Family Birth Order and Leadership Behavior of Public School Principals in Michigan

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FAMILY BIRTH ORDER AND LEADERSHIP BEHAVIOR OF PUBLIC SCHOOL PRINCIPALS IN MICHIGAN

by
Larry J. Corbett

A Dissertation Submitted to the Faculty of The Graduate College in partial fulfillment of the requirements for the Degree of Doctor of Education Department of Educational Leadership

Western Michigan University
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The purpose of this study was to identify the leadership behavior patterns of principals of public schools in Michigan as related to family birth order. The 341 elementary, middle, and high school principals chosen in this study were surveyed with a self-administered questionnaire. The questionnaire elicited responses from the principals to attempt to relate family birth order with concern for production and concern for people. Ninety percent of all potential subjects participated in the survey. The survey responses were applied to the Leadership Grid® (Blake & McCanse, 1991) for comparison.

The t test for independent means was used to compare the group scores of first-born principals with later-born principals. Since the two-tailed probabilities of all three null hypotheses were greater than the alpha of .05, no conclusion could be drawn about the difference between the group of first-born principals and the group of later-born principals with respect to concern for production, concern for people, or participatory leadership behavior. Additional study is required to determine the effect of self-reporting of leaders' behavior versus reporting of leaders' behavior by followers when attempting to relate family birth order and leadership behavior.
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Family birth order and leadership behavior of public school principals in Michigan

Corbett, Larry Jay, Ed.D.
Western Michigan University, 1993
DEDICATION

To my children, Jennifer, Ryan, and Sarah: for your love, contributions, and patience while helping me reach this goal.

To my lovely wife, Iva Kaye: for your love, sacrifice, and words of wisdom needed to help me complete this endeavor.

To my parents, Leo and Lois: for giving me life, love, and support throughout the years.

Larry J. Corbett
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Larry J. Corbett
TABLE OF CONTENTS

ACKNOWLEDGMENTS ................................................................. ii
LIST OF TABLES ........................................................................ vi
LIST OF FIGURES ..................................................................... vii
CHAPTER

I. INTRODUCTION ................................................................. 1
   Purpose of the Study ...................................................... 1
   Importance of Study ....................................................... 2
   Limitations of Study ...................................................... 4
   Organization of the Study .............................................. 6

II. REVIEW OF LITERATURE .................................................. 8
   Family Birth Order ...................................................... 8
   Attitude and Behavior ............................................... 15
   Behavior Patterns of Leaders ................................... 18
   Concern for Production ............................................ 20
   Concern for People .................................................... 21
   The Leadership Grid .................................................. 21
   Summary .................................................................... 25

III. METHODS AND PROCEDURES ...................................... 27
   Operational Hypotheses of Study ............................ 27
   Pilot Study ............................................................... 28
   Pilot Instrument ......................................................... 29
   Procedure of Pilot Study ........................................ 29
   Objectives of Pilot Study ........................................ 32
Table of Contents--Continued

CHAPTER

Results of Pilot Study ............................................................ 33
Procedure of Research .......................................................... 35
Research Instrument .............................................................. 35
Analysis of Data ...................................................................... 37
Null Hypotheses ...................................................................... 38
Summary . ................................................................................ 38

IV. FINDINGS OF STUDY .......................................................... 40
Description of Sample ........................................................... 41
Results of Hypothesis Testing .............................................. 46
  Hypothesis 1: Concern for Production .............................. 46
  Hypothesis 2: Concern for People ................................. 47
  Hypothesis 3: Participatory Leadership ......................... 48
Summary . ................................................................................ 49

V. CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS ...................................................... 51
Implications of Pilot Study ..................................................... 52
Relationship Between the Level of Concern for Production and Family Birth Order ........................................... 52
Relationship Between the Level of Concern for People and Family Birth Order ........................................ 53
Relationship Between the Level of Participatory Leadership and Family Birth Order .................................... 53
Recommendations ................................................................. 54
Conclusion . ............................................................................. 55

iv

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# Table of Contents--Continued

APPENDICES ........................................................................................................... 57

A. Approval Letter From Human Subjects Institutional Review Board .......................... 58

B. The Leadership Grid ......................................................................................... 60

C. Scoring Procedure of Grid Survey ................................................................... 62

D. Script for Follow-up Telephone Call .................................................................. 64

E. Permission to Use--The Leadership Grid ............................................................ 66

F. Cover Letters--Pilot Study .................................................................................. 68

G. Cover Letter--Research Study .......................................................................... 73

BIBLIOGRAPHY ....................................................................................................... 75
LIST OF TABLES

1. Summary of Comparison of Means, Standard Deviations, and t-Test Results for Leadership Behavior as Self-Reported by Principals and Attributed by Building Staff Members .............................................................. 33

2. Distribution of Respondents by Educational Level ..................................... 41

3. Distribution of Leadership Grid Scores for Concern for Production Behavior of Principals ................................................................. 43

4. Distribution of Leadership Grid Scores for Concern for People Behavior of Principals ................................................................. 44

5. Distribution of Leadership Grid Scores for Participatory Leadership Behavior of Principals ................................................................. 45

6. Comparison of Means, Standard Deviations, and t-Test Results for the Concern for Production Behavior and Family Birth Order of Principals ................................................................. 47

7. Comparison of Means, Standard Deviations, and t-Test Results for the Concern for People Behavior and Family Birth Order of Principals ................................................................. 48

8. Comparison of Means, Standard Deviations, and t-Test Results for Participatory Leadership Behavior and Family Birth Order of Principals ................................................................. 49
LIST OF FIGURES

1. The Leadership Grid ................................................................. 23
CHAPTER I

INTRODUCTION

The exemplary leaders today are known for being experts in designing and developing institutions. Nanus (1992) stated that great leaders "are the architects of the organization's future" (p. 10). An effective leader exhibits five primary characteristics as the organization's architect. These primary characteristics are creativity, communication skills, vision, empowerment abilities, and passion (Hackman & Johnson, 1991).

In addition, Bennis (1989) supported the premise that effective leaders are made, not born. Through hard work, study, and practical experiences, individuals can learn behaviors and skills to become effective leaders in many different situations. Other research indicates that in addition to learned behaviors, leaders possess innate factors that affect their leadership behavior. These factors include characteristics such as intelligence, gender, and family birth order (Kotter, 1988).

Purpose of the Study

The factor of family birth order as it relates to the demonstrated leadership behavior of a leader was the focus of this research. By studying the relationship between family birth order and patterns of leadership behavior, leaders could better understand their own behavior. Then, through an enhanced understanding of their own leadership abilities,
leaders could work to improve their limitations and become more effective. This study has developed a better understanding of family birth order, how family birth order relates to attitudes of children, how these attitudes are related to behaviors, and how these behaviors, when learned as children in a family constellation, relate to adult leadership behaviors.

A sampling of elementary, middle, and high school principals across the state of Michigan was studied to compare family birth order of the principal, as it relates to concern for people, concern for production, and level of participatory leadership. The following questions have been raised from the problem statement:

1. Is there a difference between the level of concern for production of first-born adults in a leadership position and later-born adults in a leadership position?

2. Is there a difference between the level of concern for people of first-born adults in a leadership position and later-born adults in a leadership position?

3. Is there a difference between the level of participatory leadership behavior of first-born adults in a leadership position and later-born adults in a leadership position?

Importance of Study

Leaders have consistent behavior patterns that are used when they are working with and through other people. These patterns emerge in leaders as they begin to respond in the same manner under similar conditions. They develop habits of action that become somewhat
predictable (Blake & Mouton, 1980; Halpin & Winer, 1957; Hersey, 1984). The effective leader is one who has developed consistent behavior patterns that convert resources into results (tasks) in working with and through others by establishing and maintaining positive relationships (Blake & McCanse, 1991).

Family birth order is the chronological position in which children are born into the family constellation. The three major positions of family birth order described in research are first born, middle child, and youngest born (Ernst & Angst, 1983; Forer, 1969; Leman, 1989).

By researching the relationship between leadership behavior and family birth order, leaders could obtain a better understanding of themselves. Leaders could be made aware of certain childhood behaviors that are characteristic of first-born and later-born children and tend to develop into adult leadership behaviors.

For example, if a leader was a first-born child in his or her family constellation and realized there was a tendency to develop a specific leadership behavior pattern from childhood experiences (Reit, 1985), then these behavior patterns could be determined as possible strengths and limitations for a given leadership position. The leader could then develop a plan of improvement as needed to become a more effective leader in any situation. Kouzes and Posner (1987) wrote:

> Wanting to lead and believing that you can lead are only the departure points on the path to leadership. Leadership is an art, a performing art. And in the art of leadership, the artist's instrument is the self. The mastery of the art of leadership comes with the mastery of the self. Ultimately, leadership development is a process of self-development. (p. 298)
If a relationship between family birth order and leadership behavior can be demonstrated, then leaders could better understand themselves and their current leadership tendencies. Leaders could decide what leadership position for which they are best "fitted" or determine what personal leadership skills must be further developed to become a more effective leader.

In addition, family birth order characteristics may affect leader-follower relationships. This information can help either the leader or the follower to be better prepared for what may be expected in their job-related roles. Leaders who are first-born siblings may need to focus more on people-oriented activities to more fully develop their potential as an effective leader. However, leaders who are later-born siblings may need to develop skills on setting and reaching goals. Meanwhile, followers can better understand why first-born and later-born leaders or supervisors may react differently in similar situations. The relationship between family birth order and leadership behavior should be researched to determine what significance the relationship plays in developing effective leaders of the future.

