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Andrews University
School of Graduate Studies

**DIMENSIONS OF THE IDEAL FAMILY AS
PERCEIVED BY ADOLESCENTS**

A Dissertation
Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Lily Wong Hok-Neo
July 1976

DIMENSIONS OF THE IDEAL FAMILY AS
PERCEIVED BY ADOLESCENTS

A dissertation presented
in partial fulfillment of the requirements
for the degree
Doctor of Education

by
Lily Wong Hok-Neo

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ABSTRACT

**DIMENSIONS OF THE IDEAL FAMILY AS
PERCEIVED BY ADOLESCENTS**

by

Lily Wong Hok-Neo

Chairperson: Conrad A. Reichert

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

Department of Education

Title: DIMENSIONS OF THE IDEAL FAMILY AS PERCEIVED BY ADOLESCENTS

Name of Researcher: Lily Wong Hok-Neo

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Date completed: July 1976

Problem

The purpose of this study was to identify the types of family concept held by different groups of adolescents in thirteen selected high schools in Illinois, Indiana, and Michigan. Could the adolescents' concepts of the ideal family be described in terms of a number of factors? If there were basic factors, how would they compare with those previously identified by van der Veen in his study of disturbed adolescents? Were there differences in the ideal family concept when the adolescents were compared according to grade in school, church membership, sex, race, residential location, and number of parents? With the answers to these questions, various helping organizations in the community can formulate realistic family life curricula as

well as lay the groundwork and foundation for strong families in the future.

Method

This study employed the descriptive method involving factor analysis, the t-test of significance between means, one-way analysis of variance, multivariate analysis of variance, and discriminant analysis. Seven hypotheses were advanced for testing. A panel of experts helped determine the descriptors for the dimensions identified by factor analysis.

The data came from 123 randomly selected ninth and twelfth graders from seven Seventh-day Adventist academies and six public senior high schools. There were 66 males and 57 females. Eighty-seven of the subjects were white and 35 were non-whites. Rural, urban, and suburban residential locations were represented in the study. The majority of the subjects lived with both parents.

The Family Concept Test developed by van der Veen was used to measure the adolescents' viewpoints on different aspects of the ideal family. The responses were indicated by rating how much each of the 80 statements were like what they wanted their ideal family to be on a scale of 0 to 8. The data were entered, processed, and analyzed.

Findings

Twelve independent but psychologically meaningful factors were identified after a varimax rotation. These were: (1) attachment, (2) emotional openness, (3) compatibility, (4) inadequacy, (5) individuality, (6) interdependence, (7) mutual support, (8) pseudo-

confidence, (9) frustration, (10) communication, (11) autonomy, and (12) democracy.

The t-test for significance between means revealed differences between adolescents when they were compared according to church membership, and sex. The one-way analysis of variance showed that the urban adolescents differed from rural and urban adolescents, but the latter two groups did not differ significantly from each other. Grade in school, race, and parental number were not found to be significantly related to ideal family concept.

The multivariate analysis of variance using the twelve factor scores isolated by factor analysis, revealed that the subjects differed in their ideal family concept when they were compared according to church membership, race, and residential location. Grade in school, sex, and parental number were not found to be significantly related to the factor centroids.

Discriminant analysis of factor scores revealed that the factors, emotional openness, compatibility, and individuality were most sensitive in discriminating between the various subgroups of students.

Conclusions

The study showed that it was possible to describe the adolescents' concept of the ideal family in terms of basic factors. The twelve factors identified were very different from those previously identified by van der Veen in his research on disturbed adolescents. Hence, normal adolescents perceived their ideal families differently from disturbed adolescents.

Of the six variables, church membership and sex are definite determinants of the development of the ideal family concept. Seventh-day Adventist adolescents have a more positive family concept than non-Seventh-day Adventist adolescents, and girls have a more positive family concept than boys. Suburban adolescents have a more positive family concept than urban or rural adolescents. The whites viewed the ideal family differently from the non-whites. Grades in school and number of parents did not seem to have any significant effect on the ideal family concept of the adolescents.

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CHAPTER I

INTRODUCTION

Statement of the Problem

The past few years have seen a growing awareness of the important role played by parents in children's psychological and social development. Kruger (1972), comparing contemporary family life in America with that of the past century, describes it as being less intimate, less organized, less concerned with passing on family precepts and standards. The family no longer serves as the active agent for the propagation of family life. More and more, it has become the responsibility of the school to fulfill what were previously felt to be functions of the family.

This trend has serious implications for adolescents who have a major interest in selecting mates and planning for future families on their own. According to Kruger (1972), in 1968 approximately one out of ten seventeen-year-old girls in the United States was a mother. In 1971, nearly fifteen per cent of the estimated 210,000 school-age girls under seventeen years of age who gave birth were not having their first baby. Statistics in 1972 suggested that six out of ten of these mothers were married by the time their child was born, and that, married or not, the majority of these school-age mothers kept their children.

School-age parents form a set of "high-risk" families that often result from an inadequate understanding of and preparation for parenthood responsibilities. This is borne out by the fact that national divorce rates for those married in their teens are about three to four times higher than those of any other age group. This disintegration causes unhappiness and problems among the parents and children involved.

Since these are high school adolescents, the schools are presently attempting to set up family-life curricula. These curricula can be more meaningfully constructed if the curriculum planners understand the adolescents' perception of the family.

Purpose of the Study

The purpose of this study was to identify the ideal family concept of adolescents in select Midwest states, and to compare family concepts between sub-groups within the sample. Family concept for this sample is referred to as the cognitive-emotional "schema" (analogous to self-concept) consisting of a person's perception, feelings, attitudes, and experiences regarding the family unit.

Specifically, the following questions were investigated:

1. Can the adolescent's concept of the ideal family be described in terms of a number of basic factors?
2. If there are basic factors, how do they compare with those identified by van der Veen (1971) in his study of disturbed adolescents?

3. Are there differences in the ideal family concept when the adolescents are compared according to
- a. grade in school?
 - b. church membership?
 - c. sex?
 - d. race?
 - e. residential location?
 - f. parental number?

Definition of Terms

A family is a social unit consisting of married adults and their biological or adopted children that maintain a common residence and perform their economic and socialization functions together.

The family concept, analogous to the self-concept, is a cognitive-emotional "schema" consisting of a person's perception, feelings, attitudes, and expectations regarding the family unit (van der Veen, 1971, p. 1). It is the way an individual perceives his family as a functioning unit.

Parental number. The term includes both parents which refers to a family situation in which both father and mother live together with the children, and one parent which refers to the family situation in which the children live with either the father or the mother.

Academies are senior high schools operated by the Seventh-day Adventist Church.

Church membership is used to categorize the subjects into two groups: (1) Seventh-day Adventists, and (2) non-Seventh-day Adventists, which include Catholics, Lutherans, Methodists, Presbyterians, and others.

Residential location refers to the type of setting in which the adolescent subjects' homes were located when the study was conducted. Three categories--rural, urban, and suburban--are used.

A factor is a construct, a hypothetical entity, that is assumed to underlie tests, scales, items, and indeed, measures of any kind (Kerlinger, 1973, p. 659).

Importance of the Study

A series of studies on the family concept by other researchers has looked at influences of the family concept on variables such as family congruence, family satisfaction, family adjustment or effectiveness, and family compatibility. The importance of this study lies in its approach to identifying factors underlying family concepts. While the study of van der Veen (1971) has pioneered the attempt to identify factors underlying family concept, the study was undertaken with a specific sub-population. This study sought to identify factors in a more normal population. This study explored adolescent attitudes and expectations toward ideal family life. With this information, various helping organizations--especially schools--in the community can formulate realistic family life curricula to help lay the groundwork and foundation for strong families in the future.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

The family has long been a subject of study of sociologists, anthropologists, psychologists, home economists, and religious leaders. Yet not until the last two decades have scientific, theory-building approaches been used.

The literature regarding the viewpoint that the adolescent's perception of the family is developed from family interaction and that it is subjected to changes under different environments is reviewed in this chapter. This review is divided into three areas:

1. Family theories and frames of reference
2. Development of parent-adolescent relationships
3. Influences on adolescents' perceptions of the family

Family Theories and Frames of Reference

Basic Approaches

Like the theoreticians in most fields, family scholars are increasingly attempting to organize their accumulated knowledge in the form of concepts, generalizations, and theories. Particularly since 1960, specialists in family studies have been conscious of the need to organize concepts, develop hypotheses and propositions, and to interrelate these propositions in a

meaningful fashion in order to explain a particular aspect of family organization and behavior.

Christensen (1964) listed and discussed four different approaches in studying the family:

1. The institutional approach
2. The structural-functional approach
3. The interactional and situational approaches
4. The developmental approach

Of the original four, only three have survived the test of time. Klein, Calvert, Garland and Polomoro (1969) surveyed family research and theory and concluded that only the interactional, structural-functional, and family developmental approaches have continued to generate fresh inquiry. These three frames of reference are summarized below.

Structural-Functional Approach

The structural-functional approach is a common conceptual framework in social science research. Summarizing this approach, Shultz (1971) outlined three basic postulates:

1. Every society should be viewed as a whole or system.
2. Every part of a given system is influenced by every other part, so that a change in one part is likely to bring about a change in every other part.
3. A system is in dynamic equilibrium so that change occurs within limits.

Murdock (1965) held that structure was definitely related to function and stated that the family, as a particular structure

(with a system of positions and roles), universally performed the same functions. Pitts (1964) reviewed Murdock's work and designated the functions of the nuclear family as (1) maintaining its members in physical and mental health by economic cooperation and tension reduction, (2) reproduction of the species, and (3) training of children for community roles. Schultz (1972) further upheld these functions when he said that in every society the family was the institution that was "normatively entrusted with the responsibility of the reproduction and the basic socialization of the children who are necessary to the perpetuation of that society" (p. 5).

Interactional and Situational Approach

This approach is known by some as the "role theory" or "symbolic interaction theory" (Stryker, 1959). The proponents of this approach present a set of explanations for the social and psychological processes of socialization and personality development.

Two divergent traditions, social behaviorism and symbolic interactionism, have developed from role theory. Behaviorists see socialization as an interaction process. Roles develop out of the interaction of persons as they mutually define the situation in which their interaction occurs.

Symbolic interactionism concentrates on roles as they develop from individuals' attempts to communicate. Man's primary symbol system, language, is seen as a determining factor in his development. The views of Mead (1934) and Cooley (1964) are that

we have a social as well as a personal component. The social component or the objectively perceivable "ME" is essentially a repertoire of behaviors developed in response to the expectations of others (especially significant others). For Mead, the perceiving "I" is almost an illusion. The self is so much determined by the particular social situation in which the individual finds himself, that the "I" is all but eliminated. We are a little more than the sum total of our situational selves.

Cooley's (1964) explanation of the "looking-glass self" states the extent to which we are interdependent beings. In this view the "self" is composed of three elements: (1) an estimation of alter's conception of ego, (2) an assessment of alter's evaluation of that conception, and (3) ego's self-assessment such as a feeling of competence or guilt. In Cooley's thought, the family is a primary group characterized by its small size, face-to-face interaction, persistence, intimacy, and the care and concern that its members have for one another.

Developmental Approach

The developmental approach, initiated by Duvall (1957) has been one of the oldest standard approaches. Hill and Rogers described the details of a framework in Christensen's (1964) Handbook of Marriage and the Family. This approach has, as its chief focus, the analysis of changes in family roles over time. In carrying out such an analysis, attention is paid, primarily to three areas:

1. The structure of the society in which the family exists
2. The structure of the family per se

3. The role dynamics of the family viewed primarily as a consequence of specific age, sex, and plurality compositions.

Hill and Hansen (1960) pointed out the fact that this theory was not a unique approach but rather a joining-together of various parts of some of the previous theoretical efforts. It actually attempts to combine into one theory the societal-institutional, interactional-associational, and individual-personality variables of the family phenomenon. This approach tries to direct its attention to the longitudinal career of the family system. It attempts to be microanalytic and to account for changes in patterns of interaction over the family life span.

Models of Familial Socialization

The internal process of family socialization has been defined in two ways. Cogswell (1969) referred to it as the role relationships of parents and offspring. Parsons (1955) claimed that the passing on of attitudes and perceptions of the family was the important function. In relation to these definitions two models of the socialization process were developed by Winch and Warimer.

The first model of the socialization process is the fusion of functional and learning theory focusing upon the problem of how it is that parents are able (or not able, as the case may be) to exert lasting influence upon their children (Winch, 1972). Winch refers to it as the model of identification which attempts to relate

structural-functional variables to the process of identification through the intervening concepts of "reward" and "ego ideal," or role models.

The second model, developed by Warimer (1970), promotes the process of social interaction as being very important to the emergence and formulation of roles. As a result of this process, social institutions and personality traits are developed.

The common element in both these models is the social role of the family. This is perceived as (1) a set of expectations of behavior and attitudes considered appropriate to the members of the family, and (2) the patterns of conduct organized in response to these expectations which are results of interaction.

Van der Veen (1971) feels that the family concept develops principally from interaction with the family over an extended period of time. Family concept (analogous to self-concept) is defined as the cognitive-emotional "schema" consisting of a person's perception, feelings, attitudes, and experiences regarding the family unit. The family concept exerts a potential and lasting influence on behavior. He further holds that this concept is subject to change and revision under a variety of conditions--including formal intervention.

Schultz (1972) classifies the family as an informal organization with roles rarely made explicit. Appropriate behavior for the roles of husband-father, wife-mother, and sibling-child are frequently learned by imitation and modified by the day-to-day interaction of family members.

It is therefore not unreasonable to expect that many of the enduring attitudes that a person has are the result of the pattern of active interaction he has experienced and perceived from within his family group. Differences between a person's attitudes and those of others should, therefore, reflect different family concepts. Specifically, in terms of adolescent development, changes in roles and perceptions that accompany increasing autonomy and extra-familial commitments go on to shape family concept. These changes can be correlated with changes in the perception of the actors in familial roles (Campbell, 1969). Greater satisfaction in the family concept is also present when there is greater congruence between real and ideal perceptions of the family (Holland, 1970; van der Veen, 1971).

Development of Parent-Adolescent Relationships

Socialization and the Growth Process

The process of acquiring a way of life is a very normal and natural consequence of prolonged exposure to family members in a more or less closed system of social interaction. The deep union and biological intimacies between mother and child set a firm foundation for a pattern of socialization, which, when reinforced by the sharing of experiences by family members, gives family life a very special character.

Children depend on their parents for food, protection, and emotional support. They identify with their parents and tend to imitate their behavior. Differences in opinions exist; but, during early childhood, the parents' rights to assume authority and to assert power are rarely challenged.

As children grow older and take on their own identities, values, and perceptions, this pleasant association of members of the family takes on different expressions and behavioral patterns. As the focus of interests moves from parents and other siblings to peers outside the home, some rather important adjustments have to be made in the family. With the onset of adolescence, and throughout its course until early adulthood, the one persistent direction is that of moving away from parents and toward the establishment of personal nuclear families. In some families this tradition is gradual and natural. In others, this period is very traumatic and stormy.

The family exerts maximum influence in the early years of the child's life, but socialization during adolescence takes a different form. Socialization for the adolescent is to reach out as well as to grow out of the family. This is a very crucial period when the adolescent must establish his own identity. There is within the adolescent a constant desire for establishing an inner sense of continuity so that his adulthood is consistent with his present life. Failure on the part of the adolescent to find his place in the day-to-day scheme of things often constitutes what Erikson (1968) refers to as an "identity crisis."

Adolescent Autonomy

Douvan and Adelson (1966) described the adolescent effort toward independence as the keystone of family relations and gave this phenomenon the status of a traditional, mythical model for adolescent behavior.

In folklore and heroic fiction, we find the recurring pattern--the adolescent hero, having received some sign, an inner stirring, or an outer call, gets ready to leave the family. The paths of departure may vary. Some must struggle to leave, others must flee for their lives; some leave vindictively, full of hate, thrashing the father or mother, while others are themselves beaten or betrayed before they leave; some leave in high expectation, carrying the family's hope for fortune or redemption, and others leave at dead of night, in disgrace, bearing the family's curse. The hero's journey begins with an ending--the breaking of the connection to home (Douvan and Adelson, 1966, p. 19).

