male or a female, and the ease with which the role can be handled in behaviour and appearance (Stein, 1976).

2.3.2 Relating to Adolescent Peer Culture

Hurlock (1968) states that one of the most difficult developmental tasks the adolescent must master concerns social relations. For during this period the young person experiences an increased influence of the peer group.

During adolescence the individual spends increasingly more time outside the home. Most of that time is spent with members of the peer group. Therefore the peer group has an increasing influence on the adolescent's attitudes, behaviour, values, and interests, while that of the family correspondingly declines (Berger, 1978; Sebald and White, 1980).

This creates what some writers describe as the "parent *vs* peer" dilemma. Which have a greater influence will depend, to a certain extent, upon how competent the adolescent sees them to be as guides in specific circumstances (Brittain, 1971; Sebald and White, 1980). In general, conformity to parents' values decreases with age (Douvan and Adelson, 1966; Keeling and Nuthall, 1976), while conformity to peers peaks during mid-adolescence (Berndt, 1979).

Studies suggest that young people experience the membership of two worlds during adolescence, that of the family and that of the peer group (Douvan and Adelson, 1966; Emmerich *et al.*, 1971). In the family world the adolescent needs to continue a degree of dependency, to feel cared for by parents, and to experience security, and in the world of the peer

group he has a need to be accepted as an equal member of the group. To achieve the latter, the adolescent has to conform to the patterns approved by the peer group. The greater the difference in the values and attitudes between the family and the peer group, the more serious the dilemma of choice between conformity to demands of parents or peers (Hurlock, 1968). However, research in the U.S.A. has shown that when parents have a fundamentally good relationship with their adolescent child, they usually have a stronger influence on the adolescent's basic values, beliefs, and life goals than peers have. Peers, on the other hand, play a stronger role in influencing current modes of social interaction, like fashion trends, music, and language use (Sorensen, 1973). In healthy families it is therefore not necessary that membership of a peer group should generate family conflict. Contact with the peer group is rather seen as an extension of a positive experience of forming interpersonal relations with other individuals outside the family system.

2.3.3 Independence

A developmental task perceived by Kaluger and Kaluger (1974) as of primary importance during adolescence, is:

> to establish independence from adults, and parents in particular, in self-identification and emotional independence (p. 170).

In an attempt to achieve more freedom in the home, the adolescent sometimes goes through a period of intense rejection of adults, and especially of parents. If the teenager's feelings are considered, and he is encouraged to become responsible without undue restraint, he will begin to assume adult roles, and be more comfortable with them, from middle or later adolescence. The youngster will realize it is no longer necessary to assert independence with exaggerated, extravagant behaviour (Kaluger and Kaluger, 1974).

Parent-child conflicts are all part of normal development during adolescence and tend to fall into two main categories:

(1) issues involving greater demands for independence by the adolescent than the parents are willing to grant, and

(2) issues involving more dependent or childish behaviour on the part of the adolescent than the parents feel able to tolerate.

The first category includes conflicts over topics like the time the adolescent gets in at night, use of the family car, and freedom in choice of friends of the same or the opposite sex. In the second category fall parental disapproval of untidiness, irresponsible behaviour, or laziness in performance of family chores (Mussen *et al.*, 1969).

The characteristics of the family seem crucial in encouraging independence and determining how conflicts between parents and adolescents are effectively resolved. Douvan and Adelson (1966) found that it is the democratic style family, rather than the authoritarian family, that produces a more effective, expressive, and independent child. They confirmed the finding of a study of Elder (1963) who also states that a feeling of independence occurs more frequently among adolescents with parents who listen and who frequently explain their reasons for decisions and expectations. A high quantity of parental communication has been found to relate to increased ability to resist temptation among adolescents (Lavoie, 1973). The question seems then not to be whether autocracy or permissiveness in the family, but rather practice in learning to handle conflict through negotiation and compromise, that fosters in the individual a better understanding of himself and an ability to solve interpersonal conflicts through communication (Konopka, 1973, 1976; Rice, 1975; Conger, 1979).

2.3.4 Relationships with Opposite Sex

Kaluger and Kaluger (1974) describe a second major developmental

task during adolescence, as

> ... to develop social, intellectual, language and motor skills that are essential for individual and group participation in heterosexual activities (p. 170).

These skills are necessary in gradually preparing the adolescent for lasting adult intimate relationships, usually in the form of marriage and family life as marriage is still considered as the basis for family life by the majority of people in our society (Rice, 1975). In an American study of adolescents' interests and concerns, dating was found to be the second highest topic of concern, after school/grades, for both sexes (Smith, 1980).

Skipper and Nass (1966) found that dating is a way to prove or maintain status in the peer group. This finding was confirmed by Grinder (1973) who pointed out that those who had the greatest number of friends of the same sex, were also the most interested in dating.

Factors like the availability of contraceptives, the earlier maturation of adolescents, the influence of the media, and the change of sexual values in society, play an important role in the formulation of sexual values of adolescents (Grinder, 1973; Collins, 1978a, 1978b). There is a suggestion that during the last two decades, affection plays a decreasingly important role in some Australian adolescents' sexual relationships (Bell, 1974).

It is difficult to specify the prevalence of sexual intercourse within the adolescent population. It has been reported that 30% of unmarried female students at Melbourne University in 1972 and 45% from Sydney University in 1974 had had intercourse (McMichael, 1972; Collins, 1974). However, this sample is not representative of the whole adolescent population in terms of socio-economic class and age. Studies indicate that the percentage of the population who has had sexual

intercourse, increases with age during the adolescent period, doubling between 20 and 25 in Australia as well as in the U.S.A. (Collins, 1975; McCandless, 1970). Collins (1978b) concluded that casual or promiscuous sex is not the typical sexual pattern for most Australian adolescent girls. Although they are prepared to accept sex before marriage, most of them seek sex only in the context of an affectionate relationship.

Mol (1970) found religious affiliation to be an important determinant of sexual values when he studied students from the University of Sydney. The need for self-control and discipline of the sexual drive outside marriage were widely accepted among students who considered religion important.

The adolescent has to make his own choice between different sexual values that exist, but when the value of the peer culture is "sex with affection" and the value of the parents is "sex with affection *in marriage*", a generational conflict is bound to result (Conger, 1973; McCandless and Evans, 1973).

2.3.5 Intellectual and Vocational Skills

The adolescent needs to develop his intellectual and vocational skills to prepare for a career and economic independence when training is completed in later adolescence or young adulthood. The adolescent also needs an intelligent awareness of social influences around him in order to understand everyday life (Thornburg, 1970).

During adolescence the individual reaches the formal operational stage of abstract thinking (Inhelder and Piaget, 1958). During this stage he learns to consider a problem from different possible points of view. The adolescent is able to formulate hypotheses, to test them and become interested in thinking about thinking (Ginsburg and Opper, 1969).

These are cognitive skills the individual needs in understanding and dealing with the world around him. Individuals do not mature intellectually at the same age and it may happen that some adolescents reach this stage later than others, or not at all.

Society plays an important role in the development of intellectual skills and interests during adolescence. Sex differences in performance on IQ tests indicate that adolescent girls maintain their superiority in verbal skills from childhood, but in adolescence boys excel for the first time in areas of numerical and mechanical skills (Grinder, 1973). According to Collins (1978b) these sex differences may be the result of tradition and environmental influences, rather than be genetically determined. Baylay and Schaefer (1964) found that especially with early adolescent boys, higher intelligence was associated with loving and positively evaluating mothers. Another area where society exercises pressure, is in the strong emphasis it places on intellectual achievement, particularly under conditions of the increasing competitiveness in the labour force. In a study of Smith (1980) adolescents of both sexes viewed school and grades as their main concern. Their preoccupation with the preparation of their future jobs is reflected when they list careers as the aspect of their lives about which they most would like to gain more information.

Success in mastering the developmental task of acquiring necessary intellectual skills will influence the adolescent's self-concept, and he will be able to choose a career with more self-confidence than will the high school dropout who experiences a feeling of academic inferiority, and who can only choose among a limited set of alternative careers (Dentler, 1969; Collins, 1978a, 1978b).

2.3.6 Philosophy of Life

The young adolescent is concerned with the search for his own identity, and it is usually not until the senior years in high school that the teenager starts to look further for the meaning of life. In the process the adolescent begins to question existing values in order to develop independently his own philosophy of life (Matteson, 1975).

Environmental influences such as peer group, parents, school, religion, and prevailing social attitudes as displayed by the media, are important in forming the adolescent's attitudes (Collins, 1978a; 1978b). In general, the peer group and parents are the most important, because the adolescent tends to be more influenced by people he likes, loves or admires (Kaluger and Kaluger, 1974).

The development of a philosophy of life according to one's own value system, is a personal matter which the adolescent has to decide for himself. Some adolescents become very confused between the different, sometimes conflicting, values of peers, parents, religion, and society (Gottlieb and Ramsey, 1964; Thornburg, 1973; Collins, 1978a, 1978b). In expressing views in open discussions with people close to them, adolescents are able to organise their own thoughts and aspirations more clearly. Havighurst (1953) suggests that adolescents should be encouraged to study and analyse different value systems before reaching a conclusion.

2.4 Psychosocial Crisis

Erikson (1950, 1968) identifies eight stages in an individual's psychosocial development through life. During each stage a special crisis arises. The solution the individual finds to conflict is either through a positive pattern of coping that facilitates development and psychosocial health, or through a negative inappropriate pattern that

does not. The individual must cope successfully with the crisis of one stage in order to resolve healthily the crisis of the next. However, Erikson (1971) points out that no victory is completely or forever won, and a residue of immaturity is always present within the individual.

During adolescence the individual needs to form a positive identity expressed in an answer to the question "Who am I?" This identity is based on all facets of accomplishment of developmental tasks in different areas of the adolescent's life, including appearance, sex role, status in the family, capacities, relations to others, and his own ideology (Erikson, 1968; Rosenthal *et al.*, 1981).

Erikson sees the psychosocial stages as cumulative where the adolescent has to resolve the present identity crisis through past identification with parents (Newman and Newman, 1975). This forms the basis for future orientation in more intimate relationships during adulthood (Rosenthal *et al.*, 1981).

2.5 The Coping Process

To resolve stress and create new solutions to conflicts the individual encounters at each developmental stage, he has to develop a coping strategy for dealing effectively with each problem situation (White, 1960; Offer, 1969).

The conflict between the individual and the environment provides opportunities for learning effective skills in psychosocial coping and growth. White (1974) uses three components to describe the process of coping between the individual and the cognitive, affective, and social environment:

(1) the ability to gain and process new information,

(2) the ability to maintain control over one's emotional state,

(3) the ability to move freely within one's environment

(White (1974), pp. 47-68).

When the individual learns to cope effectively with the environment, he will develop a mode of behaviour that facilitates his own psychosocial development and growth. During adolescence the ability to cope with these components is influenced by the real life problem solving ability, as well as the level of functioning in the adolescent's psychosocial environment (Newman and Newman, 1975). The study reported here will focus on the interpersonal problem solving abilities of the adolescent in relation to the psychosocial functioning of the adolescent's family.

2.6 Conclusion

Although different theories exist to organise concepts in relation to human development, psychosocial theory provides a broad and flexible framework. It is based on development and psychosocial growth within the self (intrapersonal), as well as on relationships with other people in the environment (interpersonal). It postulates developmental tasks which the adolescent must complete in order to resolve the overall psychosocial crisis of identity *vs* role confusion. The attempts the individual makes to cope with the conflicts he is experiencing, depend on cognitive problem solving skills and the encouragement and demands of the social environment.

Chapter 3

REAL LIFE PROBLEM SOLVING

3.1 Introduction

Real life problem solving, dealing with interpersonal and intrapersonal problems, is part of everyday life for the individual. How well he handles these problems is a major determinant of the individual's emotional well-being and social adjustment (Spivack *et al.*, 1976). According to Reitman (1965), prerequisites of effective problem solving are a well defined given state (need), and a well defined goal. Only when these exist will any problem solving process be activated.

Work in the area of real life problem solving stems from two theories of human development: psychosocial theory as represented in Havighurst's developmental tasks, and Piaget's theory of cognitive development. As noted in Chapter 2, Havighurst conceives of developmental tasks during adolescence as based on the need of the individual to acquire skills, knowledge,and competence in the developmental task areas of his life. The goal is to master each developmental task successfully, thus becoming a well-adjusted social being (Havighurst, 1953).

According to Piaget (1958) the cognitive processes reach the formal operational stage during adolescence (Inhelder and Piaget, 1958). The individual is then able to ask hypothetical questions, think of all logical possibilities, and place items in a systematic order (Muuss, 1967). The adolescent can therefore apply his newfound ability in logical thinking to solve real life problems on a more mature level than previously (Hill and Palmquist, 1978; Keating and

Clark, 1980). Most adolescents of the ages of those in the present study, fifteen or sixteen years, have reached the level in at least some areas of thinking (Thornburg, 1970). Those in the lower streams in secondary schools may never reach the formal operational level of thought, but are still able to solve real life problems at a concrete level, though they may need more stimulation to do so (Spivack *et al.*, 1976; Hynes and Young, 1976; Thypin, 1982; Hunt *et al.*, 1982).

The aims of this chapter are:

(1) to describe the real life problem solving process, relating to interpersonal problems,

(2) to discuss the development of the Means-Ends Problem Solving (MEPS) Procedure,

(3) to illustrate the value of work on adolescent real life problem solving in existing treatment and preventive programmes.