Limitations of Study

This study was developed in the state of Michigan. The sample was composed of elementary and secondary school principals within the public school system. The external validity was affected due to certain limitations on the ecological generalizations of this study.

First, the findings cannot be generalized to leaders outside the realm of the educational system in the state of Michigan. Leaders in
other professions may not have a common background, such as the specific training and certification required of principals in public education. All public school principals have an undergraduate degree and a vast majority have a master's degree or beyond. All principals have experience in teaching and related activities. All principals used in this study are certified by the Department of Education of the state of Michigan.

In addition, most private organizations and businesses have been conceived on the philosophy of making a profit. Conversely, public schools are nonprofit in nature. One could assume leaders in private business and industry would tend to be more task-oriented and concerned about production of goods or other related organizational goals. Also, leaders (principals) in schools have developed goals for the socialization of students and may be more conscious of attempting to develop a human relations program within the school. Thus, school principals through training may have developed a different level of concern for people than leaders in private organizations.

Second, the findings could have difficulty being generalized to private schools. There are a wide range of factors that have an effect on the governing of private schools. Each individual private/parochial school district has its own certification rules and policies, including comparable lower pay and fringe benefits for leaders. Leaders in private schools may have different motives or philosophical differences for being in education than leaders in public education. Therefore, building principals in private schools may require different skills for leading employees and students than principals leading groups of individuals within the

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Finally, the changing relationships due to marital status within families may limit the generalizability of this study. As single parent families are on the increase, there is a decrease in the opportunity to fully develop the characteristics related to family birth order as the term "family" is classically defined. Can the findings of this study be applied equally as well to a two-parent family, a single-parent family, or a family of step and half siblings? These questions related to various family constellations could put limitations on the generalizability of the findings of this study.

Organization of the Study

Chapter I presents an introduction and statements describing the problem, the purpose, the importance, the limitations, and the organization of the study.

Chapter II is a selective review of the literature as it pertains to the variables of family birth order and behavior patterns of leaders. The operational definitions of key concepts are included in the review of literature.

Chapter III contains the methods and procedures used to conduct the study. Included in the chapter are the operational hypotheses, pilot study and procedures used for the pilot study, the objectives and results of the pilot study, the procedures used to conduct the study, and techniques used to collect and analyze the data.

The findings of the study are presented in Chapter IV. The description of the sample, the results of the testing of the hypotheses, and
the data tables provide additional detail to the findings.

Conclusions about the purpose of the study as related to the results of the tested hypotheses, as well as recommendations for future research, are contained in Chapter V.
CHAPTER II

REVIEW OF LITERATURE

The purpose of this study was to identify the leadership behavior patterns of principals as related to family birth order. In this chapter the pertinent literature has been reviewed to develop a foundation of understanding for family birth order, attitude formation in children, how attitudes and values are related to behavior patterns, and leadership behavior patterns. Also, the Leadership Grid ® developed by Blake and McCanse (1991) has been introduced and discussed.

Family Birth Order

Family birth order, family relationships, and sibling relationships are tightly intertwined. To study family birth order, the family itself must be briefly discussed. Reit (1985) referred to the family, "like constellations in the night sky, families do have distinct patterns and groupings" (p. 5).

The parts of the family constellation act, react, and interact with one another. Every family member has an effect on every other family member. Reit (1985) stated that "families are like living organisms, always growing and adapting to new conditions" (p. 6).

The family constellation has the capabilities to serve as a support by providing security, love, and understanding. However, the family can also be a negative force by generating tension, unhappiness, and dislike.
It is within the family constellation that a major portion of human behavior is learned (Reit, 1985).

Family birth order is defined as the chronological position in which children are born into a family (Forer, 1969; Leman, 1987). A child can be a sibling in a family with varying numbers and combinations of brothers and sisters. However, the most commonly researched family birth order situations are families with either two or three siblings in every combination of male and female birth order (Ernst & Angst, 1983; Leman, 1987; Reit, 1985; Sutton-Smith & Rosenburg, 1970).

If there are two or more siblings in the family, the oldest child is usually referred to as the first-born. When there is a single child in the family, the child is referred to as an only child (Ernst & Angst, 1983; Sutton-Smith & Rosenburg, 1970). The second born child in a two-sibling family is referred to as the youngest-born or later-born sibling. The second-born child in a three-sibling family is considered to be the middle child and also a later-born sibling. It follows, the last child born in a family is the youngest sibling and also classified as later-born (Ernst & Angst, 1983; Sutton-Smith & Rosenburg, 1970).

The first-born sibling is the most researched position in the family birth order. The first-born sibling is adult-oriented and is likely to be described as serious, sensitive, conscientious, and fond of doing things with adults (Forer, 1969). Sutton-Smith and Rosenberg (1970) stated that oldest-born children have values of achievement most similar to their parents, specifically their mother, while middle and youngest siblings have values of achievement less like those of their mother. This noted difference in value acquisition and alignment is an example of one
of the factors causing differences in personalities of these siblings as they mature into adults.

The first-born sibling has a unique familial experience different from any other sibling. This child has lived alone with the parents for a period of time before the second sibling was born. During this period of time, the first-born child develops a lifelong and special access to parents (Sutton-Smith & Rosenberg, 1970). The first-born sibling has the undivided attention of parents and may begin to copy many things modeled by the parents. For example, parents may "push" the first-born child to learn to talk or to use the toilet.

Due to a lack of previous experience, new parents generally do not know how to relate to their newborn first child. Parents of first-born children seldom have experiences with infants previous to becoming parents (Sutton-Smith & Rosenberg, 1970). In many instances, new parents of first-born children have been conversing, relating, and working only with other adults. Therefore, the new parents generalize their responses between themselves and other adults in certain situations, then apply these responses to their first-born children. This situation leads parents to expect a high level of performance from their infants. Higher expectations by parents result in higher performances by the child (Sutton-Smith & Rosenberg, 1970).

Researchers have observed the following examples of higher performance by first-born siblings:

1. More likely to attend college (Forer, 1969).
2. Superior to second born in cognitive ability (Sutton-Smith & Rosenberg, 1970).
3. Rated higher in academic motivation by teachers (Ernst & Angst, 1983).

4. More likely to be consistent and rigid about principles (Sutton-Smith & Rosenberg, 1970).


6. More likely to impose strict standards of behavior on themselves and others (Forer, 1969).

When the second sibling is born into the family, the oldest sibling is usually put into a natural position of supremacy (Forer, 1969). First-born siblings are more physically, mentally, and emotionally developed than later-born siblings. At this time the first-born siblings develop a self-concept that includes a belief that they can do nearly everything better than the later-born siblings (Forer, 1969). This attitude of perceived superiority of first-born children is carried through to friendships, school relationships, and eventually to the relationships developed in adulthood (Forer, 1969; Sutton-Smith & Rosenberg, 1970).

Parents put the first-born sibling into situations of responsibility and leadership by having the oldest sibling care for the younger siblings at home, school, and church. The first-born siblings model their parents when caring for the younger siblings in the family. In turn they develop skills and attitudes of leadership, control over subordinates, and the instrumental use of others (Sutton-Smith & Rosenberg, 1970).

The second-born child is usually considerably different from the first-born child in many respects (Forer, 1969; Reit, 1985). This difference can be due to the changes in attitude of parents toward children through experiences gained in raising first-born children. Parents are
often more calm and relaxed with the second baby (Reit, 1985). The second child is usually subjected to less underlying tension and anxiety. Growing up under less restraint from parents, the second child will tend to be more adventurous, daring, less rigid about "the rules," and less of a conformist than the first-born child (Reit, 1985).

Parents normally do not have the same amount of time alone with the second-born sibling as they did with the first-born sibling. Therefore, the second-born sibling usually is not as physically, intellectually, or emotionally developed as the first-born sibling at an early age due to a decrease in time spent in direct stimulation from the parent. This difference in strength and mental abilities may cause the second-born sibling to develop psychological means to compete with an older sibling as they grow through childhood together (Forer, 1969; Reit, 1985). The second-born sibling is likely to be more adept at manipulating or teasing to get what they want from other siblings or parents (Leman, 1987). They may also become quite adept at negotiating or compromising with the older sibling to get what they want. The second-born sibling learns the art of "quid pro quo" or the giving of something to get something else at a very early age (Leman, 1987).

If a third sibling is born into the family, then the second-born sibling becomes the middle child in the family birth order. Leman (1987) stated that middle-born children believe they are "born too late to get the privileges and special treatment of the first child and born too soon to strike the bonanza that many last born children enjoy--the relaxing of the reins of discipline" (p. 115). From the middle position of the family birth order, middle-born children learn to use whatever position is of value at
the moment: that of being bigger and stronger than a younger sibling or one of being weaker than an older sibling (Forer, 1969).

Middle-born children usually look for something that is their's alone and not shared with older or younger siblings. That "something" may result in developing friendships outside the family. In addition, middle-born children will make friends in the neighborhood or at school more quickly than older siblings in the family. Friends and social groups become important to middle children in early life and in adulthood (Forer, 1969, Leman, 1987).