Jersild (1963) suggested that family relations take the form of a three-act drama. The adolescent is at first dependent on his parents, but is beginning to see them as ordinary human beings. The "struggle for emancipation" comes as a second act, when the adolescent outgrows his dependence and transfers his major loyalties to his prospective mate. In the third act, the struggle is "supposed to" die out as the former adolescent finds an adult role, and parents become peers--respected or not, as the case may be.

In considering the relationship between the adolescent and his family, the frame of reference commonly used is that of the parent viewing the adolescent. Musgrove's studies (1966), using the sentence-completion test to assess parent and adolescent attitudes, showed that the number of favorable statements concerning parents of the same sex decreased with age for both sexes. However, the important finding is that the adults exhibited a greater degree of hostility toward adolescents than adolescents did toward adults. This finding was consistent with similar work done by Eppel and Eppel (1962) and Hess and Goldblatt (1957).

Adolescent Conflict

In a family situation, conflicts arise when both parents and adolescents want autonomy but perceive it differently. Sobanska (1965) studied relationships between adolescents and their parents by analyzing three hundred essays written by twelve- to eighteen-year olds. Her analysis showed that 78 per cent of the group felt that their relationships with parents were somewhat unsatisfactory. This was due to conflicts. The chief source of conflict for the fifteen- to sixteen-year-old age group was their inability to get along with one of the parents. The quest for independence was the main source of conflict for girls between thirteen and fifteen years old. All the adolescents in her study suggested specific home practices like providing a democratic atmosphere, weaning from parental control, and helping them to develop more self-control so that tension and conflict could be reduced between the two generations.

In the research findings of Musgrove (1964) and Bowerman & Kinch (1959), it was found that, when conflict existed between parents and adolescents, it was greater and lasted longer in boys than in girls and most of the evidence pointed to the peak age of conflict as between fifteen and seventeen years.

Douvan and Adelson (1966) showed that, in girls of different age groupings, there was a progression of conflicts from narcissistic difficulties in early adolescence, to interpersonal issues in mid-adolescence, and to ideas and values in late adolescence. Both sexes struggled for independence but in different

ways. For boys, independence was freedom from constraints, and the freedom in life to behave as one wished. For girls, independence represented internal freedom--the opportunity to be one's self and to have some autonomy with respect to one's feelings and thoughts.

Elkind (1968) suggested that the parent-adolescent conflict was part of the child's development toward self-differentiation. He said that issues arose when any of the three following kinds of contractual agreements or arrangements were violated:

1. Bargain--reward or punishment for compliance
2. Agreement--more complex and longer lasting,
where the parties had to abide by certain rules
over a period of time
3. Contract--process whereby parents and children
interacted on the basis of mutual expectations

These agreements symbolized for both parties the happy balance between responsibility and freedom, achievement and support, as well as loyalty and commitment.

Douvan and Adelson (1966) further stated that family dynamics had profound effects on the adolescent's development toward maturity and freedom. This included the parents' interest and involvement in their parental role, the affective intensity of family interaction, the degree of family conflict, and the extent of parental authority and control.

Davis's (1971) studies showed the effect of environmental factors upon family dynamics. He cited factors like (1) the rapid

pace of change in the country, (2) the physiological differences between adolescents and parents, (3) the psychosocial differences, and (4) sociological differences where society prescribes an authority role to parents and a subordinate position to the youth. All these differences provided conflicts between adolescents and their families.

Besides Davis's environmental factors on family conflicts, Keniston (1962) and Erikson (1963) viewed western civilization as affecting the universal parent-adolescent relationship. Among the cultural factors they saw influencing this relationship were (1) conflicting norms and inconsistent codes of morality between the two generations, (2) the competition by intrafamilial and extrafamilial authorities to guide the youth, (3) a lack of an established process of adjustment for adult life, and (4) the decreasing size of families.

Influences on the Adolescent's Perception of the Family

Because of the nature of family dynamics, adolescents perceive their family differently than do their parents. Meissner's (1965) study showed that youngsters had a higher opinion of their parents than the parents did of themselves. The majority of the adolescents in one study (Maxwell, Conners, & Walters, 1961) rated parent-adolescent relationships more favorably than did either father or mother. Kirkpatrick (1967) stated that the perception of the family was colored to a certain extent by the adolescent's own needs. Studies using responses by adolescents

to the Breznutz-Kufelmas Prediction Scale showed that fathers were perceived as instrumental while mothers were perceived as "expressive" (Dahleyn, 1970).

When different cultures were examined, it was found that perceptions of the home or family varied greatly. White American boys saw their homes as being consistently more strict than their black contemporaries perceived theirs (Schab, 1971). On the other hand, similar studies conducted among Ghanaian adolescents revealed that parents were perceived as being more "kind, affectionate, cheerful, and instrumental" (McIntire, 1974). Wheeler's (1960) study on Australian adolescents' views of their parents as expressed in essays revealed that, in areas of friendship, the students felt that their parents should scrutinize their friends carefully but not interfere with their choice. They wanted parents they could confide in with their emotional problems. They wanted parents to refrain from teasing them about their friends and from exposing them to embarrassment or humiliation in front of their friends. Some thought parents should rely on the adolescents' good sense for late hours, while others preferred fixed times to be home. They wanted parents to help them develop confidence about new social situations. They felt that sex education was needed in the home where they would benefit from parental help and advice. They wanted their parents to keep pace with the world. Parental attributes that were most prized were tolerance and understanding, and dislike was expressed for parents who were inconsistent and arbitrary in their relationships with their children.

Development of the Family Concept

Several factors or influences contribute to the development of the concept of family in adolescents. Singly, or in combination, each of these plays a part in the formation of attitudes and perceptions of youth.

When the socialization variable of the California Personality Inventory (CPI) was used as a criterion in the comparison of the family concepts of subjects grouped according to high or low school-adjustment rankings, hypotheses regarding positive relationships between family concept measures and child personality variables were supported, especially for the CPI measure of socialization (Sailer, 1967). Further, van der Veen and Haberland's (1971) study indicated that, where there were family satisfaction and harmony, there was greater congruence between the views of parents and those of their adolescent offspring. Further, communication between the two parties was deemed most important.

Chaffee, McLoud and Atkin (1971) found that families with similar parent-child communication structures indirectly produced characteristic media-use (television, prints, and broadcasting) patterns that, on the average, were shared by parents and adolescents.

Factors Influencing the Family Concept

Several influences contribute to the development of the family concept in adolescents.

Schools and institutions. In schools where family-life education was offered, adolescents showed an increased know-

ledge of family life but there was no change in their attitude toward their family (Crosby, 1971). In another study involving family and institutionalized adolescents, it was found that the latter had negative attitudes toward their marriage role-expectations (Snow, 1973).

Schools can function as a social system to foster the development of capacity that will enable persons to be in charge of their own lives. Coleman's (1973) Family Building Model was presented as a way of looking at adolescent development. This enabled educators to determine knowledge, attitudes, and skills which adolescents needed to master in preparation for one critical domain of their future lives--the family.

Family concept or image has been part of the reading process. The 1968 series of basal readers used in most elementary schools presented a family image essentially of northern, suburban, upper-middle-class Americans with three children under seven years of age, and a dog (Lorenz, 1970). In cooperation with textbook publishers, schools can, and probably do, influence changes in attitudes toward the family even though the description of the basic family and its community may differ considerably from the statistical representation of the average American family and its community. Nevertheless it can be concluded that schools and institutions do play a part, howbeit small.

Home background. It has been found that social class and family backgrounds do make an impact on the adolescent's concept of the family. Among black adolescents two variables signif-

ificantly affected their marriage role-expectations (Rooks & King, 1973). Significant differences in marriage role-expectations were found between males from broken homes and males from intact middle- and lower-class homes. Females were more traditional than males regarding housekeeping. Stone and Slocum's (1959) study indicated that there was a relationship between the images which teenagers have of their families as reference groups and their observed behavior.

Family power structure. . It has been observed that fathers and their place in the power structure of the family play an important part in the development of the adolescent's family concept (Bowerman & Elder, 1964; King, 1969; Herzog & Sudia, 1968). Most children attribute greater power to the father, although they perceive an egalitarian power pattern in their families (Larson, 1974). Another study (Sailer, 1967) showed that boys with high scholastic performances perceived their fathers as most powerful in decision-making, though they were democratic in parent-child relationships. Results of King's (1969) study indicated that both male and female black adolescents viewed the power structure of their families to be mainly syncretic. The males in the sample reported stronger father participation than the females did. Both males and females indicated stronger participation in decision-making than had been historically presented.

Congruence between adolescent and parent family concepts was found to be greater when the father was perceived to be more dominant and assertive, and also when there was less conflict between mother and child (van der Veen, 1974).

Emotional stability. The disturbed adolescent usually has a distorted family concept (Fodor, 1973; Vogel & Lauterback, 1963; Novak & van der Veen, 1970). Findings from these studies suggest that the psychopath views his father as having been less nurturant toward him while his mother demands less achievement from him, and that problem boys have a hostile perception of their fathers but not of their mothers. Haidle's (1974) study indicated that there is a difference in the way non-delinquents and delinquents perceive their parents, family, home, and themselves. In his conclusion he stressed that parents have a great influence upon the development of their children and that parents tend to react to the apparent needs of their children rather than to listen to the real need the child is trying to express.

Hewitt's (1967) study on culturally deprived adolescents found that family problems perceived by culturally deprived boys are significantly related to a sense of extrafamilial "homeyness" (family adjustment). Adolescent boys from a culturally deprived home seem to perceive problems in the family. Culturally deprived adolescents experience less homey feelings than other boys of similar ages.

Conversely, it has been found that the highest level of satisfaction and adjustment is found in normal families with well-adjusted children (Novak & van der Veen, 1969, 1970).

Summary of the Chapter

Three major approaches to the study of the family--the structural-functional approach, the interactional and situational

approach, and the developmental approach, with special emphasis on the models of familial socialization, were reviewed in this chapter.

Parent-adolescent relationships are developed through socialization--an interactional growth process through prolonged exposure to each other. Conflict, struggles for adolescent autonomy, and experiences in parent-child relations as part of growing up, all contribute to the conceptualization of the type of family ideally perceived by the adolescent.

Several factors contribute to the development of the family concept in adolescence. Besides the socialization factor within the family, the school, in the courses offered and the books used, seems to play an important role. The family background, social class, and race all apparently affect the family concept. The emotional stability of the parents and the way parents govern the family also contribute to the development of the family concept.

Tentative Conclusions

Throughout the literature, the research and approaches reveal substantial evidence that the adolescent's family concept is influenced by his home relationships, school, family background, and the emotional stability of the parents. From this review, two broad hypotheses are defined for testing and further study:

1. The concept of the ideal family as held by adolescents can be described in terms of a number of basic factors.
2. There is a significant difference in the ideal family concepts of adolescents of various sub-groups.

- a. There is a significant difference in ideal family concepts between adolescents in grades nine and twelve.
- b. There is a significant difference in ideal family concepts between Seventh-day Adventist and non-Seventh-day Adventist adolescents.
- c. There is a significant difference in ideal family concepts between male and female adolescents.
- d. There is a significant difference in ideal family concepts between white and non-white adolescents.
- e. There is a significant difference in ideal family concepts among rural, urban, and suburban adolescents.
- f. There is a significant difference in ideal family concepts between adolescents from two-parent and one-parent families.

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CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

This was a descriptive study, the purpose of which was to identify the types of family concepts held by different groups of adolescents. Several statistical techniques were used.

This chapter describes the research design, the data-gathering instrument, field procedures, and the data-analysis techniques used.

Research Design

Independent Variables

Seven independent variables and their classifications were chosen: (1) grade in school--ninth and twelfth grades, (2) church membership--Seventh-day Adventists and non-Seventh-day Adventists, (3) sex--male and female, (4) race--white and non-white, (5) residential location--rural, urban, and suburban, and (6) parental number--both-parents and one-parent.

Dependent Variables

The scores on the eighty-item Family Unit Inventory (see appendix A) were used as dependent variables. Among these items, twelve factors were isolated which identified adolescents' perceptions of the ideal family. These factors then formed twelve dependent variables with factor scores on which the effects of the independent

variables were tested. Further, they served as bases for comparisons with those identified by van der Veen and his associates.

Statement of Hypotheses

Seven hypotheses were advanced for testing. Hypotheses 2 to 7 are stated in the null form for the sake of statistical tests.

1. The concept of the ideal family as held by adolescents can be described in terms of a number of basic factors.
2. There is no significant difference between the:
 - a. means of the ideal family concept scores of adolescents in grades nine and twelve.
 - b. centroids of the ideal family concept factor scores of adolescents in grades nine and twelve.
3. There is no significant difference between the:
 - a. means of the ideal family concept scores of Seventh-day Adventist and non-Seventh-day Adventist adolescents.
 - b. centroids of the ideal family concept factor scores of Seventh-day Adventist and non-Seventh-day Adventist adolescents.
4. There is no significant difference between the:
 - a. means of the ideal family concept scores of male and female adolescents.
 - b. centroids of the ideal family concept factor scores of male and female adolescents.

5. There is no significant difference between the:
 - a. means of the ideal family concept scores of white and non-white adolescents.
 - b. centroids of the ideal family concept factor scores of white and non-white adolescents.
6. There is no significant difference among the:
 - a. means of the ideal family concept scores of rural, urban, and suburban adolescents.
 - b. centroids of the ideal family concept factor scores of rural, urban, and suburban adolescents.
7. There is no significant difference between the:
 - a. means of the ideal family concept scores of adolescents from two-parent and one-parent families.
 - b. centroids of the ideal family concept factor scores of adolescents from two-parent and one-parent families.

Instrumentation

Van der Veen's Family Unit Inventory (FUI)

This study employed the standardized Family Unit Inventory (FUI) developed by Ferdinand van der Veen of the Chicago Institute of Juvenile Research. This instrument was constructed for adolescents and had been used to test adults' family concepts as well. Its advantages lay in its simplicity for group administration, versatility and variety of items, and the economy of time on the

part of the test-taker. Further, van der Veen had demonstrated that the instrument objectively measured a person's perception of his family as a unit. This was relevant and pertinent to this investigation. With the permission of van der Veen, a change was made in the layout of the test (see appendix A).

The FUI consists of two identical forms of 80 items or statements on the feelings the respondents have about the family. Form RIF requests the description of the actual family, whereas Form IF examines the ideal family concept. This study used the Form IF to identify the ideal family concept of the adolescents.

Each statement in the Family Unit Inventory is accompanied by a nine-point Likert scale from "least like" to "most like" the ideal family. The subject is asked to circle the number that shows how true the item is for his family as he would ideally like it to be. Items are stated in positive and negative forms.

Demographic data needed for the study were requested on the first page of the instrument together with the instructions. To preserve anonymity, subjects were not asked to write their names on the instrument. Most of the information to be entered in the computer for later analysis was numerically coded.

Development of the Instrument by van der Veen

The Family Unit Inventory. This instrument was developed by van der Veen in 1961 for obtaining a quantifiable description of an individual's family concept.

Formats. The FUI evolved through three formats. The original format was the Family Concept Q-Sort which consisted of eighty

items that were descriptive of the family unit. The items described the entire family unit, not individual relationships within the family. It was expected that in this way the most salient aspects of a person's family experience would be obtained regardless of the specific relationships involved.

The Q-Sort was also used to describe different kinds of family perceptions, and sorted along a quasi-normal distribution with a fixed number of items in each of the nine piles, from "least like" to "most like." The score assigned to any given item was the number of the pile (from 0 to 8) in which it was placed.

