

A FIELD STUDY OF LEADERSHIP  
IN A COMPLEX ORGANIZATION

Thesis for the Degree of Ph. D.  
MICHIGAN STATE UNIVERSITY  
CHARLES J. COEN  
LT. COLONEL, USAF  
1970



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Lt. Colonel, USAF

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## ABSTRACT

### A FIELD STUDY OF LEADERSHIP IN A COMPLEX ORGANIZATION

By

Charles J. Coen

Lt. Colonel, USAF

This field study was designed to investigate and expand upon the Fiedler Contingency Model of Leadership Effectiveness. The Fiedler model considers that leadership effectiveness is an interactional function of the leadership style of the leader (his underlying need structure in terms of relative emphasis upon "initiating structure" and "consideration") and the situational favorableness for the leader which consists of: (1) the group atmosphere as perceived by the leader, (2) the degree to which the group's task is structured, and (3) the leader's position power. From his extensive research with many different types of groups, Fiedler has categorized the degree of situational favorableness for the leader into eight octants. For each octant he indicates the median correlation between the leadership style of the leader and the group's performance of its primary assigned task. These relationships are clearly testable. In a weaker hypothesis, Fiedler suggests that the more task-oriented leader will have more productive groups in very favorable and very unfavorable situations for the leader, and the relationship-oriented leader will have more productive groups in situations that are intermediate in favorability for the leader.

In attempting to improve the Fiedler model, the author triangulated leadership style by two independent measures in addition to the



Charles J. Coen

Fiedler test measures; both independent measures presumably relate to the same "initiating structure" - "consideration" dichotomy. The Blake-Mouton managerial ranking instruments were also administered, and the author observed the behavior of the subjects daily for thirteen weeks and coded the interactions, using the Borgatta-Crowther Interaction Process Scores. The author also correlated biographical and sociometric data with the Fiedler test measures, explored three research questions suggested by Fiedler, and analyzed model hypotheses for the entire leadership group and the functional subgroups, as well as for the single leader.

The research subjects were a major university football team which has been successful during the fifteen year tenure of the current head coach. All ten coaches and eighty-one players for the 1969 season were studied, and test instruments were completed by fourteen former assistants to the current head coach. Ninety-nine per cent response was achieved with little unusable data.

The organization's results did not support the model's predictions for either the head coach or the total leadership group. This finding was consistent for both an initial condition of high situational favorableness for the leader and a subsequent downward revision of situational favorableness based upon feedback of negative organizational results. Moreover, artificial testing of the model hypotheses over a sixteen year period for the team studied did not support model predictions for either the head coach or the total leadership group. These results suggest that variables exogenous to the model must be considered in explaining the results.

Exploration of the three research questions suggested by Fiedler indicated: (1) since the head coach and the total leadership group perceived the group atmosphere with reasonable accuracy, this factor evidently did not cause the anomalous findings; (2) attempts to clarify the behavioral meaning of middle range test scores were inconclusive, but they did emphasize an important deficiency in the theory since a large proportion of test scores fall into this range; and (3) behavior by different leadership types in response to feedback of negative organizational results did not appear to support Fiedler's secondary hypotheses.

This research uncovered other problems with the model, particularly the validity of the leadership test instruments for measuring behavior.

Methodological difficulties of the study itself as well as other residual uncertainties may have contributed to findings that do not support model hypotheses. Considering the potentially great operational significance of this type of model, however, the author suggests that improved, comparative and longitudinal replicatory studies be conducted.

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IN A COMPLEX ORGANIZATION

By

Charles J. Coen  
Lt. Colonel, USAF

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**To Kathy, Charles, and Bill**

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I am grateful and indebted to the people and organizations who contributed to this study. I particularly appreciate the opportunity to pursue the Ph.D. program provided by the United States Air Force, and especially the support and inspiration of Lt. General Samuel C. Phillips and Colonel Milo L. Seccomb. Further, this study would not have been possible without the approval and excellent support from the head football coach, his staff and players, former assistant coaches, and other members of the Department of Intercollegiate Athletics, of the team studied.

I also want to express my gratitude to the members of my thesis guidance committee. Dr. R. Winston Oberg, chairman and my program advisor, has unselfishly given his time, assistance, encouragement, and friendship throughout the program and this study. Dr. Dalton E. McFarland provided expert counsel, encouragement, and departmental resource support. Dr. Carl E. Frost supplied the initial impetus to this study and subsequent advice concerning the study design and analysis.

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It is not possible to identify all of the many others who contributed directly or indirectly, but I must express my appreciation

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## CHAPTER I

### INTRODUCTION

#### Background to the Research

In 1967, an eminent leadership theorist wrote:

And yet, even though we believe that the health of our economy, the success of organizations, and the survival of our institutions depend to a considerable extent on the type of leadership we are able to get, we know next to nothing about the factors that make the leader effective or ineffective.<sup>1</sup>

The quest for a better understanding of leadership spans man's recorded history, but a strong interest in leadership research has proliferated since World War II. Most leadership research has been of the "small group" variety. McGrath and Altman summarize the characteristics of such research:

...The typical study is done by an academic, with supporting funds from some military service, using the laboratories (and sophomores!) of his university. It involves a relatively small number of variables, covering a limited operational and substantive range. The study is done more or less in isolation from other small group research endeavors, in the sense that it seldom attempts to replicate the findings, variables, or studies of others. It is done at a fairly rapid pace and is often reported in several different forms ...<sup>2</sup>