In adulthood, Forer (1969) believed these middle child characteristics may lead the middle-born siblings into occupations where,

personal charm, ability to arbitrate, and the ability to manipulate rather than to take direct action involving others are important characteristics. Politics, statesmanship, and salesmanship are perhaps the kinds of occupations in which middle-born children might be found to attain superior status. (p. 120)

The youngest sibling or third-born child will have many behavioral characteristics similar to the second-born sibling or middle-born child in the family birth order (Forer, 1969; Reit, 1985; Sutton-Smith & Rosenberg, 1970). The youngest-born child is said to be a self-centered, independent, outgoing, gregarious, personable manipulator (Leman, 1987). Reit (1985) stated that the youngest-born sibling in the family birth order has a marked sense of dependency and powerlessness. This is due to the youngest-born sibling being at the bottom of the sibling ladder. The youngest-born sibling is the farthest removed from the focus of parental power and authority.
In addition, the youngest-born sibling has not had the opportunity to experience feeling stronger than any other family member. The tendency of youngest-born children is to take advantage of the role as the "baby" in the family. The youngest-born sibling may remain relatively immature and passive in his or her behavior patterns (Forer, 1969; Reit, 1985). This type of behavior makes the youngest-born sibling easier for parents to live with, but this sibling does not develop the aggressiveness and motivation that the oldest-born sibling attains (Forer, 1969).

Another reason the youngest-born sibling in a family behaves differently is that he or she has to relate to a family situation different from the one in which the oldest sibling faced at a similar age. The youngest-born sibling has more people in the family from which to model behavior than did the oldest-born sibling. The youngest-born sibling will be more prepared to be flexible, easy going, nonstudious, and not so anxious to get adult or parental approval (Sutton-Smith & Rosenberg, 1970).

Most major decisions are made for the youngest-born sibling. The most obvious reason for the lack of decision-making opportunities is because of the existence of one or two older siblings in the family. When the parents are out of the home, it is the older-born siblings who are empowered to make the decisions and care for the youngest-born sibling. Forer (1969) believed it is for this reason that the youngest-born sibling is likely to accept leadership and authority more easily. The youngest-born sibling has learned to get what he or she wants without coming into direct conflict with authority.
It was stated earlier (Leman, 1987) that second-born and third-born children have many similar characteristics and both are considerably different from the first-born child. Unlike the first-born child, the second-born and third-born child have never had the luxury of being the total focus of attention by the parents. Second-born and third-born siblings are more likely to model their siblings and less likely to model their parents (Forer, 1969; Leman, 1987). Therefore, for the remainder of this research, the family birth order will be discussed as having two categories.

One category will be the first-born children or adults. This category will consist solely of subjects who were first-born siblings in their families. The second category of later-born children or adults will consist of all other siblings born into a family constellation, including middle-born, second-born, or any other combination.

Attitude and Behavior

Family birth order, defined as the chronological position in which children are born into a family (Leman, 1987), forces a specific role to be developed by each sibling within the family circle. These family birth order relationships develop central values and attitudes that control behavior for each member of the family.

Attitudes are a person's affinities for and aversions to situations, objects, persons, groups, or any other identifiable aspects of their environment, including abstract ideas, social objects, and specific situations (Bem, 1970; Rokeach, 1979). The attitudes developed during childhood experiences toward all types of situations will continue to elicit patterns
of behavior as the sibling moves from childhood into adulthood. Behavior is the manifestation of the interaction between "attitude" and given "situations" (Rokeach, 1979).

If family birth order does affect the formation of values and attitudes, then specific behavior patterns, such as leadership behavior, can be established for first-born and later-born adults. In addition, many individuals will go so far as to choose certain occupations, consciously or unconsciously, so they can carry on successful childhood behavior patterns related to human interaction (Forer, 1969; Wilson & Edington, 1981).

Before further developing the relationship between family birth order and leadership behavior, an in-depth discussion relating attitude and patterns of behavior must be initiated. It is the leader's attitude or concern toward people and tasks that will be used to develop the relationship between birth order and leadership behavior.

Attitude was defined earlier as a person's affinity for and aversion to situations, objects, persons, groups, or any other identifiable aspect of their environment, including abstract ideas (Halpin & Winer, 1957; Rokeach, 1979). How is a person's attitude developed? How does a person attain an affinity for or an aversion to an object, situation, person, groups of people, or other aspects of his or her environment?

Central values or beliefs developed at an early age are key to the formation of a person's attitude. All beliefs are formed and developed very early in a child's life (Kohn, 1969; Rokeach, 1973). Rokeach (1968) stated that values and beliefs are "first learned in the context of interactions with parents" (p. 11).
As children grow older, they learn that there are certain beliefs that virtually everyone holds. There are other beliefs that are true for an individual child even though no one else believes them. Also, there are beliefs that are arbitrary matters of taste (Rokeach, 1968).

As the belief system of a child develops more fully through a variety of experiences, specific attitudes toward certain situations become more obvious. It has been shown through research that similar values or beliefs will develop specific attitudes toward a given situation or object (Rokeach, 1979).

In turn, if behavior is a manifestation of the interaction between attitude and given situations, then similar attitudes will elicit certain patterns of behavior. Rokeach (1968) stated:

A preferential response (behavior) may be directed toward the maintenance or preservation of the attitude itself. A person with a particular attitude is predisposed selectively to perceive, recognize, judge, interpret, learn, forget, recall, and think in ways congruent with his attitude. (p. 122).

Therefore, how a person will behave depends on the individual's particular beliefs which are triggered by the attitude toward the object and/or situation. Research by Rokeach (1968, 1979) and Rokeach-Ball, Rokeach, and Grube, 1984) has demonstrated that different subsets of values (beliefs) and attitudes predict various kinds of behavior.

Earlier, it was stated that family birth order appears to have an effect on the behavior of siblings as they develop toward adulthood. However, the research of Rokeach (1979) clearly indicates that childhood experiences, some due to family birth order, control the development of the values and attitudes of a young individual with behavior patterns being the manifestation of certain values and attitudes. What
impact do these learned behaviors have upon young adults as they move out of the family circles of childhood and move into leadership situations as an adult?

Behavior Patterns of Leaders

A particular position in the family birth order may have an impact on whether or not a person can accept supervision by others, whether or not the individual can develop into an effective leader when put into a leadership opportunity, and how the person performs as a leader in stressful situations (Forer, 1969). Therefore, if early childhood experiences, based on family birth order, are an integral factor in the development of central values and attitudes which eventually lead to specific behavior patterns as adults, then it can be assumed that behavior patterns of leaders are also affected by family birth order. One may go so far as to say that family birth order may be more of a contributing factor in developing an effective leader than any amount of time or money spent in the development of training programs for effective leaders. Kotter (1988) stated that if an individual lacks the certain needed attributes of motivation, central values, attitudes, and basic skills to lead, then no amount of time, money, or effort will change the individual into an effective leader.

Leadership is a process of human communication which influences the attitudes and behaviors of an individual or group to achieve the goals and needs of the group (Hackman & Johnson, 1991; Hersey & Blanchard, 1972). Influencing an individual or a group through communication can take many forms. The use of oral and written
communications are the most observable methods of influencing people. However, a leader can convey information overtly, covertly, intentionally, or unintentionally by his or her behavior patterns (Hackman & Johnson, 1991).

If a leader has a clear vision for the group or organization, then the behavior communicated by the leader will determine how effective the leader will be in helping the group reach its goal (Hackman & Johnson, 1991). Taylor and Rosenbach (1989) stated that effective leaders behave in ways that fit their personalities, the situation, and the needs of the group being led. Studies by Hersey and Blanchard (1988) show that effective leaders adapt their leadership behavior to meet the needs of their followers and the given situation. The key is that effective leaders set the stage with their personality and expectations, presenting a consistent image to the followers.

The consistent image of effective leaders is developed as leaders continually repeat behavior patterns which are related to previous experiences, educational background, and professional training (Daniels, 1983). Hersey and Blanchard (1988) have identified four internal forces that influence the behavior patterns of a leader. These internal forces are as follows: (1) "the value system of the leader," (2) "the confidence the leader has in the subordinates of the organization," (3) "leadership inclinations," and (4) "feelings of security in uncertain situations" (p. 148).

Some researchers have focused on the value system (attitudes) of the leader that guides the leader's response to a given situation, rather than the behavior patterns themselves (Blake & McCanse, 1991; Blake &
Mouton, 1985). It was stated earlier (Rokeach, 1968, 1979) that attitudes and beliefs can predict certain behavior patterns. Accordingly, it is not the behavior patterns to a given situation, but in reality it is the belief or attitude that a leader has toward a given situation or object that causes a specific behavior pattern in the leader.

For example, each leader uses a different approach in resolving problems or conflicts in a given situation. The various approaches to problem solving can be described as patterns of leadership behavior. Behavior patterns of individual leaders are based on beliefs and attitudes which have developed from the leader's central values system (Rokeach, 1968). These beliefs and attitudes create an individual's leadership theory. If a leader were to act without beliefs or attitudes based on certain central values, "leadership behavior would be random and would not make sense nor be predictable" (Blake & Mouton, 1985, p. 5).

Attitude is a person's affinities for and aversions to situations, objects, persons, groups, or any other identifiable aspects of the environment (Bem, 1970; Rokeach, 1979). It is the person's affinities for and aversions to that indicate a concern for or against something.

According to Blake and McCanse (1991), there are two general attitudes or concerns that determine the behavior patterns of leadership exhibited by a leader. The two attitudes are concern for production and concern for people.

