BIRTH ORDER AS A VARIABLE IN
PERSONALITY DEVELOPMENT

A Thesis
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Requirements for the Degree Master of Science

by
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CHAPTER I

INTRODUCTION

How do first borns differ from later born children? Many experiments have produced evidence that the eldest child tends to be more dependent, more conscientious, more ambitious, and more anxious than later born children. First borns have been found to be more sensitive to pain and therefore are underrepresented in dangerous sports such as football.\(^1\) First born men marry earlier (this is not true of first born women, but more of them approve of early marriages and more get married in June than later born women).\(^2\) Birth order effects have been studied in "virtually every problem of socio-psychological importance".\(^3\) Birth order has been associated with behaviors such as college attendance, church attendance, conformity to social pressures, volunteering for experimental studies, homosexuality and juvenile delinquency. Psychological-personality characteristics such as dependency on parents,


\(^2\)Ibid., p. 1A, col. 2.

need for achievement, academic motivation, affiliative need, sensitivity and seriousness are also related. Abilities such as empathy, intelligence and intellectual aptitude and achieving popularity with peers have been linked with birth order. Perhaps this attention has been given because man has always been interested in predicting human behavior and birth order is such an obvious variable to use.

* In our modern times when families with many children are a rarity, a larger percentage of our population is made up of first born people than formerly and their influence is likely to grow proportionately. *Since so many first borns in the past have become famous, even more contributions may be expected from them in years to come. 

Although in the general population later borns outnumber first borns almost two to one, in most lists of prominent people (such as *Who's Who*), first borns are in the majority. The five United States Presidents at or near the top in virtually every ranking—George Washington, Abraham Lincoln, Thomas Jefferson, Woodrow Wilson and Franklin D. Roosevelt were all first born. And, one would be impressed to find that of the "first twenty-three astronauts to go on United States space missions, twenty-one were either eldest or only

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*E. Kaplan, "Were you the Oldest Child?" *Science Digest* 61 (February, 1967), p. 74.*
children". Finally, in comparing birth order and outstanding scientists in six research organizations, "frequencies of the first, fifth and sixth orders of birth are found to be enhanced..." Can one not wonder about the relationship between birth order and personality? Further evidence that birth order difference exists even in maturity is supplied by Very. He considers birth order an enduring key to personality.

In three significant studies on the influence of birth order on occupational choice, he found first borns over-represented among Boston lawyers; second borns (cheerful and easy going) over-represented among Rhode Island beauticians, and third borns (quiet, withdrawn) over-represented among Carmelite nuns.

Very also thinks birth order influences marital harmony. A marriage of two first borns, he feels, may produce bitter conflicts over authority. The "all American marriage" is the one between a first born man and a second born woman where he is dominant and she is congenial. When a later born man marries a first born woman, she is likely to nag him.

Perhaps we need to change society itself in order to

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5 Vance Packard, "First, Last or Middle Child: The Surprising Differences," Readers Digest, 95 (December, 1969), p. 27.
7 Boroson, op. cit., p. 2A, col. 4.
8 Ibid., p. 2A, col. 4.
solve the problem of the unsuccessful later born. Ours is a society of first borns; we grant honors and prestige to astronauts, doctors, and lawyers. To be successful one must have a college degree, be married, have children, own two cars, have a second home and be on time to work. The United States might be a better place in which to live if we were less achievement oriented; we need to be like France and Italy, which Very calls "second born" countries because the pace is more leisurely and restrained. It is the writer's feeling that the youth of today are advocating these "second born" virtues. They are challenging the pace and symbols of those who hold power by gathering behind concepts like the following: Racial Equality, Women's Liberation, Urban Renewal and Ecology.

Harris maintains that later borns tend to be more practical and action-oriented than first borns. "In terms of the Russian revolution, for instance, Marx--a first born son--developed the philosophy, but it took a later son, Lenin, to make the revolution possible," he says. In another illustration, Harris points out that Einstein, a first born, united the forces of the universe with his formula (E=mc²), and Bertrand Russell, a later born, was needed to focus on separate parts of his theory of

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9Boroson, op. cit., p. 2A, col. 5.
10Ibid., p. 2A, col. 5.
numbers. Thus, second born values and analytical action are needed today to focus enlightenment on the problems of the cities, disarmament, and the involvement in developing countries. This surge of energy, which we can no longer build a fence around, might be needed in order to keep our societal arbitrations and agreements in stride with our scientific achievements.

Statement of the Problem

The principal objective of this investigation was to study 85 junior high students to ascertain if ordinal position in a family would be related to scholastic achievement, attitude toward education, accountability to peers, accountability to family and conservatism in family member roles. Scholastic achievement and attitude toward education were studied because the writer wanted to test the voluminous amount of research relating birth order to the variables. From scattered research studies, first borns were found to be very dependent on their parents. The writer wanted to investigate whether this dependence would make first borns more accountable to their peers and families, and more conservative in respect to family member roles than second borns.

The problem was based on the contention that birth

11 Boroson, op. cit., p. 2A, col. 5.
order does affect a person's personality. Birth order effects probably have their origins in family interactions that differ for different children in the same family. The "difference" may be due to unequal interaction with parents, who often require more compliance with societal rules and adult expectations than they do with second born children. As a result, adult expectations and responsibilities seem to be more deeply internalized in first borns than in the later siblings.

Null Hypotheses:

\[ H_{01} \] There is no difference between first and second borns in relation to scholastic achievement.

\[ H_{02} \] There is no difference between first and second borns in relation to attitude toward education.

\[ H_{03} \] There is no difference between first and second borns in accountability to peers.

\[ H_{04} \] There is no difference between first and second borns in accountability to family.

\[ H_{05} \] There is no difference between first and second borns in conservatism in attitudes toward family member roles.

**Definition of Terms**

In this study, "birth order" is defined as the sequential position of a person among his or her siblings with respect to the order of birth.

"Personality" is defined as that unique quality that distinguishes one individual from another. Although
one's total personality encompasses all an individual's experiences and attributes, in this manuscript, the interest is concentrated around five aspects of personality, namely: scholastic achievement, attitude toward education, accountability to peers, accountability to family and family member role conservatism.

The "unique socialization" of the first born refers to a very high degree of conformity with the mores in a stated society which is due to the first born's high degree of dependence on his parents and other authority figures.

"Dependence" is the extent to which an individual uses or relies on other persons as sources of approval, support, and reference. The dependence of the first child on his parents may make him more sensitive and accountable to his socialization agents.

"Scholastic achievement" is the evidence of gain in an individual's learning and insight.

"Accountability" to peers and family is achieved when an individual regards himself morally answerable to the welfare of these groups.

"Family member role conservatism" is the philosophy of adhering to the existing family roles, namely male dominance, and female and child submission, and opposing change to more democratic roles.
Assumptions

It is assumed that every child is subject to a unique set of personal interactions and expectations in school, in his family, and among his peers.