Their review of the bibliography of 2,200 small group studies indicates a slight increase in the decades 1920-1950 and an exponential increase in the 1960's. Less than 5 per cent of these studies, however, were done in natural settings.<sup>3</sup> The author's review of studies exclusively pertaining to leadership generally found comparable patterns. Indicative of the growth of leadership studies, an advanced Psychology Seminar on Leadership and Leadership Development conducted at Michigan State

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University in 1959 listed a bibliography (acknowledged to be incomplete) of 752 essentially unduplicated entries. In 1964, a Professor of Management at Michigan State University prepared an updated bibliography on leadership which contained 967 different entries. Since that time, leadership bibliographies have not been updated at this university because of the information explosion within this area.

Although there are no signs of declining concern with the phenomena and problems of leadership, the results of the post-World War II research on leadership indicate that the subject is much more complex than was previously thought.

#### The Fiedler Contingency Model

Recent leadership research in the United States has emphasized situational/interactional models. One model which is currently receiving great attention is the Fiedler Contingency Model of Leadership Effectiveness. In 1966, Porter referred to this model as "the most significant new advance in the area of leadership theory."<sup>4</sup> The Fiedler model, which is the primary research focus for this thesis, considers that leadership effectiveness is an interactional function of the leadership style of the leader (his underlying need structure in terms of "initiating structure" and "consideration"); and the situational favorableness for the leader which consists of: (1) the group atmosphere as perceived by the leader; (2) the degree to which the group's task is structured, and (3) the leader's position power. From fifteen years of research with many different types of groups, Fiedler has categorized the degree of situational favorableness for the leader into eight octants. For each octant he has indicated the median correlation between leadership

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style and group performance in terms of its primary assigned task. These predicted relationships are clearly testable. In a weaker hypothesis, Fiedler suggests that the more task-oriented leader will have more productive groups in very favorable and very unfavorable situations for the leader, and the relationship-oriented leader will have more productive groups in situations that are intermediate in favorability for the leader.

The Fiedler model is an attempt to bring coherence to a mass of contradictory findings in research concerning leadership effectiveness. If valid, this model has vital operational implications for groups and organizations since it suggests that the most feasible way of increasing leadership effectiveness in an unsatisfactory situation is to change the situational factors so that they are more compatible with the leader's style. This approach is in distinct contrast to theory that the leader should be trained to adapt his leadership style to the particular situation or that a certain leadership style is universally superior in any type of situation, neither of which has demonstrated generalized operationality.

#### Research Subjects

The author's research preference is represented by the injunction: "By highly disproportionate use of laboratory settings alone, we may gain much information about behavior in the laboratory, but we may neglect the bridge from laboratory to real-life settings."<sup>5</sup> Consequently, a field study was chosen in which the research subjects were members and coaches of a successful major university football team. A football team is a formal organization as traditionally defined. It rationally

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coordinates its members to achieve a common explicit goal through a division of labor and through a hierarchy of authority and responsibility. And most important, it provides special advantages for conducting field research in leadership theory:

1. There are only three levels in the organizational hierarchy, the head coach, assistant coaches and staff, and players.
2. There is relatively immediate and unambiguous feedback of organizational results from the outcome of games.
3. The size of the total organization permits census data of the total membership.
4. Operations facilitate behavioral observation with minimum influence or interference by the researcher.

The subjects were not chosen solely because of these advantages. In recent years there has been an increased interest in sports teams by social psychologists studying leadership theory. As early as 1951, Fiedler, Hermann, and Rudin conducted a leadership study of high school basketball teams; and, in 1963 Stogdill, continuing the direction of the Ohio State Leadership Studies, studied the Ohio State University football team to test hypotheses concerning the correlation of motivational inputs and organizational achievement.

In 1969, Campbell reported on the Strong Vocational Interest Blank Management Orientation scores of 23 samples of outstanding professional men. This scale is considered to accurately reflect interests in managerial activities in the traditional sense. "Those scoring higher on the scale are in occupations which presumably place a premium on aspirational, action-oriented, and dominating behaviors."<sup>6</sup>

The sample of thirteen of the top twenty-five football coaches



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at major universities, as measured by lifetime won-lost record, had the second highest ranking mean score of the twenty-three professional groups sampled; the coaches were second only to corporation presidents, and ranked higher than samples of generals, admirals, astronauts, and state governors.<sup>7</sup> Moreover, university football coaches are in the forefront of other areas of leadership and psychoanalytic research interest, most notably: (1) the confrontation of traditional authoritarian leaders, and followers socialized toward greater questioning of authority; (2) the stimulating of higher order needs of group members to secure greater commitment to organizational goals; and (3) cultural implications, including those dealing with individual aggression.

#### Research Questions

In this study, the author has attempted to improve Fiedler's model and the initial questions explored this model. For example, research questions included determining: (1) the leadership styles of the coaching staff based upon Fiedler's interpretations of the test scores on leadership style; (2) the model octant for the team studied based upon Fiedler's measures of leader-member relations, task structure, and position power; and (3) whether actual organizational effectiveness was consistent with the predicted relationship between leadership style and situational favorableness for this octant.