3.2 Real Life Problem Solving Relating to Interpersonal Problems

An early statement about the relationship between impersonal problem solving and real life problem solving relating to interpersonal and intrapersonal problems, was made by Jahoda (1953). According to Jahoda, psychosocial adjustment can be enhanced by healthy modes of problem solving in the sequential tendency to:

(1) admit a problem,

(2) consider it,

(3) make a decision,

(4) take action.

These basic steps are also followed in the solving of problems in the impersonal world (Duncan, 1959; Weir, 1964; Davis, 1966; Simon and Newell, 1971).

The main body of research on interpersonal problem solving has been conducted by Spivack and his associates, though independent contributions have been made by Levenstein (1965) and D'Zurilla and Goldfried (1971). Spivack and Levine (1963) developed a theory about the relationship of the problem solving process and human adjustment, and their hypotheses have been extensively studied since then (Spivack and Swift, 1966; Shure and Spivack, 1972; Siegel *et al.*, 1974; Platt *et al.*, 1974; Spivack *et al.*, 1976).

Spivack *et al.* (1976) formulate the following steps in the process of interpersonal problem solving:

(1) defining the problem,

(2) considering alternative options,

(3) viewing consequences,

(4) means-ends thinking,

(5) role taking.

Evidence indicates that means-ends thinking is the most important variable in the real life problem solving process as an antecedent of psychosocial adjustment (Shure and Spivack, 1972; Platt *et al.*, 1974. Means-ends thinking can be defined as:

> the ability to conceptualize the step-by-step means of moving toward a goal (Spivack *et al.* (1976), p. 83).

Spivack and his associates therefore developed the Means-Ends Problem Solving Procedure with which they measure interpersonal problem solving skills in adults and children (Platt and Spivack, 1975; Spivack *et al.*, 1981).

3.3 Development of Means-Ends Problem Solving (MEPS) Procedure

3.3.1 Procedure

The Means-Ends Problem Solving (MEPS) Procedure is an instrument

to measure the ability of a person to conceptualize the means (sequence of steps) of moving towards a goal. The subject is presented with a story situation involving an aroused need and the satisfaction of that need (reaching the goal). The task is to make up a story that will link the beginning of the story and the end. There are separate forms for males and females. The MEPS Procedure for children consists of three stories and that for adults of seven stories. The use of at least three stories is advisable to achieve minimum reliability.

The MEPS Procedure can be administered either on a one-to-one basis or in a group situation, and has been used with both normal and disturbed populations. Stories included and their scoring have been revised several times, most recently in 1981 (Spivack *et al.*, 1981). This version, which uses only interpersonal problems and no impersonal ones, has been used in the present study. Stories are scored by the number of appropriate and effective means given by the subject, whereby the hero or heroine in the story reaches the stated goal. Individual story scores are summed to provide a single total score.

There is substantial experimental evidence that better adjusted individuals are more able means-ends thinkers (Platt *et al.*, 1974; Spivack *et al.*, 1976; Marsh *et al.*, 1980; Higgens and Thies, 1981).

3.3.2 Reliability

Spearman-Brown and alpha coefficients of reliability averaged .82 across a series of studies (Platt and Spivack, 1975). Test-retest reliability coefficients obtained in a variety of subject populations range from .43 for delinquent adolescents to .64 for college males (Platt and Spivack, 1975).

3.3.3 Validity

Construct validity of the test is indicated by its ability to differentiate heroin addicts from non-addicts, and psychiatric patients from non-patients (Platt and Spivack, 1972, 1974a; Platt *et al.*, 1973, 1975). The discriminant validity is indicated by the reported finding that means-ends thinking cognition is not a function of IQ in either the disturbed or control groups, whether intelligence is measured by the Wechsler Adult Intelligence Scale (WAIS), Otis-Lennon Scale or the Stanford Achievement Test (Spivack and Levine, 1963; Platt *et al.*, 1974; Platt and Spivack, 1975). Content validity is suggested by factor analysis of MEPS data. In each of three samples, a principal factor solution resulted, suggesting that all the stories measure the same quality of thinking (Platt and Spivack, 1974b). In a predictive validation of the MEPS Procedure in a group of young heroin offenders, a moderate correlation of .30 ($p < .05$) was found between the number of means and the length of time (in days) on parole before re-arrest (Platt *et al.*, 1973). Concurrent validity was examined by asking 45 heroin addicts and nine staff members of a treatment centre to nominate the seven best and the seven least adjusted group members. The "high" and "low" nomination groups were compared on their MEPS scores. The obtained *t* between the two groups nominated by peers, and for groups nominated by staff members, were significant on the .05 level (Siegel *et al.*, 1974).

3.3.4 Intrapersonal (Emotional) Problem Solving Thinking

Most of the research of Spivack and his associates focuses on interpersonal problem solving in normal and disturbed populations from a wide cross-section of society. They attempted to extend the application of the procedure to emotional problems, like anxiety or

depression, but results indicate that the solving of emotional problems requires more abstract abilities than does social problem solving. No significant differences were found between adolescent psychiatric patients, adult psychiatric patients, and their control groups (Platt *et al.*, 1974; Siegel and Platt, 1976). Further investigation of the unknown variables influencing emotional problem solving is necessary.

Other researchers have attempted to obtain more data about emotional problem solving and effects of emotional state on the problem solving process. Appel and Kaestner (1979) also failed to differentiate between the emotional problem solving abilities of male narcotic abusers in "good" and "poor" standing. Gotlib and Asarnow (1979) found that depression played a significant role in the means-ends problem solving abilities of university students in impersonal as well as interpersonal problems. This study also confirmed Spivack's findings that IQ does not correlate significantly with interpersonal problem solving performance in university students.

3.3.5 Adolescent MEPS Procedure

Both adult and child forms of the MEPS Procedure have been used with adolescents (Appel and Kaestner, 1979; Marsh *et al.*, 1981; Higgins and Thies, 1981). Both forms contain story roots about problems which may be irrelevant or unimportant to adolescents. A version of the MEPS Procedure specifically for adolescents was therefore developed for the present study.

3.4 Treatment and Preventive Programmes for Adolescents Involving Real Life Problem Solving

Research evidence about interpersonal problem solving skills obtained through the MEPS Procedure suggests that an individual with

problems in social adjustment might improve the quality of interpersonal relationships by learning the skills involved in the problem solving process. This has led to treatment and preventive programmes in a variety of populations from children as young as 4 years old to adult psychiatric patients (Shure, 1979; Urbain and Kendall, 1980).

Spivack and his associates have developed programmes for retarded children, hyperactive youngsters, kindergarten children, mothers of young children, school children of different ages, pregnant adolescent girls, depressed university students, young adults, schezophrenic and chronic psychiatric patients, adult alcoholics, drug abusers, and child abusers (Shure *et al.*, 1972; Siegel and Spivack, 1973, 1976; Shure, 1979; Shure and Spivack, 1978, 1981). The overall emphasis is on training the individual in a *way* of thinking, rather than *what* to think. Programmes create ways to stimulate thought and discussion around interpersonal problem situations with which individuals can identify. Stimulation has been provided in various forms, including videotapes, audiotapes, pictures, presented story roots, puppets, games, and role play. The choice depends on the diagnosis of the problem and the needs and interest level of the participants. The goal is to guide the participant to "think things through, make his own decisions and carry out his own ideas" (Spivack *et al.*, 1976, p. 296).

Studies indicate that for some clinical populations training programmes in problem solving skills are more effective in producing change than is one-to-one counseling or family therapy (Klarreich, 1981; Robin, 1981). This method has been increasingly widely used during the last few years in the U.S.A.

Programmes designed for the development of adolescent real life problem solving skills have been directed towards the following groups: (1) High school students' groups, for whom preventive programmes have been developed to focus on the process of problem solving by providing the adolescent with information about the necessary steps to take in reaching a solution to real life situations in general (Howe and Achterman, 1975; Goldfried and Goldfried, 1975; Gatz *et al.*, 1978; Feibelman and Hamrick, 1980; Henke and Jones, 1980; Smith *et al.*, 1981);

(2) Groups with mental or physical handicaps for whom treatment programmes have been devised include mentally retarded adolescents (Hynes and Young, 1976; Hunt *et al.*, 1982; Thypin, 1982), deaf school students (Pendergrass and Hodges, 1976), and hyperactive high school students (Alpert and Rosenfield, 1981);

(3) There has been only one attempt to apply a treatment programme to adolescents with emotional problems. This was for aggressive students within the school system (Kennedy, 1982);

(4) The largest number of programmes is for those groups of adolescents with social problems. These have been directed towards delinquent youths (Burglass and Duffy, 1974; Freedman *et al.*, 1978; Klarreich, 1981; Gaffney and McFall, 1981; Hazel *et al.*, 1982), smokers (Covington, 1981), drug abusers (Branca *et al.*, 1975 in Spivack *et al.*, 1976), pregnant adolescent girls (Schinke *et al.*, 1981), adolescent girls who needed counseling about contraception (Urberg, 1982), and adolescents from social minority groups (Buck, 1977; Finley, 1978; Wolf, 1978; Sewell *et al.*, 1983);

(5) A number of treatment programmes also exist for adolescent-parent relationship problems. These are different in that they usually include both parties in the programmes (Robin, 1977, 1979, 1981;

Blechman and Olson, 1976; Epstein, 1976; Hammond and Schutz, 1980; Sebald and White, 1980; Bright and Robin, 1981; Oliveri and Reiss, 1982; Barret, 1982).

3.5 Conclusion

In accomplishing developmental tasks during adolescence, the individual must learn to satisfy his needs and goals according to the approved standards of society. The social-cognitive process involved has been conceptualized above as real life problem solving, as assessed by the MEPS Procedure. Review of research literature suggests that those who score higher on the MEPS are those who are socially better adjusted, and that training in problem solving procedures for socially poorly adjusted groups can help them to function better in society.

Literature indicates that social adjustment of the individual adolescent, and success in completing developmental tasks, are related to the level of functioning of the family system of which the adolescent is part. Conceptualization and assessment of family functioning are examined in the next chapter.

Chapter 4

FAMILY FUNCTIONING

4.1 Introduction

A vast body of literature indicates the important role of the family in laying the foundations of personality development and mental health during childhood and adolescence. Therefore, in order to gain a better understanding of individual growth and development of the adolescent within his social environment, it is necessary to study the transactional processes taking place between the adolescent as a component of the family system and other members of the system (Ruano *et al.*, 1969; Nye and Berardo, 1981).

The aims of this chapter are:

(1) to provide a broad framework with a conceptual analysis of healthy family systems,

(2) to describe dimensions of family health that are required for adequate family functioning, and how these relate specifically to adolescent development.

4.2 Healthy Family Systems

Since the early 70's different models conceptualizing the health of the family as a system, have been developed (Moos, 1974; Lewis *et al.*, 1976; Epstein *et al.*, 1978; Olson *et al.*, 1978; Beavers, 1981). Research on family system models indicates six main dimensions contributing to healthy psychosocial functioning of the family:

(1) A family organizational structure with clear and permeable boundaries around individual members (Scherz, 1970; Beavers, 1977, 1981; Lewis, 1979a);

(2) A broad range of affective expressiveness (Lewis, 1978, 1979a; Beavers, 1981);

(3) Clear communication (Epstein *et al.*, 1978; Lewis, 1978, 1979a, 1979b; Beavers, 1981);

(4) Democratic pattern of behaviour control (Epstein *et al.*, 1978; Olson *et al.*, 1979);

(5) Value transmission by parents to children (Lewis *et al.*, 1976; Lewis, 1978);

(6) Clear and permeable external boundaries of the family in its relationships with systems outside the family system (Moos, 1974; Beavers, 1981).

Amongst those concerned with the functioning of family systems are writers such as Duvall who stresses that both the family, and the members who comprise it, must be viewed developmentally. Duvall sees the family as passing through stages, one of which is that of families with adolescents. The developmental framework focuses on the developmental tasks of individual family members, as well as on the developmental tasks of the family as a unit, during various stages of the family life cycle (Rowe, 1981). When the family passes through the life stage of having adolescent children, the developmental task of the family is to concentrate on the identity formation of the adolescent and on the gradual granting of more independence as the adolescent matures. Research studies show that families who meet the need of adolescents to grow towards independence provide an environment for high levels of psychological health and adjustment (Bell and Ericksen, 1976; Berger, 1978; Lewis, 1978).

A description follows of the six main dimensions identified by research studies designed to develop models of family health. The

outline of each dimension includes a short account of some of the aspects which have been measured and which show a relation to adolescent individual functioning.

4.3 Dimensions of Family Functioning Affecting Adolescent Development

4.3.1 Structure

The structure of the family refers to the regular patterns of interaction within the unit. This includes the existence of clear internal and external boundaries appropriate to the developmental level of individuals within the family (Scherz, 1970; Chaplin, 1975; Beavers, 1977, 1981).

The following are some of the aspects of structure assessed by research that have been shown to be related to healthy adolescent development:

-Equal leadership of parents implies a stable pattern of sharing power in the family (Fisher and Sprenkle, 1978; Lewis, 1979b). This has resulted in clear differentiation between the roles of parents and children, and encourages the adolescent in accepting adult authority (Pollak, 1968; Lewis, 1979b).