It is assumed that every child searches for his own specialty in school, in his family and among his peers, from which he can receive recognition. This assumption is essential in order to help explain why children in the same family may have different personality traits, and occupational and leisure activity pursuits.

It is assumed that patterns of behavior arrived at during a child's formative years—when he was not yet able to respond to the pressures exerted by school, family and peers—may still be practiced after the child has satisfied the appropriate developmental task.

Finally, it is assumed that the first and second born children in the study live together and are alive, that divorce and separation or death of the parents will not fundamentally affect the analysis, and that the age of the parents, their differing levels of socio-economic aspirations, and income will not affect the study.
CHAPTER II

REVIEW OF LITERATURE

Introduction

The reader's understanding of the study will be enhanced if previous research involving birth order is cited. The literature on birth order has been compiled into three major divisions, representing the three philosophies as to whether birth order does affect personality. The deterministic school claims personality is determined by birth order. The negative school claims there is no relationship between ordinal position and personality. The positive school claims that birth order is one determinant of personality, but not necessarily a prime or primary one. Each of the schools is reviewed below and proponents of each are listed. Specific literature relating birth order to scholastic achievement, attitude toward education, peer accountability, family accountability, and family member role conservatism is also searched.

Proponents of the deterministic school claim that

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personality is determined by ordinal position. Adler clarifies this claim by writing the following:

It is not, of course, the child's number in the order of successive births which influence his character but the situation into which he is born and the way in which he interprets it.\textsuperscript{13}

Adler continues by describing the personalities of the first and second ordinal siblings:

The first born child is generally given a good deal of attention and spoiling. Too often it is quite suddenly and sharply that he finds himself ousted from his position. Another child is born and he is no longer unique...Among such oldest children we find individuals who develop a striving to protect others and help them...When he grows up, he likes to take part in the exercise of authority and exaggerates the importance of rules and laws...Influences like these in childhood give a strong tendency toward conservatism...(Later born children are much more inclined to believe, rightly or wrongly, that there is no power in the world which cannot be overthrown. Beware of his revolutionary subtleties!\textsuperscript{14}

Freud made the following comment on the importance of birth order:

A child's position in the sequence of brothers and sisters is of very great significance for the course of later life, a factor to be considered in every bibliography.\textsuperscript{15}

Toman, not only agrees that sibling position is the prime determinant of personality, but boasts that "personality


\textsuperscript{14}\textit{Ibid.}, pp. 377-380.

structure can be predicted from this position.\textsuperscript{16}

A second school of thought concerning birth order is the negative school. This school claims that there is no relationship between ordinal position and the resultant personality characteristics. Although greater intelligence is generally assigned to the eldest child, Thurstone and Jenkins found that:

\begin{itemize}
\item Later born children seem to be brighter on the average than their earlier born siblings and the variability of test intelligence seems to increase with order of birth.\textsuperscript{17}
\end{itemize}

Two other researchers in the negative school found after reporting on a number of studies, that sometimes there were differences in ability according to birth order and sometimes there were no differences; if genuine differences exist, they are not large enough to seriously affect an individual's status in society.\textsuperscript{18} Bayer writes that:

contrary to previous research findings, first borns emerge as no more likely to attend college than are the last born from the same family size and socio-economic strata.\textsuperscript{19}


\textsuperscript{17}L. L. Thurstone and Richard L. Jenkins, Order of Birth, Parent-Age and Intelligence, (Chicago: University of Chicago Press, 1931), p. 651.


Wile and Noetzel failed to find the first born conservative and the second born aggressive and neurotically restless. They concluded from their research that:

the order of birth is not demonstrated to have any important relation to the development of a maladjusted or neurotic personality...Our studies suggest, however, that ordinal position is not an especially significant factor in fixing a personality type or in establishing definite forms of difficulty in adjustment or in determining dominant attitudes and responses in human relations.  

Wile and Jones in a later research periodical wrote:

Birth order does not determine behavior or personality characteristics but the family constellation does provide a different environment for each individual. In specific cases this special environment may affect individual behavior disadvantageously, but birth order lacks the effect of determinism.

Stagner and Katzoff summarize their research by saying:

The effect of family constellations should be considered as only a small portion of the continuous interaction which determines personality.

Those that feel sibling position is a determinant of personality, but not necessarily a primary one are in the positive school. There are several outstanding proponents

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in this school. Schachter points out that in
college there is a significant over-repre-
sentation of first born which is further marked among graduate students.23

The data indicate a twelve percent surplus of first
borns among college students, and more than a twenty
percent surplus of first borns among graduate students when
control is introduced for the proportion of first births
which occurred in the years of birth of the students.
As college students are drawn largely from the higher
socio-economic strata, which have traditionally had fewer
children, this would inevitably result in a relatively
heavy concentration of first and only children. However,
when family size is held constant, thereby partially
controlling the effects of socio-economic status, the
marked over-representation of first born among college and
graduate school population persists. Altus' research is
supplementary to Schachter's. Altus' data suggest that:

not only are first born more likely to enter college, but also that each individual in
successive birth orders is less likely to attend college than is an earlier born sibling.
Within a given family size, the last born is the least likely of any of the children to attend
college.24


Altus explains these findings by showing that "persons of early birth have higher measured ability levels than do those of later birth orders." Altus was referring to an unpublished study done by Nichols on gifted high school students, when he made this statement. "Of 1,311 Merit finalists coming from families of two to five children, first borns made up sixty percent of the total." Nisbet also related intelligence to birth order. In his studies he found that:

In one or two child families at eleven years of age, the I.Q. is around 105; for seven child families, at the same age, it is about ninety.

Nisbet went on to say that parents should plan to have one child families if they wanted a child with superior intelligence. Rehberg and Westby back Nisbet by saying that a child's:

educational expectations vary positively with the level of parental occupation and education, the frequency of parental educational encouragement, and negatively with family size.

Templeton makes these data concerning the only child more convincing when he reports that:

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in evaluating grades in school, there was an overall trend for the children from smaller families to receive the high grades and those from the larger families to receive medium grades.29

Others that feel sibling position is a determinant of personality are Sletto, Goodenough, and Leahy and Koch.

Sletto feels that:

difference in personality traits among children may be due to dissimilar roles which children play in intrasibship interaction or to dissimilar patterns which are associated with the sibling position of the child...The roles which children play in intrafamily interaction may be found to be associated with their seniority position, and the sex distribution of their siblings.30

Goodenough and Leahy found that:

There is probably no position in the family circle which does not involve, as a consequence of its own peculiar nature, certain special problems of adjustment. It is our task to study these problems to ascertain the nature of the condition under which each is likely to develop, and to find means for modifying these conditions in accordance with individual needs.31

Koch found that ordinal position did affect personality


in the following situations:

Girls with a sibling within two years older or younger were rated more friendly to adults than were boys.