Concern for Production

Concern for production is the attitude toward the level of importance of task behavior a leader communicates to subordinates within a
group (Blake & McCanse, 1991; Blake & Mouton, 1964). The amount of concern for production varies between leaders and is seldom constant in a given leader on a day-to-day basis. Concern for production will vary in a leader in different situations on any given day.

Concern for People

Concern for people is the attitude toward the level of importance of relationship behavior a leader communicates to subordinates within the group (Blake & McCanse, 1991). Relationship behavior is the extent to which a leader maintains personal relationships with followers by developing communication, providing emotional support, and giving "psychological strokes" (Yukl, 1989). The listening, encouraging, and facilitating in which a leader engages with followers characterizes the two-way communication which is distinctive of relationship behavior (Hersey, 1984). Similar to concern for production, the amount of concern for people will vary in a leader on a day-to-day basis in given situations.

The Leadership Grid

It is important for leaders, whether they are leading large corporations, school systems, small businesses, or families, to have a high concern for both the goals of the group (task) and the people in the organization. Leaders who have been observed in various settings use both task behavior and relationship behavior to successfully influence their followers (Hersey, 1984). A generalization which has been supported through research indicates that the greater an individual's career
accomplishments, the more likely high levels of both concern for people and concern for production were jointly exhibited (Blake & Mouton, 1964, 1985).

The phrase "concern for" indicates the character and intensity of the values and attitudes that lie beneath any pattern of leadership behavior. It is not a number that describes how much or quantifies the amount of concern toward people (Blake & McCanse, 1991).

The Leadership Grid (Figure 1) as developed by Blake and McCanse (1991) is used to determine the relative significance of how leaders are concerned about attaining organizational goals, how leaders concern themselves with the personal worth of employees in the organization, and how these two concerns are interwoven. The resultant displayed behavior of a leader on the Leadership Grid is the leader's dominant pattern of leadership behavior as defined by Blake and McCanse (1991).

The vertical scale of the Leadership Grid represents the concern for people element, while the horizontal scale represents the concern for production element of leadership behavior. A numerical value of 1 (low) through 9 (high) is assigned to both the vertical and horizontal scales.

Whitefield (1981) developed an 18-question survey to determine the relative amount of concern for people and concern for production an individual leader may exhibit. The 18 questions are scored (Appendix C) and the location of a leader's score on the vertical scale for the concern for people and on the horizontal scale for the concern for production is determined. These two numerical values are plotted on the Leadership Grid to determine the leadership behavior of a given leader (Blake &
Figure 1. The Leadership Grid.

Source: The Leadership Grid Figure from Leadership Dilemmas--Grid Solutions by R. R. Blake and A. A. McCanse. Houston, TX: Gulf Publishing Company, p. 29. Copyright © 1991, by Scientific Methods, Inc. Reproduced by permission of the owners.
Within the Leadership Grid (Blake & McCanse, 1991), there are five major types of leadership behavior described. These five leadership behaviors are listed as impoverished (1,1), country club (1,9), authority-compliance (9,1), middle of the road (5,5), and team management (9,9) (Blake & McCanse, 1991; Blake & Mouton, 1985).

The authority-compliance (9,1) behavior rests on the belief or attitude that there is an inherent contradiction between the organization’s need for results and the needs of people. Therefore, the needs of people are sacrificed to accomplish production or task goals (Blake & McCanse, 1991). The leader exhibits taskmaster characteristics and usually has tunnel vision.

The country club (1,9) behavior is based on the premise that production requirements and the needs of people are in direct conflict with one another (Blake & McCanse, 1991). A leader with this type of behavior reflects the attitude that if you treat people nice, they will do whatever you want. This type of leadership unintentionally turns attention away from the task in the interest of warm and friendly relationships.

The impoverished (1,1) behavior exhibits very little or no contradiction between the need for production and the needs of people. There is little concern for either people or goals. This leader goes through the motions of being involved without any true commitment (Blake & McCanse, 1991).

The middle of the road (5,5) behavior has an intermediate degree of concern for both production and people. However, there is still a
contradiction in attitude between the concern for production and the concern for people. The 5,5 leader seeks a balance between people and production rather than integrating the two. The underlying attitude is the extreme positions relating to concern for production and people promote conflict and should be avoided (Blake & McCanse, 1991).

Team management (9,9) behavior integrates high concern for production with high concern for people. This behavior assumes no inherent contradiction between organization purpose and the needs of people. This behavior allows for the involvement of people (employees) in determining the strategies of achievement. The goal of team management behavior is to promote participation, involvement, and commitment to the team effort directed at accomplishing organization purpose (Blake & McCanse, 1991).

Summary

The literature relevant to family birth order, attitude formation of children, how attitudes of adults are related to behavior, and leadership behavior patterns was reviewed by the researcher. The Leadership Grid (Blake & McCanse, 1991) was reviewed and the elements of concern for production and concern for people were fully described. There is evidence that indicates a relationship between family birth order and leadership behavior may exist.

The literature supports the concept that first-born siblings in a family will develop specific leadership behavior patterns that will be different from leadership behavior patterns of later-born siblings as they mature into adults.
The discussion of Chapter III focuses on the methods and procedures of the study. This discussion includes the operational hypotheses, pilot study and its objectives, and results of the pilot study. In addition, the procedures used to conduct the study, the techniques used to collect data, and the method of data analysis are thoroughly discussed.
CHAPTER III

METHODS AND PROCEDURES

The purpose of the study was to identify the leadership behavior patterns of principals in Michigan as related to family birth order. In the previous chapter, the literature relevant to family birth order, attitude formation in children, how attitudes of humans are related to behavior patterns, and leadership behaviors were reviewed. In addition, the Leadership Grid (Blake & McCanse, 1991) was introduced and reviewed in detail. In this chapter a complete description of the study and the methods used to test the hypotheses are discussed. The purpose of this chapter is to discuss the (a) operational hypotheses, (b) pilot study, (c) procedure of research, and (d) data analysis.

Operational Hypotheses of Study

It is believed that by researching the relationship between family birth order and patterns of leadership behavior, leaders would better understand and ultimately enhance their leadership abilities. The following operational hypotheses were developed to determine if a relationship exists between family birth order and leadership behavior:

1. When using the Leadership Grid as a basis of comparison, there will be a difference between the mean score of the concern for production of first-born adults employed as principals and the mean score of the concern for production of later-born adults employed as
principals within the state of Michigan.

2. When using the Leadership Grid as a basis of comparison, there will be a difference between the mean score of the concern for people of first-born adults employed as principals and the mean score of the concern for people of later-born adults employed as principals within the state of Michigan.

3. When using the Leadership Grid as a basis of comparison, there will be a difference between the mean score of the participatory leadership behavior of first-born adults employed as principals and the mean score of the participatory leadership behavior of later-born adults employed as principals within the state of Michigan.

Pilot Study

The methodology for testing the operational hypotheses was centered around self-reporting of data by building principals employed in the state of Michigan. Therefore, preliminary research and a pilot study had to be completed to determine if self-reporting of data by principals would have an effect on the validity of the study.

In a telephone interview with Blake (1992) concerning the validity of the self-rating system of the Leadership Grid, he indicated there is some evidence in Mouton’s and his past research that self-deception may have an effect on the results of the study. He suggested that leaders might perceive themselves as more team management, or 9,9, in leadership behavior than subordinates in the organization perceive the individual leaders.
The decision was made to develop a pilot study to determine if self-deception would have an effect on the results of the study. If no difference could be shown between the self-rating scores of subordinates using the Leadership Grid to determine leadership behavior patterns, then self-rating of principals would be used throughout the study to identify leadership behavior.

Pilot Instrument

The pilot instrument was developed to determine the validity of the survey instrument used in the study of self-reporting leadership behavior of principals as defined by the Leadership Grid. This pilot instrument gathered data from 30 principals and their subordinates simultaneously.

Procedure of Pilot Study

The 30 principals were randomly selected in a systematic process from the *Michigan Education Directory 1992* (1991). The systematic random selection process began by choosing the 53rd principal listed alphabetically by school in the directory as participant Number 1. The researcher then counted down the list 104 names and the principal named in that position became the second participant in the pilot study. The process continued until a sample of 30 principals were chosen.

The list of 30 principals was then divided into three groups of 10 principals. These three groups of principals were assigned to ask specific subordinates to complete the same 18-question pilot survey as the principals themselves. Each subordinate within the group was asked to
complete the survey. The scores of the survey could then be compared between the self-reported responses of the principal and the attributed responses of the matched subordinate who works closely with the principal.

The first group of 10 principals was asked to give a survey to a union representative in their building. The union representatives were chosen as one of the subordinate groups because of the unique working relationship that can develop between a building principal and a union representative. Rules and policies are discussed, disputes can occur, and the leader-follower relationship may cause the subordinate to be straightforward with their responses to the survey.

The second group of 10 principals was asked to give a survey to a staff member of their choice. In this group, the principal's own choice may be an employee who has a close relationship with the principal, possibly a friend, or someone the principal feels comfortable to ask the employee a favor by completing the survey.

The third group of 10 principals was asked to give a survey to a guidance counselor in their building. It was decided to have the principals ask a guidance counselor for two reasons. First, the counselor is not assigned to a specific classroom. They move throughout the building having an opportunity to see the principal in many different situations, working with a variety of students, parents, and staff members. Secondly, guidance counselors often fill out many surveys and write numerous recommendations or reports. They may not be as inhibited as classroom teachers to honestly complete a survey focused on the behavior of the building principal.
The completed pilot surveys were returned by the building principals and the chosen staff members to the researcher under separate cover. A preassigned numerical code was used to match the principal's survey results to staff member's survey results. The results were then analyzed to determine if there was a significant difference between the self-reporting of the building principals and the attributed-reporting of specific staff members regarding the leadership behavior patterns of the self-reporting building principal.