-Parental coalition/bond refers to the quality of the relationship between father and mother (Olson *et al.*, 1979; Kleiman, 1981). If it is good, it provides a basis for the quality of all relationships in the family as well as a model of a good marriage for the adolescent (Peck, 1963; Westley and Epstein, 1970; Lewis, 1978).

-Roles define the allocation of tasks and responsibilities in the family (Buckland, 1977; Epstein *et al.*, 1978). By participating in family chores, the adolescent learns to be accountable for duties

entrusted to him and to accept responsibility for his actions (Rodgers, 1968; Westley and Epstein, 1970).

-Internal boundaries, both of individuals and the family as a subsystem of broader social systems, must be clear and permeable (Olson *et al.*, 1979; Gantman, 1980; Kleiman, 1981). The establishment of such boundaries involves, amongst other features, teaching the adolescent to respect others' privacy, and providing for the adolescent's own need to keep certain things to himself (Strang, 1957; Collins, 1978b).

-Clear and permeable external boundaries of the family provide both a sense of family belongingness and freedom to relate to persons and systems outside the family. They encourage increasing independence of adolescent members, (Olsen *et al.*, 1979; Gantman, 1980; Kleiman, 1981) who can still enjoy some time within the family, but are able to spend increasing time outside it (Peck, 1963; Douvan and Adelson, 1966).

-Father-adolescent and mother-adolescent relationships, in which the adolescent is respected and accepted as an individual, provide a basis for the formation of meaningful relationships with other people and enhance psychosocial adjustment (Scherz, 1970; Rice, 1975).

4.3.2 Affect

Affect involves the mood of the family, and the tone, expression, openness, and responsiveness of feelings between family members (Lewis, 1978, 1979b; Beavers, 1981).

The following are some of the aspects of affect which have been shown to be related to healthy adolescent functioning:

-The expression of affect in the family encourages the adolescent to act openly in expressing his feelings (Moos, 1974; Rice, 1975; Buckland, 1977).

-Empathy of family members gives the teenager the feeling of being understood and supported by the family (Lewis, 1979a, 1979b). This may encourage the adolescent to develop empathy as a social skill (Eisenberg-Berg and Mussen, 1978).

-The existence of trust in the family, encourages mutual trust between the adolescent and parents. By trusting others, and being trusted, the individual experiences an opportunity to share himself with others, a personality trait that will be beneficial for the development of intimate relationships in later life (Peck, 1963; Lewis, 1979b).

-By feeling free to share both positive and negative feelings in the family, the adolescent experiences the acceptability of both positive and negative feelings (Ebert, 1978; Jersild *et al.*, 1978).

-Emotional security in the family gives the adolescent a sense of belonging, and a feeling that other members care about him (Scherz, 1970; Jersild *et al.*, 1978).

-In families in which members express acknowledgement and affirmation of one another, people are indicating that they are aware and appreciative of what others are doing for them (Lewis *et al.*, 1976). Such behaviour encourages sensitivity of the adolescent to other people (Strang, 1957).

-A positive family mood provides a pleasant environment for the adolescent to give and reach out to other people, without the fear of being rejected (Douvan and Adelson, 1966; Bell and Ericksen, 1976; Berger, 1978).

4.3.3 Communication

The communication pattern of a family describes how information is exchanged between its members (Epstein *et al.*, 1978; Lewis, 1978, 1979b;

Beavers, 1981).

Some aspects of communication in the family system which are relevant to adolescent development are the following:

-A mode of clear and direct communication in the family will ensure that the adolescent learns to express himself so that the message is properly understood by its recipient, an attribute that is beneficial in all interpersonal relations (Epstein *et al.*, 1978; Lewis, 1979b).

-In families where members are reasonably but not excessively assertive, adolescents learn to express their opinions, while at the same time considering the opinions of others (Berger, 1978; Fisher and Sprenkle, 1978; Lewis, 1979b; Olson *et al.*, 1979).

-Families who display listening skills encourage active listening, and reassure teenagers that their opinions are of value (Jersild *et al.*, 1978; Fisher and Sprenkle, 1978; Olson *et al.*, 1979; Barclay, 1980).

-Families who give positive feedback allow their members to experience the value of this quality, and give them a grounding in how to use it (Stinnett *et al.*, 1974; Fisher and Sprenkle, 1978; Olson *et al.*, 1979).

-The ability to solve conflict through negotiation within the family gives the adolescent an opportunity to practise negotiation and to discover himself, realising his ideas are not the only way of viewing a situation (Bell and Ericksen, 1976; Buckland, 1977; Olson *et al.*, 1979; Beavers, 1981).

-With the ability to solve problems effectively, the family models skills that may help the adolescent in solving interpersonal problems (Epstein *et al.*, 1978; Henggelaar *et al.*, 1979; Gantman, 1980; Beavers, 1981).

-Participation in decisionmaking about family matters gives young people the opportunity to practise communication skills and adaptability when their views are not generally accepted (Morrow and Wilson, 1961; Buckland, 1977; Olson *et al.*, 1978; Gantman, 1980).

4.3.4 Behaviour Control

Behaviour control is the term used to describe the patterns the family adopts for handling an act of a family member that is not acceptable to the standards set by the family (Epstein *et al.*, 1978; Olson *et al.*, 1979).

The following are some aspects of behaviour control, indicated to be important for adolescent development:

-Parental discipline in the family is necessary in order to set clear limits for the adolescent (Stinnett *et al.*, 1974; Olson *et al.*, 1979).

-A balance between severity and leniency in family rules will probably result in a positive attitude of the teenager towards rules in general (Coleman, 1974; Moos, 1974).

-A democratic policy in the family allows adolescents to participate in discussion relevant to their behaviour, although the final decision is made by the parents. This policy fosters responsible independence for young people in a flexible but stable way (Conger, 1973; Olson *et al.*, 1979).

-The family has to control the behaviour of its members in physically dangerous situations (Epstein *et al.*, 1978). Some control should also be exercised, if possible, when the adolescent is experiencing difficulty in resisting peer pressure in potentially harmful situations (Douvan and Adelson, 1966). However, depending on their approach to

discipline, parents may use power-assertive techniques or induction (treating the child as a potentially responsible, capable individual) to control the behaviour of the adolescent. While the power-assertive techniques do not rely on inner resources of the adolescent, induction encourages development of a mature conscience based on internalized moral standards. When such internalized standards become integrated into a youngster's sense of identity, he is able to resist peer pressure in potentially harmful situations (Rice, 1975; Conger, 1979).

-Acknowledgement by the family of the sexual development of the adolescent is necessary for the young person's ability to handle and to express his or her sexual needs, and parents should be a source of information and guidance (Collins *et al.*, 1975; Rice, 1975; Epstein *et al.*, 1978; Lewis, 1979b).

-The family adopts patterns of control for aggressive feelings and teaches the adolescent how to exercise self control when angry (Epstein *et al.*, 1978; Berger, 1978).

-Through the process of socialization the family encourages the teenager to gain autonomy and to become a well-integrated member of society (Kandel and Lesser, 1969; Rice, 1975; Epstein *et al.*, 1978; Goldenberg and Goldenberg, 1980).

4.3.5 Value Transmission

How the family views itself in relation to society, and how it reacts to life's challenges, will determine the values transmitted by parents to their children. These values are expressed in beliefs about such issues as the nature of man, the meaning of life, ethical standards, and religion (Lewis *et al.*, 1976; Brammer and Shostrom, 1977; Lewis, 1978).

Writers regard the following aspects of value transmission as important for adolescent development:

-When parents display an affiliative attitude towards human encounter, the adolescent is encouraged to treat other people with respect (Strang, 1957; Lewis, 1978).

-When ethical values are considered important in the family, the younster learns to accept moral behaviour such as honesty (Scherz, 1970; Rice, 1975; McKinney *et al.*, 1977; Lewis, 1978).

-The family which values growth and development, will be able to deal with change and will accept increasing peer influence in areas of teenage behaviour, like fashion and music (Rice, 1975; Lewis, 1979b).

-An achievement orientation in the family encourages adolescents to develop their own abilities to their full potential (Morrow and Wilson, 1961; Moos, 1974).

-When parents experience their own lives as meaningful, they are more capable of encouraging their offsprings to discover their own values in life (Brammer and Shostrom, 1977; Stanley, 1978; Barclay, 1980; Simmons, 1980; Phillips, 1980).

-If parents have a generally mature philosophy of life, the adolescent is more likely to identify with values governing the direction of the family (Douvan and Adelson, 1966; Ebert, 1978).

-When religious values are encouraged in the family, this may provide the adolescent with a better understanding of his own existence, as well as the purpose of life and meaning of death (Douvan and Adelson, 1966; Moos, 1974; Crandall and Rasmussen, 1975; Lewis *et al.*, 1976; Beavers, 1977; Dobson, 1978; Jersild *et al.*, 1978; Lewis, 1979b).

4.3.6 External Systems

Family systems theory stresses the importance of a clear and permeable boundary of the family in its relationship with supraordinate systems. In a healthy family, members relate to such external social groupings as those which engage them in social, intellectual, cultural, recreational, sporting, and community activities (Moos, 1974; Beavers, 1981). These enrich the life of the individual and foster development in many ways:

-Participation in recreational and sporting activities, encourages the adolescent to use his or her body effectively in everyday physical activities (Moos, 1974; Jersild *et al.*, 1978).

-Parental approval of contact with friends of the same and opposite sex encourages adolescents to exercise their social skills outside the family (Douvan and Adelson, 1966; Moos, 1974; Olson *et al.*, 1979).

-If the family is interested in cultural activities, like literature or art, it may encourage aesthetic development in the adolescent (Strang, 1957; Moos, 1974; Jersild *et al.*, 1978).

-Participation of the family in community activities encourages each member to contribute his abilities to community life (Strang, 1957; Bell and Vogel, 1968; Moos, 1974; Rice, 1975).

-The healthy family also realizes the importance of preparing the young person for economic independence. In order to do so, the family needs to support intellectual development by, and career choice of, the adolescent (Douvan and Adelson, 1966; Moos, 1974). Each individual should be encouraged to obtain the best qualifications according to his mental ability and interests (Jersild *et al.*, 1978).

-The family provides a model for adolescents of how to participate in the economic structure of society and trains them in handling money. By learning to plan a budget, the adolescent is gaining experience in saving and in spending money sensibly (Bell and Vogel, 1968; Berger, 1978).

4.4 Conclusion

The family plays an important part in encouraging the adolescent in accomplishing developmental tasks and providing opportunities for doing so. A study of the literature indicates that such dimensions of the family system, structure, affect, communication, behaviour control, value transmission, and external systems influence psychosocial growth and development of young people.

The particular question posed by the present study is the extent to which the level of family functioning in general, and of the various dimensions of functioning which have been outlined, contribute to the development during adolescence of one particular area of skills, that concerned with interpersonal problem solving. The research designed to answer this question is outlined in the next chapter.

Chapter 5

RESEARCH DESIGN

5.1 Research Hypothesis

that interpersonal problem solving during adolescence is related to the level of psychosocial functioning of the family

To test this, it was necessary to develop methods suitable for assessing both variables in an Australian high school population of 15 and 16 year olds. Year 10 students were chosen for this survey, as a number of students leave school at the end of this year. Leaving school is a major transition point after which both the young person and the family are confronted with a new set of developmental tasks. The population of older adolescents and their families is therefore more heterogeneous in this respect and less amenable to study.

5.2 Instruments

5.2.1 MEPS Procedure (Adolescents)

5.2.1.1 Development of MEPS Procedure (Adolescents)

The MEPS Procedure used originated in the work of Spivack and his associates in the U.S.A. It is a content-analysis measure of problem solving in real life situations. The subject is presented with a story situation, involving an aroused need (the beginning of the story) and the resolution (the end of the story). The instrument measures the subject's capacity to conceptualize appropriate and effective means of reaching the resolution stage of the story.

Neither the seven story roots of the MEPS Procedure (Adults) nor the three story roots of the MEPS Procedure (Children) seemed appropriate

for use in an adolescent population as they represent problems which are not salient to adolescents. Hence six new story roots were developed, each relating to one adolescent developmental task area. There are two forms, one for males with male protagonists, and one for females with female protagonists (Appendix 2).

A pilot study was carried out in which those six stories were given to a group of 25 high school students aged between 15 and 16 years. Story 5 proved too difficult and on the basis of subsequent discussion of its wording with some of the respondents, a more specific situation was depicted in the final form of the questionnaire (see Appendix 2).

The MEPS Procedure (Adolescents) was administered in a group situation. The administrators discussed the instructions with the subjects to make sure they understood what was required, then each subject completed the six stories at his own pace. Most did so within an hour; some needed a little longer.

Research evidence already exists that there is no correlation between the IQ level of subjects and their MEPS scores (Spivack and Levine, 1963; Platt *et al.*, 1974; Platt and Spivack, 1975; Gotlib and Asarnow, 1979). Therefore, it was judged to be unnecessary to measure IQ in the present study and undesirable to add to the length of testing time by including an intelligence test. School records of IQ's could not be used without having to sacrifice a promise of anonymity and confidentiality which was expected to contribute to the validity of the data.[1] The evidence of Platt and Spivack (1975) that story

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[1] In one school a teacher pointed out a girl with an IQ of 75 whom he thought might experience problems in answering the MEPS Procedure. However, she managed to complete the questionnaire within an hour and obtained a somewhat above average score on the measure.

length is not significantly related to MEPS scores seemed confirmed in the present study. Although some students spent more time to complete the stories, this appeared to be because they spent time on detailed enumerations of means. When special arrangements were made for individual attention, migrant subjects with language problems were also able to answer the questionnaire. The fact that only keywords are necessary to identify sequential steps in reaching the goal of each story enabled them to complete the MEPS Procedure as well as did the native English speakers.