Second born males with a male sib near in age were low in friendliness to adults but increased in friendliness and in the extent to which they bid for adult attention, as the difference in age between them and their sib increased from under two to between four and six years. Boys with a brother under two years older were significantly less friendly than boys with a brother under two years younger.

First borns with a male sib two to four years younger were less friendly to adults and responsive to their approval, less obedient, and less inclined to tattle than parallel groups where the brother was four to six years younger.

At the two to four year spacing second borns were more responsive to adult approval than were first borns. 32

Scientific Reference to Hypotheses

The reader may wonder why the first born is favored intellectually. One explanation is that the first born is favored financially. "The first born in a family is likely to have more financial resources available to him than do the later born. 33 The first born gets a good start in his education before adversity catches up with him and before


the expense of caring for an increasing number of children reduces the financial resources available to him. Clark further states that the "first born uses a disproportionate amount of the family's available financial resources for education, thereby causing a curtailment in the education achievement possible for those siblings who follow him."34 Cattel and Brimhall challenge Clark's explanation, in part, when they bring out the fact that "families are likely to improve their economic condition over time, thereby increasing the possibility of younger children in the family to pursue further education rather than their older siblings."35

"Uterine fatigue" is another explanation why first born children "make it" more often than later born children. Earlier born may demonstrate a higher ability level than later born as a result of a woman's having a partially exhaustive supply of nutriment available to the fetus; and with succeeding births the aging effects of the mother also make it more difficult for the fetus to assimilate the necessary materials.36

According to this theory, each succeeding fetus receives a lesser degree of nourishing materials essential for

34 Clark, op. cit., p. 84.
36 Beyer, op. cit., p. 481.
superior development than did the previously born sibling. This in turn reduces his chances, relative to his older sibling, of attending and graduating from college.

An alternative physiological explanation which cites why the first born may not do as well as the later born follows:

Permanent neural damage, resulting from hypoxia during delivery or the use of instruments to facilitate the birth process, or long term weaknesses as a result of prematurity and subsequently increased physical difficulty in coping with the outside world is more prevalent in early births.\textsuperscript{37}

These physiological hypotheses are not conclusive because the implication that each subsequent child would have a lower capacity for high academic achievement is contradicted by the observed greater attainment of last born over those of intermediate ordinal positions. And, how could the "uterine fatigue theory" be true when there are a greater number of later born children than intermediate born children going to college? And, although the second physiological theory does account for the greater proportion of last born than of intermediate born going on to college, it is not adequate for explaining the greater proportion of first born going on to college, nor for the observed differences between the only children and the first born.

\textsuperscript{37}Bayer, \textit{op. cit.}, p. 481.
The writer has said that the first born might achieve more than his siblings because his family might allocate more resources to him to develop his talents because they have more resources when younger children are small, and also, he might achieve more than his brothers and sisters because he was born to a younger and possibly healthier woman. A third explanation as to why the first born is likely to achieve is the difference in motivation he receives from his parents. The first child "provides the first vehicle whereby parents can continue their own identities and realize their frustrated hopes and ambitions".\textsuperscript{38} In order to represent their parents well, they are tutored more diligently than their younger brothers and sisters. Since there are no other children at home, the first born converses primarily with adults during his formative years. This set of circumstances seems to increase the first child's readiness for and achievement in school.

The first born's unique socialization is responsible for his strong sense of peer and family accountability. Parents generally treat the first child differently than they do successive children. Perhaps because of their inexperience and consequential insecurity in raising children, "parents tend to be stricter with their first born.

\textsuperscript{38}Boroson, op. cit., p. 2A, col. 1.
Later offspring receive more relaxed, permissive treatment. This stricter treatment might include giving the oldest child more responsibility than later children. First borns might become more responsible than later children because they are often "given more responsibility--if only because mothers need them to help with the younger ones." The first born might be willing to accept this responsibility for fear of losing his ordinal position and the love of his parents. It might be that the first born is seeking attention and approval from his parents, even as each successive child dethrones him, by doing what is expected of him. To be fair to parents of first borns, it should also be mentioned that they are also accused of rewarding the children in question more generously than later born. New parents are "usually able and eager and have time to romp with their first borns, to talk to them, (and to take) them exploring."

The intense mothering, which is often given to the first born may make the first born very dependent on his parents. This dependency may make him more sensitive to the socialization practices employed by parents and others. Getzels and Walsh found among "children from

39"First borns seem Smarter", _op. cit._, p. 55.
40_Boroson, _op. cit.,_ p. 1A, cols. 5 and 6.
8-13 years of age that the degree of socialization was greater for first born and only children.\textsuperscript{42} First born and only children also showed that they were more obligated to conform to the expectations of adult or authority figures by getting higher scores on the Marlowe-Crowne SDS.\textsuperscript{43} In another study, first borns showed that they were willing to follow normative behavior in marriage when they were found to have lower rates of interfaith marriage than later borns.\textsuperscript{44}

An interesting finding concerning the responsibility independence relationship in two child families was reported by Harris and Howard. They found that...

in five out of the six times the first born with a sib three to four years younger had the earliest average responsibility score (in comparison with first born with one to three or four plus years separating them from the younger sib). Again, in five out of six times, the second born whose sib is three to four years older had the earliest average independence score (in comparison with second born separated from first borns by the other age intervals).


This finding might have some relevance to the action-oriented second born mentioned in the Introduction. Explanations for this relationship are not documented. It might be that the first child experiences strain with the arrival of the second child when his parents require him to quickly relinquish his babyhood and to conform to adult expectations. The second child might be independent because parents find it difficult to easily codify their expectations of him.

If he were only one to three years younger than the older sib, the parents might tend to classify him with the older sib, and have roughly the same expectations and extend the same prerogatives. And, if he were more than four years younger, the parents could definitely regard him as too young to be entitled to the same freedoms as the older sib. ⁴⁶

Ansbacher in a previously cited book quoted Adler as saying first borns are conservative while later born children are inclined to believe that there is no power in the world that cannot be overthrown. ⁴⁷ Price describes the first born as being "serious, methodical, law abiding, tidy and less impulsive," ⁴⁸ than later born children. But, Wile and Noetzel and Altus have not found him so. Altus has not been able to find convincing evidence on the college

⁴⁶Harris, op. cit., p. 451.
campus that the first born is conservative:

I have found at Santa Barbara that the first born is somewhat more likely to say he attends church services than is the later born, but this bit of evidence is about all I have found linking the first born to conservatism.\footnote{49}

The dependence of the first born upon societal norms extends into the marital relationship. Evidence of the first born's adherence to established male and female roles was gathered when Gerard and Rabbie replicated a study by Schachter which found that first born females when under stress, seek to affiliate more than later born females. But Gerard and Rabbie, unlike Schachter, included males in their sample.