Since the Q-Sort format was too time-consuming and could be done only on an individual basis, two other response formats were developed. The first was a multiple-choice form in which items were printed in a booklet and the subjects were asked to answer each item on a nine-point scale (0 to 8). The second was a true-false form which required subjects to circle either "T" (scored 8) or "F" (scored 0) for each item in the test booklet (van der Veen, Howard, and Austria, 1970).

Van der Veen also developed some global scores for this test such as: (1) the Family Adjustment Score--the agreement between a person's real family concept and the professional clinician's (social worker, psychologist, and psychiatrist) concept of the ideal family, (2) the Family Satisfaction Score--the agreement between a person's real family concept and his ideal family concept, (3) the Family Congruence Score--the agreement between the real family concepts of the father and the mother, and (4) the Family

Compatibility Score--the agreement between the ideal family concepts of the father and the mother.

Studies on format. Van der Veen, et. al. (1970) compared the three commonly used response formats--Q-Sort, Multiple Choice, and True-False. The different test forms correlated almost as well with each other as with themselves. The multiple-choice form showed the highest stability--test-retest reliability coefficients ranged from .78 to .95--and yielded slightly higher correlations with other forms.

The format used in this study. The multiple-choice form was used in the present study since (1) simultaneous administration to several subjects was required, and (2) the multiple-choice form gave the best results in terms of test-retest reliability.

Reliability and Validity

The reliability and validity of the Q-Sort as a measure of family functioning were investigated in several studies (van der Veen, M. & Ostrander, 1961; van der Veen, F., Ostrander, & van der Veen, M., 1961). These studies showed that family descriptions using the Q-Sort were adequately reliable over even fairly long spans of time.

Reliability coefficients determined by a median test-retest correlation for ten clinic waiting-list parents over a four-week period were .71 and .80 for real and ideal family concepts respectively. The test-retest correlations were .51, .39, .66, and .63 for the family adjustment, family satisfaction, family congruence,

and family compatibility scores of the lower adjustment groups. All subjects used were from clinical and low-adjustment groups.

Other Studies on the FUI

In an item analysis, using three groups of ten parents each (clinic, non-clinic low adjustment, and non-clinic high adjustment), significant item differences between groups were found on 34 items (Beckowitz, 1963). In another sample of 25 adolescents used to test social desirability of the items, the Q-Sort was compared with two California Personality Inventory scales (Good Impression and Self Control). The Good Impression scale was related to 13 of the 80 items and the Self Control scale to 22 items. Social desirability was a factor, but the degree of influence of this factor was undetermined (Crandall, 1968).

Other studies employing the FUI investigated the relationship between the family concepts of fathers, mothers, and children and child development (Novak & van der Veen, 1970, 1974; van der Veen, 1965; van der Veen et. al., 1964), marital adjustment (Kimmel, 1970; van der Veen, 1964), child type--aggressive versus withdrawn (Jansen, 1972), school achievement (Strauss, 1970), parental attitudes (van der Veen & Novak, 1971), and family intervention methods (Hardcastle, 1973; Raskin & van der Veen, 1970; Reiter & Kilmann, 1975; Wattie, 1973). These studies focused on the global types of variables such as family congruence, family satisfaction, family adjustment or effectiveness, and family compatibility. Little research has been done on the environmental factors influencing the family concept, such as school,

grade in school, church membership, sex, race, residential location, and parental number.

From his investigations, van der Veen isolated nine factors that made up the concept of the ideal family. These were:

- (1) consideration vs. conflict, (2) family actualization vs. inadequacy, (3) open communication, (4) community sociability, (5) family ambition, (6) internal vs. external focus of control, (7) togetherness vs. separateness, (8) family loyalty. and (9) closeness vs. estrangement.

Field Procedures and Data-Gathering

Pilot Study

Study on data-gathering procedure. A pilot study was conducted to refine the research design. On March 31, 1976 the FUI was administered to 41 adolescents at Andrews University Academy. This group was made up of 20 twelfth graders and 21 ninth graders.

The procedures for administering the inventory were tested. This pilot sample was divided into two groups: one where instructions were carefully read aloud, and the other where instructions were not read aloud. No difference was found between the two group means.

The timing for the administration and completion of the instrument was studied at this point. The eighty-item test took an average of ten to fifteen minutes to complete.

Study on data-analysis procedure. The sample data from the 41 students were used to assess the procedure for analysis. An item analysis yielded an estimate of the reliability of the test (reliability coefficient alpha) as .885. Medians for each

item were also calculated to establish how they were to be scored. Those items with a median of 5 and above (on a nine-point scale) were considered positive items while those with a median of 4 and below were classified as negative. These negative items were later scored in the reverse. The final list of positive and negative items corresponded with van der Veen's (see appendix B). The data were also used to refine computer procedures for factor analysis and discriminant analysis.

Population and Sample

The sample of 123 subjects was drawn from secondary schools in Illinois, Indiana, and Michigan. The study was limited geographically in relation to the location of Seventh-day Adventist academies, which included Broadview Academy at La Fox, Illinois; Shiloh Academy at Chicago, Illinois; Indiana Academy at Cicero, Indiana; Adelpian Academy at Holly, Michigan; Cedar Lake Academy at Cedar Lake, Michigan; Grand Ledge Academy at Grand Ledge, Michigan; and Frank Peterson Academy at Detroit, Michigan. A public senior high school in the vicinity of each academy was chosen as the source of non-Seventh-day Adventist subjects.

Method of Approaching Principals

The pilot study explored the efficiency and effectiveness of obtaining the cooperation of secondary school principals. With the Seventh-day Adventist principals one or two prior contacts were found to be important. With the other school principals no previous arrangements were made. From the public schools, 85 per cent of the

principals approached cooperated. The others could not comply with the request because of school vacations and busy end-of-the-year programs.

A brief synopsis of the intent of the study was made to the school principals in order to gain their cooperation. After a description of the purposes was given, a request was made for approximately ten students to be selected by random number tables for participation in the study. Registrars and guidance personnel assisted in providing the lists of names and in summoning the students for the test.

Administration of the FUI

Procedure. In most cases, the test was administered in the library, study hall, empty classroom, or cafeteria by the writer. The instructions were read together and a request to fill in the personal information was emphasized before the subjects proceeded with the test.

The administrator sat with the whole group until the last subject completed the test. Each completed form was carefully checked for accuracy before the subject was allowed to leave the place of testing.

Data-gathering in an average of only two schools per day was achieved because some of the seniors had to leave for vocational schools or work programs in the afternoon.

Selection of subjects. By using random number tables and an alphabetical listing of all the seniors and freshmen enrolled in the school, approximately five seniors and five freshmen were

chosen. In two cases, the principals randomly selected the subjects. This procedure yielded a representative group of adolescents for each of the thirteen schools. The breakdown of the characteristics of the subjects is shown on table 1.

TABLE 1
CHARACTERISTICS OF THE SAMPLE

<u>By Schools</u>	
Seventh-day Adventist Academies	7
Public Senior High Schools	6
<u>By Grade in School</u>	
Ninth Grade	61
Twelfth Grade	62
<u>By Church Membership</u>	
Seventh-day Adventists (SDA)	70
Non-SDA (includes Catholic, Protestants, and others)	53
<u>By Sex</u>	
Male	66
Female	57
<u>By Race</u>	
White	87
Non-white	35
<u>By Residential Location</u>	
Rural	49
Urban	44
Suburban	30
<u>By Parental Number</u>	
Both parents	78
One parent	22
Others*	23

*Note: These 23 subjects were dormitory students, and because they were not living with their parents at the time of the study, were not included in the analysis by parental number.

Data Recording, Processing, and Analysis

Data Recording

The responses of the items by the respondents were assumed to constitute their ideal family concepts, and these responses were translated into a format convenient for data entry into the computer for analysis.

Data Entry

The data were entered on-line at a computer terminal. A simple basic format was used. Columns 1 through 7 listed the independent variables: type of school, grade in school, church membership, sex, race, residential location, and parental number. Columns 8 through 87 recorded the scores on the 80 items of the FUI.

Data Analysis

The responses were first scored and the total scores for each student on each item were recorded in a new data file, forming the basic data for factor analysis. (see appendix C).

The t-test used the total scores of the students on the complete test of 80 items to find the differences between the group means where there were two levels. Where there were three levels (for hypotheses 6a and 6b) one-way analysis of variance (ANOVA) was performed to determine any significant difference between the groups.

From the file of student scores on the 80 items, an 80 X 80 correlation matrix (appendix D) of inter-item correlations was obtained. After this, factor analysis with Varimax rotation was undertaken to seek a logical number of factors. The most

meaningful organization was evident when twelve factors were rotated.

A panel of experts consisting of psychologists, sociologists, family life educators, home economists, a statistician, and a counselor was requested to study the item loadings on each of the twelve factors and to select the most appropriate name from a list of three to five alternatives suggested for each factor.

Factor scores of subjects on the twelve factors were stored in a new data file for multivariate and discriminant analyses. Three-way and four-way analyses of variance were also attempted on the twelve factor scores. However, because the cell frequencies were too small and uneven to yield meaningful data, this statistical procedure was not pursued.

CHAPTER IV

PRESENTATION OF FINDINGS

This chapter presents the findings from the analyses of the information collected from 123 adolescents randomly chosen from ninth and twelfth grades in selected Seventh-day Adventist academies and public high schools in Illinois, Indiana, and Michigan. The chapter is organized into three sections:

1. Dimensions of the ideal family concept
2. Differences between the subgroups
3. Discussion of findings

Dimensions of the Ideal Family Concept

Initially the responses of the 123 subjects were scored and a total test score (a maximum of 720) was obtained for each subject. A listing of the total scores is found in appendix C. Using the scores of the 123 subjects on the 80 items of the test, an 80 X 80 matrix of inter-item correlations was obtained (see appendix D).

The intercorrelation matrix was subjected to principal components analysis followed by varimax rotation, using the BMDX72 program. Various numbers of factors were rotated and the results were studied for the most meaningful groupings or dimensions.

A rotation of twelve factors resulted in the most interpretable matrix of factor loadings. These twelve factors, with eigen-

values ranging from 18.65 to 1.57 accounted for 58 percent of the total variance.

The 80 X 12 matrix of rotated factor loadings of the items is given in appendix E, and the 123 X 12 matrix of factor scores of each individual is given in appendix F. These matrices, together with the total test scores of the 123 subjects, formed the bases for further analyses.

In the process of relating an item to a factor, for the purpose of identifying the factor, loadings less than .35 were ignored. The panel of experts were presented with a listing of the items with major loadings on each factor and by vote were able to name the factor.

The adolescent concept of the ideal family is therefore described in terms of twelve identifiable independent dimensions. For each of these dimensions (factors), the items are listed with their loadings in ranking order by absolute value (see tables 2 through 13). A discussion of the main features of each factor leads to an identification of that factor by name.

Factor I. Table 2 shows the item number, item, and item loadings on the factor. High item loadings represent a high correlation between the item and Factor I. This factor had all positive item loadings. In viewing the ideal family, the subjects outlined the family's need for each other, the importance of the family as a unit, and the support and care upon which family members could depend. A descriptor suggested to summarize all the items in the factor is Attachment.

TABLE 2
ITEM LOADINGS ON FACTOR I

Item No.	Item	Item Loadings
35	We need each other	.70228
48	The family has always been very important to us	.67804
43	Together we can overcome almost any difficulty	.59328
46	We take care of each other	.57758
19	We often praise or compliment each other	.57454
41	We have warm, close relationships with each other	.56809
7	We feel secure (safe) when we are with each other	.56286
70	We are a strong, competent (able) family	.55566
14	We are an affectionate family (show our love for each other)	.53199
39	We encourage each other to develop in his or her own individual way	.49629
28	We respect each other's privacy	.46521
73	We forgive each other easily	.36463

Factor II. Table 3 presents the items with high positive and negative loadings on Factor II. Note that a negative loading on a particular item should be read as though it were a positive loading on the reverse statement of the item. For example, item 40 would read as "we are not ashamed of some things about our family" with a loading of +.73289 on Factor II.

Several items have an R following the item number. These are items which the item analysis in the pilot study suggested as being statements requiring reverse scoring. That is, maximum points were given for "least like" and minimum points were given for "most like." For example, in item 29, the high score indicates

that "accomplishing what we want to do does not seem to be difficult for us" is read as having a loading of .66452.

TABLE 3
ITEM LOADINGS ON FACTOR II

Item No.	Item	Item Loadings
40	We are ashamed of some things about our family.	-.73289
56	We often become angry at each other	.66530
29R	Accomplishing (actually getting done) what we want to do seems to be difficult for us	.66452
55	We are sometimes frightened of each other	-.66027
69R	We have little fondness for each other	.64605
59	We are critical of each other	.62896
66R	We are a disorganized (mixed up) family	-.59896
49R	It is hard for us to please each other	-.58878
62R	We resent each other's outside activities	.53584
64R	We sometimes wish we could be an entirely different family	-.53089
57R	We live largely by other people's standards and values	.51512
31	We often upset each other without meaning to	.51155
42	There are some things which we avoid talking about	.48841
58	We are not as happy together as we ought to be	.48812
30R	We tend to worry about many things	.38652

A few items involve both of these negatives. For example, item 66 has an R and also a negative loading. In considering the relationship between the item and the factor the two negatives will be cancelled. That is, the statement "we are a disorganized family" will have a loading of +.59896 on Factor II.

Applying this procedure in studying the major item and factor loadings on this factor, conflicting characteristics that

were filled with emotion were found. They were not ashamed of things about their family. There was anger, unhampered accomplishment, absence of fear, suspicion, fondness for, and also a critical attitude toward each other in the family. This factor may be described as Emotional Openness.

Factor III. Table 4 shows item loadings on this factor as being all positive. The items suggested family unity in decision-making, growth in the knowledge of each other, having good times together, and the ability to adjust to new situations with trust and confidence in each other. These ideas together suggest Compatibility as a descriptor for Factor III.

TABLE 4
ITEM LOADINGS ON FACTOR III

Item No.	Item	Item Loadings
77	We usually reach decisions by talking it over and some give and take	.67671
34	We are continually getting to know each other better	.62634
54	We have a very good time together	.61915
78	We can adjust well to new situations	.57223
44	We really do trust and confide in each other	.55658
33	We are a religious family	.55045
9	We do many things together	.54733
80	We are full of life and good spirits	.53839
50	We are considerate of each other	.53408
47	Our activities together are usually planned and organized	.50725
65	We are sociable and really enjoy being with people	.49525
63	We have respect for each other's feelings and opinions even when we differ strongly	.46993
79	We are liked by most people who know us	.40602

Factor IV. The items loading highly on this factor as listed in table 5 show a somewhat conflicting picture initially. The adolescents viewed their ideal family as one that recognized its need for help, yet was not too proud or hampered by tradition or etiquette to ask for assistance.. Factor II may be characterized as Inadequacy.

TABLE 5
ITEM LOADINGS ON FACTOR IV

Item No.	Item	Item Loadings
8	We want help with our problems	.56838
23	We are proud of our family	-.56460
6	Good manners and proper behavior are very important to us	-.49291

Factor V. Item loadings on this factor, in table 6, were both positive and negative. The ideal family was viewed as one that did not need to be perfect before its members could be satisfied, and where total agreement on important matters was not deemed necessary. The ideal family was not viewed as talkative and often avoided sensitive subjects like sexual matters. It was suggested by the panel that all these ideas indicate a spirit of Individuality.

Factor VI. In table 7, item loadings were mainly positive for this factor. The ideal family was viewed as being satisfied with itself. Emphasis was placed on the family's appearance to the community, and the willingness of each member to cooperate and accept

responsibility for family matters. This factor was described as Interdependence.

TABLE 6
ITEM LOADINGS ON FACTOR V

Item No.	Item	Item Loadings
72R	We are not satisfied with anything short of perfection	.68607
4	We often do not agree on important matters	.52050
20R	We avoid talking about sexual matters	-.46397
27	We are not a talkative family	.43846

TABLE 7
ITEM LOADINGS ON FACTOR VI

Item No.	Item	Item Loadings
60	We are satisfied with the way in which we now live	.61564
67	It is important to us to know how we appear to others	.52707
52	We are all responsible for family matters	.44473
61R	Usually each of us goes his own separate way	-.41581
18	We get along very well in the community	.37874

Factor VII. This factor, as listed in table 8, had only positive item loadings. It grouped together the importance of encouraging (supporting) each other and being liked by others. The name suggested to describe this factor was Mutual Support.