5.2.1.2 Scoring

Scoring procedures for the MEPS Procedure developed empirically by Spivack and his associates were followed. Answers of a random selection of 30 subjects, totalling 180 stories, were first coded independently by the author and a second rater. There was agreement about the number and categories of means in 88% of cases. Discrepant scores were discussed, some categories reformulated for clarity and definition, and agreement then reached on the scoring of all 180 stories.

The problem solving ability of a subject on each story is measured by the number of means he conceptualized in reaching the goal. The scoring procedure distinguishes between *means*, those steps judged to be appropriate by the standards of society, and *negative means*, inappropriate steps that may be harmful to physical or psychological health of story protagonist of someone else. Appendix 3 gives the scoring categories for means, and Appendix 4 the scoring categories for negative means. Enumerations, additional details concerning a particular step in the story, of stories 4 and 5 were also coded to provide data on the extent to which parents were used as resources in solving

problems (Appendix 5).

5.2.2 Family Functioning Questionnaire (FFQ)

5.2.2.1 Development of Family Functioning Questionnaire

In an attempt to assess adequately and systematically the level of psychosocial family functioning, with particular reference to adolescent development, a self-report questionnaire was developed.

As discussed in Chapter 4, review of models of health in family systems suggested six dimensions of family functioning to be of major importance. Seven specific aspects of each dimension deemed to be particularly pertinent to adolescent development, focusing on the achievement of autonomy and identity formation, were then delineated, and an item formulated to tap each one. The six dimensions, the 42 family characteristics in which these are manifest, the main function of each of the 42 for the adolescent's healthy development, and the questionnaire items, are given in Appendix 7. There are four possible answers to each statement on the Family Functioning Questionnaire: almost always true, often true, sometimes true, or hardly ever true. The responses indicate different levels of family functioning.

The FFQ was first completed by the pilot study sample. On the basis of results a minor change was made to the wording of one item to obtain a greater distribution of responses. The FFQ was administered before the MEPS Procedure to the main research group, and took between 10 and 20 minutes to complete.

5.2.2.2 Scoring

Scoring of the FFQ was determined by three independent raters, each familiar with theoretical models of family health and experienced in working clinically with families. Each independently rank-ordered

the four responses to each item on a family health-dysfunction dimension. Instructions to raters are given in Appendix 8.

There was initial agreement between all raters on 35 items. Those on which opinions differed were those on which extreme responses represented enmeshment and/or disengagement (Minuchin, 1974) and 'often' or 'sometimes' were judged to represent the healthiest families. Discussion led to consensus on scoring of these items. Scoring of each is shown in Appendix 9 which is a copy of the scoring sheet used.

5.3 Subjects

All Year 10 students, a total of 430, from three Government schools and one private school in the Australian Capital Territory participated in the research. The schools were selected to give a sample roughly representative of the A.C.T. Year 10 school population. Incomplete answers necessitated the removal of 17 records, leaving 413 (183 boys and 230 girls), an effective response rate of more than 96%.

The age of the subjects ranged from 14 to 18 years (Mean = 15.7 years). The family's socio-economic status was indexed by the occupation of the head of the household (Broom and Hill, 1965; Broom *et al.*, 1965).

5.4 Procedure

The research was conducted by seven post-graduate students and one staff member from the Department of Psychology of the Australian National University. The survey was conducted during a regular class period in the normal classrooms of subjects. Respondents were guaranteed the anonymity of confidentiality of their answers.

Administrators first gave subjects a brief background about the purpose of the study, then asked them to complete a general information

questionnaire (Appendix 1) to provide information about demographic variables. The Family Functioning Questionnaire was then introduced, and when all had completed that, the MEPS Procedure was administered.

Chapter 6

RESULTS

6.1 Introduction

This chapter will first assess the reliability and validity of the two instruments used in this study, the MEPS Procedure (Adolescents) and Family Functioning Questionnaire (FFQ). It will then describe the general characteristics of the data yielded by each in this normal Australian adolescent population of Year 10 students.

Research literature suggests that sex, birthorder, educational aspirations, culture, socio-economic status, family marital structure, and employment of mothers may influence the behaviour and level of competence of the individual in his psycho-social environment. Many of these variables have also been shown to relate to family functioning. Their effects on both data sets will therefore be examined.

Finally, the results of the tests of the main research hypothesis will be reported by examining the relationship between means-ends problem solving in interpersonal situations and family functioning.

6.2 MEPS Procedure (Adolescents)

6.2.1 Reliability

The internal consistency of the MEPS Procedure (Adolescents) was evaluated by computing an alpha coefficient and a Spearman-Brown split-half coefficient (Hull and Nie, 1981). These were respectively .70 and .72. These results are commensurate with those reported by Platt and Spivack (1975) who obtained Spearman-Brown and alpha coefficients for the MEPS Procedure (Adults) ranging between .80 and .84

for various groups of psychiatric adult patients. It must be remembered that their original adult version of the procedure comprised *nine* stories, whereas only six were included in the adolescent version used here.

Story intercorrelations for the MEPS Procedure (Adolescents) were expected to be low to moderate, since all are addressed to real life, interpersonal problems and require similar cognitive skills for their solution as well as skills specific to each. Detailed results are given in Appendix 6. The correlations range between .19 (Stories 2 and 6) and .43 (Stories 3 and 4). Spivack and his associates found that story intercorrelations of the MEPS Procedure (Adults) on a sample of male delinquent adolescents ranged between .06 (an impersonal story and an interpersonal story) and .37 (two interpersonal stories) (Platt and Spivack, 1975).

6.2.2 Validity

Scores of total number of means used in each story were factor-analysed, using an orthogonal varimax rotation (Nie *et al.*, 1975). This yielded a principal factor solution, with only the first factor having an eigenvalue exceeding 1, and it accounted for 41.9% of the variance. This factor can be labelled, as it has been by Spivack, 'means-ends thinking' and can be described as the ability to conceptualize step-by-step means in solving a real life problem. The results of the factor analysis provide a content validation of the MEPS Procedure (Adolescents) in that this demonstrates the factorial unidimensionality of the stories that comprise it. These results correspond with those of Platt and Spivack (1974b): they studied two samples of psychiatric adult patients and a sample of delinquent adolescents, and factor analyses yielded a principal factor solution

in all three samples. The variance accounted for by this factor ranged between 24.3% (delinguent adolescents) and 37.1% (male adult psychiatric patients).

6.2.3 Mean, SD and Range

A summary of the mean, SD and range of number of means used for each of the six stories by this group of 413 Australian adolescents, is given in Table 1.

Table 1: Mean ($\bar{X}$), SD, and range for each of the six stories in the MEPS Procedure (Adolescents)

Story	Mean ($\bar{X}$)	SD	Range
1	2.0	1.2	0-5
2	1.2	1.0	0-5
3	2.4	1.4	0-6
4	1.4	1.0	0-5
5	1.0	0.7	0-4
6	1.7	1.3	0-5
Total:	9.7	4.3	0-24

It can be seen that adolescents obtained relatively high average scores on problems 1 and 3. These are stories which deal with personal appearance and making friends with peers, on both of which family and society are providing clear guidelines, and where the problem is itself one that is familiar to adolescents. Story 5, with an underlying emotional problem of depression or grief, represents a problem for which family or society do not provide specific guidelines for solution and it obtained the lowest average score.

Results correspond with those of Platt and Spivack (1975) from two samples of university students. Their average score for stories ranged from 1.15 (interpersonal story) to 3.68 (impersonal story), SD from .30 to 1.67, and their widest range of means for one story was between 0 and 6.

A total of 250 subjects in the present study suggested no negative means; 163 subjects gave from 1 to 7 across the six stories (Mean ($\bar{X}$) = 3.1, mode = 1). A total of 95 boys, representing 52% of the males and 68 girls, representing 30% of the females in this study, gave negative means. This sex difference supports evidence from studies in the U.S.A. and U.S.S.R. that boys are more inclined to socially undesirable behaviour than are girls (Douvan, 1971).

6.2.4 Effects of Independent Variables on MEPS

Table 2 shows the effects of sex, educational aspirations, and culture on MEPS scores.

Table 2: Effects of sex, educational aspirations, and culture on performance on MEPS Procedure (Adolescents)

Variable	N	Mean	SD	t
Sex				
Boys	183	9.19	4.7	3.42***
Girls	230	10.60	3.7	
Educational Aspirations				
Further Education	326	10.48	4.2	3.72****
Leave School	75	8.51	3.8	
Culture				
Australian	284	10.6	4.3	.49
Migrant	128	9.84	4.0	

**** Significant at .0001 level. *** Significant at .001 level.

(1) Sex

It can be seen that girls scored higher than boys, t (411) = 3.42, p < .001.

(2) Educational Aspirations

The group of adolescents who intended further education scored significantly higher than did those who planned to leave school after Year 10, t (399) = 3.72, p < .0001.

(3) Culture

No significant difference in the performance on the MEPS was found between Australian-born adolescents and adolescents from a migrant background, t (410) = .49.

Table 3 shows the effects of socio-economic status, family marital structure, employment of mother, and birthorder of subject on MEPS scores.

Table 3: Effects of socio-economic status, family marital structure, employment of mother, and birthorder of subject on performance on MEPS Procedure (Adolescents)

Variable	N	Mean	F
Socio-economic Status			
High SES	122	10.7	6.70***
Middle SES	176	10.3	
Low SES	115	8.8	
Family Marital Structure			
Nuclear	322	9.9	.77
Blended	25	11.0	
Single	53	10.0	

	N	Mean	F
Employment of Mother			
Full-time	224	10.1	.89
Part-time	34	10.6	
Stays at home	146	9.7	
Birthorder			
Oldest	155	10.8	5.75**
Youngest	126	9.9	
In-the-middle	123	9.0	

*** Significant at .001 level. ** Significant at .01 level.

(4) Socio-economic Status

A one-way analysis of variance yields a significant effect of socio-economic status on MEPS scores, $F(2,410) = 6.70$, $p < .001$. T-tests revealed that the difference was significant between the high and the low socio-economic status groups, $t(235) = 4.34$, $p < .0001$, as well as between the middle and the low groups, $t(289) = 4.01$, $p < .0001$. There was no significant difference between the high and middle socio-economic status groups, $t(296) = 1.18$.

(5) Family Marital Structure

An analysis on the MEPS scores of subjects in terms of family marital structure, showed no significant differences as between subjects from nuclear, blended, or single parent families, $F(2,397) = .77$.

(6) Employment of Mothers

Subjects were categorized according to whether their mothers were employed full-time, employed part-time, or stayed at home. A one-way analysis of variance of these data showed no effect of employment of mothers on MEPS scores, $F(2,401) = .89$.

(7) Birthorder

The possible effect of the adolescent's birthorder in the family on performance in the MEPS was assessed by a one-way analysis of variance of scores of oldest, youngest and in-the-middle offsprings. (Only children were omitted from these analyses as there were only 8 such adolescents in the total group). This showed a significant effect of birthorder, $F(2,401) = 5.75$, $p < .01$.

T-tests revealed a significant difference between oldest adolescents and those in-the-middle of the family, $t(176) = 3.32$, $p < .001$, while the differences were not large enough to be significant between oldest and youngest, $t(279) = 1.59$ or between youngest and in-the-middle adolescents in their families, $t(247) = 1.78$.

6.3 Family Functioning Questionnaire (FFQ)

6.3.1 Reliability

The alpha coefficient (Hull and Nie, 1981) for the Family Functioning Questionnaire is .90, indicating that the internal consistency of the questionnaire is high although it comprises six subscales.

Correlations between subscales of the FFQ were expected to be moderate to high. That is, families who maintain a certain level of psychosocial health on one dimension, would be more inclined to maintain that level of psychosocial health on others. The correlations between subscales ranged from .76 (between Structure and Affect) to .89 (between Affect and Communication). All the subscale intercorrelations are highly significant and are reported in Appendix 10.

6.3.2 Validity

A factor analysis of the FFQ with an orthogonal varimax rotation, yielded a single factor with an eigenvalue greater than unity, and it accounted for 54% of the variance. This solution provides validation for the FFQ as measuring family health in the adolescent phase of the family life cycle.

Items were correlated with subscale totals to assess the validity of the subscales. Correlations range from .34 to .76 (see Appendix 11). In only one case did an item correlate more highly with another subscale total than with its own: item 38, "We are encouraged to speak for ourselves in our family" correlated .47 with the total of its own subscale, Behaviour Control, and .54 with Communication. These results confirm the content validity of the items designed to assess the six selected dimensions of family health. The placement of item 38 in the Behaviour Control subscale stemmed from the models of both Moos (1974) and Olson *et al.* (1978; 1979); they included items about family democracy under their control and discipline headings. For this reason, and because an item/subscale total correlation of .47 is acceptable, this item has remained as part of the Behaviour Control subscale in all analyses.

6.3.3 Mean, SD and Range

The mean total score for the FFQ is 117.9, median = 124.8 and mode = 122, the range 67 to 158. The maximum range possible was 42 to 168. This total mean represents an average item rating of 2.8, indicating that these Australian 15 and 16 year olds, as a group, perceive their families to be operating more towards the functional than the dysfunctional end of the scale. In general, it seems as if this group

of adolescents feel fairly satisfied with their families.