They found that first born females and later born males manifested more affiliative behavior than did later born females and first born males.\footnote{50}

To account for the sex difference, they hypothesized that the attitudes learned by the child may not be dependent upon the amount of succorance from the mother but rather upon the universalized standards which she conveys. In this culture, the Victorian norms of the stalwart male and the dependent female probably prevail as ideals.\footnote{51}

\footnote{49}{Altus, op. cit., p. 47.}


\footnote{51}{Gerard and Rabbie, op. cit., pp. 586-592.}
Further evidence of the strong masculinity-femininity ideals prevalent in the first borns is supplied in a study by MacDonald. He compared couples in which both spouses were first born to couples in which both spouses were later born and found that first born females were most likely to express a desire to withdraw from an experimental situation in which an electrical shock was to be used and the first born males were least likely to withdraw. It was hypothesized in the study that this was the case primarily because of the differential socialization of the sexes for the male and female ideals. It is assumed here that the ideal man would not soften to pain, but is perfectly all right for the female to do so.

Clues as to what other independent variables might affect scholastic achievement, attitude toward education, accountability to peers, accountability to family and family member role conservatism besides birth order were supplied by Rehberg and Westby in a previously cited source. They suggested that a child's achievements and values might be influenced by his parents' education and the size of his family.

52 MacDonald, op. cit., pp. 2.

Summary

Generally, the findings from the research work and speculation on the relation between birth order and personality are not in agreement. It is the writer's feeling that the negative school of thought will receive more support in the future. Birth order in the family can only be a practical research variable when it is "only an indicator of some other phenomena". A simplistic over-reliance on this factor alone would seem unwarranted. But, on the other hand, birth order should not be overlooked as a research variable. Our knowledge of the socialization process in general may be extended through the study of birth order.

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CHAPTER III

DESIGN OF THE STUDY

Introduction
The purpose of this chapter is to describe the procedure used in relating birth order in the family with scholastic achievement, attitude toward education, accountability to peers, accountability to family, and conservatism in family member roles.

Selection of Subjects
Eighty-five home economics students in the writer's classes in a junior high school in a mid-western city, who were not absent during the week of March 15 to 19, participated in the study. Of the 85, 45 were first borns and 40 were second borns; 14 first borns were ninth graders and 31 first borns were eighth graders. There were 11 second borns in the ninth grade and 29 second borns in the eighth grade. Only 14 of the students in the study were boys. Since deceased brothers and sisters or those living far away from home contribute only a minor influence as compared with children living at home, they were not tabulated in family size or birth order information. Although participation in the study was not a requirement in the class, no student refused.

26
The Opinionnaire

The opinionnaire used in this study is found in Appendix A. Birth order was the independent variable; scholastic achievement, attitude toward education, accountability to peers, accountability to family, and conservatism in attitudes toward family member roles were dependent variables. The statements used in the opinionnaire were adapted from a variety of scales. The Statements concerning attitudes on education were developed by Glassey,55 and Rundquist and Sletto.56 The statements concerning accountability to peers were borrowed from Phillips,57 Berger,58 and Banta.59 The statements concerning accountability to family were written by Bardis.60


Levinson and Huffman,61 Rundquist and Sletto,62 The statements concerning attitudes toward family roles were developed by Nadler and Morrow,63 Kirkpatrick,64 Levinson and Huffman,65 Itkin,66 Schaefer and Bell,67 and Motz.68

The statements from the above scales were revised and presented to a panel of five judges including: two guidance counselors, an assistant principal, and two classroom teachers. These "judges" were employed by the school system and knew junior high students well. Each


62 Rundquist and Sletto, op. cit.


65 Levinson and Huffman, op. cit., pp. 251-273.


judge was asked to read the statements on the opinionnaire and to eliminate those that were not related to the dependent variables, and those that were not appropriate for junior high students. The comments made by these judges were reviewed and when two or more judges questioned a particular statement, appropriate changes were made.

The use of established scales developed according to the Likert summated method increases the validity of this attitudinal instrument. When this scale was used, all test items were classified as "favorable" or "unfavorable". The subjects indicated the degree to which they agreed with every item, checking one of the descriptors: (1) agree a lot, (2) agree, (3) undecided, (4) disagree, and (5) disagree a lot. The items finally selected were those which discriminated "best" among high versus low total scores in the pretest. Such a pretest was administered to eighth and ninth grade students of a fellow home economics teacher in the junior high school.

Statements one through fifteen in the opinionnaire related to attitudes toward education. Seven of the statements (1, 5, 9, 10, 13, 14, and 15) had negative connotations toward education; eight (2, 3, 4, 6, 7, 8, 11, and 12) were positive. Statements sixteen through twenty-three were related to accountability to peers, and statements twenty-four through thirty-two were related to accountability to family. Of these, seven statements (17, 18, 19, 22, 28, 29,
and 30) were negative and ten (16, 20, 21, 23, 24, 25, 26, 27, 31, and 32) represented a positive attitude towards accountability. Statements thirty-three through fifty were related to attitudes toward family member roles. Of these, eleven statements (34, 35, 38, 39, 40, 42, 43, 44, 47, 48, and 50) favored a liberal view and seven (33, 36, 37, 41, 45, 46, and 49) favored a traditional one.

Some demographic data were requested in the opinionnaire. The number of children in the family, the education of the father, and the education of the mother were needed for correlation with five variables: (1) scholastic achievement, (2) attitude toward education, (3) accountability to peers, (4) accountability to family, and (5) family member role conservatism. The age of the students and the ages of their siblings were needed in order to determine the respondents' birth order.

**Data Analysis**

The objective of the data analysis was to compare first and second borns in regard to (1) scholastic achievement, (2) attitude toward education, (3) accountability to peers, (4) accountability to family, and (5) family member role conservatism, and to determine if the responses of the two groups were different from each other. Grade point average as reported on the Office Grade Cards for the 1969-70 academic year was used as a measure of
scholastic achievement. The subject's responses on the appropriate items were totaled to obtain estimates of variables 2, 3, 4, and 5. These variables were analyzed as follows:

1. Birth order was compared to the grade point averages of the respondents.

2. Birth order was compared to the attitudes of the respondents as measured by their responses to carefully selected statements presented to them in opinionnaire form.

3. The education of the father, the education of the mother, and family size were cross tabulated individually with each of the dependent variables.

The program utilized in the analysis was written by Mr. Raymond H. Diggle, Jr., Assistant Professor of Business Administration at Wittenberg University and Dr. George Lee, Associate Professor of Sociology at Wittenberg University. The program was executed on the Wittenberg University 8K IBM 1130 computer during the week of March 20-27. Since there were only 85 first and second borns in the study and the computer program utilized required a sample of 100, 26 blank cards, which were shown not to affect the data percentages, were added to the data deck.