Factor VIII. Table 9 summarizes item loadings on this factor as both positive and negative. The items include not

accepting responsibility for difficulties realizing that there are serious differences, and the ability to remain calm and relaxed. This factor was labelled Pseudo-confidence by the panel.

TABLE 8
ITEM LOADINGS ON FACTOR VII

Item No.	Item	Item Loadings
75	We hardly ever hurt each other's feelings	.68195
76	We like the same things	.46807
39	We encourage each other to develop in his or her own individual way	.33205
79	We are liked by most people who know us	.30168

TABLE 9
ITEM LOADINGS ON FACTOR VIII

Item No.	Item	Item Loadings
15R	The difficulties that we have in the family are not our fault	-.70710
11R	There are serious differences in our belief about what is right and important	-.45320
26	We are usually calm and relaxed when we are together	.36447

Factor IX. Table 10 gives the item loadings on this factor, which were largely negative. The factor clusters together negative ideas that connote boredom, lack of understanding of the situation, and a sense of helplessness in problem-solving, that would lead to mis-

understanding and distrust--all situations to be avoided in the ideal family. This factor was named Frustration.

TABLE 10
ITEM LOADINGS ON FACTOR IX

Item No.	item	Item Loadings
32	Nothing exciting ever seems to happen to us	.72344
37	We do not understand what is causing our difficulties	-.56756
51	We can stand up for our rights if necessary	-.51050
22	If we had more money most of our present problems would be gone	-.49052
17R	We do not understand each other	-.43095
24R	We do not like each other's friends	-.40478

Factor X. The item loading of each of the items on this factor is listed in table 11. Although this factor has mixed positive and negative item loadings, the items include being reserved with each other, not allowing little problems to become big ones, too little discipline, avoiding expression of real feelings, and feeling that too little time is spent together. The cluster of ideas was best summarized with the descriptor Communication.

Factor XI. The item loadings on this factor, shown in table 12, are both positive and negative. Here were clustered ideas of freedom that came when the family was not hampered by an overemphasis on success or family reputation and where each member refrained from running the lives of other members. There was a minimum of conflict and disagreement in the perceived ideal family. The name Autonomy was suggested by the items in the factor.

TABLE 11
ITEM LOADINGS ON FACTOR X

Item No.	Item	Item Loadings
74	We are usually somewhat reserved with each other	-.56964
16R	Little problems become big ones for us	.53460
53	There is not enough discipline in our family	.49932
71R	We avoid telling each other our real feelings	-.49638
36	We do not spend enough time together	-.40780

TABLE 12
ITEM LOADINGS ON FACTOR XI

Item No.	Item	Item Loadings
38	Success and reputation are very important to us.	-.58055
10R	Each of us wants to tell the others what to do	.51034
25R	There are many conflicts (disagreements) in our family	.48170
45	We make many demands on each other	.47342

Factor XII. As shown in table 13, the item loadings on this factor are all positive. They include the concepts of freedom of thought and expression, coupled with equivalent responsibility. Democracy was chosen as the term that best described this factor.

A summary and comparison with van der Veen. The twelve factors identified in the present study were: (1) Attachment,

(2) Emotional Openness, (3) Compatibility, (4) Inadequacy, (5) Individuality, (6) Interdependence, (7) Mutual Support, (8) Pseudo-confidence, (9) Frustration, (10) Communication, (11) Autonomy, and (12) Democracy.

TABLE 13

TABLE LOADINGS ON FACTOR XII

Item No.	Item	Item Loadings
12	We feel free to express any thought or feeling to each other	.65157
68R	Our decisions are not our own, but are forced upon us by things beyond our control	.51444
21R	We get along much better with persons outside the family than with each other	.42416
5	Each of us tries to be the kind of person the others will like.	.38365

While van der Veen found that nine factors adequately described the ideal family concept of his subjects, twelve were required in this study. Table 14 indicates that some factors were commonly identified in the two studies, though with different degrees of importance. For instance, van der Veen's Factor II and III were Factors IV and X in this study.

In table 15, the items in the two sets of factors are compared. It is not expected that the two sets of factors would be similar because they have been derived from two very different populations. However, some similarity in item loadings on each factor is clear. It is interesting to note that items which do not load up significantly in one study do so in the other.

TABLE 14
FACTORS IN THE CONCEPT OF THE IDEAL FAMILY AS REVEALED
BY VAN DER VEEN AND BY THE STUDY

Van der Veen's Factors	Factors in this study
1. Consideration vs conflict	1. Attachment
2. Family Actualization vs inadequacy	2. Emotional openness
3. Open communication	3. Compatibility
4. Community sociability	4. Inadequacy
5. Family ambition	5. Individuality
6. Internal vs external focus of control	6. Interdependence
7. Togetherness vs separateness	7. Mutual support
8. Family loyalty	8. Pseudo-confidence
9. Closeness vs. estrangement	9. Frustration
	10. Communication
	11. Autonomy
	12. Democracy

TABLE 15
COMPARISON OF ITEM CLUSTERINGS BETWEEN VAN DER VEEN'S
AND THE PRESENT STUDY

Item Number	Factor in VDV Study	Factor in this Study	Item Number	Factor in VDV Study	Factor in this Study	Item Number	Factor in VDV Study	Factor in this Study
1	II		28	I	I	55	VII	II
2	VI		29	II	II	56	I	II
3	IV		30	II	II	57	VI	II
4		V	31	I	II	58	IX	II
5	I	XII	32		IX	59	I	II
6		IV	33		III	60	II	IV
7	IX	I	34		III	61	VII	IV
8	II	IV	35	VIII	I	62	IV	II
9	VII	III	36	VII	X	63	I	III
10	I	XI	37	II	IX	64		II
11	IX	VIII	38	V	XI	65	IV	III
12	III	XII	39	II	I	66		II
13	VII		40		II	67	V	VI
14	IX	I	41	IX	I	68	VI	XII
15	VI	VIII	42	III	II	69	VIII	II
16		X	43		I	70	II	I
17	IX	IX	44	IX	III	71	III	X
18	IV	VI	45	I	XI	72	V	V
19		I	46	VIII	I	73	I	I
20	III	V	47	VIII	III	74	III	X
21	IX	XII	48	VIII	I	75	I	VII
22	VI	IX	49	VIII	II	76		VII
23	VIII	IV	50	I	II	77		III
24	IV	IX	51	VI	IX	78	II	III
25	I	XI	52		VI	79	IV	III
26	I	VIII	53		X	80	II	III
27		V	54		III			

Differences in Ideal Family Concept
According to Group Means on
Total Score

Table 16 shows the group means on each variable, using total scores on the eighty-item test. The t-test was used to compare the means between classifications within each of the variables: (1) Grade in School, (2) Church Membership, (3) Sex, (4) Race, and (5) Parental Number. Each of these variables had two levels of comparison.

TABLE 16
 DIFFERENCES BETWEEN GROUPS WITHIN VARIABLES
 USING TOTAL SCORES

Variable	Groups	Means	df	t
Grade in School	Ninth	502.56	121	.201
	Twelfth	500.63		
Church Membership	SDA	517.23	121	4.049*
	Non-SDA	480.66		
Sex	Male	488.89	121	-2.750*
	Female	516.28		
Race	Whites	503.75	121	.692
	Non-Whites	496.37		
Residential Location	Rural	495.39		
	Urban	490.74		
	Suburban	527.60		
Parental Number	Both Parents	497.76	98	-.092
	One Parent	498.095		

*Note: $p < .05$

Two significant differences ($p < .05$) were found--church membership and sex. Since the means of the total scores of the

Seventh-day Adventist adolescents were higher than those of the non-Seventh-day Adventist adolescents, it was observed that the Adventist adolescents had a more positive family concept than the non-Adventist adolescents. Similarly, female adolescents have a more positive family concept than male adolescents. Grade in School, Race, and Parental Number were not found to be significantly related to the adolescents' total family concept.

The one-way analysis of variance was used for comparison of residential locations across three levels--rural, urban, and suburban. Table 17 summarizes the analyses of variance in the comparison of these means. The F-ratio of 5.25 is significant. The Newman-Keul's a-posteriori test indicates that adolescents from suburban residences had a significantly more positive family concept than those from either urban or rural residences. There was no significant difference between the latter two.

TABLE 17

ANALYSIS OF VARIANCE OF DIFFERENCES IN IDEAL FAMILY
CONCEPTS AMONG ADOLESCENTS FROM RURAL, URBAN,
AND SUBURBAN RESIDENTIAL LOCATIONS

Source	df	SS	MS	F
Between Groups	2	27350.77	13675.39	5.25*
Within Group	120	314385.08	2619.88	
Total	121	341735.85		

*F .95(2,120) = 3.70

Differences in Ideal Family Concept
According to Factors

Appendix G shows the means of all the groups on all the factors. Multivariate analysis of variance (MANOVA) was performed on the twelve factor means for each of the independent variables and their results are outlined in table 18. A significant difference ($p < .05$) between groups was obtained with respect to only three of the variables: (1) Church Membership, with $F = 4.08$, (2) Race, with $F = 3.54$, and (3) Residential Location with $F = 1.62$. The variables which did not reveal significant differences were Grade in School, Sex, and Parental Number.

TABLE 18
 DIFFERENCES BETWEEN GROUPS BASED ON THE TWELVE
 FACTORS AS ANALYZED BY MANOVA

Variable	df	F-Ratio	Critical F
Grade in School	12 110	1.25	1.845
Church Membership	12 110	4.08*	1.845
Sex	12 110	1.60	1.845
Race	12 110	3.54*	1.845
Residential Location	24 218	1.62*	1.61
Parental Number	12 87	1.49	1.89

*Note: $p < .05$

Factors that Discriminate Between
Significant Variables

The three significant variables--Church Membership, Race, and Residential Location, which yielded significant F-ratios in the multivariate analysis of variance--were further subjected to discriminant analysis utilizing factor scores as the bases of comparison to seek clarification of the differences between the groups.

Church membership. Table 19 shows, for ease of comparison, the group centroids (that is, the group mean scores) of the twelve factors for Seventh-day Adventist and non-Seventh-day Adventist adolescents. For the test of significance of the discriminant functions, the chi-square was 54.02 with 12 degrees of freedom. The critical chi-square was 21.03. Therefore, the discriminant function was significant in separating the two groups. The means of the discriminant function of the two groups were as follows: Seventh-day Adventist adolescents, .5768 and non-Seventh-day Adventist adolescents, -.7617.

The standardized discriminant weights are given in table 20. (The standardized discriminant weight was obtained by multiplying the discriminant function coefficient by the standard deviation of the corresponding variable.) The standardized weights enable comparisons to be made between the relative importance of the variables in separating the groups. There were four factors that had high standardized discriminant weights. There were attachment, compatibility, pseudo-confidence (negative), and individuality.

TABLE 19

GROUP MEANS USED IN DISCRIMINANT ANALYSIS
BETWEEN CHURCH MEMBERSHIP

Factor	SDA	Non-SDA
1. Attachment	.2500	-.3301
2. Emotional Openness	.0611	-.0806
3. Compatibility	.2354	-.3115
4. Inadequacy	-.0513	.0677
5. Individuality	.1866	-.2464
6. Interdependence	-.0681	.0900
7. Mutual Support	.0461	-.0608
8. Pseudo-confidence	-.2008	.2652
9. Frustration	.0555	-.0733
10. Communication	.0519	-.0685
11. Autonomy	.0904	-.1193
12. Democracy	.1074	-.1418

TABLE 20

DISCRIMINANT FUNCTION ANALYSIS BETWEEN SEVENTH-DAY
ADVENTIST AND NON-SEVENTH-DAY
ADVENTIST ADOLESCENTS

Factor	Standardized Discriminant Weight
1. Attachment	.5979
2. Emotional Openness	.1521
3. Compatibility	.5669
4. Inadequacy	-.1279
5. Individuality	.4551
6. Interdependence	-.1696
7. Mutual Support	.1149
8. Pseudo-confidence	-.4880
9. Frustration	.1383
10. Communication	.1293
11. Autonomy	.2245
12. Democracy	.2662

Total variation = 54.02 Critical chi-square = 21.03
with 12 d.f., and $p < .05$.

Seventh-day Adventist adolescents tended to value attachment, compatibility, and individuality more highly than the non-Seventh-day Adventist adolescents in their conceptualization of their ideal families. The non-Seventh-day Adventist adolescents saw more pseudo-confidence in their ideal family than did the Seventh-day Adventist adolescents.

Race. Table 21 shows the group means on factor scores for white and non-white adolescents. The test of significance for the discriminant function yielded a chi-square of 504.7 with 12 degrees of freedom and the critical chi-square was 21.03 showing a significance ($p < .05$) in the separation of the whites from the non-Whites. The mean of the discriminant function for the non-white adolescents was 1.0228 and for the white adolescents, it was -.3993. The factors that had high standardized discriminant weights were individuality, emotional openness (negative), compatibility, and democracy (see Table 22). These findings indicate that non-white adolescents tended to view the ideal family as more individualistic, with less emotional openness, having more compatibility, and being more democratic than the white adolescents.

Residential location. The group means on the factor scores for rural, urban, and suburban adolescents are shown in table 23. The test of significance revealed a chi-square of 43.56 in the first discriminant function with 24 degrees of freedom and the critical chi-square was 36.42. There was a significant ($p < .05$) discriminant function separating the rural and the urban and suburban adolescents. The means of the discriminant function were

TABLE 21

GROUP MEANS USED IN DISCRIMINANT ANALYSIS
BETWEEN RACE

Factor	White	Non-White
1. Attachment	-.0753	.1825
2. Emotional Openness	.1309	-.3415
3. Compatibility	-.1213	.3084
4. Inadequacy	-.0275	.0979
5. Individuality	-.1664	.3945
6. Interdependence	.0728	-.2216
7. Mutual Support	.0315	-.1083
8. Pseudo-confidence	-.0484	.1414
9. Frustration	-.0967	.2503
10. Communication	-.1142	.2617
11. Autonomy	.0869	-.1773
12. Democracy	-.1002	.3000

TABLE 22

DISCRIMINANT FUNCTION ANALYSIS BETWEEN WHITE
AND NON-WHITE ADOLESCENTS

Factor	Standardized Discriminant Weight
1. Attachment	.2511
2. Emotional Openness	-.4596
3. Compatibility	.4179
4. Inadequacy	.1320
5. Individuality	.5287
6. Interdependence	-.2977
7. Mutual Support	-.1462
8. Pseudo-confidence	.1926
9. Frustration	.3410
10. Communication	.3579
11. Autonomy	-.2452
12. Democracy	.3982
Total variation = 50.47 Critical chi-square = 21.03 with 12 d.f., and $p < .05$	

TABLE 23

GROUP MEANS USED IN DISCRIMINANT ANALYSIS
AMONG RESIDENTIAL LOCATIONS

Factor	Rural	Urban	Suburban
1. Attachment	-.1087	.0538	.0988
2. Emotional Openness	-.0331	-.2348	.3985
3. Compatibility	-.1915	-.0005	.3136
4. Inadequacy	.0515	-.0003	-.0837
5. Individuality	-.1079	.1307	-.0154
6. Interdependence	-.0228	-.0588	.1236
7. Mutual Support	-.0541	-.0383	.1446
8. Pseudo-confidence	.0061	.0508	-.0845
9. Frustration	-.1384	.0876	.0976
10. Communication	-.2534	.3726	-.1326
11. Autonomy	.2156	-.3143	.1089
12. Democracy	-.1251	.1650	-.0376

TABLE 24

DISCRIMINANT FUNCTION ANALYSIS AMONG RURAL, URBAN,
AND SUBURBAN RESIDENTIAL LOCATIONS

Factor	Standardized Discriminant Weight	
	First	Second
1. Attachment	.1102	.2596
2. Emotional Openness	-.4062	.5682
3. Compatibility	.0229	.6383
4. Inadequacy	-.0070	-.1740
5. Individuality	.2479	.1022
6. Interdependence	-.1029	.1957
7. Mutual Support	-.0620	.2600
8. Pseudo-confidence	.0907	-.1230
9. Frustration	.1742	.2912
10. Communication	.6748	-.1043
11. Autonomy	-.5765	.0952
12. Democracy	.3105	.0912
Total variation (chi-squares)	43.56	13.63
Critical chi-squares	36.42	19.68
Degrees of freedom	24	11
Probability	<.05	>.05

.6603 for urban adolescents, $-.3312$ for suburban adolescents, and $-.3901$ for rural adolescents. The first order factors with high standardized discriminant weights generated according to residential locations are listed in order of importance: greater communication, less autonomy, less emotional openness, and more democracy (see table 24). For the second discriminant function, the test of significance was not significant in separating the groups.