However, many of the research questions are based upon the model improvement approach. These include three questions that Fiedler suggested for further study:

1. To what extent is the leader's perception of the atmosphere of his group based on the reality of the situation?



2. Since Fiedler's theory deals with two styles of leadership which are measured by test scores indicating high task or high consideration, what is the meaning of the leadership style for individuals whose test scores fall into the middle range?
3. What changes in behavior occur among leaders who have different leadership styles when there are changes in situational favorableness, including feedback to the group and the leader concerning their performance?

Besides the basic model, and investigation of the questions suggested by Fiedler, the author has triangulated the leadership style of the coaches with two other measures: first, leadership style instruments which indicate each coach's perceptions of himself, his perceptions of his peers, superordinates and subordinates; and, second, continuous behavioral observations for thirteen weeks (from pre-season to post-season) for subsequent classification and analysis. Also, leadership style and group atmosphere instruments were administered to the followers, and biographical and sociometric data were gathered for analysis of correlation with the test instruments administered. Other factors investigated were the pre-season "level of expectations," and changes in group atmosphere as a function of the degree of achievement of such expectations. Also, hypotheses concerning the Fiedler model were concurrently analyzed in terms of the total leadership group and functional subgroups, as well as the single leader.

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### Overview of the Thesis

Chapter II briefly reviews the historical development of leadership theory to provide the context for the Fiedler model and the research design. The Fiedler model is described and related to other well known leadership concepts.

Chapter III provides a detailed description of methodological considerations to facilitate further analysis of the data reported and to support replication and extension of this study by other researchers.

Chapter IV provides information concerning unusual organizational features and motivations of football teams to enhance the understanding of the findings. First, it discusses sports psychology findings relevant to this study, and different leadership concepts of successful football coaches. It then focuses on the peculiar organization features and operations of the team studied.

Chapter V chronologically describes the 1969 season of the team studied as seen by organization members, the author, and outside observers. It provides initial findings from the behavioral observation phase, and other background data, which are vital to evaluating findings subsequently reported.

Chapter VI provides the predominant body of findings concerning the basic and expanded Fiedler model, both in macro and micro terms.

In Chapter VII, the findings from Chapters V and VI are discussed in terms of the degree of support for the Fiedler model and problematical areas. And finally, Chapter VIII summarizes the major results of the research and suggests possibilities for future research.

## FOOTNOTES

## CHAPTER I

1. Fred E. Fiedler, A Theory of Leadership Effectiveness (New York: McGraw-Hill, 1967), p. 3.
2. Joseph E. McGrath and Irwin Altman, Small Group Research: A Synthesis and Critique of the Field (New York: Holt, Rinehart, and Winston, 1966), p. 53.
3. Ibid., p. 50.
4. Lyman W. Porter, "Personnel Management," in Annual Review of Psychology, Vol. 17, 1966, p. 415.
5. McGrath and Altman, loc. cit., p. 70.
6. David P. Campbell, "SVIB Managerial Orientation Scores of Outstanding Men," Personnel Psychology, Vol. 22, 1969, p. 44.
7. Ibid., p. 42.

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## CHAPTER II

### DEVELOPMENT OF LEADERSHIP THEORY

#### Introduction

Few areas in the behavioral sciences have attracted as much attention as leadership, but there is still not a coherent body of doctrine which may be labelled a theory of leadership.<sup>1</sup>

"Authority, power, and leadership form an influence syndrome in organizations. It is impossible to separate them in a concrete situation. They are mutually interacting and reinforcing."<sup>2</sup> Within this thesis, leadership is often discussed as a segregable entity. However, the design and findings of this research carefully considered the interaction of these three forces.

To provide the context and underlying logic of the research design of this thesis, this chapter briefly discusses: the historical development of leadership theory; definitional approaches; major theory groups -- "Great Man," trait, and situational; the initiating structure/consideration, behavioral dichotomy; and, finally, a description of the primary leadership theory investigated within this thesis -- the Fiedler Contingency Model.

#### Historical Development of Leadership Theory

Throughout history there has been a continuous interest in the subject of leadership. This has partially stemmed from the assumption

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that group effectiveness, morale, and leadership are all intimately related to one another. But modern research has indicated that the interactions of these factors are exceedingly complex.

Representative of the historical interest in leadership was the Chinese philosopher Lao Tzu who, in the 6th century B.C., theorized that the leader is most effective when those being led are not aware of his leadership behavior. He concluded that under such leadership, when the task is completed, the followers will believe they have accomplished it themselves.<sup>3</sup> In the 3rd century B.C., Plato considered leadership in his construction of the ideal state.<sup>4</sup> In the 1st century A.D., Plutarch was perhaps the first famous exponent of the "Great Man" approach to leadership in his Lives.<sup>5</sup> Machiavelli, in his 15th and 16th century writing, which was transitional to modern political concepts, discussed leadership within the context of power and emphasized a dichotomy between love and fear in terms of leader-follower relations.<sup>6</sup> The late 19th and early 20th century work of Sigmund Freud theorized that a leader emerges in a group when other members of the group find in the leader the object of affection. Because group members all experience a similar feeling for the leader, Freud suggested that they are drawn closer to one another psychologically.<sup>7</sup> And, in the 1920's, Max Weber discussed leadership within the context of modern bureaucratic organizations.<sup>8</sup>

#### Development of Leadership Theory in the United States

Within the United States, modern leadership theory has developed from a confluence of personnel research in psychology and organizational research in sociology energized by dynamic changes in the social milieu.