In order to test the hypotheses set forth on page 6, birth order sequence was cross tabulated with grade point average, and the statements relating to attitude toward education, accountability to peers, accountability to family, and family member role conservatism. Chi square values and
coefficient of Spearman rank correlations were computed for each cross tabulation. A .05 statistical significance level of ninety percent of the statements related to each category had to be met in order to reject the null hypotheses.

In order to gain additional information about concomitants of variation in the dependent measures, independent variables other than birth order were cross tabulated with the dependent variables. These independent variables were education of the father, education of the mother, and family size. This cross tabulation was the basis for recommendations for future research.
CHAPTER IV

FINDINGS AND DISCUSSION

Introduction
This chapter includes a presentation and discussion of findings which compare first and second born children's scholastic achievement, attitude toward education, accountability to peers, accountability to family, and family member role conservatism.

The findings will be grouped into two parts: findings pertinent to demographic factors and findings pertinent to hypothesis testing.

Demographic Findings
In order to use the data compiled in this study, it became necessary to evaluate certain information about the sample. Table 1 indicates the family size of the first and second borns. The two-child family predominated in the sample.
### TABLE 1
SAMPLE DISTRIBUTION ACCORDING TO FAMILY SIZE

<table>
<thead>
<tr>
<th>Number in Family</th>
<th>First Born</th>
<th></th>
<th>Second Born</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>11.1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>33.3</td>
<td>15</td>
<td>37.5</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>26.6</td>
<td>12</td>
<td>30.0</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>15.5</td>
<td>10</td>
<td>25.0</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>8.8</td>
<td>2</td>
<td>5.0</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>4.4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2.5</td>
</tr>
</tbody>
</table>

There were only 5 one-child families in the study. Few of the families had more than 4 children in them.

Table 2 indicates that the parents of the students in the study were well educated. Thirty-one or 68.7 percent of the fathers, and 25 or 55.5 percent of the mothers of the first borns, had some schooling beyond high school. Only 19 or 47.5 percent of the fathers, and 13 or 32.5 percent of the mothers of the second borns, had been formally trained beyond high school. In this study, the parents of the first borns had more education than the parents of the second borns. Although a higher percentage of the mothers
### TABLE 2

**SAMPLE DISTRIBUTION ACCORDING TO THE EDUCATION OF THE MOTHER AND THE FATHER**

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Father</th>
<th></th>
<th></th>
<th>Mother</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First Born</td>
<td>Second Born</td>
<td>First Born</td>
<td>Second Born</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade School</td>
<td>0 0 1 2.5</td>
<td></td>
<td>0 0 1 2.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior High</td>
<td>2 4.4 4 10.0</td>
<td></td>
<td>2 4.4 4 10.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>12 26.4 16 40.0</td>
<td></td>
<td>18 40.0 22 55.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some College or Technical Education</td>
<td>8 17.7 5 12.5</td>
<td></td>
<td>9 20.0 5 12.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>16 35.5 9 22.5</td>
<td></td>
<td>13 28.8 7 17.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate School</td>
<td>7 15.5 5 12.5</td>
<td></td>
<td>3 6.6 1 2.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

than the fathers, for both the first and the second borns, had finished high school, fewer of the mothers as compared with the fathers of the same groups, had completed college and graduate study.

Table 3 indicates that the students in the study achieved well in school, probably reflecting their parents' interest in education. Fifteen or 33.3 percent of the first borns had "A" averages as compared to 4 or 10.0 percent
### TABLE 3

**FIRST AND SECOND BORN ACHIEVEMENT IN REGARD TO GRADE POINT AVERAGE**

<table>
<thead>
<tr>
<th>Grade Average</th>
<th>First Born</th>
<th></th>
<th>Second Born</th>
<th></th>
<th>Chi Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>15</td>
<td>33.3</td>
<td>4</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>18</td>
<td>40.0</td>
<td>17</td>
<td>42.5</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>8</td>
<td>17.7</td>
<td>12</td>
<td>30.0</td>
<td>7.747*</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>8.8</td>
<td>7</td>
<td>17.5</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

4 degrees of freedom
*Significant at .30 level

of the second borns. The first borns also were less likely to made "C's" and "D's" than the second borns.

**Scholastic Achievement**

Chi square values were compiled in order to test null hypothesis 1: there is no difference between first and second borns in relation to scholastic achievement. The computed value of the chi square as shown in Table 3 was high enough to reach a .30 significance level when grade point average of first born children was compared with that of second born children. The first null hypothesis failed to be rejected at the .05 level.
**Attitude Toward Education**

With few exceptions, there was a tendency for the respondents to hold favorable attitudes toward education. The responses to statements 1-15 were used to measure these attitudes and to test hypothesis 2: there is no difference between first and second borns in relation to attitudes toward education. Statements supporting positive attitudes toward education which were most frequently endorsed were: "I enjoy going to school", "Money spent on education is wisely spent", and "Education is more important than most people feel".

Table 4 indicates that first and second born children responded differently to statements relating to

| Table 4 |
|------------------|------------------|
|                  |                  |
| **FIRST AND SECOND BORN DIFFERENCES**  |
| **IN REGARD TO ATTITUDES**  |
| **TOWARD EDUCATION**  |
|                  |                  |

<table>
<thead>
<tr>
<th>Statement</th>
<th>Chi Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals learn to think for themselves in school.</td>
<td>13.732**</td>
</tr>
<tr>
<td>A high school education makes a person a good citizen.</td>
<td>6.043*</td>
</tr>
</tbody>
</table>

4 degrees of freedom  
*Significant at .30 level  
**Significant at .50 level
whether individuals learn to think for themselves in school and whether a high school education makes a person a good citizen. In both responses, the first borns had a more favorable attitude toward school. Findings concerned with attitudes toward education are demonstrated in Appendix B. Since fewer than 90 percent of the statements were significant, the second null hypothesis, which negates a relationship between birth order and attitudes toward education, failed to be rejected.

**Accountability to Peers**

Although the students strongly agreed that they do care what happens to their peers, they were critical of these peers. Perhaps accountability or loyalty to peers is accompanied by objectivity. This objectivity is most evident in the statements about the dress, manner and ideas of some of their friends, about the student being socially mature, and about how students handle their feelings. Strong peer accountability may be counted on when choosing between avoiding and implementing hurt on a peer and when doing a favor for a friend. Responses to statements 16-23 in the opinionnaire were related to accountability to peers and were used to test the third hypothesis.

First and second borns did not respond differently to statements involving peer accountability. As a result, the null hypothesis, that there is no difference between
first and second borns in accountability to peers, failed to be rejected. Findings concerned with accountability to peers are found in Appendix C.