Summary of the Significant Discriminant Function Analyses

The factors that had the highest standardized discriminant weights when comparing the three significant independent variables are summarized in table 25. Four factors stand out in their ability to discriminate between groups.

1. Emotional Openness. This factor serves to discriminate between groups according to race and residential location.
2. Compatibility. This factor serves to separate adolescents according to church membership and race.
3. Individuality. This factor separates adolescent groups according to church membership and race.
4. Democracy. This factor discriminates between adolescents according to race and residential location

TABLE 25

SUMMARY OF SIGNIFICANT DISCRIMINANT FUNCTION COEFFICIENTS

Factor	Church Membership	Race	Residential Location
1. Attachment	.5979		
2. Emotional Openness		-.4596	-.4062
3. Compatibility	.5669	.4179	
4. Inadequacy			
5. Individuality	.4551	.5287	
6. Interdependence			
7. Mutual Support			
8. Pseudo-confidence	-.4880		
9. Frustration			
10. Communication			.6748
11. Autonomy			-.5765
12. Democracy		.3982	.3105
Total Variation (chi-squares)	54.02	50.47	43.65
Critical chisquares	21.03	21.03	36.42
Degrees of freedom	12	12	24
Probability	<.05	<.05	<.05

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary

The purpose of this study was to identify the ideal family concepts held by 123 adolescents from ninth and twelfth grades in thirteen selected high schools in Illinois, Indiana, and Michigan. Answers to the following three questions were sought:

1. Can the adolescent's concept of the ideal family be described in terms of a number of basic factors?
2. If there are basic factors, how do they compare with those identified by van der Veen (1971) in his study of disturbed adolescents?
3. Are there differences in the ideal family concept when adolescents are compared according to
(a) grade in school, (b) church membership,
(c) sex, (d) race, (e) residential location, and
(f) parental number?

Three major approaches to the study of the family were reviewed in detail from the perspective of socialization and the nuclear family. The structural-functional approach emphasizes the importance of structure or form, and how function or purpose depends largely upon how the family has been set up in the first

place. The interactional and situational approach concentrates on the roles and patterns of interaction that take place between different individuals within the families as they play different roles. The third approach--the developmental theory--is the oldest of all and directs its attention to the longitudinal career of the family system. Through microanalysis, it attempts to account for changes in patterns of interaction over the family life span.

The literature review further examined how parent-adolescent relations are developed. It was found that socialization, conflict, struggles for adolescent autonomy, and other parent-child relations all contribute to the adolescent concept of the family. Other factors that appear to have some influence on the formation of the family concept are home relationships, school, family background, and emotional stability of the parents.

This study employed the descriptive method involving factor analysis, the t-test of significance between means, one-way analysis of variance, multivariate analysis of variance, and discriminant analysis. Seven hypotheses were advanced for testing. A panel of experts helped determine the descriptors for the twelve dimensions of the ideal family concept.

The Family Unit Inventory (FUI) developed by van der Veen (1969) was used to measure the adolescents' viewpoints on different aspects of the ideal family. The instrument was first administered in a pilot study to 20 twelfth graders and 21 ninth graders in the Andrews University Academy to test the data-gathering and data-analysis procedures. The FUI was later administered to

approximately ten randomly chosen students from each of the thirteen selected high schools. The data were coded, entered, tabulated and analyzed.

Twelve independent but psychologically meaningful factors surfaced after rotation of different numbers of factors and accounted for 58 per cent of the total variance. The twelve factors were identified as follows: (1) attachment, (2) emotional openness, (3) compatibility, (4) inadequacy, (5) individuality, (6) interdependence, (7) mutual support, (8) pseudo-confidence, (9) frustration, (10) communication, (11) autonomy, and (12) democracy. When compared with the findings of van der Veen's work, it was found that the items clustered in different ways to form factors. It was not expected that the two sets of factors would have identical item loadings because of the differences in the populations involved in the two studies.

The t-test for significance between means revealed that the ideal family concept of Seventh-day Adventist adolescents was significantly more positive than that of non-Seventh-day Adventist adolescents, and that the family concept of female adolescents was significantly more positive than that of male adolescents. Grade in School, Race, and Parental Number were not found to be significantly related to the ideal family concept. Using the one-way analysis of variance and Newman-Keul's test on the scores of the adolescents with homes in rural, urban, and suburban locations, it was found that the adolescents from suburban homes had a significantly more positive ideal family

concept than those from urban or rural homes; and that there was no difference between the latter two.

The multivariate analysis of variance using the twelve factor scores isolated by factor analysis, revealed that the subjects differed in their ideal family concept when they were compared according to church membership, race, and residential location. Grade in school, sex, and parental number were not found to be significantly related to the factor centroids.

When discriminant analysis was used to further analyze the three significant variables uncovered by the multivariate analysis of variance, it was found that the factors emotional openness, compatibility, and individuality were most sensitive in discriminating between the various subgroups.

Conclusions

Seven hypotheses were advanced for testing in this study. Conclusions were drawn concerning each individual statement of hypotheses.

Hypothesis 1. The concept of the ideal family as held by adolescents can be described in terms of a number of basic factors. This hypothesis was supported. The study showed that the adolescent's concept of the ideal family could be described in terms of twelve identifiable independent dimensions.

Hypothesis 2(a). There is no significant difference between the means of the ideal family concept scores of adolescents in grades nine and twelve. The comparison of the overall means by the

t-test showed no significant difference between the two groups. The data failed to reject the null hypothesis at the .05 level of confidence.

Hypothesis 2(b). There is no significant difference between the centroids of the ideal family factor scores of adolescents in grades nine and twelve. The comparison of factor score centroids by multivariate analysis of variance showed no significant difference between the two groups. The data failed to reject the null hypotheses at the .05 level of confidence.

Hypothesis 3(a). There is no significant difference between the means of the ideal family concept scores of Seventh-day Adventist and non-Seventh-day Adventist adolescents. The t-test showed a significant difference with the Adventist adolescents having a more positive family concept than non-Adventist adolescents. The null hypothesis was rejected at the .05 level of confidence.

Hypothesis 3(b). There is no significant difference between the centroids of the ideal family concept factor scores of Seventh-day Adventist and non-Seventh-day Adventist adolescents. The multivariate analysis of variance indicated a significant difference ($F = 4.08$) with Seventh-day Adventist adolescents having a more positive family concept than non-Adventist adolescents. The discriminant analysis yielded a significant chi-square of 54.02. This showed that the Seventh-day Adventist adolescents view attachment, compatibility, and individuality more positively than

non-Seventh-day Adventist adolescents. The null hypothesis was rejected at the .05 level of confidence.

Hypothesis 4(a). There is no significant difference between the means of the ideal family concept scores of male and female adolescents. The t-test showed a significant difference between the two groups. Female adolescents have more positive family concepts than male adolescents. The null hypothesis was rejected at the .05 level of confidence.

Hypothesis 4(b). There is no significant difference between the centroids of the ideal family concept factor scores of male and female adolescents. The multivariate analysis of variance showed no significant difference between the two groups. The data, therefore, failed to reject the null hypothesis at the .05 level of confidence.

Hypothesis 5(a). There is no significant difference between the means of the ideal family concept scores of white and non-white adolescents. The t-test showed no significant difference between the two groups. The data failed to reject the null hypothesis at the .05 level of confidence.

Hypothesis 5(b). There is no significant difference between the centroids of the ideal family concept factor scores of white and non-white adolescents. The multivariate analysis of variance showed a significant difference between the two groups. Whites had a very different family concept from the non-whites. The discriminant analysis yielded a significant chi-square of 50.47. This analysis showed that white adolescents perceived the

ideal family as being less individualistic, having more emotional openness, less comparibility, and being less democratic than the non-white adolescents. The null hypothesis was rejected at the .05 level of confidence.

Hypothesis 6(a). There is no significant difference among the means of the ideal family concept scores of rural, urban, and suburban adolescents. Data from the one-way analysis of variance showed a significant difference ($F = 5.25$). Adolescents from suburban residences have a significantly more positive family concept than those from either urban or rural residences. The null hypothesis was rejected at the .05 level of confidence.

Hypothesis 6(b). There is no significant difference among the centroids of the ideal family concept factor scores of rural, urban, and suburban adolescents. The multivariate analysis of variance revealed a significant difference ($F = 1.62$), and the discriminant analysis yielded a significant discriminant function with a chi-square of 43.56. Factors discriminating the groups from each other were communication, democracy, and emotional openness. The null hypothesis was rejected at the .05 level of confidence.

Hypothesis 7(a). There is no significant difference between the means of the ideal family concept scores of adolescents from two-parent and one-parent families. The t-test showed no significant difference between the two groups. The evidence failed to reject the null hypothesis at the .05 level of confidence.

Hypothesis 7(b). There is no significant difference between the centroids of the ideal family concept factor scores of adolescents from two-parent and one-parent families. The comparison of factor score means by a multivariate analysis of variance showed no significant difference between the two groups. The evidence failed to reject the null hypothesis at the .05 level of confidence.

Discussions on Findings

The present study has identified twelve dimensions of the ideal family concept held by adolescents. The overall ideal family concept of the adolescents and their concept with respect to the twelve factors were studied in relation to the independent variables: grade in school, church membership, sex, race, residential location, and parental number.

Influences of church membership. The ideal family concept of the adolescents were significantly related to church membership. Among the Seventh-day Adventist adolescents, attachment, compatibility, and individuality were perceived as more important dimensions in the ideal family, whereas the pseudo-confidence dimension figured more highly in the ideal family concept of non-Seventh-day Adventist adolescents.

Influences of grade level in school. Grade level did not affect the adolescents' concept of the family. Could it be that there was no difference between the freshmen and senior curricula for family life education? Could it be that in Seventh-day Adventist academies family-life education was built into the total

curriculum but not in the public school, or vice versa? Or was it because the family-life-education concepts had been taught all through the grades and ignored on the secondary school level, so that no real impact was made between the first and fourth years of high school? Could it be that family-life education had not been taught at all?

Influences of race. With respect to this independent variable, the whites tended to view emotional openness in the family as more important than did the non-whites, but compatibility, individuality, and democracy are less important. Is this because the whites are more realistic in their ideal family concept? The whites' ideas of what works and what does not work may not be seen by non-whites. It implies that non-whites prefer to have families that are more compatible, individualistic, and democratic than do the whites'.

Influences of residential location. Proceeding from urban to suburban to rural homes, the ideal family concept becomes less communicative, more autonomous, more emotionally open, and less democratic.

Implications

The study was undertaken to discover and describe the dimensions of the adolescent concept of the ideal family. The findings indicate definite directions and further studies that need to be done.

For the Seventh-day Adventist Church

In the process of identifying some of the basic dimensions of the adolescent concept of the ideal family, this study has underscored the role of church membership. Since the findings showed that adolescents who are members of the Seventh-day Adventist Church view the family differently, it is recommended that:

1. the Seventh-day Adventist Church develop and establish programs for adolescents to enrich family living, based on the Church's philosophy of the family.
2. the Seventh-day Adventist Church explore the possibilities of developing educational materials for parenthood and family-life education for adolescents.

For Educators and Psychologists

3. The twelve factors identified could serve as the basis for curricula in Family-Life Education. It is therefore recommended that they be incorporated into existing family-life-education curricula in the Adventist academies. Also to be noted is that the approaches for boys should differ from those for girls when planning for and constructing high school curriculum for family-life education.

4. During the high school years, the development of the family concept is seemingly not affected by the school. This suggests that family concepts have been taught or caught in the early years in the elementary school. Therefore the building of right family concepts begins long before the adolescent's freshman

year in high school. Elementary schools can therefore play a very important part or role in the prevention of family breakdown. On the positive side, there is no change in ideal family concept even though the adolescents are growing away from the family.

For Further Theoretical Studies

5. It is recommended that the twelve factors empirically isolated in this study be studied with other samples to see if they are reasonably stable and then be developed into a standardized instrument for assessment and description of family concept development among Seventh-day Adventist adolescents. Norms should be developed for different groups, sexes, races, and residential locations. It is further recommended that the twelve factors be used as a theoretical framework for family studies among Seventh-day Adventists, so that adolescents will adopt views that would benefit them in the perception of the family.

6. There were items found to have no significant loadings. It is recommended that this study be replicated to verify the usefulness of these items in van der Veen's instrument.

7. A study using the same procedures among parents of adolescents is also recommended. A comparison made between the ideal family concepts of the adolescents and their parents could be useful in deriving an index for the generation gap in families.

8. A correlation study on the actual and ideal family concepts of normal adolescents is also recommended.

9. A study involving three generations--not living under one roof--might reveal directions and insights on how to narrow the generation gap. The effects of inputs from grandparents in the development of the family concept could also be assessed in such a study.

10. In the present study the sample generated twelve dimensions in the ideal family concept. It is recommended that further study be done to identify the factor structures of each of the subgroups--males, females, whites, non-whites, suburbanites, urbanites, Seventh-day Adventists, non-Seventh-day Adventists, and similar groups.

APPENDIX A

THE FAMILY UNIT INVENTORY

Family Unit Inventory

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Instructions

For each of the items, circle the number that shows how true the item is for your family as you would ideally like it to be. It does not matter what your family is actually like, only what you most want it to be like.

You can circle any number from "0" to "8". At one end, "0" means the item is completely false for your ideal family. At the other end, "8" means it is very true for your ideal family.

Circle one number to the right of each item. Please make no other marks on the paper.

FOR EXAMPLE, if you would want your family to ideally be somewhat active, you would mark the sample item in this way:

SAMPLE:	least									most
	like									like
We are an active family.	0	1	2	3	4	5	⑥	7	8	

If you would strongly like your ideal family to be very active, you would have circled the "8". If you did not want it to be either active or inactive, you would have circled the "4". If you did not want it to be active at all, you would have circled the "0".

Use the various numbers in all of the positions, whichever best fits your answer from "0", completely false, to "8", very true.

Please ask any questions if it is not clear what to do. Fill in the information about yourself at the bottom of this page, and go ahead and answer each item according to how well it fits your family as you would most like it to be. Be as careful and accurate as you can and answer all the items. **THANK YOU.**

Name of school _____ [1] [2] Today's Date _____

Grade _____ [1] [2] Religion: _____ [1] [2]

Sex: _____ [1] [2] Race: [] white [] Black [] chicano [] others..

My home is in a [] rural-farm area [] urban-city area [] suburban area.

I am living with [] both parents [] mother only [] father only [] relatives
[] foster parents [] other students in a school dormitory.