From 1880 to 1910 the United States underwent the most rapid

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
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economic expansion of any industrialized country for a comparable period of time.<sup>9</sup> "The speed of economic expansion was reflected in the ruthless practices of American business leaders and in the strident ideologies espoused during this time."<sup>10</sup> In 1897 American trade-unions had 447,000 members. By 1905, membership had increased to 2,072,700.

That fivefold increase was accompanied by considerable violence on both sides; for in a world which subscribed to the struggle for survival with such single-minded vigor, it was likely that each group would assert itself with all the means at its disposal and would not count the social and human cost of the struggle.<sup>11</sup>

Ideologically, the rapid development of unionization in the United States led to a dilemma for management, namely, how do you maintain a competitive ideology if management must form coalitions to combat the power of unions? Workers were considered by management to be "good guys" fundamentally, and if management could only dispose of the "bad guys" -- union leaders, they could help the workers achieve their mutual goals. In the early 1900's this dilemma provided the rationale for the "scientific management" pioneers-Taylor, Gantt, Gilbreth et al.<sup>12</sup>

By World War I significant changes had occurred in the American social structure, including: urbanization, the development of large scale organizations with specialization of labor, increased demand for goods, and a shortage of labor. The labor shortage led to a great concern with improved administrative skills, and the emergence of personnel psychology directed toward increased satisfaction of workers. Whereas the scientific managers were concerned with integrating workers with management goals in terms of physical and mental skills, by the 1920's Dale Carnegie<sup>13</sup> and others were proposing how management could achieve its goals by "influencing" workers. By the end of the 1920's a new



"Doomsday Group" was forming who had great influence on subsequent leadership theory. This group contended that industrialization had brought about the alienation of the workers and that anomie was sweeping society. Elton Mayo's work in the 1930's appears to have been a peculiar interpretation of the theoretical path of alienation as developed by Karl Marx and Emile Durkheim. Mayo's Human Problems of an Industrial Civilization focused upon social relationships as the vehicle to integrate the individual into the work group. Mayo argued that both the logic and non-logic of work groups must be understood. Although the worker's self-respect derives from the work group, management's problems in motivating workers result from their emphasis on the individual and not the group. Mayo asserted:

It is at least evident that the economist's presupposition of individual self-preservation as motive and logic as instrument is not characteristic of the industrial facts ordinarily encountered. The desire to stand well with one's fellows, the so-called human instinct of association, easily outweighs the merely individual interest and the logic of reasoning upon which so many spurious principles of management are based.<sup>14</sup>

Mayo also contributed a new vocabulary of motivation for the managerial interpretation of managers and workers and equated leadership success with the "human-social" skills which would result from the systematic training of future managerial elite.<sup>15</sup>

Concurrent with the development of the Mayo "school," World War II industrial and military personnel requirements led to a proliferation of academic psychologists with newly developed skills in measuring attitudes, beliefs, perceptions, expectations, motivations, etc. Part of this psychological evolutionary emphasis upon motivating men to work was the generation of requirements to manipulate one's own personality to achieve the ability to motivate workers. A manifestation of this

development was the rise of the "charm schools" in the 1940's as well as expansion of personnel management into a specialized organizational function.

Several different research directions arose from Mayo's work. The Harvard Business School approach, exemplified by Roethlisberger and Dickson's Management and the Worker,<sup>16</sup> emphasized a clinical, case study, psychological approach. Alternatively, a small group dynamics approach led by Kurt Lewin investigated what kinds of leadership most effectively influenced group cohesiveness and productivity.<sup>17</sup> A basic stimulation to this latter approach was the rise of Hitler and totalitarianism in Europe in the 1930's. This led to authoritarian personality studies, with children as a frequent subject of research. The researchers from this school represented a democratic ideological bias which has persisted in much current leadership theory description and prescription. An offshoot of this approach was the major Ohio State University leadership studies of the 1950's and 1960's.

From the case study and laboratory group dynamics research approaches previously described, a new amalgamated approach appeared to evolve. This approach shifted from the University of Iowa to the Massachusetts Institute of Technology to the University of Michigan Survey Research Center. This approach represented social psychologists attempting to apply their methodologies to both small groups and complex organizations. The work reported by Rensis Likert eminently summarizes the direction of this research.<sup>18</sup> Likert's basic assumption is that human factors involved in productivity are seldom considered in the emphasis upon production measures. Likert proposes, as a result of a large number of research investigations, that by creating an atmosphere



of trust and mutual respect within the work group, the supervisor will tap the ego motives of the worker and by the workers developing a sense of "participation" in managerial goals, such goals will be internalized by the worker.