**Family Accountability**

Although these students do express loyalty for their families as evidenced by their responses on discussing important plans with members of their families, sacrificing for their families, helping around the house, and confiding in their families, they do have strong reservations about giving their earnings to their families and telling their parents everything about their personal affairs. Statements 24-32 were used to test family accountability.

Table 5 indicates that first and second born children were found to respond to only one statement differently from one another: a person should always be completely loyal to his family. First borns were found

<table>
<thead>
<tr>
<th>Statement</th>
<th>Chi Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>A person should always be completely loyal to his family.</td>
<td>( 2.839^* )</td>
</tr>
</tbody>
</table>

\( ^4 \) degrees of freedom  
\( ^* \) Significant at .10 level
to agree more often with this statement than second borns. Since there was a low computed value for chi square in this analysis, and since fewer than 90 percent of the statements were significant, the null hypothesis that there is no difference between first and second borns in accountability to family failed to be rejected. Some general findings about the way the students in the study responded to these statements are found in Appendix D.

**Attitude Toward Family Member Roles**

A liberal point of view predominated as far as the students' attitude toward family member roles are concerned. In reference to traditional male-female roles of dominance and submission, the responses dealing with whether the daughter should have the same privileges as the son, a girl child should be made to feel that she is equal to a boy, the wife should take a job if she wants, and the husband should help take care of the children, all encourage a liberal view. Statements to which students did not show a clear liberal-conservative leaning were whether a man's work should differ from a woman's, a man who does not provide for his family is a failure, a husband should help with the housework, and a wife should let her husband decide most things.

Liberal points of view were also most frequently endorsed in the statements regarding traditional parent-child roles of dominance and submission. Statements to
which students showed the most liberalism were those that proclaimed that teenagers should be allowed to decide most things, parents ought to listen to their children, children would be happier if parents would show interest in their affairs, and parents should not dictate as to how much you should study. Students did not show a clear liberal-conservative view to those statements that asked if parents should insist upon complete obedience from their children, and if parents should make sacrifices to make their children happy. Statements 33-40 in the opinionnaire are related to attitudes toward family member roles and hypothesis 5.

Table 6 indicates that first born and second born children responded differently from one another in regard to family member role conservatism. But, since there was little statistical significance in this part of the study, 

TABLE 6
FIRST AND SECOND BORN DIFFERENCES IN REGARD TO FAMILY MEMBER ROLE CONSERVATISM

<table>
<thead>
<tr>
<th>Statement</th>
<th>Chi Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents should not dictate to you as to how much you should study.</td>
<td>6.233 *</td>
</tr>
</tbody>
</table>

4 degrees of freedom
*Significant at .30 level
and since fewer than 90 percent of the statements were significant, the null hypothesis, that there is no difference between first and second borns in attitudes toward family member roles failed to be rejected. Some general findings about the way the students in the study responded to these statements are found in Appendix E.

**Suggestions for Future Investigation**

Since birth order in this analysis did not appear to be related to scholastic achievement, attitude toward education, peer accountability, family accountability, and family member role conservatism, probable alternate independent variables were cross tabulated with the dependent variables in the study in an attempt to suggest direction for future investigation. The probable alternate independent variables were family size, education of the father, and education of the mother.

A statistical significant finding at the .05 level was shown in the relationship between family size and the education of the father. Fathers who had had some graduate school most often had 2, 3, and 4 child families. Fathers who had had only a college education most often had 2 child families. Fathers with less than a college degree were most likely to have a wide variation in family size.

Another finding was the high correlation, at the .01 statistical significance level, between the education of
the mother and the education of the father. It seemed that the students' parents married people with backgrounds similar to their own.

A third finding was the correlation between the education of the father and grade point average. This correlation coefficient was found to be statistically significant at the .05 level. Since this correlation was higher than that with birth order, perhaps future experimenters should examine the correlation of the education of the father with the variables identified as personality qualities in this research.

A final correlation at the .05 statistical significance level was found between family size and liberal attitudes toward family member roles. When the students in the study responded to the statement about whether a daughter in a family should have the same privileges as the son, the students from large families responded in more of a traditional manner than those from small families. It seems that the children from large families might have a more restrictive female role concept than children from small families.

All of the substantive findings in the study were related to education, whether to the grade point average of the respondents, the respondents' attitudes toward education, or the educational level of the respondents' fathers.
The correlations between birth order and accountability to peers and family and family member role conservatism were not confirmed.

The difference encountered when birth order was correlated with grade point average and attitudes toward education may have been due to social rather than physiological causes. The most prominent of the social causes is likely to be differential parental treatment accorded children of different ordinal positions, the greater "conscience" development because of the high level of accordance with rules parents have with the first child, and the greater dependence on adult norms and higher expectations of achievement falling to the lot of the first born. Finally, one further difference which sets the first born apart is that he is the only child who has access for an indeterminate period of time to parental interaction which he does not have to share with a sibling.

A possible explanation as to why parents handle the second child with less tension than the first is that much of the guilt, fear, anxiety and hostility frequently surrounding the birth process is expressed against the first born who also may suffer the psychological disadvantage of being the first to come between the newlyweds. With the birth of the second child or subsequent children, parents function in a more relaxed manner.
After the adjustment to the first child, the parents probably are more able to give later children consistency and genuine love that the healthy personality requires.

It was difficult to surmise why there was so little difference between the responses of the first and second borns in regard to peer and family accountability and family member role conservatism. If first borns were going to internalize adult expectations of doing well in school and in having favorable attitudes toward education, then it was difficult to see why adult expectations were not found in regard to attitudes about the family. If the first borns were anxious about losing their parents' love, it was difficult to understand why they did not seek attention, approval and support from their parents in other than education.

**Summary of Findings**

Although few of the computed chi square and correlation coefficient values were statistically significant, the writer did find two definite trends in this sample:

1. There was a slight nonsignificant indication that there might be a relationship between birth order and grade point average.

2. There was a slight nonsignificant indication that there might be a relationship between birth order and a statement which investigates the respondents' attitudes toward education.
The foregoing would lead one to suspect that birth order, as it relates to personality aspects as identified in this study, may not be influential since all of the null hypotheses failed to be rejected at the .05 statistical significance level. This relative lack of difference minimizes the probable relationship between birth order and scholastic achievement, attitude toward education, accountability to peers, accountability to the family, and family member role conservatism.
CHAPTER V

SUMMARY AND IMPLICATIONS

The purpose of this study was to determine whether birth order would be related to certain personality variables for teenagers. Forty-five first borns and 40 second borns in a junior high school in a mid-western city were compared in their grade point averages in relation to responses to statements on attitude toward education, accountability to peers, accountability to family, and family member role conservatism.