FAMILY UNIT INVENTORY

	least like		<u>IDEAL FAMILY</u>							most like	
1. We like to do new and different things.	0	1	2	3	4	5	6	7	8		[1]
2. We can usually depend on each other.	0	1	2	3	4	5	6	7	8		[2]
3. We have a number of close friends.	0	1	2	3	4	5	6	7	8		[3]
4. We often do not agree on important matters.	0	1	2	3	4	5	6	7	8		[4]
5. Each of us tries to be the kind of person the others will like.	0	1	2	3	4	5	6	7	8		[5]
6. Good manners and proper behavior are very important to us.	0	1	2	3	4	5	6	7	8		[6]
7. We feel secure (safe) when we are with each other.	0	1	2	3	4	5	6	7	8		[7]
8. We want help with our problems.	0	1	2	3	4	5	6	7	8		[8]
9. We do many things together.	0	1	2	3	4	5	6	7	8		[9]
10. Each of us wants to tell the others what to do.	0	1	2	3	4	5	6	7	8		[10]
11. There are serious differences in our beliefs about what is right and important.	0	1	2	3	4	5	6	7	8		[11]
12. We feel free to express any thought or feeling to each other.	0	1	2	3	4	5	6	7	8		[12]
13. Our home is the center of our activities.	0	1	2	3	4	5	6	7	8		[13]
14. We are an affectionate family (show our love for each other).	0	1	2	3	4	5	6	7	8		[14]
15. The difficulties that we have in the family are not our fault.	0	1	2	3	4	5	6	7	8		[15]
	least like									most like	

CONTINUE TO NEXT PAGE

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	least like	<u>IDEAL FAMILY</u>								most like	
16. Little problems often become big ones for us.	0	1	2	3	4	5	6	7	8		[16]
17. We do not understand each other.	0	1	2	3	4	5	6	7	8		[17]
18. We get along very well in the community.	0	1	2	3	4	5	6	7	8		[18]
19. We often praise or compliment each other.	0	1	2	3	4	5	6	7	8		[19]
20. We avoid talking about sexual matters.	0	1	2	3	4	5	6	7	8		[20]
21. We get along much better with persons outside the family than with each other.	0	1	2	3	4	5	6	7	8		[21]
22. If we had more money most of our present problems would be gone.	0	1	2	3	4	5	6	7	8		[22]
23. We are proud of our family.	0	1	2	3	4	5	6	7	8		[23]
24. We do not like each other's friends.	0	1	2	3	4	5	6	7	8		[24]
25. There are many conflicts (disagreements) in our family	0	1	2	3	4	5	6	7	8		[25]
26. We are usually calm and relaxed when we are together.	0	1	2	3	4	5	6	7	8		[26]
27. We are not a talkative family.	0	1	2	3	4	5	6	7	8		[27]
28. We respect each other's privacy.	0	1	2	3	4	5	6	7	8		[28]
29. Accomplishing (actually getting done) what we want to do seems to be difficult for us.	0	1	2	3	4	5	6	7	8		[29]
30. We tend to worry about many things.	0	1	2	3	4	5	6	7	8		[30]
31. We often upset each other without meaning to.	0	1	2	3	4	5	6	7	8		[31]
32. Nothing exciting ever seems to happen to us.	0	1	2	3	4	5	6	7	8		[32]
33. We are a religious family.	0	1	2	3	4	5	6	7	8		[33]
34. We are continually getting to know each better.	0	1	2	3	4	5	6	7	8		[34]
	least like	<u>IDEAL FAMILY</u>								most like	

CONTINUE TO NEXT PAGE

	least like	<u>IDEAL FAMILY</u>								most like	
35. We need each other.	0	1	2	3	4	5	6	7	8		[35]
36. We do not spend enough time together.	0	1	2	3	4	5	6	7	8		[36]
37. We do not understand what is causing our difficulties.	0	1	2	3	4	5	6	7	8		[37]
38. Success and reputation are very important to us.	0	1	2	3	4	5	6	7	8		[38]
39. We encourage each other to develop in his or her own individual way.	0	1	2	3	4	5	6	7	8		[39]
40. We are ashamed of some things about our family.	0	1	2	3	4	5	6	7	8		[40]
41. We have warm, close relationships with each other.	0	1	2	3	4	5	6	7	8		[1]
42. There are some things which we avoid talking about.	0	1	2	3	4	5	6	7	8		[2]
43. Together we can overcome almost any difficulty.	0	1	2	3	4	5	6	7	8		[3]
44. We really do trust and confide in each other.	0	1	2	3	4	5	6	7	8		[4]
45. We make many demands on each other.	0	1	2	3	4	5	6	7	8		[5]
46. We take care of each other.	0	1	2	3	4	5	6	7	8		[6]
47. Our activities together are usually planned and organized.	0	1	2	3	4	5	6	7	8		[7]
48. The family has always been very important to us.	0	1	2	3	4	5	6	7	8		[8]
49. It is hard for us to please each other.	0	1	2	3	4	5	6	7	8		[9]
50. We are considerate of each other.	0	1	2	3	4	5	6	7	8		[10]
51. We can stand up for our rights if necessary.	0	1	2	3	4	5	6	7	8		[11]
	least like	<u>IDEAL FAMILY</u>								most like	

CONTINUE TO NEXT PAGE

	least like	<u>IDEAL FAMILY</u>								most like	
52. We are all responsible for family problems.	0	1	2	3	4	5	6	7	8		[12]
53. There is not enough discipline in our family.	0	1	2	3	4	5	6	7	8		[13]
54. We have very good time together.	0	1	2	3	4	5	6	7	8		[14]
55. We are sometimes frightened of each other.	0	1	2	3	4	5	6	7	8		[15]
56. We often become angry at each other.	0	1	2	3	4	5	6	7	8		[16]
57. We live largely by other people's standards and values (what is right and important).	0	1	2	3	4	5	6	7	8		[17]
58. We are not as happy together as we might be.	0	1	2	3	4	5	6	7	8		[18]
59. We are critical of each other.	0	1	2	3	4	5	6	7	8		[19]
60. We are satisfied with the way in which we now live.	0	1	2	3	4	5	6	7	8		[20]
61. Usually each of us goes his own separate way.	0	1	2	3	4	5	6	7	8		[21]
62. We resent each other's outside activities.	0	1	2	3	4	5	6	7	8		[22]
63. We have respect for each other's feelings and opinions even when we differ strongly.	0	1	2	3	4	5	6	7	8		[23]
64. We sometimes wish we could be an entirely different family.	0	1	2	3	4	5	6	7	8		[24]
65. We are sociable and really enjoy being with people.	0	1	2	3	4	5	6	7	8		[25]
66. We are a disorganized (mixed up) family.	0	1	2	3	4	5	6	7	8		[26]
67. It is important to us to know how we appear to others.	0	1	2	3	4	5	6	7	8		[27]
68. Our decisions are not our own, but are forced upon us by things beyond our control.	0	1	2	3	4	5	6	7	8		[28]
69. We have little fondness for each other.	0	1	2	3	4	5	6	7	8		[29]
	least like	<u>IDEAL FAMILY</u>								most like	

CONTINUE TO NEXT PAGE

	least like	<u>IDEAL FAMILY</u>								most like	
70. We are a strong, competent (able) family.	0	1	2	3	4	5	6	7	8		[30]
71. We avoid telling each other our real feelings.	0	1	2	3	4	5	6	7	8		[31]
72. We are not satisfied with anything short of perfection.	0	1	2	3	4	5	6	7	8		[32]
73. We forgive each other easily.	0	1	2	3	4	5	6	7	8		[33]
74. We are usually somewhat reserved with each other.	0	1	2	3	4	5	6	7	8		[34]
75. We hardly ever hurt each other's feelings.	0	1	2	3	4	5	6	7	8		[35]
76. We like the same things.	0	1	2	3	4	5	6	7	8		[36]
77. We usually reach decisions by talking it over and some give and take.	0	1	2	3	4	5	6	7	8		[37]
78. We can adjust well to new situations.	0	1	2	3	4	5	6	7	8		[38]
79. We are liked by most people who know us.	0	1	2	3	4	5	6	7	8		[39]
80. We are full of life and good spirits.	0	1	2	3	4	5	6	7	8		[40]

APPENDIX B

FAMILY CONCEPT TEST--POSITIVE AND NEGATIVE ITEMS

APPENDIX B

FAMILY CONCEPT TEST--POSITIVE AND NEGATIVE ITEMS

1. We like to do new and different things.
2. We usually can depend on each other.
3. We have a number of close friends.
4. We often do not agree on important matters.
5. Each of us tries to be the kind of person the others will like.
6. Good manners and proper behavior are very important to us.
7. We feel secure when we are with each other.
8. We want help with our problems.
9. We do many things together.
- 10. Each of us wants to tell the others what to do.
- 11. There are serious differences in our standards and values.
12. We feel free to express any thought or feeling to each other.
13. Our home is the center of our activities.
14. We are an affectionate family.
- 15. It is not our fault that we are having difficulties.
- 16. Little problems often become big ones for us.
- 17. We do not understand each other.
18. We get along very well in the community.
19. We often praise or compliment each other.
- 20. We do not talk about sex.
- 21. We get along much better with persons outside the family than with each other.
22. If we had more money most of our present problems would be gone.
23. We are proud of our family.
- 24. We do not like each other's friends.
- 25. There are many conflicts in our family.
26. We are usually calm and relaxed when we are together.
27. We are not a talkative family.
28. We respect each other's privacy.
- 29. Accomplishing what we want to do seems to be difficult for us.
- 30. We tend to worry about many things.
31. We often upset each other without intending it.
32. Nothing exciting ever seems to happen to us.
33. We are a deeply religious family.
34. We are continually getting to know each other better.
35. We need each other.
36. We do not spend enough time together.
37. We do not understand what is causing our difficulties.
38. Success and prestige are very important to us.
39. We encourage each other to develop in his or her own individual way.
40. We are ashamed of some things about our family.
41. We have warm, close relationships with each other.
42. There are some topics which we avoid talking about.

- 43. Together we can overcome almost any difficulty.
- 44. We really do trust and confide in each other.
- 45. We make many demands on each other.
- 46. We take care of each other.
- 47. Our activities together are usually planned and organized.
- 48. The family has always been very important to us.
- 49. We get more than our share of illness.
- 50. We are considerate of each other.
- 51. We can stand up for our rights if necessary.
- 52. We are all responsible for our family problems.
- 53. There is not enough discipline in our family.
- 54. We have very good times together.
- 55. We depend on each other too much.
- 56. We often become angry at each other.
- 57. We live largely by other people's standards and values.
- 58. We are not as happy together as we might be.
- 59. We are critical of each other.
- 60. We are satisfied with the way in which we now live.
- 61. Usually each of us goes his own separate way.
- 62. We resent each other's outside activities.
- 63. We have respect for each other's feelings and opinions even when we differ strongly.
- 64. We sometimes wish we could be an entirely different family.
- 65. We are sociable and really enjoy being with people.
- 66. We are a disorganized family.
- 67. It is important to us to know how we appear to others.
- 68. Our decisions are not our own, but are forced upon us by circumstances.
- 69. We are not really fond of one another.
- 70. We are a strong, competent family.
- 71. We just cannot tell each other our real feelings.
- 72. We are not satisfied with anything short of perfection.
- 73. We forgive each other easily.
- 74. We are usually somewhat reserved with each other.
- 75. We rarely hurt each other's feelings.
- 76. We like the same things.
- 77. We usually reach decisions by discussion and compromise.
- 78. We can adjust well to new situations.
- 79. We are liked by most people who know us.
- 80. We are full of life and good spirits.

APPENDIX C

TOTAL SCORES OF SUBJECTS

APPENDIX C

TOTAL SCORES OF SUBJECTS

[illegible]

APPENDIX C

TOTAL SCORES OF SUBJECTS (CONTINUED)

[illegible]

APPENDIX C

TOTAL SCORES OF SUBJECTS (CONTINUED)

[illegible]

APPENDIX C

TOTAL SCORES OF SUBJECTS (CONTINUED)

[illegible]

APPENDIX D

AN 80 X 80 INTERCORRELATION MATRIX BETWEEN ITEMS

AN 80 X 80 INTERCORRELATION MATRIX BETWEEN ITEMS

[illegible]

APPENDIX D

AN 80 X 80 INTERCORRELATION MATRIX BETWEEN ITEMS (CONTINUED)

11	12	13	14	15	16	17	18	19	20
11	1.00000								
12	.19541	1.00000							
13	.10753	.30889	1.00000						
14	.31018	.07185	.14185	1.00000					
15	.01024	.21797	.27040	.29727	1.00000				
16	.29487	.35327	.10728	.12604	.09375	1.00000			
17	.27814	.16745	.15076	.17427	.03752	.38705	1.00000		
18	.14547	.15544	.30204	.05544	.03510	.03870	.21499	1.00000	
19	.29572	.35711	.15371	.16399	.13000	.23372	.01923	.14290	1.00000
20	.10953	.04826	.11060	.02445	.03412	.23854	.21827	.35047	.35044
21	.21149	.13377	.15389	.18101	.21405	.28429	.33052	.14454	.10482
22	.04480	.12644	.09420	.28441	.02470	.04240	.24994	.15413	.05823
23	.27117	.23444	.14422	.25727	.14323	.27148	.36243	.12448	.12538
24	.38141	.34892	.07499	.24911	.07075	.37340	.04401	.19447	.26781
25	.04895	.25539	.11243	.21767	.11238	.08407	.14544	.27744	.13441
26	.22612	.24544	.05574	.22103	.17647	.13170	.23844	.26943	.12104
27	.07023	.17905	.04231	.31574	.13398	.12707	.07080	.13972	.13797
28	.37114	.14744	.04150	.04444	.13084	.00178	.29930	.02043	.21448
29	.30337	.30349	.14304	.18444	.04791	.29132	.23723	.14332	.18144
30	.26140	.13744	.04440	.11779	.00299	.04922	.24544	.17442	.28812
31	.22724	.32213	.01794	.24007	.00158	.27129	.04040	.29572	.07789
32	.11534	.14544	.12544	.30424	.10004	.18092	.15244	.14593	.24402
33	.10332	.03332	.21174	.04744	.14219	.17492	.30351	.29311	.31299
34	.14331	.33231	.37404	.04190	.04401	.21443	.14079	.09488	.24005
35	.07023	.10700	.11744	.11744	.09508	.27741	.14444	.12443	.24444
36	.04244	.15000	.01544	.15844	.18137	.24844	.24444	.17081	.12744
37	.17142	.03599	.02356	.02707	.09945	.11434	.04072	.04054	.06744
38	.24349	.24556	.17455	.24327	.04247	.28330	.05742	.12132	.24080
39	.24378	.24548	.02456	.10038	.07144	.09907	.37103	.04431	.10238
40	.14327	.24423	.24994	.04444	.00242	.04745	.34544	.21743	.04782
41	.27134	.17210	.04813	.04414	.27112	.23332	.31933	.01216	.10178
42	.24502	.24636	.27503	.30707	.04349	.033618	.23867	.23794	.24043
43	.24544	.14500	.14488	.34434	.04913	.04044	.24075	.12675	.24000
44	.04244	.12397	.13348	.30438	.04043	.17492	.14929	.24047	.24027
45	.29329	.04741	.02144	.14355	.14440	.05142	.27128	.35898	.24440
46	.34544	.24553	.29207	.32754	.04484	.28030	.23301	.24624	.39429
47	.24327	.24304	.14976	.24327	.04338	.24325	.24302	.24315	.24315
48	.24307	.35101	.14087	.14087	.04338	.24318	.04181	.24344	.33300
49	.12794	.25311	.10738	.24544	.04700	.25117	.24444	.11178	.11502
50	.04444	.14035	.30741	.24017	.04744	.07523	.04814	.27330	.14041
51	.24307	.14371	.00379	.31431	.11332	.04430	.04373	.04220	.24249
52	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
53	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
54	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
55	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
56	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
57	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
58	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
59	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
60	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
61	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
62	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
63	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
64	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
65	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
66	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
67	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
68	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
69	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
70	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
71	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
72	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
73	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
74	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
75	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
76	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
77	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
78	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
79	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307
80	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307	.24307

[illegible]

APPENDIX D

AN 80 X 80 INTERCORRELATION MATRIX BETWEEN ITEMS (CONTINUED)