Means of subscales of the FFQ are given in Table 4.

Table 4: Mean, SD and range for each subscale of the Family Functioning Questionnaire

Family Functioning Subscale	Mean	SD	Range
Structure	20.1	6.0	8-28
Affect	18.7	6.3	7-28
Communication	18.4	6.3	8-28
Behaviour Control	20.2	5.7	11-28
Value Transmission	20.4	5.8	11-28
External Systems	20.0	5.6	10-27
TOTAL	117.9	32.0	67-158

It can be seen that the respondents rate their families lower on the Affect and Communication dimensions than on the other four.

6.3.4 Effects of Independent Variables on Family Functioning

T-tests on the effects on sex, educational aspirations, and culture on Family Functioning scores all yielded non-significant values as shown in Table 5.

Table 5: Effects of sex, educational aspirations, and culture on performance on Family Functioning Questionnaire

Variable	N	Mean	SD	t
Sex				
Boys	183	122.34	22.6	.39
Girls	230	123.16	20.4	
Educational Aspirations				
Further Education	326	123.97	20.1	1.39
Leave School	75	120.17	17.4	

Variable	N	Mean	SD	t
Culture				
Australian	284	122.64	22.6	.23
Migrant	128	123.16	19.5	

Table 6 shows the effects of socio-economic status, family marital structure, and employment of mother on family functioning scores.

Table 6: Effects of socio-economic status, family marital structure, and employment of mother on performance on Family Functioning Questionnaire

Variable	N	Mean	F
Socio-economic Status			
High SES	122	127.48	12.7****
Middle SES	176	124.85	
Low SES	115	114.68	
Family Marital Structure			
Nuclear	322	122.82	2.0
Blended	25	130.44	
Single	53	120.06	
Employment of Mother			
Full-time	224	122.55	.1
Part-time	34	123.96	
Stays at home	146	122.94	

**** Significant at .0001 level.

(1) Socio-economic Status

An analysis of variance showed a significant effect of socio-economic status on level of family functioning, $F(2,410) = 12.7$, $p < .0001$.

T-tests revealed significant differences between the scores of adolescents from the high and low socio-economic groups, $t\ (235) = 4.34$, $p < .0001$, and from middle and low groups, $t\ (289) = 4.01$, $p < .0001$. No significant difference was found between those of high and middle socio-economic status, $t\ (296) = .80$.

(2) Family Marital Structure

There were no significant differences in the reported level of family functioning between nuclear, blended, or single-parent families, $F\ (2,397) = 2.0$.

(3) Employment of Mother

An analysis of variance indicated no significant effect of employment of mother, whether she is working full-time, part-time, or stays at home, $F\ (2,401) = .10$.

6.4 Relationship between Interpersonal Problem Solving and Family Functioning

6.4.1 MEPS and Family Functioning

The hypothesis tested was that interpersonal problem solving during adolescence, measured by MEPS Procedure (Adolescents), is related to the level of psychosocial functioning of the family, measured by the Family Functioning Questionnaire. It was predicted that adolescents who see their families in terms which have been defined as providing appropriate conditions for teenagers to complete their developmental tasks satisfactorily, will be adolescents who are more competent in solving real life interpersonal problems than are those who report their families to be functioning less adequately.

Correlations for the total sample, and for boys and girls separately, and the three socio-economic status groups, are shown in Table 7.

Table 7: Pearson correlation of MEPS with Family Functioning

	Sex		Socio-economic Status		
Total Sample	Boys	Girls	High SES	Middle SES	Low SES
N = 413	N = 183	N = 230	N = 122	N = 176	N = 115
r = .33****	r = .39****	r = .30****	r = .28***	r = .26***	r = .41****

**** Significant at .0001 level. *** Significant at .001 level.

For the group as a whole there is a moderate and highly significant correlation between Means-Ends Problem Solving and Family Functioning ($r = .33$, $p < .0001$).

When the results for the two sexes are analyzed separately, the correlation is higher for boys, (.39) than for girls (.30).

It has been shown in Sections 6.2.4 and 6.3.4 that scores on both MEPS and FFQ correlate with socio-economic status. This raises the possibility that it may be their correlation with this third common factor, socio-economic status, which accounts for the correlation between the two measures. Two analyses were carried out to assess this possibility. First, the two measures were correlated within each status group, and the results are presented in Table 7. It can be seen that family functioning makes a greater contribution to interpersonal problem solving in the low socio-economic status group than in either of the higher ones. Second, socio-economic status was controlled in a partial correlation of the MEPS and FFQ, giving $r = .44$, $p < .001$. It is therefore clear that the relationship holds, independent of social class.

These results support the hypothesis that interpersonal problem solving during adolescence is related to the level of psychosocial family functioning.

6.4.2 Negative Means and Family Functioning

Analysis of the relationship between family functioning and the use of negative means in the MEPS provides additional evidence with a bearing on the hypothesis. It was anticipated that more inappropriate and antisocial means would be used by adolescents who reported less favourably on their families' functioning than by those who scored higher on FFQ. Correlations for negative means and Family Functioning are shown in Table 8.

TABLE 8. Pearson correlation of Negative Means with Family Functioning

	Sex		Socio-economic Status		
Total Sample	Boys	Girls	High SES	Middle SES	Low SES
N = 413	N = 183	N = 230	N = 122	N = 176	N = 115
r = -.22****	r = -.33****	r = -.14*	r = -.16*	r = -.22**	r = -.32***

**** Significant at .0001 level. ** Significant at .01 level.

*** Significant at .001 level. * Significant at .05 level.

For the total sample there is a low and highly significant correlation between negative means and family functioning ($r = -.22$, $p < .0001$). The tendency for low levels of family functioning to be associated with inappropriate means of solving interpersonal problems is confirmed by the results for both sexes analysed separately, as well as for the three socio-economic status groups. Again, boys and low

socio-economic status adolescents show the highest correlations, r - -.33 and r = -.32 respectively. When the influence of socio-economic status is controlled, a partial correlation reveals a substantially higher relationship between interpersonal problem solving and family functioning (partial r = -.64, p < .0001). These results provide further evidence to support the main hypothesis.

6.4.3 MEPS and Family Functioning Subscales

Scores of subjects on each family functioning subscale were correlated with their MEPS scores, to see if there was any aspect of family functioning that shows a stronger relationship with interpersonal problem solving than the others. Correlations for the total sample, boys and girls separately, and the three socio-economic groups, are given in Table 9.

Table 9: Pearson correlation of MEPS with Family Functioning Subscales

	Structure	Affect	Communic-ation	Behaviour Control	Value Transmission	External Systems
Total sample	.34****	.42****	.38****	.40****	.38****	.33****
Boys	.31****	.39****	.31****	.36****	.26****	.25****
Girls	.14*	.29****	.23****	.26****	.27****	.18**
High SES	.08	.24**	.19*	.25**	.19*	.16*
Middle SES	.20*	.32****	.19*	.23***	.20**	.14*
Low SES	.30***	.39****	.39****	.39****	.35****	.23**

**** Significant at .0001 level. *** Significant at .001 level.

** Significant at .01 level. * Significant at .05 level.

Each family functioning subscale correlates within the moderate range of .33 to .42 with MEPS performance for the group as a whole. With the exception of structure in the high socio-economic group, all the

correlations are significant, most highly significant, for both sexes as well as the three socio-economic status groups.

In general the family functioning subscale showing the highest relationship with interpersonal problem solving, was affect, and structure and external systems relate a little less strongly than the other family dimensions.

6.4.4 Using Parents as a Resource (MEPS) and Family Functioning

The data were analysed to examine the relationship between family health and the extent to which adolescents use parents as a resource in solving real life problems (MEPS). It was predicted that the higher the adolescent's perception of family functioning, the more likely he would be to turn to parents for help. There were only 123 students who referred to parents as sources of help in their MEPS stories. Figure 1 shows the number of these in the top, middle and bottom thirds when the total group is divided on the basis of scores on FFQ.

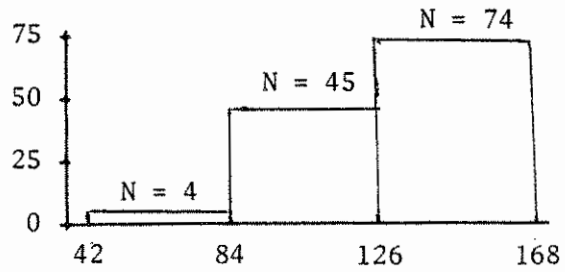

Figure 1: Distribution of subjects using parents as a resource in the MEPS Procedure (Adolescents) in relation to family functioning scores (FFQ).

The results indicate that the higher the level of family functioning, the more adolescents use parents in solving real life problems.

6.4.5 Family Functioning of High and Low MEPS Scorers

Data were further examined to see whether highest and lowest MEPS scorers, the top and bottom 10%, showed any particular pattern across the six dimensions of the FFQ. Mean scores of each group on each subscale are shown in Figure 2.

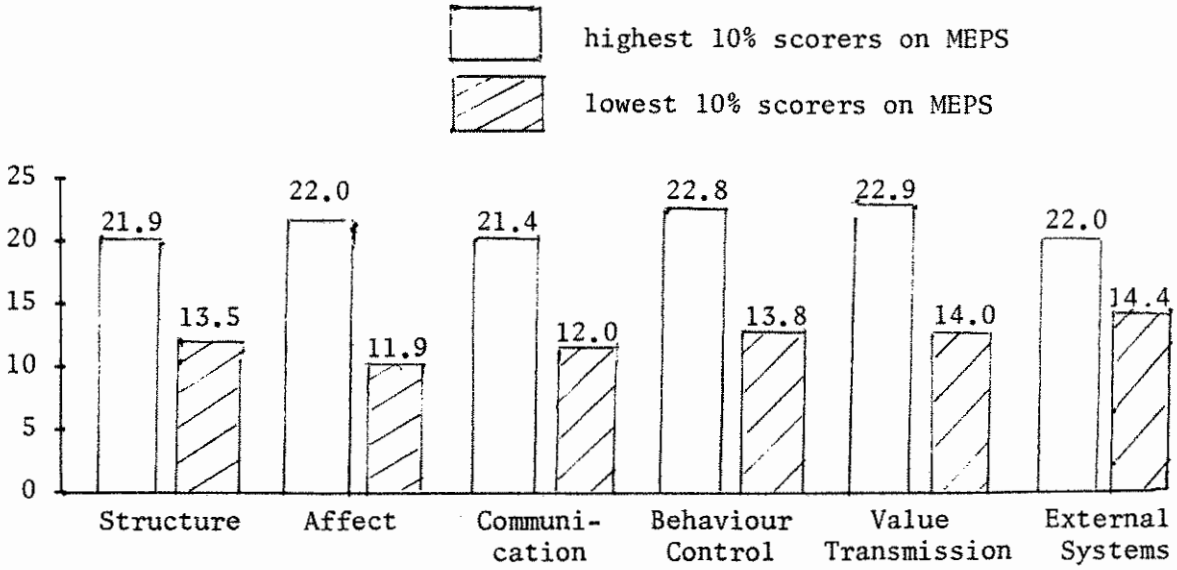

Figure 2: Histogram of the average scores on each subscale of the Family Functioning Questionnaire for the 10% highest and 10% lowest scorers (MEPS).

On all the subscales there are large differences between the two groups, but results are similar for the six subscales. None seems to differentiate the two groups much more clearly than any other.

Chapter 7

DISCUSSION

7.1 Interpersonal Problem Solving and Family Functioning

The results of this study support the hypothesis that adolescent interpersonal problem solving is related to family functioning. The measure for family functioning was designed to evaluate the extent to which the family encourages the main developmental tasks during adolescence of achieving autonomy and identify formation. The model presented in Chapter 4 postulates six major dimensions of family functioning, and the Family Functioning Questionnaire comprises six sets of seven items, each set designed to relate one of these dimensions of the family to the adolescent's achievement of these developmental tasks. So high scores on the Family Functioning Questionnaire or its single dimensions are taken to indicate a high level of satisfaction of adolescents' needs for identity and autonomy, lower scores to indicate lower levels of satisfaction of these needs.

The relationship between interpersonal problem solving and family functioning holds for adolescents of both sexes; although it seems that for boys the family plays a more important role in social adjustment than for girls (Table 7, p. 55). Literature suggests that the paths of child development diverge clearly at adolescence along sex lines (Douvan, 1975). The male pattern proceeds in a distinct sequential way towards independence. Boys are more highly motivated by a need for autonomy than are girls (Conger, 1973). The boy achieves this goal by separating himself from his parents and others in order to define his own identity and role within society (Coleman, 1974; Douvan, 1975). Therefore if the family fulfils the need of autonomy for the boy, this encourages the

development of his own identity and enables him to be self-reliant in solving his everyday problems (McCandless, 1970).