Other research approaches to leadership theory, which do not fit within the three general approaches previously discussed, are exchange theories, such as Homans,<sup>19</sup> and decision/game theory.<sup>20</sup>

### Definitions of Leadership

Having traced the general background of the development of leadership theory, it is useful to consider some of the definitional approaches to leadership prior to examining leadership theories in greater depth. There are an array of popular, non-research oriented definitions. For example, Peter Drucker contends that:

...leadership is not magnetic personality- that can just as well be demagoguery. It is not "making friends and influencing people" - that is salesmanship. Leadership is the lifting of a man's vision to higher sights, the raising of a man's personality beyond its normal limitations.<sup>21</sup>

Also, because of different approaches used in the study of leadership, there is little agreement on operational definitions indicated in the literature. Carter identifies five approaches to identification of the leader: (1) polarization of members of a group around some central person; (2) the person able to direct a group toward its goals; (3) the person selected by group members to lead them; (4) the person able to facilitate group action in terms of a specific dimension such as sociability or integration; and (5) the person demonstrating certain behavior.<sup>22</sup>

Stogdill considers that in a leadership situation there are a minimum of at least three social conditions: (1) the presence of a

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group; (2) a common task or group objective; and, (3) a differentiation of responsibility within the group. He then defines leadership as:

"...the process of influencing the activities of an organized group in its efforts toward goal setting and goal achievement."<sup>23</sup> Bennis sees leadership as: "...the process by which an agent induces a subordinate to behave in a desired manner."<sup>24</sup>

Bavelas changes the focus of analysis away from the setting of leadership toward the act of leadership itself. He defines leadership acts as those which enable the group to achieve its objectives by giving assistance in making choices: "...leadership consists of uncertainty reduction."<sup>25</sup> Selznick notes that "...leadership has a unique obligation to manage the relationships between a system and its environment, particularly in reference to the key functions of setting goals for the organization and defining the values or norms in terms of which the organization must basically develop a sense of identity."<sup>26</sup> Fiedler, for the purpose of performing research on leadership effectiveness has defined the leader as:

the individual in the group given the task of directing and coordinating task-relevant group activities or who, in the absence of a designated leader, carries the primary responsibility for performing these functions in the group.<sup>27</sup>

For the purposes of the research described in this thesis, Fiedler's definition is accepted with the following clarifications. First, the definition is taken to apply to the head coach, and all assistant coaches, of the football team studied. Second, considering the authority matrix suggested by Etzioni,<sup>28</sup> and indicated in Figure 1, the coaches were hypothesized to possess cell 1 authority wherein they have both the formal designation as team leaders as well as personal acceptance of their

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leadership by the players. Similarly, players were hypothesized predominantly to have cell 4 authority, with a few having cell 2 authority.

FIGURE 1

POSITIONAL AUTHORITY  
(Traditional + Rational)

		+		-	
Personal Acceptance	+	1 Formal Leader (Natural + Designated)	2 Informal Leader (Natural)		
	-	3 Designated Headship	4 Follower		

Further, the coaches were considered as fulfilling the requirements of legal/rational authority in terms of Weber's construct.<sup>29</sup>

Leadership Determinants

Different approaches to leadership theory have already been discussed in terms of differences in emphasis in general methodology, i.e., case study, small group dynamics, application of small group findings to complex organizations, etc. Different theoretical approaches also have been taken in determining the answer to the question who will lead and who will follow? Some of these theories have been discredited and others have been maintained in modified form. The only conclusion that may be stated with any degree of certainty is that the field is in a state of considerable flux. The quantity of research is tending to increase geometrically without corresponding advance of the state-of-the-art. The following discussion describes the thrust of several of the differing theoretical approaches to leadership determinants.

### "Great Man" Theory

"Great Man" theory attaches extraordinary powers to the character of the great man. By studying the lives and biographical characteristics of outstanding leaders, it is believed that it might be possible to find clues for success on a more modest scale. Although this approach persists in popularized non-scientific forms, it is given little credence as offering a generalized explanation of leadership. Nevertheless, serious research continues to investigate leadership within the framework of this theoretical construct. For example, Borgatta, Bales and Couch have conducted laboratory experiments to investigate their formulation of "great man" theory which they define as: "The most effective group is the one which has the most adequate all-around leader ('great man')." <sup>30</sup> Their operational measure asserted that a "great man" should possess each of the following three independent qualities to a great degree: (1) task ability, consisting of leadership and I.Q.; (2) individual assertiveness; and, (3) social acceptability. Then they determined "greatness" in terms of the product of these four measures to emphasize the need for simultaneous occurrence of the qualities. Their laboratory experiments involved 126 male enlisted Air Force personnel working in 3 man groups to test a series of hypotheses such as: "Great men will tend to remain great men over a series of sessions." <sup>31</sup> They concluded that: "In general, the great man principle of group composition appears to have much to recommend it." <sup>32</sup> It is difficult to relate findings from this type of laboratory study to leadership effectiveness in complex, situational environments in ongoing organizations.