	31	32	33	34	35	36	37	38	39	40
31	1.00000									
32	-.00777	1.00000								
33	-.00099	-.00735	1.00000							
34	-.00327	-.01577	-.01910	1.00000						
35	-.00267	-.02357	-.01523	-.00891	1.00000					
36	-.00399	-.005937	-.01358	-.03581	-.00627	1.00000				
37	-.00341	-.01146	-.01770	-.00847	-.00008	-.02984	1.00000			
38	-.00317	-.00244	-.01068	-.01890	-.02394	-.03474	-.01178	1.00000		
39	-.00309	-.00710	-.00048	-.02137	-.02077	-.02144	-.02029	-.01069	1.00000	
40	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	1.00000
41	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
42	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
43	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
44	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
45	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
46	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
47	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
48	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
49	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
50	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
51	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
52	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
53	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
54	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
55	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
56	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
57	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
58	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
59	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
60	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
61	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
62	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
63	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
64	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
65	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
66	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
67	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
68	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
69	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
70	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
71	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
72	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
73	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
74	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
75	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
76	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
77	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
78	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
79	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341
80	-.00309	-.00491	-.00604	-.00904	-.00274	-.00032	-.02024	-.02090	-.00571	-.00341

APPENDIX D

AN 80 X 80 INTERCORRELATION MATRIX BETWEEN ITEMS (CONTINUED)

	*1	*2	*3	*4	*5	*6	*7	*8	*9	*10
*1	1.00000									
*2	.12016	1.00000								
*3	.02003	.22308	1.00000							
*4	.02007	.19575	.50017	1.00000						
*5	.11971	.23203	.23510	.24144	1.00000					
*6	.00798	.10776	.38844	.04894	.09531	1.00000				
*7	.11856	.01309	.37871	.39478	.05627	.01635	1.00000			
*8	.07388	.07688	.04875	.04118	.28778	.02504	.01337	1.00000		
*9	.07116	.02840	.04276	.03449	.07367	.01927	.02036	.03913	1.00000	
*10	.00000	.00389	.38620	.06183	.04251	.28319	.04108	.06010	.05420	1.00000
*11	.07121	.06135	.34191	.17074	.02290	.24617	.10123	.28402	.01489	.17478
*12	.11527	.03842	.16777	.24472	.06521	.13112	.07479	.10954	.13126	.08407
*13	.03074	.02073	.03134	.05749	.17016	.06328	.00180	.01759	.19974	.00745
*14	.03451	.02276	.04138	.07110	.12904	.03158	.06282	.03062	.02838	.05109
*15	.02154	.03251	.03243	.03184	.02716	.00599	.00913	.01185	.04717	.01596
*16	.00784	.02775	.03147	.02470	.00808	.12987	.02721	.02459	.00819	.09136
*17	.06004	.03808	.04113	.07153	.02591	.01398	.01174	.23446	.02762	.10272
*18	.02748	.03763	.02677	.05354	.01748	.14801	.13324	.29879	.00927	.27400
*19	.01145	.00814	.02290	.03812	.04691	.11759	.19407	.02000	.00984	.07310
*20	.02649	.00851	.00280	.14455	.16230	.00745	.00829	.02779	.04580	.15238
*21	.00000	.10466	.00823	.04004	.17602	.06961	.08122	.05018	.03731	.04931
*22	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000
*23	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000
*24	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000
*25	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000
*26	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000
*27	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000
*28	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000
*29	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000
*30	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

APPENDIX D

AN 80 X 80 INTERCORRELATION MATRIX BETWEEN ITEMS (CONTINUED)

[illegible]

APPENDIX D

AN 80 X 80 INTERCORRELATION MATRIX BETWEEN ITEMS (CONTINUED)

	01	02	03	04	05	06	07	08	09	10
01	1.00000									
02	0.11111	1.00000								
03	0.14999	0.32999	1.00000							
04	0.22111	0.44111	0.12111	1.00000						
05	0.18000	0.10000	0.19000	0.00000	1.00000					
06	0.29111	0.20000	0.23000	0.00000	0.32000	1.00000				
07	0.11000	0.12000	0.12000	0.00000	0.11000	0.00000	1.00000			
08	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	1.00000		
09	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	0.00000	1.00000	
10	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	0.00000	0.00000	1.00000
11	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	0.00000	0.00000	0.00000
12	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	0.00000	0.00000	0.00000
13	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	0.00000	0.00000	0.00000
14	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	0.00000	0.00000	0.00000
15	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	0.00000	0.00000	0.00000
16	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	0.00000	0.00000	0.00000
17	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	0.00000	0.00000	0.00000
18	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	0.00000	0.00000	0.00000
19	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	0.00000	0.00000	0.00000
20	0.10000	0.10000	0.10000	0.00000	0.10000	0.00000	0.00000	0.00000	0.00000	0.00000

APPENDIX D

AN 80 X 80 INTERCORRELATION MATRIX BETWEEN ITEMS (CONTINUED)

	71	72	73	74	75	76	77	78	79	80
71	1.00000									
72	+.15227	1.00000								
73	+.13201	+.15198	1.00000							
74	+.14647	+.125	+.04340	1.00000						
75	+.14647	+.05194	+.04340	+.14647	1.00000					
76	+.14647	+.14647	+.04340	+.14647	+.14647	1.00000				
77	+.14647	+.14647	+.04340	+.14647	+.14647	+.14647	1.00000			
78	+.14647	+.14647	+.04340	+.14647	+.14647	+.14647	+.14647	1.00000		
79	+.14647	+.14647	+.04340	+.14647	+.14647	+.14647	+.14647	+.14647	1.00000	
80	+.14647	+.14647	+.04340	+.14647	+.14647	+.14647	+.14647	+.14647	+.14647	1.00000

APPENDIX E

**AN 80 X 12 CORRELATION MATRIX BETWEEN
ITEMS AND FACTORS**

AN 80 X 12 CORRELATION MATRIX BETWEEN ITEMS AND FACTORS

VARIATION	FACTOR											
	1	2	3	4	5	6	7	8	9	10	11	12
0.070	0.0927	0.3232	0.11760	-0.07474	0.6521	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.075	0.0937	0.3076	-0.0481	-0.0432	0.6451	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.080	0.0947	0.2920	-0.0481	-0.0432	0.6381	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.085	0.0957	0.2764	-0.0481	-0.0432	0.6311	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.090	0.0967	0.2608	-0.0481	-0.0432	0.6241	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.095	0.0977	0.2452	-0.0481	-0.0432	0.6171	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.100	0.0987	0.2296	-0.0481	-0.0432	0.6101	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.105	0.0997	0.2140	-0.0481	-0.0432	0.6031	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.110	0.1007	0.1984	-0.0481	-0.0432	0.5961	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.115	0.1017	0.1828	-0.0481	-0.0432	0.5891	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.120	0.1027	0.1672	-0.0481	-0.0432	0.5821	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.125	0.1037	0.1516	-0.0481	-0.0432	0.5751	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.130	0.1047	0.1360	-0.0481	-0.0432	0.5681	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.135	0.1057	0.1204	-0.0481	-0.0432	0.5611	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.140	0.1067	0.1048	-0.0481	-0.0432	0.5541	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.145	0.1077	0.0892	-0.0481	-0.0432	0.5471	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.150	0.1087	0.0736	-0.0481	-0.0432	0.5401	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.155	0.1097	0.0580	-0.0481	-0.0432	0.5331	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.160	0.1107	0.0424	-0.0481	-0.0432	0.5261	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.165	0.1117	0.0268	-0.0481	-0.0432	0.5191	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.170	0.1127	0.0112	-0.0481	-0.0432	0.5121	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.175	0.1137	-0.0044	-0.0481	-0.0432	0.5051	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.180	0.1147	-0.0199	-0.0481	-0.0432	0.4981	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.185	0.1157	-0.0354	-0.0481	-0.0432	0.4911	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.190	0.1167	-0.0509	-0.0481	-0.0432	0.4841	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.195	0.1177	-0.0664	-0.0481	-0.0432	0.4771	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.200	0.1187	-0.0819	-0.0481	-0.0432	0.4701	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.205	0.1197	-0.0974	-0.0481	-0.0432	0.4631	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.210	0.1207	-0.1129	-0.0481	-0.0432	0.4561	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.215	0.1217	-0.1284	-0.0481	-0.0432	0.4491	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.220	0.1227	-0.1439	-0.0481	-0.0432	0.4421	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.225	0.1237	-0.1594	-0.0481	-0.0432	0.4351	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.230	0.1247	-0.1749	-0.0481	-0.0432	0.4281	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.235	0.1257	-0.1904	-0.0481	-0.0432	0.4211	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.240	0.1267	-0.2059	-0.0481	-0.0432	0.4141	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.245	0.1277	-0.2214	-0.0481	-0.0432	0.4071	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.250	0.1287	-0.2369	-0.0481	-0.0432	0.4001	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.255	0.1297	-0.2524	-0.0481	-0.0432	0.3931	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.260	0.1307	-0.2679	-0.0481	-0.0432	0.3861	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.265	0.1317	-0.2834	-0.0481	-0.0432	0.3791	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.270	0.1327	-0.2989	-0.0481	-0.0432	0.3721	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.275	0.1337	-0.3144	-0.0481	-0.0432	0.3651	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.280	0.1347	-0.3299	-0.0481	-0.0432	0.3581	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.285	0.1357	-0.3454	-0.0481	-0.0432	0.3511	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.290	0.1367	-0.3609	-0.0481	-0.0432	0.3441	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.295	0.1377	-0.3764	-0.0481	-0.0432	0.3371	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.300	0.1387	-0.3919	-0.0481	-0.0432	0.3301	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.305	0.1397	-0.4074	-0.0481	-0.0432	0.3231	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.310	0.1407	-0.4229	-0.0481	-0.0432	0.3161	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.315	0.1417	-0.4384	-0.0481	-0.0432	0.3091	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.320	0.1427	-0.4539	-0.0481	-0.0432	0.3021	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.325	0.1437	-0.4694	-0.0481	-0.0432	0.2951	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.330	0.1447	-0.4849	-0.0481	-0.0432	0.2881	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.335	0.1457	-0.5004	-0.0481	-0.0432	0.2811	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.340	0.1467	-0.5159	-0.0481	-0.0432	0.2741	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.345	0.1477	-0.5314	-0.0481	-0.0432	0.2671	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.350	0.1487	-0.5469	-0.0481	-0.0432	0.2601	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.355	0.1497	-0.5624	-0.0481	-0.0432	0.2531	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.360	0.1507	-0.5779	-0.0481	-0.0432	0.2461	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.365	0.1517	-0.5934	-0.0481	-0.0432	0.2391	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.370	0.1527	-0.6089	-0.0481	-0.0432	0.2321	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.375	0.1537	-0.6244	-0.0481	-0.0432	0.2251	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.380	0.1547	-0.6399	-0.0481	-0.0432	0.2181	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.385	0.1557	-0.6554	-0.0481	-0.0432	0.2111	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.390	0.1567	-0.6709	-0.0481	-0.0432	0.2041	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.395	0.1577	-0.6864	-0.0481	-0.0432	0.1971	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.400	0.1587	-0.7019	-0.0481	-0.0432	0.1901	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.405	0.1597	-0.7174	-0.0481	-0.0432	0.1831	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.410	0.1607	-0.7329	-0.0481	-0.0432	0.1761	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.415	0.1617	-0.7484	-0.0481	-0.0432	0.1691	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.420	0.1627	-0.7639	-0.0481	-0.0432	0.1621	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.425	0.1637	-0.7794	-0.0481	-0.0432	0.1551	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.430	0.1647	-0.7949	-0.0481	-0.0432	0.1481	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.435	0.1657	-0.8104	-0.0481	-0.0432	0.1411	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.440	0.1667	-0.8259	-0.0481	-0.0432	0.1341	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.445	0.1677	-0.8414	-0.0481	-0.0432	0.1271	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.450	0.1687	-0.8569	-0.0481	-0.0432	0.1201	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.455	0.1697	-0.8724	-0.0481	-0.0432	0.1131	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.460	0.1707	-0.8879	-0.0481	-0.0432	0.1061	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.465	0.1717	-0.9034	-0.0481	-0.0432	0.0991	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.470	0.1727	-0.9189	-0.0481	-0.0432	0.0921	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.475	0.1737	-0.9344	-0.0481	-0.0432	0.0851	-0.01774	-0.00008	-0.0311	-0.00008	-0.0311	-0.0311	-0.0311
0.480	0.1747	-0.9499	-0.0481	-0.0432								

APPENDIX E
AN 80 X 12 CORRELATION MATRIX BETWEEN ITEMS AND FACTORS
(CONTINUED)

ITEM	1	2	3	4	5	6	7	8	9	10	11	12
1	.56809	.11816	.50290	-.03164	-.11471	-.02402	.23885	-.06503	-.10430	-.10988	.05209	.08084
2	.52104	.44461	-.14374	-.06308	-.19017	-.05186	.05210	-.12453	-.20861	.02187	.04483	.11191
3	.53328	.24223	.24675	.07633	-.04209	.14876	.14876	-.18156	-.18762	-.12282	.14403	-.03468
4	.40383	.22357	.65658	.00194	-.14939	.16448	.07257	.06456	-.13050	.19721	.19017	.13262
5	.11955	.41743	.05554	-.00442	-.01727	.20195	.18657	-.20099	.05079	-.05287	.17342	.01273
6	.57756	.09316	.25495	.07346	-.07158	.00705	.21960	-.04187	-.05300	.13561	-.06970	.00041
7	.25795	.10810	.50725	.10346	-.04187	-.03773	.20159	.00695	-.25364	.27137	-.17425	-.21000
8	.15476	.15476	.39515	-.11462	.04445	-.07297	-.04372	.13542	-.12400	.04039	.09375	.02431
9	.21609	-.04474	.24417	.06357	.05226	-.04111	.01409	.10418	.27400	.18838	.03245	.17148
10	.14125	.14109	.53408	-.12433	-.12433	.24077	.29241	.03764	-.07244	.18938	.05554	.12511
11	.19275	.00938	-.02071	-.11557	.17467	.14791	.01730	-.00739	-.21050	-.13713	.11337	.15939
12	.17444	-.20433	.02621	-.22167	-.17422	.14573	.26377	.07594	.01430	.05333	.01166	.25012
13	.27327	.14760	.08573	.05754	.20423	.10458	-.01495	.05013	.31491	.49932	.10139	.16350
14	.33344	.14760	.08573	.05754	.20423	.10458	-.01495	.05013	.31491	.49932	.10139	.16350
15	.00632	-.66027	.37740	-.01724	.11623	-.07403	.11617	.00547	-.00413	.15800	.09140	.12540
16	.00304	.66530	.37740	-.01724	.11623	-.07403	.11617	.00547	-.00413	.15800	.09140	.12540
17	.21461	.15112	.35174	-.00444	-.10399	.12643	.05533	-.07158	-.22211	.27923	.24434	.19849
18	.05266	.42826	.27451	.13016	-.04505	.25394	.05563	-.01874	.10773	.03801	.01205	.07472
19	.04777	.03509	.10447	-.02117	-.06615	.41764	.02402	-.01874	.10773	.03801	.01205	.07472
20	.17200	.24641	.39775	-.13443	.16570	-.01541	.22704	.17291	.01408	.16223	.16223	.04895
21	.13133	.45344	-.07140	-.11311	-.01186	-.04748	.14300	.05311	.22688	.17003	.11807	.23030
22	.27239	.24630	.44594	-.00538	-.00422	.16727	.18157	.02420	.14639	.21487	.15121	.01115
23	.17742	.52049	-.14426	-.04703	.25525	.12234	.18847	.19091	-.00186	.23295	.03278	.04116
24	.24793	.18224	.09524	-.11811	-.00079	.39413	.00497	.00467	.11334	.05128	.03278	.04116
25	.15740	-.59494	-.07621	.37753	-.00079	.01401	.01480	.00467	.11334	.05128	.03278	.04116
26	.23143	.00363	.03439	.11074	.17437	.52707	.05334	.00467	.11334	.05128	.03278	.04116
27	.15415	.24390	.01802	-.23272	-.02765	.02447	.18119	.05174	.24174	.10044	.14312	.24426
28	.55546	.44405	.15390	.30624	-.08131	.12205	.18104	.05174	.24174	.10044	.14312	.24426
29	.24457	.19320	.20031	-.19786	.17786	.00523	.00566	.07752	.05336	.04387	.24375	.07105
30	.11252	.11252	.20031	.17786	.17786	.00523	.00566	.07752	.05336	.04387	.24375	.07105
31	.03246	.01640	.01640	.02157	.68407	.07113	.07762	.04417	.24779	.04387	.24375	.07105
32	.44445	.17574	.32405	-.13934	.18142	.20219	.07764	.05297	.24779	.04387	.24375	.07105
33	.44445	.17574	.32405	-.13934	.18142	.20219	.07764	.05297	.24779	.04387	.24375	.07105
34	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
35	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
36	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
37	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
38	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
39	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
40	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
41	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
42	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
43	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
44	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
45	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
46	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
47	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
48	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
49	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
50	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
51	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
52	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
53	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
54	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
55	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
56	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
57	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
58	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
59	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
60	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
61	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
62	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
63	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
64	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
65	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
66	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
67	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
68	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
69	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
70	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
71	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
72	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
73	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
74	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
75	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
76	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
77	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
78	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
79	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105
80	.24317	.03432	.12104	.63127	.03272	.12175	.14808	.15491	.24779	.04387	.24375	.07105