The operational hypotheses used for the pilot study are listed below:

1. When using the Leadership Grid as a basis of comparison, there will be a difference between the mean score of the concern for production self-reported by principals and the mean score of concern for production of the principals reported by staff members employed within the same building as the principal.

2. When using the Leadership Grid as a basis of comparison, there will be a difference between the mean score of the concern for people self-reported by principals and the mean score of the concern for people of the principals reported by staff members employed within the same building as the principal.

3. When using the Leadership Grid as a basis of comparison, there will be a difference between the mean score of participatory leadership behavior self-reported by principals and the mean score of participatory leadership behavior of the principals reported by staff members employed within the same building as the principal.
The data were analyzed by using a paired-samples \( t \) test, comparing the results of the building principal and the matched staff member in his or her building. A paired-sample \( t \) test was appropriate since principals and staff members within the same building constitute matched observations. The alpha level of .05 was used to determine the rejection or nonrejection of the null hypotheses.

Objectives of Pilot Study

There were three major objectives in having the 30 principals divided into three groups. First, to determine if principals and subordinates would give similar responses to the survey. By asking the same questions to both a principal and a staff member in the same building it would allow a comparison between self-description and attributed description of leadership behavior, respectively.

Secondly, if it was determined that self-deception was occurring, the building staff would have to be included in the research to offset self-deception problems as previously mentioned. The pilot would then help determine which group of staff members would best provide the attributed description of the building principal's leadership behavior.

Finally, the pilot study would help determine if there was a difference in staff members' responses if the principal were asked to choose a staff member of their own choice, or if the principal were asked to give the staff survey to a specific employee position.

Other objectives the pilot study accomplished were to test the development of the language and organization of the survey, clarify specific questions for the determination of first-born or later-born
participants, and determine any unforeseen problems with the research instrument and related questions.

Results of Pilot Study

The findings of the paired-samples t test to determine the significance of the difference of mean scores are represented in Table 1.

Table 1

Summary of Comparison of Means, Standard Deviations, and t-Test Results for Leadership Behavior as Self-Reported by Principals and Attributed by Building Staff Members

<table>
<thead>
<tr>
<th>Method of reporting leadership behavior</th>
<th>Self-reported</th>
<th>Attributed</th>
<th>Two-tailed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>X</td>
<td>SD</td>
<td>X</td>
</tr>
<tr>
<td>Concern for production</td>
<td>3.56</td>
<td>1.50</td>
<td>2.94</td>
</tr>
<tr>
<td>Concern for people</td>
<td>6.72</td>
<td>1.49</td>
<td>6.50</td>
</tr>
<tr>
<td>Participatory behavior</td>
<td>10.28</td>
<td>1.90</td>
<td>9.44</td>
</tr>
</tbody>
</table>

*p < .05.

The results of the paired-samples in Table 1 show that the observed value for comparing the mean score of the concern for production as self-reported by principals to the mean score of the concern for
production of principals as reported by staff members is 1.13 when the
degrees of freedom (df) is equal to 17. The two-tailed probability
is .276. Therefore, the null hypothesis, that there is no difference
between the mean scores of the concern for production, either self-
reported by principals or reported by staff members, cannot be rejected
at the .05 alpha level.

Second, the results showed that the observed t value for compar-
ing the mean score of the concern for people as self-reported by princi-
pals to the mean score of the concern for people of principals reported
by staff members is 0.37 when df is equal to .17. The two-tailed prob­
ability is .717. Consequently, the null hypothesis, that there is no dif­
ference between the mean scores of the concern for people, either self-
reported by principals or reported by staff members, cannot be rejected
at the .05 alpha level.

Finally, the results of the paired-samples in Table 1 show that the
observed t value for comparing the mean score of participatory behavior
self-reported by principals to the mean score of participatory behavior of
principals reported by staff members is 1.07 when df is equal to 17. The two-tailed probability is .301. Consequently, the null hypothesis,
that there is no difference between the mean scores of participatory
behavior of principals, either self-reported or reported by staff members,
cannot be rejected at the .05 alpha level.

The results of the pilot survey demonstrated there was no conclu-
sive evidence that self-deception was occurring when principals self-
rated their leadership behavior with the Leadership Grid. Therefore, the
decision was made to complete the research by using the principals'
self-ratings of their patterns of leadership behavior. The responses to
the Leadership Grid questions could be used without jeopardizing validity
due to self-deception. In addition, the pilot survey clarified a grammar
problem which allowed for more accurate data collecting.

Procedure of Research

The sample for the study was drawn from a population of
approximately 3,200 principals within Michigan. The Michigan Educa­
tion Directory 1992 (1991) was used to determine the specific number,
names, and addresses of the individual principals randomly selected.
The sample of principals was selected by a systematic random sampling
process (Hinkle, Wiersma, & Jurs, 1988).

The systematic process began with the fifth principal in the Michi­
gan Education Directory 1992 (1991), which contains a listing of prin­
cipals alphabetized by school name. The principal listed in the fifth posi­
tion was the first building principal chosen to participate in the research
project. The researcher then counted nine names down the list and the
building principal listed in that position became participant Number 2 in
the random sample. The procedure of choosing every ninth principal
listed in the directory continued in that format until the sampling was
complete. This random sampling procedure produced a sample size
totaling 341 principals.

Research Instrument

The research instrument (Appendix B) used in this study was the
Leadership Grid (Blake & McCanse, 1991; Blake & Mouton, 1980) and a
related survey developed by Whitefield (1981). An introductory statement and a few questions to determine the family birth order and gender of the research participant were added to the 18-question survey. In addition, the survey asked the participating principals to classify themselves as either an elementary, middle school/junior high, secondary principal, or other. The total survey was printed on one page and averaged no more than 8 minutes to complete with a range of 5 to 11 minutes. The average response time to the survey was determined by requesting seven students in dissertation seminar and three secretaries at East Kentwood High School to complete the survey.

The survey, along with a cover letter (Appendix F), was mailed to the sample of principals who were randomly chosen to participate in this research project. The cover letter informed the participants the purpose of the study and included written instructions for the enclosed survey. A stamped, return-addressed envelope was included with the survey to promote a higher rate of response from the sample.

Approximately 10 days after the initial surveys were mailed, a second mailing was made to all principals who had not responded to the initial mailing. The second mailing again included a similar cover letter, the survey, and a stamped, return-addressed envelope. Ten days after the second mailing of surveys, a follow-up telephone call was made to any principal not responding to either the first or second survey mailing (see Appendix D for script).

As the surveys were completed and returned to the researcher, they were scored and analyzed (see Appendix C for scoring form). The position of an individual's score on the vertical scale for the concern for
people and on the horizontal scale for the concern for production of the Leadership Grid (Blake & McCanse, 1991) was then determined. Next, the responses were categorized according to principals who are first-born or later-born with the group mean scores for the concern for people and for the concern for production statistically compared. In addition, the relative values for the concern for people and the concern for production were used to determine the position of each response on the Leadership Grid. Each response was again categorized according to principals who are first-born and later-born with the group mean scores of the Leadership Grid values statistically compared.

Analysis of Data

The data collected for the three hypotheses in this research study are similar in concept. In the three hypotheses, there was a comparison of group mean scores of either the (1) concern for production, (2) concern for people, and/or (3) the level of participatory leadership behavior between building principals who have been self-reported as first-born and later-born in their childhood family birth order.

The .05 alpha level was used to determine the rejection or nonrejection of the null hypotheses. The t test for differences between group means with independent samples was used to determine if the null hypothesis would be accepted or rejected. Computer analysis was accomplished by using the SPSS computer software program (Norusis, 1990) available through Western Michigan University.
Null Hypotheses

The null hypotheses are stated below:

1. When using the Leadership Grid as a basis of comparison, there was no difference between the mean score of the concern for production of first-born adults employed as principals and the mean score of the concern for production of later-born adults employed as principals within the state of Michigan.

2. When using the Leadership Grid as a basis of comparison, there was no difference between the mean score of the concern of people for first-born adults employed as principals and the mean score of the concern for people of later-born adults employed as principals within the state of Michigan.

3. When using the Leadership Grid as a basis of comparison, there was no difference between the mean score of the participatory leadership behavior of first-born adults employed as principals and the mean score of the participatory leadership behavior of later-born adults employed as principals within the state of Michigan.

Summary

In Chapter III the methods and procedures of the study used to test the hypotheses were discussed. The pilot study objectives, procedures, instrument, and results were fully described. In addition, the research procedure, instrument, and analysis of data were discussed.
Chapter IV will focus on the findings of the study. The discussion will include a description of the sample, data analysis, results of the hypotheses testing, and related tables.
CHAPTER IV
FINDINGS OF STUDY

The purpose of this study was to identify the leadership behavior patterns of principals in Michigan as related to family birth order. In Chapter III methods and procedures used to test the three hypotheses were discussed. The research questions were derived from the research statement which sought to determine the extent of the relationship between family birth order and the leadership behavior of school principals as measured by the Leadership Grid (Blake & McCanse, 1991).