## Trait Theory

Logically flowing from "Great Man" theory, which attached extraordinary powers to the character of the leader, was the formal trait approach which generated many studies to determine the physical, intellectual, and personality traits of the leader, usually the formal leader. Typical of early evaluations of leadership traits were the lists proposed by two military men, Munson and Miller. Miller maintained that outstanding military leaders were typified by a personality structure manifesting self-control, assiduity, common sense, judgment, justice, enthusiasm, perseverance, tact, courage, faith, loyalty, and other traits.<sup>33</sup> Munson suggested the following general leadership traits: personality, manner, use of language, tact, cheerfulness, courtesy, justice, and discipline.<sup>34</sup>

Bird reviewed trait leadership research conducted prior to 1940 and found that only approximately five per cent of the "discovered" traits were common to four or more investigations.<sup>35</sup> Stogdill surveyed the literature eight years after Bird and reported that trait studies of leaders continued to result in contradictory findings. He indicated that the only conclusion that received reasonable support was that leaders exceed non-leaders in intelligence, scholarship, dependability, responsibility, activity and social participation, and socioeconomic status.<sup>36</sup> Even these conclusions appear questionable in terms of their operationalization. For instance, much research concerning intelligence as a candidate, universalist, leadership trait suggests that: (1) the leader tends to have an intelligence higher than the average in his group; and (2) there is an absolute limit to the superiority of intelligence which a leader may possess. But so much of the evidence in this area

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derives from studies of children's groups that its applicability to adult situations is doubtful.<sup>37</sup> Further, such a generalized trait as intelligence is questioned on dual grounds. First, it is suggested such a trait must meet minimal qualitative aspects in correlation with other traits such as communicative ability, and sensitivity in a total personality configuration. Second, the equilibrium demands of a given influence field determine the personality pattern most suitable to meet the needs of the situation.<sup>38</sup>

Gouldner<sup>39</sup> summarized the inadequacies of the trait approach as follows:

1. Those proposing trait lists usually do not indicate the relative importance of the traits enumerated.
2. Some of the traits mentioned in a single list are not mutually exclusive.
3. Trait studies usually do not discriminate between traits facilitating ascent to leadership and those enabling it to be maintained.
4. Trait studies do not indicate whether, and which, leadership traits exist before and which develop after leadership is assumed.
5. Trait theorists seem to assume that the leader's personality can be, or is, described if all the traits by which it is composed are determined. This implies that a personality is the sum of its component traits and appears to ignore one of the fundamental properties of personality, its possession of organization. The same "trait" will function differently in personalities which are organized differently.

Gouldner offered a stimulating, constructive criticism of the traitist approach in suggesting:

...when investigating the personalities of leaders, we are perhaps overly influenced by an individualistic bias. It

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may be that for certain purposes a useful unit of examination would be all the leaders of the group, treated as an entity, rather than the individual leader ... Different personality cores might thus be established for different kinds of groups.

Once determined and validated, such group personality cores may be useful for leadership selection....<sup>40</sup>

Cartwright and Zander suggest that one major reason for the disappointing outcome of the trait approach to leadership theory may be that personality traits are still poorly conceived and unreliably measured. They indicate that researchers are coming to the conclusion that certain minimal abilities required of all leaders are widely distributed among non-leaders and that the traits that are effective in one situation may not be effective in a different situation.<sup>41</sup>

#### Situational Theories

Whereas the traitists view the individual as an active ingredient in the leadership role, the group being passive in either accepting or rejecting the leadership, the situational theorists, who have great current popularity, reverse this emphasis. They theorize that the situation or environment is the primary variable in determining who will rise, and be effective, in a leadership setting. Sanford describes the situational approach in stating:

It now looks as if any comprehensive theory of leadership will have to find a way of dealing, in terms of one consistent set of rubrics, with the three delineable facets of the leadership phenomenon:

1. the leader and his psychological attributes
  2. the follower with his problems, attitudes and needs, and
  3. the group situation in which followers and leaders relate.
- To concentrate on any one of these facets of the problem represents oversimplification of an intricate phenomenon.<sup>42</sup>

Tannenbaum and Schmidt further develop the foregoing factors. They contend that among the important forces affecting the leader are: his value

system, his confidence in his subordinates, his own leadership inclinations, and his feeling of security in an uncertain situation. Important forces in the subordinate include: the subordinate's own personality variables and his set of expectations about how the superior should act in relation to him. Concerning the significant forces in the situation, they identify: the values and traditions of the organization, including the concept of what is a "good" leader; the size, geographical distribution, and degree of inter- and intra-organizational security required to attain organizational goals; the experience of the group in working together; the commonality of backgrounds and interests of the group members; the nature of the problem and the kinds of knowledge needed in its solution; and, the pressure of time.<sup>43</sup> Tannenbaum and Schmidt conclude that the successful leader:

...can be primarily characterized neither as a strong leader nor as a permissive one. Rather, he is one who maintains a high batting average in accurately assessing the forces that determine what his most appropriate behavior at any given time should be and in actually being able to behave accordingly...<sup>44</sup>

The Fiedler leadership model to be discussed in detail shortly, although a situational theory, is not as optimistic as Tannenbaum and Schmidt and others concerning the adaptability of behavior of the leader.