APPENDIX F

A 123 x 12 CORRELATION MATRIX FOR FACTOR SCORES

APPENDIX F

AN 123 X 12 CORRELATION MATRIX FOR FACTOR SCORES

	1	2	3	4	5	6	7	8	9	10	11	12	
1-CUG	2221111	-0.020	-0.012	-1.3761	-0.008	-0.5258	-1.779	-0.085	1.4812	-0.7249	-0.685	-1.1282	1.4322
2-CUG	2211111	1.0678	-1.3863	1.3681	-0.082	-2.2603	-0.679	-2.6173	1.6316	-1.0484	-1.2371	-1.0702	-2.1603
3-CUG	2111111	-1.181	1.3836	-1.3962	-0.096	-0.9917	-1.763	0.940	0.029	-7.796	-0.296	-0.993	-1.0781
4-CUG	2111112	-0.033	-0.792	-0.736	1.2879	-0.681	-0.088	7.790	-0.313	1.2606	-0.794	-1.198	-0.782
5-CUG	2111113	-0.033	-0.792	-1.020	-0.681	-0.681	-0.313	-0.790	-0.313	-0.790	-0.313	-1.0781	-0.782
6-CUG	2111114	-0.033	-0.792	-0.736	-0.681	-0.681	-0.313	-0.790	-0.313	-0.790	-0.313	-1.0781	-0.782
7-CUG	2241111	-0.012	-0.036	-0.120	-0.082	-0.082	-0.431	-0.671	-0.790	1.048	-0.296	-3.777	-0.602
8-CUG	2241112	-0.044	-0.090	-1.1172	-1.093	-2.391	1.0416	-0.680	-0.909	-0.681	-0.163	-2.966	-0.796
9-CUG	2241113	-2.0791	-0.098	-1.1087	-2.0403	-2.072	-0.098	-2.065	-3.779	-1.295	-0.026	-1.523	-1.077
10-CUG	2221111	-0.926	-31.0	-1.7182	-3.708	-0.097	-0.810	-3.436	-7.806	-1.566	-1.710	-3.068	-0.266
11-CUG	1212123	-0.007	-0.1936	-1.3910	-0.926	-1.0977	-1.2471	-1.9001	-1.901	-1.7219	-7.683	-2.027	1.3289
12-CUG	1112222	-0.037	-0.037	-0.999	-1.1999	-3.768	-0.061	1.9280	-0.198	-0.036	-0.999	-0.023	-3.068
13-CUG	1112223	-0.037	-0.037	-0.999	-1.1999	-3.768	-0.061	1.9280	-0.198	-0.036	-0.999	-1.396	-0.023
14-CUG	1112224	-0.037	-0.037	-0.999	-1.1999	-3.768	-0.061	1.9280	-0.198	-0.036	-0.999	-0.023	-1.396
15-CUG	1111333	-1.067	-0.044	-0.2677	-0.097	-0.097	-1.0228	-1.0531	-0.713	-3.766	-7.776	-1.359	-1.032
16-CUG	1112111	-0.000	-0.901	-0.089	-3.2623	-0.019	-0.000	1.8202	-0.391	-1.0933	-1.0013	-0.289	-1.943
17-CUG	1211131	-0.027	-0.732	-0.717	-0.712	-0.097	-0.712	-1.192	-0.062	-0.067	-1.0427	-0.325	-0.096
18-CUG	1212112	-0.976	-0.7799	-0.671	-0.2872	-0.067	-0.0779	1.9262	-0.397	-1.0616	-0.666	-3.877	-0.096
19-CUG	1212221	1.3483	-0.001	-0.071	-1.7000	-1.3273	-16.77	-1.7766	-0.686	-1.1998	-1.267	-1.0918	-1.005
20-CUG	1211131	-0.792	-0.266	-1.079	-0.7908	-0.066	-1.1998	-1.328	-0.347	-0.613	-1.896	-0.113	-0.998
21-CUG	1211112	-0.000	-0.000	-0.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000
22-CUG	2121111	-2.4922	-0.762	-1.000	-0.095	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000
23-CUG	2211122	-3.068	-0.136	-0.266	-0.0736	-0.375	-1.368	-5.536	-1.167	-1.949	-0.027	-0.978	-2.087
24-CUG	2211111	-0.370	-7.898	-2.710	-1.067	-1.063	-2.446	-2.860	-0.390	-3.735	-1.099	-7.946	-0.080
25-CUG	2221111	-3.071	-1.0328	-1.0299	-0.0657	-2.737	-2.475	-5.166	-0.616	-1.642	-1.1932	-0.886	-0.086
26-CUG	2122111	-0.036	-0.309	-1.0089	-0.0729	-0.0729	-0.0729	-0.0729	-0.0729	-0.0729	-0.0729	-0.0729	-0.0729
27-CUG	2211111	-0.981	-0.064	-1.229	-0.006	-0.191	-0.160	-0.399	-0.908	-0.062	-0.087	-1.061	1.5279
28-CUG	2121111	-0.981	-1.061	-1.1020	-0.299	-0.362	-3.230	-0.5973	-0.160	-1.075	-0.687	-1.168	-0.789
29-CUG	2122111	-0.981	-1.061	-1.1020	-0.299	-0.362	-3.230	-0.5973	-0.160	-1.075	-0.687	-1.168	-0.789
30-CUG	2221111	-0.981	-1.061	-1.1020	-0.299	-0.362	-3.230	-0.5973	-0.160	-1.075	-0.687	-1.168	-0.789
31-CUG	1212221	-1.7719	-0.076	-1.4231	-0.4232	-1.1000	-3.888	-0.888	-0.299	-1.0981	-1.3706	-2.712	-0.688
32-CUG	1212221	-0.9829	-1.0230	-0.982	-2.0384	-1.9060	-2.0608	-0.924	-1.3403	-3.978	-1.687	-1.0041	-0.3741
33-CUG	1212221	-1.0126	-0.7608	-0.7908	-0.0013	-0.0013	-0.0096	-0.673	-7.616	-0.866	-0.021	-1.0775	-1.026
34-CUG	1211222	-0.980	-7.619	-3.967	-1.2632	-0.226	-0.3122	-2.970	-1.0193	-0.760	-0.2919	-0.4269	-1.827
35-CUG	1211221	-0.0271	-0.826	-0.677	-0.019	-0.099	-7.737	-0.093	-0.398	-1.3977	-0.2036	-2.0617	-0.996
36-CUG	1211222	-0.0271	-0.826	-0.677	-0.019	-0.099	-7.737	-0.093	-0.398	-1.3977	-0.2036	-2.0617	-0.996
37-CUG	1211223	-0.0271	-0.826	-0.677	-0.019	-0.099	-7.737	-0.093	-0.398	-1.3977	-0.2036	-2.0617	-0.996
38-CUG	1211224	-0.0271	-0.826	-0.677	-0.019	-0.099	-7.737	-0.093	-0.398	-1.3977	-0.2036	-2.0617	-0.996
39-CUG	1212222	-3.068	-0.110	-0.266	-0.0736	-0.375	-1.0418	-1.688	-0.091	-0.681	-0.081	-1.080	-0.030
40-CUG	2111221	-1.1931	-0.099	-1.7136	-0.113	-0.068	-0.4078	-3.790	-1.2360	-1.686	-2.0991	-1.2860	-1.7918
41-CUG	1211222	-1.009	-0.063	-0.276	-0.023	-0.1260	-3.11	-0.559	-2.3877	-1.0003	-1.2586	-0.110	-1.9605
42-CUG	1212221	-0.079	-2.0398	-0.826	-0.022	-1.2760	-2.0018	-0.8004	-2.0307	-1.706	-0.8490	-0.8001	-2.977
43-CUG	1111221	-0.003	-0.678	-0.1616	-1.116	-0.289	-0.0000	-2.0136	-7.616	-1.128	-0.2613	-0.6977	-0.000
44-CUG	1112221	-1.0761	-1.0737	-0.2841	-0.1938	-3.2811	-1.213	-0.9627	-0.2980	-1.2633	-1.1991	-0.928	-1.0936
45-CUG	1112222	-1.0761	-1.0737	-0.2841	-0.1938	-3.2811	-1.213	-0.9627	-0.2980	-1.2633	-1.1991	-0.928	-1.0936
46-CUG	1112223	-2.916	-0.716	-2.0893	-0.2841	-3.2811	-1.213	-0.9627	-0.2980	-1.2633	-1.1991	-0.928	-1.0936
47-CUG	1211221	-0.973	-0.919	-1.0104	-1.0849	-2.1819	-1.2367	-1.7707	-1.1214	-2.966	-7.883	-1.3799	-0.996
48-CUG	1112211	-0.076	-0.169	-0.088	-0.019	-0.076	-0.0428	-1.1493	-1.3816	-0.088	-0.927	-1.0160	-0.267
49-CUG	1112111	-0.773	-1.0067	-0.9930	-0.0916	-0.186	-2.046	-0.264	-0.062	-1.0703	-2.268	-0.973	-0.004
50-CUG	1112113	-0.006	-0.013	-1.1970	-1.0065	-1.0008	-0.006	-1.3287	-0.010	-0.000	-0.0028	-0.013	-0.216
51-CUG	1111111	-0.000	-0.729	-0.288	-0.0807	-0.918	-0.068	-2.116	-1.1903	-0.007	-1.0748	-0.264	-0.036
52-CUG	1111122	-0.127	-0.336	-0.2372	-0.7908	-1.2760	-1.0681	-1.0099	-0.1790	-1.0923	-1.7081	-0.807	-0.6832
53-CUG	1111123	-0.127	-0.336	-0.2372	-0.7908	-1.2760	-1.0681	-1.0099	-0.1790	-1.0923	-1.7081	-0.807	-0.6832
54-CUG	1211223	-0.197	-0.7031	-1.0291	-0.7908	-1.2760	-1.0681	-1.0099	-0.1790	-1.0923	-1.7081	-0.807	-0.6832
55-CUG	1211123	-0.314	-0.096	-0.266	-0.007	-0.126	-3.420	-3.821	-0.948	-0.706	-0.972	-1.179	-1.180
56-CUG	1211111	-0.026	-0.067	-0.999	-0.799	-1.0016	-1.121	-0.817	-0.779	-0.627	-1.136	-1.1909	-1.126
57-CUG	1112111	-0.676	-1.0760	-0.211	-0.7897	-2.102	-1.2066	-0.281	-1.0067	-0.2989	-0.022	-0.736	-0.126
58-CUG	1211222	-2.968	-0.087	-0.276	-1.1066	-3.068	-0.087	-0.088	-0.683	-0.068	-0.737	-2.001	-1.119
59-CUG	1112123	1.2861	-0.295	-1.710	-0.067	-0.966	-0.3692	-1.1199	-0.224	-0.932	-1.3808	-1.222	-1.2636
60-CUG	1112124	-0.000	-0.000	-1.000	-1.000	-2.106	-2.106	-0.729	-0.908	-1.082	-1.3768	-0.768	-1.1033
61-CUG	1112125	-1.046	-0.121	-1.3077	-1.000	-1.000	-0.369	-0.729	-0.908	-1.082	-1.3768	-0.768	-1.1033
62-CUG	1111223	-0.243	-0.382	-1.000	-0.311	-3.063	-3.06	-1.161	-0.790	-0.341	-0.722	-1.2316	-0.389
63-CUG	1112222	-1.191	-3.7726	-1.0001	-0.000	-0.266	-1.4630	-2.276	-0.197	-0.0810	-1.7979	-1.0003	-0.970

APPENDIX F

AN 123 X 12 CORRELATION MATRIX FOR FACTOR SCORES
(CONTINUED)[illegible]

APPENDIX G

FACTOR MEANS ON ALL GROUPS ON ALL FACTORS

TABLE 26
FACTOR MEANS ON ALL GROUPS ON ALL FACTORS

Factor	Grade		Church Membership		Sex	
	Ninth	Twelfth	S.D.A.	Non-SDA	Male	Female
I. Attachment	509.29	490.77	524.97	466.92	482.91	519.70
II. Emotional Openness	484.05	515.74	506.10	492.00	508.61	490.09
III. Compatibility	504.70	495.39	523.63	468.81	481.12	521.88
IV. Inadequacy	501.89	498.08	494.83	506.75	512.48	485.47
V. Individuality	507.93	492.27	518.71	475.38	507.76	491.11
VI. Interdependence	520.26	480.08	493.17	509.04	508.86	489.75
VII. Mutual Support	509.02	491.13	504.60	493.92	495.83	504.82
VIII. Pseudo-confidence	502.03	498.03	479.93	526.55	512.89	485.11
IX. Frustration	503.67	496.37	505.56	492.64	501.52	498.23
X. Communication	500.00	500.03	505.21	493.15	505.65	493.49
XI. Autonomy	508.79	491.37	509.03	488.09	493.85	507.14
XII. Democracy	485.39	514.16	510.74	485.79	495.50	505.19

TABLE 26
FACTOR MEANS ON ALL GROUPS ON ALL FACTORS (CONTINUED)

Factor	Race		Residential Location			Parental Number	
	White	Non-White	Rural	Urban	Suburban	Both	One
I. Attachment	492.43	518.17	489.14	505.32	509.77	497.90	489.59
II. Emotional Openness	513.11	468.39	494.71	476.59	539.80	508.12	446.14
III. Compatibility	487.87	529.33	480.88	499.98	531.30	492.90	505.32
IV. Inadequacy	497.23	506.58	505.14	499.89	491.63	499.60	508.41
V. Individuality	483.40	540.25	489.24	513.09	498.53	487.77	508.32
VI. Interdependence	507.28	482.44	497.75	494.16	512.27	488.88	514.32
VII. Mutual Support	503.14	492.42	494.53	496.25	514.43	503.59	510.58
VIII. Pseudo-confidence	495.18	511.69	500.63	505.09	491.59	503.56	523.27
IX. Frustration	490.32	523.36	486.18	508.75	509.70	507.51	476.32
X. Communication	488.59	527.66	474.61	537.32	486.80	493.81	509.09
XI. Autonomy	508.71	478.97	521.59	468.59	510.83	487.06	550.14
XII. Democracy	489.98	524.19	487.53	516.43	496.23	498.92	512.09

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1971-74	Instructor and Assistant Professor, Southeast Asia Union College, Singapore
1970-71	Teacher, Seventh-day Adventist Secondary School, Singapore.
1966-69	Teacher, Sunny Hill School, Kuching, Sarawak, Malaysia Producer, Children's Corner, Radio Sarawak, Kuching, Sarawak, Malaysia
1963-64	Teacher, Seventh-day Adventist School (Elementary), Singapore