The design of the study involved the participation of 341 principals at the elementary, middle school, and high school level across the state of Michigan. Ninety percent (n = 306) of the sample of principals randomly selected chose to participate in the study.

In this research study, the independent variable was family birth order. Family birth order is defined as the chronological position in which children are born into a family (Forer, 1969; Leman, 1987; Richardson & Richardson, 1990). The two major positions of family birth order used in this study were first-born and later-born. The dependent variable was leadership behavior of building principals. The leadership behavior responses of the 306 participants were first categorized by the level of concern for production and then by the level of concern for people. In addition, the participant's responses were analyzed for the level of participatory leadership behavior used by the principal and self-reported on the

The data were analyzed by using the \( t \) test to compare group means of independent samples. The alpha level of .05 was used to reject the null hypotheses.

Description of Sample

The distribution of the respondents by educational level was studied. In Table 2 the number of respondents, the educational level at which the respondents were employed, and family birth order are described.

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>n</th>
<th>First-born</th>
<th>%</th>
<th>Later-born</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary school</td>
<td>178</td>
<td>76</td>
<td>42.7</td>
<td>102</td>
<td>57.3</td>
</tr>
<tr>
<td>Middle school</td>
<td>57</td>
<td>20</td>
<td>35.0</td>
<td>37</td>
<td>65.0</td>
</tr>
<tr>
<td>High school</td>
<td>64</td>
<td>26</td>
<td>40.6</td>
<td>38</td>
<td>59.4</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>1</td>
<td>14.3</td>
<td>6</td>
<td>85.7</td>
</tr>
<tr>
<td>Totals</td>
<td>306</td>
<td>123</td>
<td>40.2</td>
<td>183</td>
<td>59.8</td>
</tr>
</tbody>
</table>

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There was a total of 306 subjects in this study. The number of principals who classified themselves as first-born in their family birth order was 123 (40.2%) and the total for the later-born category was 183 (59.8%) respondents. There were 76 (42.7%) first-born respondents and 102 (57.3%) later-born respondents among the 178 elementary school principals. The middle school category had 20 (35.0%) first-born respondents and 37 (65.0%) later-born respondents of the 57 principals who reported at this level. There were 26 (40.6%) first-born respondents and 38 (59.8%) later-born respondents among the 64 high school principals involved in the study.

In addition, there were seven principals who classified themselves as being in the "other" category. These principals are employed in preschool and alternative education schools across Michigan. There was one (14.3%) first-born principal and six (85.7%) later-born principals of the seven who responded at this level.

The data in Table 3 show the distribution of the Leadership Grid scores for the level of concern for production behavior as reported by the 306 respondents. The level of concern for production is the attitude the principal has toward the level of importance of task behavior a leader communicates to subordinates within the group (Blake & McCanse, 1991). The Leadership Grid scores for concern for production range from a low of 0 to a high of 9. The most frequent grid score for the concern for production was 4. There were 54 (17.6%) respondents who reported themselves at the 4 level. The scores were skewed slightly toward the higher end of the Leadership Grid.
### Table 3

Distribution of Leadership Grid Scores for Concern for Production Behavior of Principals

<table>
<thead>
<tr>
<th>Concern for production grid score</th>
<th>Frequency (n = 306)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>7</td>
<td>2.3</td>
</tr>
<tr>
<td>1</td>
<td>28</td>
<td>9.2</td>
</tr>
<tr>
<td>2</td>
<td>28</td>
<td>9.2</td>
</tr>
<tr>
<td>3</td>
<td>52</td>
<td>17.0</td>
</tr>
<tr>
<td>4</td>
<td>54</td>
<td>17.6</td>
</tr>
<tr>
<td>5</td>
<td>47</td>
<td>15.4</td>
</tr>
<tr>
<td>6</td>
<td>48</td>
<td>15.7</td>
</tr>
<tr>
<td>7</td>
<td>23</td>
<td>7.5</td>
</tr>
<tr>
<td>8</td>
<td>16</td>
<td>5.2</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>306</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

The data in Table 4 show the distribution of the Leadership Grid scores for the level of concern for people behavior as reported by the 306 respondents. The level of concern for people is the attitude toward the level of importance of relationship behavior a leader communicates to subordinates within the group (Blake & McCanse, 1991).

The Leadership Grid scores for concern for people range from a low of 0 to a high of 9. The most frequent grid score reported by the building principals was 7. There were 77 (25.2%) of the respondents...
Table 4

Distribution of Leadership Grid Scores for Concern for People Behavior of Principals

<table>
<thead>
<tr>
<th>Concern for people grid score</th>
<th>Frequency (n = 306)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>0.7</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>4</td>
<td>23</td>
<td>7.5</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>6.5</td>
</tr>
<tr>
<td>6</td>
<td>53</td>
<td>17.3</td>
</tr>
<tr>
<td>7</td>
<td>77</td>
<td>25.2</td>
</tr>
<tr>
<td>8</td>
<td>71</td>
<td>23.2</td>
</tr>
<tr>
<td>9</td>
<td>53</td>
<td>17.3</td>
</tr>
<tr>
<td>Totals</td>
<td>306</td>
<td>100.0</td>
</tr>
</tbody>
</table>

who reported themselves as a score of 7. The grid scores for the concern for people are skewed heavily toward the lower end of the Leadership Grid. The grid scores 6 through 9 contain 254 (83.0%) of the building principals responses.

The data in Table 5 show the distribution of the Leadership Grid scores for the participatory leadership behavior as reported by the 306 building principals. The Leadership Grid scores for the participatory leadership behavior range from a low of 0 to a high of 18. The
### Table 5

Distribution of Leadership Grid Scores for Participatory Leadership Behavior of Principals

<table>
<thead>
<tr>
<th>Participatory leadership grid score</th>
<th>Frequency (n = 306)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>0.7</td>
</tr>
<tr>
<td>7</td>
<td>12</td>
<td>3.9</td>
</tr>
<tr>
<td>8</td>
<td>14</td>
<td>4.6</td>
</tr>
<tr>
<td>9</td>
<td>43</td>
<td>14.1</td>
</tr>
<tr>
<td>10</td>
<td>56</td>
<td>18.3</td>
</tr>
<tr>
<td>11</td>
<td>57</td>
<td>18.6</td>
</tr>
<tr>
<td>12</td>
<td>39</td>
<td>12.7</td>
</tr>
<tr>
<td>13</td>
<td>38</td>
<td>12.4</td>
</tr>
<tr>
<td>14</td>
<td>22</td>
<td>7.2</td>
</tr>
<tr>
<td>15</td>
<td>13</td>
<td>4.2</td>
</tr>
<tr>
<td>16</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>17</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>306</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Participatory leadership behavior grid scores were determined by the addition of the level of concern for production grid score with the level of concern for people grid score for each respondent. The most frequent grid score for participatory leadership behavior as reported by the respondents is **10**, with a frequency of 56 and a percent of 18.3.
principals was 11. There were 57 (18.6%) principals who reported themselves at the 11 value. A self-reported grid score of 10 was second, with 56 (18.3%) of the building principals reporting.

Results of Hypothesis Testing

**Hypothesis 1: Concern for Production**

When using the Leadership Grid as a basis of comparison, the investigator expected a difference between the mean score of the concern for production of first-born adults employed as principals and the mean score of the concern for production of later-born adults employed as principal within the state of Michigan.

In order to test this hypothesis, the sample of 306 principals was surveyed by using the concern for production portion of the Leadership Grid instrument. The findings of the t test for independent means are presented in Table 6. In this table the means, standard deviations, and the t test findings for the leadership behavior variable of concern for production are described in terms of the two family birth orders, first-born and later-born. Table 6 presents the findings of the t test for independent means.

Since the two-tailed probability of .349 is greater than the alpha level of .05, then no conclusion may be drawn about the difference between the group of first-born principals and the group of later-born principals with respect to the concern for production.
Table 6
Comparison of Means, Standard Deviations, and t-Test Results for the Concern for Production Behavior and Family Birth Order of Principals

<table>
<thead>
<tr>
<th>Birth order of principal</th>
<th>First-born (n = 123)</th>
<th>Later-born (n = 183)</th>
<th>Two tailed</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership variable</td>
<td>X</td>
<td>SD</td>
<td>X</td>
<td>SD</td>
</tr>
<tr>
<td>Concern for production</td>
<td>4.10</td>
<td>2.02</td>
<td>4.32</td>
<td>2.08</td>
</tr>
</tbody>
</table>

*p < .05.

Hypothesis 2: Concern for People

When using the Leadership Grid as a basis of comparison, the investigator expected a difference between the mean score of the concern for people of first-born adults employed as principals and the mean score of the concern for people of later-born adults employed as principals within the state of Michigan.

This hypothesis was tested by surveying the sample of 306 building principals using the concern for people portion of the Leadership Grid instrument. The findings of the t test for independent means are presented in Table 7. In Table 7 the means, standard deviations, and the t-test findings for the leadership behavior variable of concern for people are described in terms of two family birth orders, first-born and later-born. Table 7 presents the findings of the t test for independent means.
Due to the fact the two-tailed probability of .883 is greater than the alpha of .05, then no conclusion may be drawn about the difference between the group of first-born principals and the group of later-born principals with respect to the concern for people.