The adolescent girl, on the other hand, develops her identity through her relationships with other people. The core of her identity is getting to know herself better through her interactions with others, whether she is in the family circle or peer group (Matteson, 1975; Douvan, 1975). Thus literature indicates that girls are more affiliative in their interpersonal relations than boys are (Coleman, 1974; Jesild *et al.*, 1978). These traits are reflected in the quality of girls' relationships with other people and they are more likely to conform to peer influences than are boys (McCandless, 1970; Coleman, 1974). Therefore families may play a less influential role in the interpersonal relations of girls than of boys to the extent that girls are more likely than boys to take their cues for behaviour from the peer group. If this account of different paths to the development of a sense of identity for boys and girls is valid, it may contribute to the explanation of the finding of the present study that level of family functioning contributes more to boys' interpersonal problem solving skills than to girls' (Table 7, p. 55). The identity formation of the boy is more inner-directed than the girl's, and he relies more on himself to make decisions than she does (Coleman, 1974). According to Newman and Newman (1975) the identity crisis is resolved through past identifications with parents. Depending on his own positive or negative identifications with his family, the adolescent boy internalizes or rejects values and standards set by the family (McCandless and Evans, 1973). In this process he forms the basis of his own personal value system on the basis of which he makes decisions in interpersonal relations. As identity formation for girls is more outer-directed and focused on the approval

of others, people in their families, peers, and others in the social environment (Coleman, 1974; Jesild *et al.*, 1978), they may incorporate societal values when learning interpersonal skills in relationships outside the family, even though there may be a lack in the encouragement of these skills at home.

The finding of Douvan (1971) that boys are more inclined to engage in socially undesirable behaviour than girls is confirmed in this study (p. 47). The use of negative means is negatively related to family functioning for both sexes with the correlation higher for boys than for girls (Table 8, p. 56). If the adolescent's needs for autonomy and identity formation are not met in the family, it therefore seems likely to cause more negative and anti-social behaviour in boys than in girls.

Results show that both family functioning and real life problem solving correlate with social class, but the hypothesised relationship between these two variables is still supported when the relationship between them is assessed within each of the three socio-economic groups (Table 7, p. 55; Table 8, p. 56). The correlation is highest in the lowest status group, indicating a greater contribituon of level of family functioning to interpersonal competence in less privileged families. Horowitz (1967) reports that high and middle socio-economic status is associated with peer popularity and relatively low rejection among high school students in the U.S.A. There may also be prejudices against adolescents from low socio-economic groups in Australian adolescent society. They are often members of social minority language and ethnic groups which have lower status in society than that of the majority group (McCandless, 1970; Grinder, 1973). Such factors as financial problems and limited educational opportunities that are usually associated with

the lower income groups (Gecas, 1979), disadvantage adolescents from low socio-economic status families by making them less acceptable to the higher status adolescent peer groups (Carey, 1979).

The particular importance of family functioning as a determinant of both positive and negative means of interpersonal problem solving in lower socio-economic status groups suggests that any intervention strategies designed to improve family functioning are likely to be of special value to relatively disadvantaged families. The present research has focused on the importance of encouragement by the family of autonomy and a sense of identity in its adolescent members, and these needs of the adolescents are well recognized as important goals to be met in therapy with families presenting with adolescent problems. Perhaps educational programmes directed towards making families aware of adolescent needs, and of means of meeting these, might serve a useful preventive function.

Research suggests that the childrearing practices of low socio-economic status families differ significantly from those of high and middle socio-economic status families (Gecas, 1979). The former are more inclined to use power-assertive techniques, while verbal discussion of transgressions is minimal (Eron *et al.*, 1963; Radin, 1972). External pressures such as limited education and worries about finance may influence the parent from a low socio-economic status family to use more domineering and autocratic ways in dealing with their children (Jersild *et al.*, 1978).

Problems may arise specifically during adolescence, when the teenager needs more freedom to grow as an independent individual. By receiving guidance in understanding the task of the family with regard to child and adolescent development, parents may gain more insight into their

roles and be able to handle childrearing problems in the family with more confidence.

Indirect evidence in support of the main hypothesis is obtained with the results of this study that adolescents from healthy levels of family functioning are more likely to use parents as a resource in solving real-life problems in educational and other life-value situations than adolescents from lower levels of family functioning (Figure 1, p. 56). This finding is consistent with the study of Lavoie (1973) that adolescents who confide in their parents show better psychosocial adjustment than those who do not.

Each dimension of family functioning seems to contribute more or less equally to family health, but for both boys and girls affect shows itself to be marginally the most important characteristic in the family that enhances interpersonal problem solving within the developmental task areas of adolescence (Table 9, p. 55). This is consistent with literature suggesting that the experience of affection is one of the essentials of healthy human growth. According to Jersild *et al.* (1978), a strong foundation of parental affection during childhood gives adolescents an invaluable resource when they need more freedom to experiment, discover themselves, and make decisions in their own lives.

Table 9 (p. 55) also indicates that for adolescents from high and middle socio-economic status families affect and behaviour control seem to be the most important characteristics in the family that are related to social adjustment. Affect contributes particularly strongly in middle class families to the interpersonal skills of adolescents. Although parents from any socio-economic status group may try to substitute for lack of attention or affection by providing material things for the adolescent, it is more possible for more affluent families

to do so. Money is important to the adolescent in interpersonal relations with peers as it enables him to keep up with fashion trends and to pay for entertainment (Rice, 1975), and it no doubt satisfies an important need. However, an adolescent who learns to depend on money for peer group status may fail to develop the skills of forming meaningful interpersonal relationships with other people.

The results of this study indicate that, in general, adolescents who display effective coping styles in handling real life problems in the developmental task areas of their lives, come from families where the structure is clearly defined, affect is shown openly, clear communication exists, behaviour is controlled in a democratic way, values are transmitted by parents with a generally mature philosopy of life, and clear and permeable boundaries exist between the family and external systems outside it (Figure 2, p. 57). These results are consistent with those of studies by Lewis (1978) and Berger (1978) which indicate that adolescents from healthy families tend to be those who reveal high levels of psychological health.

At the other end of the spectrum of family health, results of the present study suggest that adolescents who lack skills in coping with everyday interpersonal problems in the developmental task areas of their lives tend to come from families where the structure is characterised by unclear boundaries, affect is not encouraged or shown, poor communication exists, behaviour is either too strictly controlled or not controlled enough, the formation of a value system is not encouraged, and contact with external systems outside the family is minimal or not thought to be important (Figure 2, p. 57).

7.2 Development of Instruments

This research was concerned with the development of a measure for family functioning as perceived by the adolescent, as well as a content-analysis procedure to indicate the ability of adolescents in interpersonal problem solving skills.

The Family Functioning Questionnaire measures dimensions of family health focusing on the overall developmental tasks of achieving autonomy and identity formation during the adolescent period of life (Appendix 7). The instrument exhibits acceptable psychometric properties of reliability and validity (pp. 50-51).

Scores on the Family Functioning Questionnaire of this group of Australian 15 and 16 year olds show distributions which are negatively skewed, with means of subscales above the middle of the range of scores (p. 51). These results are consistent with the findings of Meissner (1965), Offer *et al.* (1965) and Douvan and Adelson (1966), that in general, adolescents view their families positively. This is contrary to generalizations that are sometimes made in the popular press which stress only negative relations between adolescents and their parents (Feigelson, 1970; Hurst, 1979; The Sydney Morning Herald, September 21, 1982, p. 11).

The MEPS Procedure (Adolescents) was developed to evaluate the means-ends problem solving skills of teenagers in real life story situations in six important developmental task areas of the adolescent period (Appendix 2). This instrument reaches acceptable levels of reliability and validity (pp. 44-46), but does not differentiate as finely between subjects as does the Family Functioning Questionnaire (p. 46; pp. 51-52). As a research instrument it has the disadvantage of taking a

considerable time both to complete and to score, but it is the best available instrument for measuring interpersonal problem solving skills at the moment. The distribution of the scores for the sample of this study (Table 1, p. 46) is consistent with those obtained by Spivack and his associates on samples of normal populations on the MEPS Procedure (Adults) (Platt and Spivack, 1975).

7.3 Variables That Differentiate Performance on Instruments

Results of this study have indicated that sex, educational aspirations, birthorder in the family, and socio-economic status are all factors influencing adolescents' ability to solve interpersonal problems (Table 2, p. 47; Table 3, p. 48).

Although girls are in general verbally superior to boys and tended to write longer stories in the MEPS Procedure, the present study seems to confirm evidence from Platt and Spivack (1975) that story length is not related to MEPS scores. It seems reasonable to conclude that the higher scores of girls indicated that, in general, they have more social skills than boys. Perhaps girls place more emphasis on interpersonal skills in order to make friends with a peer group (Story 1, Appendix 2), while adolescent boys may regard such skills as behaving in a friendly way as unmasculine. Higher scores for girls in interpersonal story situations are consistent with the results of Coleman (1974) and Keeling and Nuthall (1976) that girls consider it to be much more important than boys to get on well with other people.

The only story in which boys obtain a higher score than girls in the present study is one which involves getting to know a person of the opposite sex (Story 6, Appendix 2). Though the feminist movement and related trends have produced greater equality between the sexes in

recent decades, this finding seems likely to reflect the reality that the adolescent male still more often takes the lead in such a situation.

The difference in performance in interpersonal problem solving abilities between adolescents with further aspirations for education and those who intended to leave school (p. 48), cannot be explained in simple terms. Literature indicates that students who leave school earlier do so for various reasons (Jersild *et al.*, 1978). Factors influencing educational aspirations are socio-economic status, scholastic progress, parental interest in education, and parental educational attainment. In a study of these variables in an Australian adolescent sample by Connell *et al.* (1975), low socio-economic status seemed to be a dominant factor in determining leaving age. They found that lower status parents had lower aspirations for their children's academic progress. The obtained relationship between educational aspirations and means-ends problem solving may therefore be indicated by a third variable with which both correlate, socio-economic status.

The higher performance of first-born adolescents on the measure of interpersonal relationship skills (p. 50) is consistent with various studies that show that the nature of family composition and interaction are determining factors in personality development and social behaviour of individual members (Schvaneveldt and Ihinger, 1979). First-born children have been shown by several American studies to differ from later-borns on various personality measures (Smart and Smart, 1980). In an Australian study by Connell *et al.* (1975), adolescents who were the eldest in the family generally enjoyed a higher level of self-esteem than later-born adolescents. As the eldest of the siblings, the first-born is more likely to be called in for advice by the parents (Schvaneveldt and Ihinger, 1979). This may provide an opportunity to exercise problem solving skills in the family which might be transferred

to problems of interpersonal relations outside it.

Although Australia is less class-bound than countries like U.S.A. or Britain (Smart and Smart, 1980), socio-economic status still seems to restrict the opportunities of people in the lower status group in Australia. Socio-economic status is the only variable that differentiates performance of adolescents on both instruments used in the present study (p. 49 and p. 53). Literature suggests that low socio-economic status parents make less use of language in dealing with interpersonal problems (Smart and Smart, 1980). Therefore, apart from the conditions of life usually associated with lower income, the adolescent also experiences limited opportunities to exercise communication skills in dealing with interpersonal problems.

Adolescents from the low socio-economic status group also tend to experience a lower level of family functioning than those from high and middle socio-economic status families (Table 6, p. 53). There is research evidence for the generality of this finding (Gecas, 1979). Relative to those of higher socio-economic standing, in low status families there is a stronger reliance on the use of physical punishment to control behaviour of children (a measure of the behaviour control dimension), and autocratic relationships tend to exist between parents and children (an item of structure subscale) (Gecas, 1979). The parents are less involved with children (an indication of affect), and make less use of explanations in communication (important to the communication dimension) than do parents from higher status groups (Gecas, 1979). Parental values in the low status group tend to be conforming, and not to be self-directed (central features of value transmission) (Gecas, 1979). The stress of a low income is always present in these families (a major

relationship with external systems (Gecas, 1979). Thus lower levels of functioning on all dimensions of family health are associated not only in the present study with lower socio-economic status.

7.4 Variables That Do Not Differentiate Performance on Instruments

Boys and girls do not differ in their perception of their family functioning, and educational aspirations do not seem to differ in adolescents from higher and lower levels of family functioning (Table 5, p. 52).

Lack of sex differences in the present study is contradictory to the findings of Stinnett *et al.* (1974). Their study of an American high school sample showed boys perceived their family relations less positively than girls did. American studies have also shown relations with mothers to be rated significantly higher by adolescents than relations with fathers (Stinnett *et al.*, 1974; Steinberg, 1981). In the present study, however, distributions of responses to items 13 and 24 of the Family Functioning Questionnaire (see Appendix 7) are very similar, indicating that this group of Australian teenagers rate their relationship with their fathers as positively as their relationships with their mothers.

It was expected that educational aspirations would be higher among adolescents who experience encouragement of intellectual and vocational skills at home. This predicted relationship is probably masked by the low frequency of students intending to leave school after Year 10 in the A.C.T., only 1 in 5 (Table 5, p. 52). This high retention rate can be directly linked with present high unemployment (The Canberra Times, August 21, 1983, p. 1). Those students who continue to Year 11 do not necessarily do so because of their own educational aspirations or parental interest, but as a response to the external

economic situation. Adolescents are strongly recommended by leaders in society to continue with further education and so to increase the possibility of finding a job. The overwhelming effect of unemployment on keeping adolescents in school probably obscures any influences that less powerful variables like level of family functioning might have on educational aspirations.

Factors that do not have any significant influence on either the perception of adolescents of their family functioning or their ability to solve interpersonal problems, are culture, family marital structure, and employment of mother (Table 2, p. 47; Table 3, p. 48; Table 5, p. 53; Table 6, p. 53).