### Leadership Roles

Subsumed under the situational approach to leadership theory are conceptual formulations emphasizing the interaction of leadership roles and functions with situational variables. It is suggested that the primary determinant of who shall lead a group is the interaction of the task, power and authority orientations of the organization, the values of informal groups, and the specific personal traits and values of other

persons within the group. The extent to which individuals are able to attract to themselves a following because of the congruity between their personal traits and the equilibrium demands of the organizational forces determines who performs the leadership roles.<sup>45</sup> Stogdill and Coons cite the following leadership roles: initiating structure, integration, communication, production emphasis, representation (acts which promote group interests with outside organizations), fraternization, organization, evaluation, initiation, and domination.<sup>46</sup> Krech and Crutchfield propose fourteen functions (roles) that a leader may perform, to some degree, in assisting a group to achieve its preferred goals: executive, planner, policy-maker, expert, external group representative, controller of internal relationships, purveyor of rewards and punishments, arbitrator, exemplar, group symbol, surrogate for individual responsibility, ideologist, father figure, or scapegoat.<sup>47</sup> The psychoanalytic school perceives a different set of leadership roles which operate through such mechanisms as identification, cathexis, guilt reduction, impulse control, and incorporation of superego.<sup>48</sup>

### Power

Within the context that leadership acts contribute to group functions, usually such contributions require influencing the behavior of other group members in various ways. A person must have power to exert significant acts of leadership influence. When the performance of several important group functions is assigned to a single office, the operation of power is clearly evident in terms of the rights of selection, promotion, possession of expertise in operations, and support of decisions by other officials.<sup>49</sup>

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In a study of first-line supervisors in a large manufacturing organization, Pelz found that those supervisors whose orientation to subordinates was supportive of their interests received positive evaluations from these subordinates, but only if the supervisor was seen as being influential with his superiors.<sup>50</sup>

French and Raven conceptualize the bases of power including: rewards, coercion, referent, expert, and legitimated power. Of these bases, the coaches studied in this thesis derived their power vis-a-vis the players from the following (1) "reward" -- the number of positive incentives which the leader is able to offer; (2) "coercion" -- the absolute and perceived expectations of the followers that punishment will follow if they do not comply with the aims of leaders; (3) "expertise" -- the possession of functional expertise of the leader contrasted against some absolute standard; and, (4) "legitimacy" -- the internalized values of the followers which dictate that the leader has a legitimate right to influence and that the follower has an obligation to accept this influence (comparable to Weberian legal/rational authority).<sup>51</sup>

Additionally, the coaches studied utilized Blau's concept of "strategic leniency"<sup>52</sup> in dealing with players wherein the coaches enhanced their influence and power over the players by obligating them by strategic non-employment of their power prerogatives.

In concluding that organizational behavior cannot be reduced to a single variable, whether it be role specificity or power, Palumbo argues:

... The higher up the organizational hierarchy we move, the more power an individual has because he will have wider role discretion. Power, in this context, means the opportunity of the person holding the position to alter the rules which define what behavioral norms he will follow and what norms some other members of the organization will follow. The

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fact that he has more opportunity does not mean that he will take advantage of it, nor that he can change these norms at will.<sup>53</sup>

Power is a significant variable in the Fiedler leadership theory to be discussed in detail later in this chapter, and to be quantitatively evaluated in research to be reported in later chapters.

### Task Structure

Task structure is another important variable in the Fiedler theory to be studied in the field research reported upon in this thesis. In reviewing several research findings concerning task structure, O'Brien specifies a few principles which assist the leader to define and establish an appropriate task system, as follows: (1) The goal must be defined; (2) Once set, the goal should be separated into subtasks; (3) If the group task is well structured, then the task system should be arranged for efficient work flow; and, (4) The authority or power structure should be matched to the cooperation requirements of the task.<sup>54</sup> These principles are neither new nor surprising and appear to be well implemented within the organization studied in this thesis.

### A Dichotomy of Leadership Attitudes and Behavior: "Initiating Structure" and "Consideration"

A common thread woven throughout much of the development of modern leadership theory has been the dichotomization of two leadership functions: socio-emotional interaction facilitation and task performance facilitation. These have been described respectively as "consideration" and "initiating structure." The Ohio State University leadership studies concerning the formal groups defined these concepts as follows:

Consideration includes behavior indicating mutual trust, respect, and a certain warmth and rapport between the

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supervisor and his group. This does not mean that this dimension reflects a superficial "pat-on-the-back," "first name calling" kind of human relations behavior. This dimension appears to emphasize a deeper concern for group members' needs, and includes such behavior as allowing subordinates more participation in decision making and encouraging more two-way communication.

Structure includes behavior in which the supervisor organizes and defines group activities and his relation to the group. Thus, he defines the role he expects each member to assume, assigns tasks, plans ahead, establishes ways of getting things done, and pushes for production. This dimension seems to emphasize overt attempts to achieve organization goals.<sup>55</sup>

Factor analytic studies reported by Fleishman indicated that these two factors account for 83 per cent of the accountable common variance in leader behavior.<sup>56</sup> And significantly, Fleishman's research indicated a low level of intercorrelation between these major leadership variables.<sup>57</sup>

Bales, in his small group studies, concluded that people join formal groups with two expectations in mind. First, they expect to attain the goals for which the group was created. Alternatively, members expect to use the group setting to develop their skills in associating with others. Bales contends that these two pressures are often antagonistic to one another, and if either is given too much emphasis, the efficiency of the group is reduced. He further suggests that it is unlikely that a single leader can fulfill the dual functions of socio-emotional and task facilitation.<sup>58</sup>

Evidence that has been offered supporting shared leadership by specialists in initiating structure and consideration has resulted from laboratory studies of problem-solving leaderless groups such as those by Bales. But Verba has proposed that such specialization is more likely to occur in informal experimental groups than in an enduring organization:

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...Because the laboratory groups are leaderless, have a brief period of existence, and are composed of fairly similar college students, an effort by one person to exercise leadership is seen by others as arbitrary and a direct personal challenge...His efforts arouse negative reactions among the members, which make it necessary that a less assertive individual take responsibility for relieving emotional tension.<sup>59</sup>