Since there was little agreement in the literature as to whether scholastic achievement, attitude toward education, accountability to peers and family, and family member role conservatism were related to birth order, the investigator did not expect unequivocal findings. Although none of the computed chi square and correlation coefficient values were statistically significant at the .05 level in regard to the null hypotheses, there was a slight indication that there might be a relationship between birth order and the students' grade point average, and birth order and the students' attitude toward education. Contrary to what some researchers have suggested, this
study did not reveal second born children to be less responsible than first born children. Generally, the findings from this research support the negative school in reference to birth order which purports that birth order and personality are minimally related. If a small genuine difference between first and second borns exists, it is not enough to seriously affect the individual's status in society.

The present work did not show birth order to be a prime determinant of personality in this sample. The major problem with this and many other birth order studies was simply that it was difficult to keep enough factors constant to make possible an analysis of a sort adequate to give valid and reliable data. Additional research is suggested to further test the hypotheses in this study. The writer does recommend that the future experimenter recruit subjects from a large audience and that he take into consideration analysis for sex differences.
APPENDIXES

A. THE OPINIONNAIRE

B. CROSS TABULATION OF BIRTH ORDER WITH ATTITUDES TOWARD EDUCATION

C. CROSS TABULATION OF BIRTH ORDER WITH ATTITUDES TOWARD PEER ACCOUNTABILITY

D. CROSS TABULATION OF BIRTH ORDER WITH ATTITUDES TOWARD FAMILY ACCOUNTABILITY

E. CROSS TABULATION OF BIRTH ORDER WITH FAMILY MEMBER ROLE CONSERVATISM
APPENDIX A

OPINIONNAIRE ON THE FAMILY

A. Demographics
1. How many children are there in your family? □
2. List the ages of your brothers and sisters.
   □ □ □ □ □ □ □ □ □ □ □ □
3. What is your age? □
4. What is the highest level of educational attainment reached by your father? Check one:
   □ Grade School □ Some College or Technical Education
   □ Junior High School □ College Education
   □ High School □ Graduate School
5. What is the highest level of educational attainment reached by your mother? Check one:
   □ Grade School □ Some College or Technical Education
   □ Junior High School □ College Education
   □ High School □ Graduate School

B. Below are 50 statements regarding family life. Read each statement. Then place a check mark (✓) in the column which best describes your feelings.

   AL means Agree A Lot
   A means Agree
   U means Undecided
   D means Disagree
   DL means Disagree A Lot

   Indicate your own personal opinions about these statements, regardless of whether you think other people might agree or disagree with you. There are no "right" or "wrong" responses to these statements.

<table>
<thead>
<tr>
<th>AL</th>
<th>U</th>
<th>D</th>
<th>DL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

1. A person can learn more by working four years than by going to high school.
2. The more education a person has the better he is able to enjoy life.
3. Individuals learn to think for themselves in school.
4. Classes in school help students meet the problems of real life.
5. A person is foolish to keep going to school if he can get a job.
6. A high school education makes a person a good citizen.
7. It is through education that we will solve the world's problems.
8. I enjoy going to school.
9. Being well-liked is more important than making good grades.
10. Money spent on education is not wisely spent.
11. Education is more important than most people feel.
12. The pupil who is not making good grades should be told to study harder.
13. Parents should not insist that their children go to school.
14. I go to school only because I have to.
15. I think time spent studying is wasted.
16. I feel bad when things I do hurt someone else.
17. I am critical of the dress, manner, or ideas of some of my friends.
18. On the whole, the students at school are not very mature socially.
19. On the whole, the students at school do not handle their feelings very well.
20. I often attempt to help my friends make important decisions.
21. I enjoy doing little favors for people even if I do not know them well.
22. You are asking for trouble if you completely trust someone.
23. Most people are basically good.
24. Children less than eighteen years old should give most of their earnings to their parents.
25. A person should always be completely loyal to his family.
26. Young people should discuss important plans with members of their families.
27. A person should be willing to sacrifice for his family.
28. Parents should not expect their children to help around the house.

29. Members of the family are too curious about one's personal affairs.

30. One should not confide in members of his own family.

31. There is hardly anyone lower than a person who does not feel great love, gratitude, and respect for his parents.

32. Young people should obey their parents because they are their parents.

33. Woman's work and man's work should be different.

34. A daughter in a family should have the same privileges and opportunities as the sons.

35. Girl children should be made to feel that they are fully equal to the boys in the family.

36. A man who does not provide well for his family ought to consider himself pretty much of a failure as husband and father.

37. A woman whose children are messy has failed in her duties as a mother.

38. The husband should help with the housework.

39. The wife should take a job if she wants to.

40. The husband should help take care of the children.

41. A wife should let her husband decide most things.

42. A child should not be allowed to talk back to his parents.

43. A teenager should be allowed to decide most things for himself.

44. In making family decisions, parents ought to listen to the opinions of children.

45. Parents should, if necessary, make almost any sacrifices of their own comfort in order to make their children happy.
46. Children of your school age should earn all of their own spending money.

47. Children would be happier if parents would show an interest in their affairs.

48. When a child is in trouble, he should not be punished if he tells his parents.

49. Parents should insist upon complete obedience from their children.

50. Parents should not dictate to you as to how much you should study.
APPENDIX B

CROSS TABULATION OF BIRTH ORDER WITH ATTITUDES TOWARD EDUCATION

<table>
<thead>
<tr>
<th>Statements Related to Education</th>
<th>Percent of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First Born</td>
</tr>
<tr>
<td>Agree Uncer. Disagree Agree Uncer. Disagree</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>20</th>
<th>78</th>
<th>18</th>
<th>20</th>
<th>62</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20</td>
<td>78</td>
<td>18</td>
<td>20</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>1. A person can learn more by working four years than by going to high school.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The more education a person has the better he is able to enjoy life.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Individuals learn to think for themselves in school.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Classes at school help students meet the problems of real life.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. A person is foolish to keep going to school if he can get a job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. A high school education makes a person a good citizen.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

54
## CROSS TABULATION OF BIRTH ORDER WITH ATTITUDES TOWARD EDUCATION

(continued)