Table 7

Comparison of Means, Standard Deviations, and t-Test Results for the Concern for People Behavior and Family Birth Order of Principals

<table>
<thead>
<tr>
<th>Leadership variable</th>
<th>Birth order of principal</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First-born (n = 123)</td>
<td>Later-born (n = 183)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>( \bar{X} )</td>
<td>SD</td>
<td>( \bar{X} )</td>
<td>SD</td>
<td>df</td>
</tr>
<tr>
<td>Concern for people</td>
<td>6.94</td>
<td>1.68</td>
<td>6.90</td>
<td>1.59</td>
<td>304</td>
</tr>
</tbody>
</table>

*\( p < .05 \).

Hypothesis 3: Participatory Leadership

When using the Leadership Grid as a basis of comparison, the researcher expected a difference between the mean score of the participatory leadership behavior of first-born adults employed as principals and the mean score of the participatory leadership behavior of later-born adults employed as principals within the state of Michigan.

This hypothesis was tested by surveying the sample of 306 principals using the Leadership Grid instrument. The findings of the \( t \) test
for independent means are presented in Table 8. This table describes the means, standard deviations, and the \( t \)-test findings for the participatory leadership behavior in terms of the two family birth orders previously mentioned, first-born and later-born.

<table>
<thead>
<tr>
<th>Leadership variable</th>
<th>First-born ((n = 123))</th>
<th>Later-born ((n = 183))</th>
<th>( \bar{X} )</th>
<th>SD</th>
<th>( \bar{X} )</th>
<th>SD</th>
<th>df</th>
<th>( t )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participatory behavior</td>
<td>11.03</td>
<td>2.23</td>
<td>11.23</td>
<td>2.21</td>
<td>304</td>
<td>-0.76</td>
<td>.446*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*\( p < .05 \).*

Table 8 presents the findings of the \( t \) test for independent means. Since the two-tailed probability of .446 is greater than the alpha of .05, then no conclusion may be drawn about the difference between the group of first-born principals and the group of later-born principals with respect to participatory leadership behavior.

**Summary**

The data submitted by the 306 principals (90% of the randomly selected sample) were analyzed for the distribution of the participants by
the educational level at which they were employed, as well as the Leadership Grid scores for concern for production, concern for people, and participatory leadership. In addition, data collected to study the three hypotheses relating family birth order to leadership behavior were analyzed.

The \( t \) test for independent means was used for the determination of a difference between mean scores of first-born principals and later-born principals, when self-administering a survey to indicate the level of concern for production, concern for people, and participatory leadership behavior each participant believed they possess. Since the two-tailed probability of the \( t \) test for independent means for all three hypotheses was greater than the alpha level of .05, then no conclusions may be drawn about a relationship between family birth order and leadership behavior patterns.

The recommendations for future study and the conclusion for the research study are discussed in Chapter V.
CHAPTER V

CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

Leaders demonstrate consistent behavior patterns of leadership when using specific skills such as forms of decision-making and empowerment. These patterns emerge in leaders as they respond in the same manner under similar environmental conditions. Habits of action are developed and become somewhat predictable (Blake & Mouton, 1980; Hersey & Blanchard, 1979). The effective leader is one who has developed consistent behavior patterns that convert resources into results (tasks) through empowerment that establishes strong, positive relationships (Blake & McCanse, 1991).

Certain leadership behavior patterns may be developed in leaders due to innate factors, such as intelligence, gender, and family birth order (Kotter, 1988). This study researched the relationship between leadership behavior and the innate factor of family birth order.

A discussion on the conclusions of the study is formatted according to the research questions addressed:

1. Is there a difference between the level of concern for production of principals with a family birth order of first-born and principals with a family birth order of later-born?

2. Is there a difference between the level of concern for people of principals with a family birth order of first-born and principals with a family birth order of later-born?
3. Is there a difference between the level of participatory leadership behavior of principals with a family birth order of first-born and principals with a family birth order of later-born?

A discussion of the pilot study, research, and related implications is followed by recommendations and a conclusion.

Implications of Pilot Study

The pilot study was developed to determine the validity of the self-rating system of the Leadership Grid (Blake & McCanse, 1991; Blake & Mouton, 1985). In a telephone interview with Blake (1992), he indicated there is some evidence that self-deception may have an effect on the study if self-reporting by the subjects in the study is used for the gathering of data.

The results of the pilot survey demonstrated there was no conclusive evidence that self-deception was occurring when principals self-rated their leadership behavior when using the Leadership Grid. Therefore, it was concluded the self-reported responses from the building principals could be used without jeopardizing the validity due to self-deception.

Relationship Between the Level of Concern for Production and Family Birth Order

The data analysis in Chapter IV does not support a significant relationship between the level of concern for production of principals with a family birth order of first-born and principals with a family birth order of later-born. Earlier research (Forer, 1969; Leman, 1987;
Richardson & Richardson, 1990) reported that first-born adults are more likely to develop into task-oriented adults, maintaining an attitude of high concern for others, and more likely of earning a leadership position could not be reinforced in this research study.

Relationship Between the Level of Concern for People and Family Birth Order

The data analysis does not support a significant relationship between the level of concern for people of principals with a family birth order of first-born and principals with a family birth order of later-born. The values of the responses for the concern for people were extremely high. The Leadership Grid scores for the concern for people range from a low of 0 to a high of 9. The grid values of 6 through 9 contained 83% of the building principals' responses. When separating the responses for leadership behavior measured by the Leadership Grid into the categories of first-born principals and later-born principals, no significant difference was determined. Past research has indicated a relationship between first-born adults and an attitude of high concern for others, while later-born siblings maintained a self-centered attitude into adulthood (Forer, 1969; Leman, 1987; Richardson & Richardson, 1990). This concept could not be validated in this research study.

Relationship Between the Level of Participatory Leadership and Family Birth Order

Attitudes and beliefs can be used to predict certain behavior patterns (Rokeach, 1968, 1979). It is not the particulars of a given situation, but actually it is the belief or attitude that a leader brings to a
given situation that causes a specific behavior pattern to emerge. In addition, many of these attitudes or beliefs are developed in leaders as they mature from childhood or family birth order experiences into adulthood (Rokeach, 1979).

The data analysis in Chapter IV does not support a relationship between leadership behavior and family birth order. It is possible that self-deception occurred in this study and the pilot study could not identify its presence. There is concern for the ecological threat of self-deception to the external validity of this study. Review of the pilot study methodology and/or replication of the pilot study with continued data collection with similar methodology and similar populations over a period of time would serve to resolve any questions regarding the validity of the pilot study. Further review of the pilot study methodology or additional data collection may be necessary.

Recommendations

In addition to the recommendations stated under the discussion of the specific research questions, several other practical recommendations are suggested by this researcher. Recommendations include extension of study to other categories or populations, research designs, and data collection methods.

The study could be extended into other categories. For example, female first-born siblings have stronger first-born characteristics than first-born males (Forer, 1969; Leman, 1987). A comparison of female leaders categorized as first-born versus later-born may demonstrate significant differences in leadership behavior patterns. Another category
that would merit additional study would be separating the principals into the different levels of education in which they are employed. The difference in philosophy of elementary, middle, and high school curricula, as well as varying child development theories could produce situations with a need for specific leadership behaviors.

The format of the study could be extended into other populations. For example, if the sample for a similar study was taken from the private business sector different results may be observed. The concern for production may have a different meaning for businesses needing a profit margin to survive in the corporate world.

Future research could consider a varied approach to research data, such as case studies, interviews, and follow-up surveys. These methods could be used to gather information about attitudes and behavior patterns of leaders as they developed from childhood to adulthood in a specific family birth order. Interviews, case studies, and follow-up studies could also be used to provide additional detail for the organization of data. For example, family birth order may produce different behavior patterns due to spacing of births, number of siblings in the family, or gender patterns of birth (Forer, 1969; Leman, 1987; Reit, 1985).

Conclusion

Even though this research study could not generate conclusive support for a relationship between family birth order and leadership behavior, earlier research by Kotter (1988) strongly suggests such a relationship exists. Furthermore, researchers suggest childhood
experiences affect the development of attitude and behavior (Bem, 1970; Rokeach, 1979) and as the child continues to develop into an adult, many individuals will chose specific occupations, either consciously or unconsciously, so as to continue to elicit successful childhood behavior patterns related to human interaction (Forer, 1969; Wilson & Edington, 1981).

Family birth order can have an effect on many childhood experiences. These childhood experiences, in turn, have an effect on the development of attitudes and behavior patterns as children develop into adults and possible leaders. Therefore, it can be assumed that family birth order does have an effect on the behavior of a leader. Additional research is needed to demonstrate the relationship between family birth order and leadership behavior.

If a relationship between family birth order and leadership behavior can be demonstrated, then leaders could better understand themselves and their specific leadership tendencies. Leaders would be more capable of self-evaluating what personal leadership skills they must further develop to become a more effective leader.
APPENDICES
Appendix A

Approval Letter From Human Subjects
Institutional Review Board
Date: June 4, 1992

To: Larry J. Corbett

From: Mary Anne Bunda, Chair

Re: HSIRB Project Number: 92-06-01

This letter will serve as confirmation that your research protocol, "Family Birth Order and Leadership Style" has been approved under the exempt category of review by the HSIRB. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the approval application.

You must seek reapproval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

xc: Smidchens, ED Leadership

Approval Termination: June 4, 1993
Appendix B
The Leadership Grid
Country Club Management

Thoughtful attention to the needs of people for satisfying relationships leads to a comfortable, friendly organization atmosphere and work tempo.

Team Management

Work accomplishment is from committed people; interdependence through a "common stake" in organization purpose leads to relationships of trust and respect.