It was thought that migrant adolescents may experience more problems than Australian-born teenagers, and that conflicts between first generation migrant parents and second generation children may exist, but they are not found in the present study (Table 2, p. 47; Table 5, p. 53). As the migrant adolescent has spent a larger proportion of life in Australia than the parents, he seems to be more adapatable and able to adjust to a new culture than research evidence indicates is the case for migrant parents (Krupinski and Stoller, 1978). Migrant adolescents are no less positive in their perceptions of their families than are adolescents with Australian-born parents, and they have no fewer skills appropriate to the Australian culture in handling interpersonal problems than have their peers. Although the migrant adolescent may experience a world of two cultures, those of his family and the Australian peer culture, results of the present study indicate that the migrant adolescent seems generally able to compromise satisfactorily between them.

The present study does not show any significant differences in the performances of adolescents from nuclear, blended, or single-parent families in measures of their interpersonal problem solving or their perception of the level of their family functioning (Table 3, p. 48; Table 6, p. 53). Although the two-parent families are not confronted with the particular strains and stresses of one-parent or blended families, they do not necessarily provide a higher level of functioning as defined in this study. A teenager in a single-parent family where the parent is sensitive to the special needs of the adolescent may, for example, be better off than one whose parents stay together in a discordant and tense atmosphere.

Present findings confirm those of Wilson *et al.* (1975) and Bohannan and Erickson (1978) that children from blended families are not disadvantaged, compared with children from families with both natural parents, in their social and psychological development and adjustment. There are no differences between these groups in either the level of family functioning or in interpersonal problem solving skills (Table 3, p. 48; Table 6, p. 53). It seems more important that the family is concerned with the developmental tasks of each individual in the family, whether it is a single-parent, blended, or nuclear family, than it is to have both natural parents present.

Employment of mothers was examined as a determinant of performance on both measures. No significant differences are found between adolescents whose mothers are working full-time, part-time, or not at all in their perception of their family functioning, nor in their interpersonal problem solving skills (Table 3, p. 48; Table 6, p. 53). Some research studies indicate that employment positively influences mothers' enjoyment of activities and relationships with their children

(Rallings and Nye, 1979). Jersild *et al.* (1978) view employment of the mother during adolescence as a reinforcement of family harmony; if the mother is occupied with an interesting activity outside the family, she has no need to be overprotective of her children and can readily give the adolescent increasing independence. Confirmation of these claims was beyond the scope of the present study, and further research is needed to focus on the specific effects of employment of mothers on the Australian adolescent.

7.5 Practical Implications and Further Research

The development of a questionnaire to assess family functioning, which is directed specifically towards the main tasks and problems of adolescence, is seen as a major contribution of the present research programme. The scale is theoretically based, has been shown to be psychometrically acceptable, and has been partially validated by the results of this study. It takes little time to administer or score, and is judged to be a useful research instrument. It can be used to identify problem areas in the functioning of the family, as perceived by the adolescent. The instrument may be beneficial for counseling with adolescents, or in family therapy, in order to focus treatment on areas of particular difficulty. It would also seem to have potential for assessing change in family functioning as a consequence of therapeutic intervention.

Further construct validation of the Family Functioning Questionnaire is necessary to indicate if the measure differentiates between an adolescent patient group, such as schizophrenics with family problems, and a non-patient control group.

Because the scale derives from and represents a theoretical model of family functioning, it is hoped that it will prove a useful instrument

for empirical work within family systems theory. Olson's FACES questionnaire (1978), based on his circumplex model, and Moos's Family Environment Scales (1974) are the only two such theoretically derived measures of family health at present available. Both are more broadly focused to apply to several stages of family development, and are therefore less finely-grained measures of the adolescent phase of the family than is the Family Functioning Questionnaire developed here.

Two directions for further research are suggested. First the Family Functioning Questionnaire measures only the adolescent's perception of the functioning of the family system of which he is one subsystem. If the main focus of research is on the family system as a whole, it will be necessary to devise a complementary questionnaire for parents to give a further view of how the system functions. It would be possible to ask other members of the family to complete the present Questionnaire as they think the targeted adolescent would complete it, but the answers would tap the respondent's empathy for the adolescent rather than add objective information about the family.

A second research direction focuses on the subsystem, the adolescent. In the present study only one limited aspect of the functioning of that system has been examined using the MEPS Procedure. It would be interesting to examine adolescent personality and functioning more broadly and to assess the contribution that the various dimensions of family health, as measured by the Family Functioning Questionnaire, contribute to the psychosocial health of the individual.

A next step in the study of the interpersonal problem solving process during adolescence might be to incorporate the information obtained from the MEPS Procedure (Adolescents) in the present study into

the curriculum of A.C.T. high schools, in the unit presently taught called Living Skills/Personal Development, with the objective of enhancing the quality of relationships of adolescents in the normal population. At the moment the syllabus of this unit is based on theoretically developed programmes and not on skills that have been identified, as in this study, by adolescents themselves as important for the Australian adolescent population. This information can also be beneficially used in treatment programmes for such adolescents as delinquents or drug addicts who are deficient in interpersonal skills.

Another aspect of the real life problem solving process, namely emotional (intrapersonal) problem solving, needs to be investigated to test the present hypothesis further with regard to emotional problem solving as both an antecedent to, and a dimension of, psychosocial adjustment. Spivack and his associates have initiated research in this area, but so far their measures have been unable to differentiate between patient and control groups (Platt *et al.*, 1974; Siegel *et al.*, 1976). In their research they have used only two story roots dealing with emotional problems of depression and anxiety. A two-item scale is a very weak instrument which cannot be expected to be very useful, and more story roots dealing with emotional problems that are experienced in everyday life, like stress, anger, jealousy, guilt, and fear, could also be included.

In conclusion: both instruments developed for and used in this study have yielded useful data about important and complex aspects of individual and family health and have confirmed the hypothesis that the two are related.

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APPENDIX 1: GENERAL INFORMATION QUESTIONNAIRE

1. What age did you turn on your last birthday?

   14 years or younger ( )

   15 years ( )

   16 years ( )

   17 years or older ( )

2. What sex are you?

   Male ( )

   Female ( )

3. What are your future plans for 1983?

   continue to Year 11 ( )

   to leave school ( )

4. What is your father's (or stepfather's) present occupation? (Please give as many details as possible about his job, e.g. senior clerk at a bank; teacher at primary school; motor mechanic; labourer on a building site; owns his own butcher's shop)

   _____

   _____

5. What is your mother's (or stepmother's) present occupation? (Please give as many details as possible)

   _____

   _____

6. In your family are you

   the only child ( )

   the oldest child ( )

   the youngest child ( )

   between the oldest and youngest ( )

7. How many brothers do you have?

   none ( ) three brothers ( )

   one brother ( ) more than three brothers ( )

   two brothers ( )

8. How many sisters do you have?

none	( )
one sister	( )
two sisters	( )
three sisters	( )
more than three sisters	( )

9. Which adults live at home?
(more than one tick is allowable)

	Yes
(a) Mother	( )
(b) Stepmother	( )
(c) Foster mother	( )
(d) Father	( )
(e) Stepfather	( )
(f) Foster father	( )
(g) Other adults (Please fill in: e.g. Grandmother, uncle, dad's girlfriend, etc.)	( )

_____

10. In which country was your mother (or stepmother) born?

_____

11. In which country was your father (or stepfather) born?

_____

APPENDIX 2: MEPS PROCEDURE (ADOLESCENTS)

Instructions

We are interested in how you think people of your age might go about solving important problems in their lives. This is not a test with right or wrong answers. You will be given the beginning and the end of six stories about a person of your age and you are to write the middle section of each. Write down whatever ideas come to you, but always keep in mind the end of the story. Try to write at least one paragraph on each story. Do not spend more than 8 or 9 minutes on each story, so try not to waste too much time on detail.

STORY ROOTS

Story No. 1

Peter's/Pat's family rented a house at the coast for the holidays, at a place where he/she did not know anyone. Peter/Pat wanted to make some friends while down there.

The story ends with Peter/Pat having made some new friends and enjoying his/her holiday. You begin the story with Peter/Pat in his/her room, immediately after arriving at the coast, wishing he/she could make some friends.

Story No. 2

Mike/Mary felt that his/her parents were too strict with him/her. He/she felt that he/she had grown up, and that his/her parents should treat him/her as an individual in his/her own right, and not treat him/her like a child. Mike/Mary decided that he/she would attempt to change his/her parents' attitudes so that they gave him/her more independence and freedom.

The story ends with Mike/Mary feeling for the first time that his/her parents recognize his/her need to be treated like an independent individual. You are to begin the story where Mike/Mary decides to attempt to draw his/her parents' attention to the fact that he/she wants more independence in the family.

Story No. 3

John's/Jane's problem was his/her appearance. He/she felt all the boys/girls were more attractive than he/she was and nobody noticed him/her. One day while combing his/her hair in front of the mirror, he/she realized that something had to be done about his/her hair and his/her pimples, and his physique/that she had to lose some weight.

The story ends with a TV producer noticing John/Jane in the street and offering him/her a role in a popular television serial. You begin the story with John/Jane looking in the mirror, deciding to do something about his/her appearance.

Story No. 4

Andy/Ann received low marks in the last test. He/she knew that if he/she did not improve during the next term, he/she would fail the subject altogether. He/she realized that there was so much of the work he/she did not understand, and it would be impossible to handle it on his/her own.

The story ends with Andy/Ann passing his/her next test. You are to begin the story where Andy/Ann realizes that he/she must improve his/her marks.

Story No. 5

One of Tony's/Tracy's friends died in a motor car accident. He/she felt shocked and depressed about what had happened. Tony/Tracy wondered if life was really worth living.

The story ends with Tony/Tracy deciding there are things important enough to make life worth living for him/her. You begin the story with Tony/Tracy feeling shocked after his/her friend's death, questioning the value of life.

Story No. 6

One day Steve/Sue saw a good looking girl/boy he/she had never seen before while he/she was ice skating. He/she was immediately attracted to her/him and decided to get to know her/him.

The story ends with Steve/Sue going out with the girl/boy. You begin the story when Steve/Sue first notices the girl/boy at the ice skating rink and wants to know her/him.

APPENDIX 3: MEPS CATEGORIES OF MEANS

Story 1

	Σ Responses	% Total Responses	% Respondents
Went where could find peers	309	36.4	80.9
Looked for/noticed people of own age	122	14.4	31.9
Approached group	98	11.4	25.7
Planned to gain attention	31	3.6	8.1
Made contact	40	4.7	10.5
Started conversation	166	19.5	43.5
Invited peers home/to party	21	2.5	5.5
Attracted with personality	33	3.9	8.6
Other	30	3.5	7.9
TOTAL	850	100.0	

Story 2

	Σ Responses	% Total Responses	% Respondents
Discussed with parents	217	41.5	69.3
Talked in mature, grown-up way	53	10.1	16.9
Achieved something to prove self	58	11.1	18.5
Tried to act more responsibly, maturely	52	9.9	16.6
Showed parents he/she was no longer child	60	11.5	19.2
Reached compromise	45	8.6	14.4
Introspection	7	1.3	2.2
Open about feelings	19	3.6	6.1
Other	12	2.3	3.8
TOTAL	523	100.0	

APPENDIX 3 Cont'd.

Story 3

	Σ Responses	% Total Responses	% Respondents
Asked someone's advice	37	3.5	9.8
Medication	204	19.4	53.8
Exercise	182	17.3	48.0
Diet	165	15.7	43.5
Hair styled/cut, etc.	273	26.0	72.0
Make up/beauty treatment	51	4.9	13.5
Improved personality	49	4.7	12.9
New clothes	39	3.7	10.3
Other	50	4.8	13.2
TOTAL	1050	100.0	

Story 4

	Σ Responses	% Total Responses	% Respondents
Asked advice	326	53.9	91.3
Paid more attention in class	29	4.8	8.1
Cut down on social activities/TV	29	4.8	8.1
Studied hard(er)	165	27.3	46.2
Started assignments earlier	7	1.2	2.0
Introspection	12	2.0	3.4
Used library/read on subject/bought book	13	2.1	3.6
Did course on subject/study methods	7	1.2	2.0
Other	17	2.8	4.8
TOTAL	605	100.0	

APPENDIX 3 Cont'd.

Story 5

	Σ Responses	% Total Responses	% Respondents
Talked to someone	112	26.2	33.7
Reminded self of value of own life	97	22.7	29.2
Reminded self of value of people	122	28.6	36.7
Reminded self of value of things	22	5.1	6.6
Got involved in something	12	2.8	3.6
Helped others	23	5.4	6.9
Reminded self of religion/ God/heaven	18	4.2	5.4
Other	20	4.7	6.0
TOTAL	426	100.0	

Story 6

	Σ Responses	% Total Responses	% Respondents
(Planned to) gained attention	210	25.5	56.5
Approached	127	15.4	34.1
Asked other	37	4.5	9.9
Arranged introduction	16	1.9	4.3
Helped/asked for help	42	5.1	11.3
Started conversation	232	28.2	62.4
Visited place regularly	14	1.7	3.8
Dated	117	14.2	31.5
Other	28	3.4	7.5
TOTAL	823	100.0	

APPENDIX 4: MEPS CATEGORIES OF NEGATIVE MEANS

Story 1

	Σ Responses	% Total Responses	% Respondents
Drugs (asked for; supplied; used together)	14	30.4	33.3
Threatened others/fought	5	10.9	11.9
Blamed parents	4	8.7	9.5
Masturbated/daydreamed because bored	6	13.0	14.3
Participated in sex orgy/ engaged in sex to become friends	6	13.0	14.3
Other	11	23.9	26.2
TOTAL	46	100.0	

Story 2

	Σ Responses	% Total Responses	% Respondents
Did something without parents' consent	28	24.1	26.9
Ran away	24	20.7	23.1
Threatened parents	12	10.3	11.5
Shocked parents	23	19.8	22.1
Talked in rude, insulting manner	17	14.7	16.3
Other	12	10.3	11.5
TOTAL	116	100.0	

APPENDIX 4 Cont'd.