<table>
<thead>
<tr>
<th>Statements Related to Education</th>
<th>Percent of Responses</th>
<th>First Born</th>
<th>Second Born</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Agree Uncer.</td>
<td>Disagree</td>
</tr>
<tr>
<td>7. <strong>It is through education that we will solve the world’s problems.</strong></td>
<td>44 22 34</td>
<td>40 35 25</td>
<td></td>
</tr>
<tr>
<td>8. <strong>I enjoy going to school.</strong></td>
<td>69 16 15</td>
<td>70 18 12</td>
<td></td>
</tr>
<tr>
<td>9. <strong>Being well-liked is more important than making good grades.</strong></td>
<td>20 36 44</td>
<td>18 27 55</td>
<td></td>
</tr>
<tr>
<td>10. <strong>Money spent on education is not wisely spent.</strong></td>
<td>9 9 82</td>
<td>8 15 77</td>
<td></td>
</tr>
<tr>
<td>11. <strong>Education is more important than most people feel.</strong></td>
<td>84 11 5</td>
<td>70 23 45</td>
<td></td>
</tr>
<tr>
<td>12. <strong>The pupil who is not making good grades should be told to study harder.</strong></td>
<td>58 18 24</td>
<td>35 20 45</td>
<td></td>
</tr>
<tr>
<td>13. <strong>Parents should not insist that their children go to school.</strong></td>
<td>11 16 73</td>
<td>5 15 80</td>
<td></td>
</tr>
<tr>
<td>14. <strong>I go to school only because I have to.</strong></td>
<td>13 74</td>
<td>20 13 67</td>
<td></td>
</tr>
<tr>
<td>15. <strong>I think time spent studying is wasted.</strong></td>
<td>7 7 86</td>
<td>2 18 80</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

CROSS TABULATION OF BIRTH ORDER
WITH ATTITUDES TOWARD PEER ACCOUNTABILITY

<table>
<thead>
<tr>
<th>Statements Related to Peer Accountability</th>
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<tbody>
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<td></td>
<td>First Born</td>
</tr>
<tr>
<td>Agree</td>
<td>Uncer.</td>
</tr>
</tbody>
</table>

16. I feel bad when things I do hurt someone else. | 86 | 9 | 5 | 88 | 10 | 2 |

17. I am critical of the dress, manner or ideas of some of my friends. | 38 | 22 | 40 | 43 | 17 | 40 |

18. On the whole, the students at school are not very mature socially. | 38 | 24 | 38 | 18 | 37 | 45 |

19. On the whole, the students at school do not handle their feelings very well. | 28 | 38 | 44 | 17 | 48 | 35 |

20. I often attempt to help my friends make important decisions. | 55 | 29 | 16 | 50 | 35 | 15 |
CROSS TABULATION OF BIRTH ORDER
WITH ATTITUDES TOWARD PEER ACCOUNTABILITY
(continued)

<table>
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<tr>
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<tr>
<td>Agree Uncer.</td>
<td>Disagree</td>
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</tbody>
</table>

21. I enjoy doing little things for people even if I do not know them well.  
   78  15  7  78  12  10

22. You are asking for trouble if you completely trust someone.  
   20  13  67  22  23  55

23. Most people are basically good.  
   60  24  16  58  32  10
APPENDIX D

CROSS TABULATION OF BIRTH ORDER
WITH ATTITUDES TOWARD FAMILY ACCOUNTABILITY

<table>
<thead>
<tr>
<th>Statements Related to Family Accountability</th>
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<tbody>
<tr>
<td></td>
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</tr>
<tr>
<td>Agree</td>
<td>Uncer.</td>
</tr>
</tbody>
</table>

24. Children less than eighteen years old should give most of their earnings to their parents.  
   5 13 82 7 8 85

25. A person should always be completely loyal to his family.  
   55 30 15 50 35 15

26. Young people should discuss important plans with members of their families.  
   57 18 25 50 30 20

27. A person should be willing to sacrifice for his family.  
   76 13 11 75 10 15

28. Parents should not expect their children to help around the house.  
   73 22 5 78 15 7

58
CROSS TABULATION OF BIRTH ORDER
WITH ATTITUDES TOWARD FAMILY ACCOUNTABILITY
(continued)

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</tr>
</tbody>
</table>

29. Members of the family are too curious about one's personal affairs.  7  7  86  3  10  87

30. One should not confide in members of his own family.  36  23  41  58  20  22

31. There is hardly anyone lower than a person who does not feel great love, gratitude and respect for his parents.  5  18  77  15  23  62

32. Young people should obey their parents because they are their parents.  38  34  28  45  18  37
APPENDIX E

CROSS TABULATION OF BIRTH ORDER WITH FAMILY MEMBER ROLE CONSERVATISM

<table>
<thead>
<tr>
<th>Statements Related to Family Member Role Conservatism</th>
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</tr>
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<tbody>
<tr>
<td></td>
<td>First Born</td>
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<tr>
<td></td>
<td>Second Born</td>
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<tr>
<td></td>
<td>Agree Uncer.</td>
</tr>
<tr>
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<td>Disagree</td>
</tr>
<tr>
<td></td>
<td>Agree Uncer.</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
</tr>
</tbody>
</table>

33. Woman's work and man's work should be different.  
46 17 37 40 20 40

34. A daughter in a family should have the same privileges and opportunities as the sons.  
80 6 14 73 10 17

35. Girl children should be made to feel that they are fully equal to the boys in the family.  
80 12 8 58 25 17

36. A man who does not provide well for his family ought to consider himself pretty much of a failure as a husband and a father.  
33 26 41 35 18 47

60
## CROSS TABULATION OF BIRTH ORDER WITH FAMILY MEMBER ROLE CONSERVATISM

(continued)

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<th>Percent of Responses</th>
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<th>Second Born</th>
</tr>
</thead>
<tbody>
<tr>
<td>37. A woman whose children are messy has failed in her duties as a mother.</td>
<td>24 18 58 17 23 60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. The husband should help with the housework.</td>
<td>40 36 24 47 25 28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39. The wife should take a job if she want to.</td>
<td>69 18 13 78 20 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40. The husband should help take care of the children.</td>
<td>80 14 6 68 20 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41. A wife should let her husband decide most things.</td>
<td>24 25 51 43 20 37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42. A child should not be allowed to talk back to his parents.</td>
<td>47 23 30 53 27 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43. A teenager should be allowed to decide most things for himself.</td>
<td>57 30 13 63 30 7</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Percent of Responses</td>
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<td></td>
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<td>------------------------------------------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>In making family decision, parents ought to listen to the opinions of children.</td>
<td>85 4 11 78 7 15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents should, if necessary, make almost any sacrifices of their own comfort in order to make their children happy.</td>
<td>27 30 43 35 38 27</td>
<td></td>
<td></td>
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<tr>
<td>Children of your school age should earn all of their own spending money.</td>
<td>32 21 47 18 13 69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children would be happier if parents would show an interest in their affairs.</td>
<td>79 16 5 64 20 16</td>
<td></td>
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<tr>
<td>When a child is in trouble, he should not be punished if he tells his parents.</td>
<td>47 28 25 54 33 13</td>
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<tr>
<td>Parents should insist upon complete obedience from their children.</td>
<td>32 18 50 23 31 46</td>
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CROSS TABULATION OF BIRTH ORDER
WITH FAMILY MEMBER ROLE CONSERVATISM
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50. Parents should not dictate to you as to how much you should study.  
65  13  22  57  31  12
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