Middle of the Road Management

Adequate organization performance is possible through balancing the necessity to get out work with maintaining morale of people at a satisfactory level.

Impoverished Management

Exertion of minimum effort to get required work done is appropriate to sustain organization membership.

Authority-Compliance

Efficiency in operations results from arranging conditions of work in such a way that human elements interfere to a minimum degree.

The Leadership Grid® Figure

Appendix C

Scoring Procedure of Grid Survey
Directions for Scoring the Leadership Grid

The 18-Item Form

1. Circle the item number for Items 5, 10, 16.

2. Write the number "1" in front of a circled item number if the response is "S" (Seldom) or "N" (Never).

3. Also write a number "1" in front of item numbers not circled if the responses are "A" (Always) or "F" (Frequently).

4. Circle the number "1s" which have been written in front of the following items: 2, 4, 5, 6, 8, 10, 14, 16, 18.

5. Count the circled number "1s". This is the score for concern for people.

6. Count the uncircled number "1s". This is the score for concern for task.
Appendix D

Script for Follow-up Telephone Call
Script for Follow-up Telephone Call

"Hello, my name is Larry Corbett. I am a doctoral student at Western Michigan University and I recently mailed you a survey regarding family birth order and leadership style. This survey will be used as data in my research. Have you received the survey in the mail?"

If the answer is "no" the response would be:

"Would you be interested in having me mail you another copy of the survey to complete? Or would you be willing to answer the questions over the telephone? The questions to the survey will take less than 5 minutes to complete."

If the answer is "yes" to the original question of receiving the survey, the response would be:

"Have you completed the survey and returned it in the mail? If not, could you please complete it and return the survey to me in the envelope provided? Or would you rather answer the survey questions over the telephone? The questions to the survey will take less than 5 minutes to complete."

After getting the needed response, the telephone call will be concluded by saying:

"Thank you for your time and cooperation with collecting data for my dissertation. Have a good day and good-bye."
Appendix E

Permission to Use--The Leadership Grid
March 16, 1992

I hereby grant permission to

Mr. Larry J. Corbett
1260 Penncross S.E.
Caledonia, Michigan 49315-9041

to include in his doctoral dissertation relating leadership style and family birth order, the following:


This permission is granted under the terms outlined in Dr. Blake’s telephone conversation with Mr. Larry Corbett dated March 5, 1992 (resume is enclosed).

Further, this permission is granted with the understanding that the original source will be cited according to standard bibliographical practices, of which the above is an example. Also, the word Grid is a registered service mark of Scientific Methods, Inc. and should be designated as such by the use of ® on initial use.

Permission is granted on a one-time basis for this specific use only. Request must be resubmitted for subsequent use.

Authorization is offered in exchange for one copy of the pertinent sections of the dissertation upon completion.

Robert R. Blake
Appendix F

Cover Letters--Pilot Study
Dear Principal:

As a fellow building administrator, I realize you are often called upon to assist doctoral students in the collection of data pertinent to their dissertation project. I, too, am a doctoral candidate at Western Michigan University in Educational Leadership and collecting data for my dissertation. The topic of my research is family birth order and leadership style of building principals in the state of Michigan.

In an attempt to gather data from two points-of-view, I am requesting that the building principal fill out the survey printed on white paper and return it in the enclosed self-addressed, stamped envelope. In addition, I would appreciate one member of your staff to complete the survey printed on blue paper and return it in the second enclosed self-addressed, stamped envelope. It does not matter who the staff member is, however, the chosen staff member should work closely with you. Some suggested staff members may include an assistant principal, chairperson of the school improvement team, department chairperson, or instructor.

The survey responses will be confidential in every aspect of the research. The numbers printed in the upper right hand corner of the survey will be used only to match the survey information between the principal and staff member. After the matching has been completed, the coded numbers will be removed to insure that confidentiality is maintained for all respondents throughout the research.

I realize that this is one of our busiest times of the school year. I have attempted to make the questionnaire short and it has a completion time of less than five minutes. Please complete and return the survey within five working days and be sure to ask a staff member to complete the survey printed on blue paper.

Thank you for your time and effort on this project. Your participation and cooperation are greatly appreciated.

Sincerely,

Larry Corbett
Assistant Principal

The Kentwood Public School staff, in partnership with the community, will educate all students. We are committed to excellence and equity in education. Our goal is for students to master essential skills and become successful, productive citizens.
April 17, 1992

Dear Guidance Counselor:

I am a doctoral candidate at Western Michigan University in Educational Leadership. I am collecting data for my dissertation and hope you would be so kind to take a few moments to complete the attached survey. The topic of my research is family birth order and leadership style of building principals in the state of Michigan.

In an attempt to gather data from two points-of-view, I am requesting that the building principal fill out one survey and a union leader fill out a second survey independently. Your building principal has chosen you to complete the guidance counselor survey. Please complete the survey and return it to me in the attached self-addressed, stamped envelope.

The survey responses will be confidential in every aspect of the research. The numbers printed in the upper right hand comer of the survey will be used only to match the survey information between the building principal and guidance counselor. After the matching has been completed, the coded numbers will be removed to insure that confidentiality is maintained for all respondents throughout the research.

Please complete and return the survey within five working days. Thank you for your time and effort on this project. Your participation and cooperation are greatly appreciated.

Sincerely,

Larry J. Corbett
Assistant Principal

The Kentwood Public School staff, in partnership with the community, will educate all students. We are committed to excellence and equity in education. Our goal is for students to master essential skills and become successful, productive citizens.

April 17, 1992

Dear Guidance Counselor:

I am a doctoral candidate at Western Michigan University in Educational Leadership. I am collecting data for my dissertation and hope you would be so kind to take a few moments to complete the attached survey. The topic of my research is family birth order and leadership style of building principals in the state of Michigan.

In an attempt to gather data from two points-of-view, I am requesting that the building principal fill out one survey and a union leader fill out a second survey independently. Your building principal has chosen you to complete the guidance counselor survey. Please complete the survey and return it to me in the attached self-addressed, stamped envelope.

The survey responses will be confidential in every aspect of the research. The numbers printed in the upper right hand corner of the survey will be used only to match the survey information between the building principal and guidance counselor. After the matching has been completed, the coded numbers will be removed to insure that confidentiality is maintained for all respondents throughout the research.

Please complete and return the survey within five working days. Thank you for your time and effort on this project. Your participation and cooperation are greatly appreciated.

Sincerely,

Larry J. Corbett
Assistant Principal

Enclosure
April 17, 1992

Dear Union Leader:

I am a doctoral candidate at Western Michigan University in Educational Leadership. I am collecting data for my dissertation and hope you would be so kind to take a few moments to complete the attached survey. The topic of my research is family birth order and leadership style of building principals in the state of Michigan.

In an attempt to gather data from two points-of-view, I am requesting that the building principal fill out one survey and a union leader fill out a second survey independently. Your building principal has chosen you to complete the union leader survey. Please complete the survey and return it to me in the attached self-addressed, stamped envelope.

The survey responses will be confidential in every aspect of the research. The numbers printed in the upper right hand corner of the survey will be used only to match the survey information between the building principal and union leader. After the matching has been completed, the coded numbers will be removed to insure that confidentiality is maintained for all respondents throughout the research.

Please complete and return the survey within five working days. Thank you for your time and effort on this project. Your participation and cooperation are greatly appreciated.

Sincerely,

Larry J. Corbett
Assistant Principal

Enclosure
Dear Staff Member:

I am a doctoral candidate at Western Michigan University in Educational Leadership. I am collecting data for my dissertation and hope you would be so kind to take a few moments to complete the attached survey. The topic of my research is family birth order and leadership style of building principals in the state of Michigan.

In an attempt to gather data from two points-of-view, I am requesting that the building principal fill out one survey and a staff member fill out a second survey independently. Your building principal has chosen you to complete the staff member survey. Please complete the staff survey and return it to me in the attached self-addressed, stamped envelope.

The survey responses will be confidential in every aspect of the research. The numbers printed in the upper right hand corner of the survey will be used only to match the survey information between the building principal and staff member. After the matching has been completed, the coded numbers will be removed to insure that confidentiality is maintained for all respondents throughout the research.

Please complete and return the survey within five working days. Thank you for your time and effort on this project. Your participation and cooperation are greatly appreciated.

Sincerely,

[Signature]
Larry J. Corbett
Assistant Principal

Enclosure
Appendix G

Cover Letter--Research Study
May 13, 1992

Dear Principal,

As a fellow building administrator, I realize you are often called upon to assist doctoral students in the collection of data pertinent to their dissertation project. I, too, am a doctoral candidate at Western Michigan University in Educational Leadership and collecting data for my dissertation. The topic of my research is family birth order and leadership style of building principals in the state of Michigan.

I am enclosing a survey and asking you to respond to the questions. Your response to the survey will be confidential in every aspect of the research. The number printed in the upper right hand corner of the survey will be used only to verify return of the survey and facilitate any follow up that may be necessary. After the survey results have been tabulated, the coded numbers will be removed to insure that confidentiality is maintained for all respondents throughout the research.

I realize that this is one of our busiest times of the school year. I have attempted to make the questionnaire short and it has a completion time of less than five minutes. Please complete and return the survey within five working days. Thank you for your time and effort on this project. Your participation and cooperation are greatly appreciated.

Sincerely,

Larry Corbett
BIBLIOGRAPHY