Story 3

	Σ Responses	% Total Responses	% Respondents
Broke mirror	14	26.4	29.8
Hit by car/truck	5	9.4	10.6
Suicide	5	9.4	10.6
Stopped eating	5	9.4	10.6
Fantasy	8	15.1	17.0
Other	16	30.2	34.0
TOTAL	53	100.0	

Story 4

	Σ Responses	% Total Responses	% Respondents
Cheated	30	45.5	48.4
Sex with teacher	8	12.1	12.9
Threatened teacher/peer	3	4.5	4.8
Bribed teacher	3	4.5	4.8
Other	22	33.3	35.5
TOTAL	66	100.0	

APPENDIX 4 Cont'd.

Story 5

	Σ Responses	% Total Responses	% Respondents
Suicide	17	30.3	33.3
Drugs	10	17.8	19.6
Became homosexual	3	5.3	5.8
No grief, even glad	9	16.0	17.6
Sex with prostitute/ became prostitute	5	8.9	9.8
Other	12	21.4	23.5
TOTAL	56	100.0	

Story 6

	Σ Responses	% Total Responses	% Respondents
Raped her	8	17.0	19.5
Proposed, sex without knowing person	17	36.2	41.5
Exposed self	1	2.1	2.4
Threatened	1	2.1	2.4
Fantasy	10	21.3	24.4
Other	10	21.3	24.4
TOTAL	47	100.0	

APPENDIX 5: ENUMERATIONS OF STORY 4 AND STORY 5 (MEPS)

Story 4

		Σ Responses	% Total Responses	% Respondents
Asked advice from:	teacher	152	43.9	61.5
	tutor	68	19.7	27.5
	parent(s)	67	19.4	27.1
	brother/ sister	13	3.8	5.3
	friend	37	10.7	15.0
	other	9	2.6	3.6
	TOTAL	346	100.0	

Story 5

		Σ Responses	% Total Responses	% Respondents
Talked to:	parent(s)	32	13.5	15.9
	friend(s)	33	13.9	16.4
	school counselor	2	0.1	0.1
	psychologist	7	2.9	3.4
	social worker	2	0.1	0.1
	priest	7	2.9	3.4
	other	3	0.1	0.1
Reminded self of value of:				
	family	38	16.0	18.9
	friends	49	20.6	24.3
	boy- or girlfriend	64	27.0	31.8
	TOTAL	237	100.0	

APPENDIX 6: STORY INTERCORRELATIONS (MEPS)

	Story 1	Story 2	Story 3	Story 4	Story 5	Story 6
Story 1	1.00	.23	.26	.28	.25	.25
Story 2		1.00	.34	.36	.41	.19
Story 3			1.00	.43	.28	.29
Story 4				1.00	.34	.32
Story 5					1.00	.29
Story 6						1.00

For all correlations, $p < .0001$

APPENDIX 7: DIMENSIONS, CHARACTERISTICS, SIGNIFICANCE FOR ADOLESCENT DEVELOPMENT, AND ITEM DESCRIPTION OF FFQ

Family Functioning		Significance for Adolescent Development	Item	No.
Dimensions	Characteristics			
Structure	-leadership	healthy models of adult authority	Each of my parents is a leader in some areas of our family life	1
	-coalitions/parental bond	model of good marriage	My parents have (or had) a happy marriage	12
	-roles	accountability for actions	In our family, everyone helps with the chores	23
	-internal boundaries	need for privacy	I need more privacy in my family	33
	-external boundaries	increasing independence from family	In our family we don't spend our free time together	2
	-mother-adolescent relationship	respect for and acceptance of individuality	My mother cares about me and accepts me the way I am	13
	-father-adolescent relationship	respect for and acceptance of individuality	My father cares about me and accepts me the way I am	24
Affect	-expressiveness	expression of feelings	We show that we care for each other in our family	34
	-empathy	feeling of being supported and understood by family	My family sympathizes and understands when I feel sad	3
	-trust	mutual trust	My parents don't trust me	14
	-share feelings	acceptability of both positive and negative feelings	I feel free to share inner feelings with members of my family	25
	-emotional security	sense of belonging	I wonder if my parents really love me	35
	-acknowledgement/ affirmation of others	sensitivity to other people	We say 'thank you' to each other in our family	4
	-family mood	positive, pleasant environment	We have a relaxed atmosphere at home	15

APPENDIX 7 Cont'd.

Family Functioning		Significance for Adolescent Development	Item	No.
Dimensions	Characteristics			
Communication	-clear and direct	clear message	Members of our family are encouraged to say what they really mean	26
	-assertiveness	self-assertion	We feel free to express our opinions in our family, but we consider each other's feelings	36
	-listening skills	active listening	If you say something in our family, people ignore you	5
	-positive feedback	value of positive feedback	We encourage and praise each other's efforts and successes in our family	16
	-negotiation	opportunities to practise negotiation	Members of our family are encouraged to work together in dealing with family problems	27
	-problem solving	model for practice in problem solving	Our family is good at sorting out our disagreements	37
	-decisionmaking	participation in decisionmaking	My parents let me help decide about matters that affect us all as a family	6
Behavour Control	-discipline	clear limits	Punishment is fair in our family	17
	-balance, leniency/ severity	appropriate degree of control	In our family you can get away with anything	28
	-democracy	recognition of growth towards adulthood	We are encouraged to speak for ourselves in our family	38
	-dangerous	behaviour control in potentially harmful situations	In a risky situation it is more important for me to do what my friends want, than to please my parents	7
	-sexuality	acknowledgement and guidance of sexual development	I feel uncomfortable discussing sex with my parents	18
	-aggression control	self-control when angry	People in my family get so angry they throw things	29
	-socializing process	encouragement of autonomy	My parents still treat me like a child and not like a maturing person	39

APPENDIX 7 Cont'd.

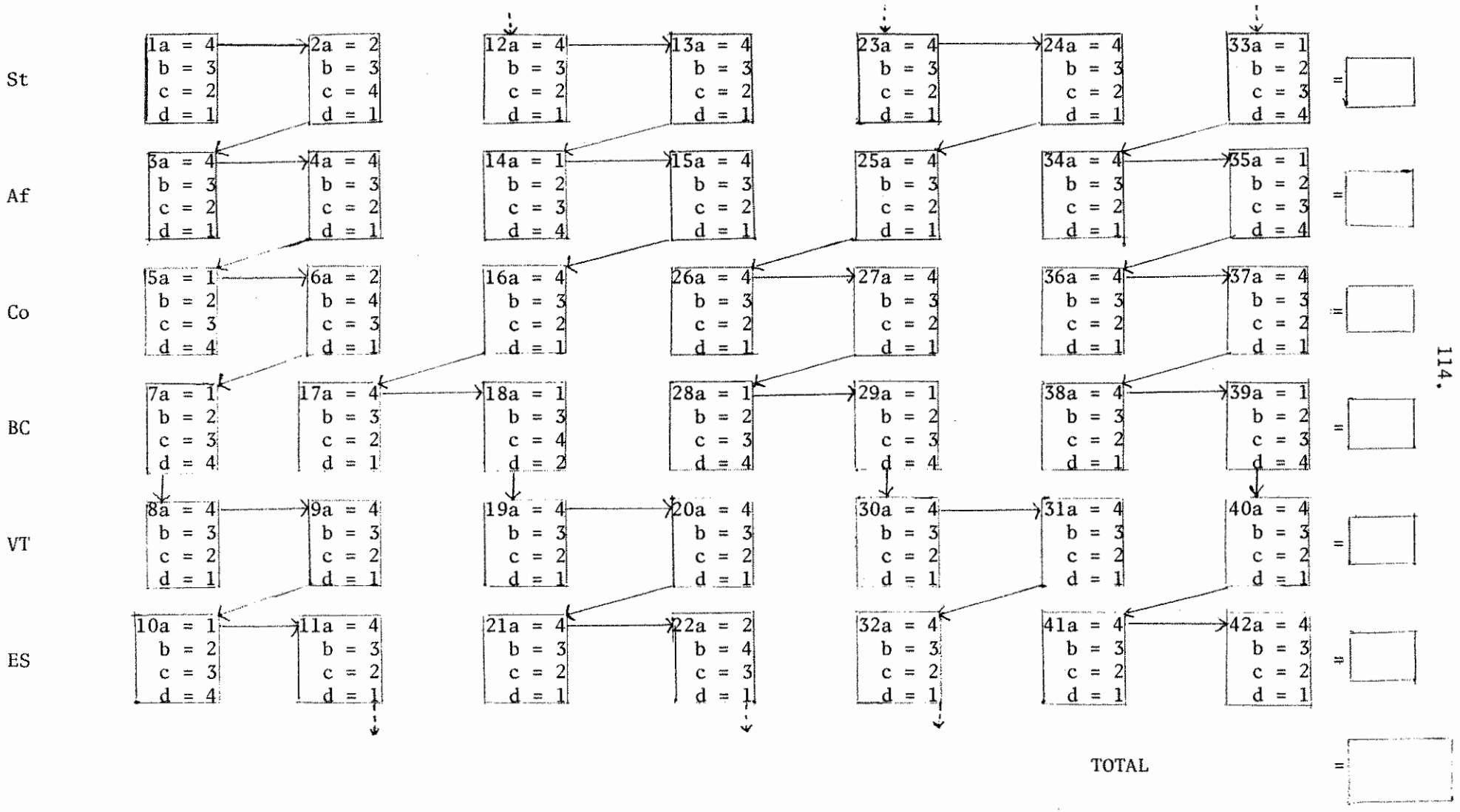
Family Functioning		Significance for Adolescent Development	Item	No.
Dimensions	Characteristics			
Value Transmission	-affiliative attitude towards human encounter	respect for other people	My parents treat people with dignity and respect	8
	-ethical values	encouragement of moral behaviour	Honesty is important in our family	19
	-value growth and development	increasing peer group influence	My parents allow me to choose my own clothes and hairstyle	30
	-overall mature philosophy of life	model for coherent and appropriate system of values	My parents have a sensible outlook on life	40
	-achievement orientation	development of abilities to full potential	My parents want me to try my best whatever I do	9
	-significance of life	development of own value system	My parents encourage me to talk about my views on sexual freedom, politics, etc. even when their views are different from mine	20
	-religious values	development of transcendent values	My parents encourage me to consider religion important in my life	31
External Systems	-recreational and sporting activities	encouragement of effective use of body	My parents encourage me to be physically fit	41
	-friends	exercise for social skills outside family	My parents are unhappy about my friendships with the opposite sex	10
	-cultural activities	aesthetic development	Family members enjoy art and/or literature	21
	-intellectual development	motivation for intellectual development	My parents want me to get the best qualifications I can	11
	-career	training for economic independence	My parents are very interested in my future job and career	32
	-community activities	participation in community life	Family members belong to clubs and organizations	42
	-economic structure	training in economic management	My parents want me to save money	22

APPENDIX 8: INSTRUCTIONS TO RATERS (FFQ)

The questionnaire is designed to assess the level of functioning of families of adolescents. The items aim to tap those areas of family life most important to the success of the adolescent in completing his/her developmental tasks.

Adolescents will be asked to answer 'almost always true', 'often true', 'sometimes true' or 'hardly ever true' to each item, and these responses are seen to reflect different degrees of family health. Raters are asked to rank order each set of four possible responses according to the healthiness of the family each implies. Rank 1 the answer which characterizes the most healthy, functional family, rank 4 the response which suggests the most dysfunctional family. Please do not have 'ties'; give ranks 1, 2, 3 and 4 for each set.

APPENDIX 9: FAMILY FUNCTIONING QUESTIONNAIRE SCORING SHEET



APPENDIX 10: INTERCORRELATIONS OF FAMILY FUNCTIONING SUBSCALES

	Structure	Affect	Communication	Behaviour Control	Value Transmission	External Systems
Structure	1.00	.83	.82	.86	.83	.81
Affect		1.00	.89	.85	.82	.76
Communication			1.00	.84	.83	.76
Behaviour Control				1.00	.86	.83
Value Transmission					1.00	.84
External Systems						1.00

For all correlations, $p < .0001$

APPENDIX 11: ITEM-SUBSCALE CORRELATIONS (FFQ)

Structure	Affect	Communication	Behaviour Control	Value Transmission	External Systems
Q1:.39	Q3:.66	Q5:.50	Q7:.47	Q8:.55	Q10:.44
Q2:.35	Q4:.58	Q6:.49	Q17:.56	Q9:.41	Q11:.37
Q12:.56	Q14:.57	Q16:.65	Q18:.43	Q19:.58	Q21:.45
Q13:.59	Q15:.65	Q26:.68	Q28:.34	Q20:.62	Q22:.34
Q23:.55	Q25:.67	Q27:.70	Q29:.57	Q30:.39	Q32:.47
Q24:.66	Q34:.69	Q36:.76	Q38:.47	Q31:.34	Q41:.52
Q33:.56	Q35:.48	Q37:.68	Q39:.53	Q40:.60	Q42:.56

For all correlations $p < .0001$