Marcus and House recast these two modal types of behavior within the context of social exchange theory and differentiate the nature of the intermediate exchange processes between the two types:

...Expressive behavior deemphasizes the status and power distinctions between levels and fosters a supportive, cooperative work environment; thus it serves mainly to reduce subordinates' costs of interaction on the job. Instrumental behavior is characterized by the maintenance of clear distinctions in power and status between the two levels and involves mainly the provision of rewards to subordinates in the form of technical expertise, "strategic leniency," etc....<sup>60</sup>

They conclude that both modes of behavior are usually used by the superior to obtain compliance, loyalty, and reduced conflict on the part of the subordinate. "The distinction between the two modes of behavior is clearly a matter of degree ... They are not mutually exclusive. However, the specific commodities exchanged in each type of behavior are different, even though some of the end results may be the same."<sup>61</sup>

Blake and Mouton have characterized this dichotomy in terms of "concern for production" and "concern for people" within their model of the "Managerial Grid."<sup>62</sup> Unlike Bales, they do not consider it is unreasonable to expect a single leader to fulfill both functions and their prescriptive ideal is the maximization of both functions by the leader. Blake-Mouton behavioral measures are used as part of the research accomplished for this thesis.

Zaleznik, from his psycho-analytic orientation, has identified the same clusters of emotional investment of individuals in work

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organizations. He describes three basic patterns. First, is the "person-oriented" individual who invests his energy in relationships with other persons. Tasks or ideas have little relevance to him as entities of thought and work. He notes that extreme cases of person-orientation: "...may reflect, besides a low tolerance for aggression in self and others, a relatively lowered sense of self-confidence. Affirmation of self may be sought through acceptance by others..."<sup>63</sup> Second, is the "idea or task oriented" individual who derives rewards from task accomplishment rather than friendship and approval of others. Such individuals: "...seem to prefer vertical relationships of authority and express themes involving competition and aggression. This preferred work structure seems consistent with individuals whose main concerns relate to achievement and mastery rather than warmth and intimacy."<sup>64</sup> Third, is the "fusion-oriented" person who can accept both intimacy and aggression, but seeks to channel energies toward the procedures and flow of work. Such persons: "...strengths lie in energetic work that takes account of persons, and the weaknesses lie in the conventional approach that can at times border on superficiality."<sup>65</sup>

Although it has not been so discussed in the literature, it appears that Zaleznik's three basic patterns of emotional investment of individuals in work are analogous to the 1:9, 9:1, and 5:5 locations on the Blake-Mouton "Managerial Grid,"<sup>65</sup> which are described in detail in Chapter III.

Additionally, a Borgatta-Crowther system for scoring social interaction process among group members, which modifies an earlier comparable system developed by Bales, has eighteen categories which are ultimately collapsable in to a "socio-emotional" and "task" area dichotomy.<sup>66</sup> This

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system was used in categorizing field observations accomplished in the author's research and will be reported upon in subsequent chapters.

It is strongly prescribed by theorists writing on the dichotomy between initiating structure and consideration, like Blake and Mouton, and those writing in broader areas of organizational psychology which subsume such concepts (McGregor and Likert), that "ideal" leadership behavior maximizes both elements. A recent theoretical formulation, however, suggests that this "ideal" leadership style primarily should be a function of the psychological maturity of the followers, who are considered to be the most crucial factor in the leadership relationship. This theory proposes that: "... as the level of maturity of one's followers continues to increase, appropriate leader behavior not only requires less and less structure (task) but also less and less socio-emotional support."<sup>67</sup> Within this theory, maturity is defined in terms of relative independence, ability to take responsibility, and achievement motivation of an individual or group.<sup>68</sup> Although highly structured task behavior is considered appropriate for working with immature people, Life Cycle Theory suggests that:

...leader behavior should move from: (1) high task - low relationships behavior to (2) high task - high relationships and (3) high relationships - low task behavior to (4) low task - low relationships behavior, if one's followers progress from immaturity to maturity.<sup>69</sup>

In 1966, Korman reviewed the literature concerning the isolation of "consideration" and "initiating structure" as basic dimensions of leadership behavior in formal organizations. His primary purpose was to evaluate studies that examined the relationship between variables on these dimensions and various effectiveness criteria and to suggest some possible implications for further research. From his review, Korman

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concluded that there is very little evidence that leadership behavioral or attitudinal variation, as defined by scores from questionnaires designed to measure "consideration" and "initiating structure" (the Ohio State Leadership Behavior and Leadership Opinion Questionnaires), are predictive of later effectiveness and/or satisfaction criteria. He further concluded that in most cases researchers have made little attempt to either conceptualize or measure situational variables which might be relevant to leadership effectiveness.<sup>70</sup> The entire thrust of Korman's evaluation appears to support the direction of Fiedler's "Contingency Model" which is a primary focus of the research design implemented within this thesis.

### Shared Leadership

According to Etzioni's typology, in complex organizations the most probable leadership patterns involve either cell 2 or cell 3 wherein the natural leader and the designated head share leadership roles.<sup>71</sup> From this Scott argues that the organizational implication of Etzioni's analysis is that groups are more likely to be both effective and efficient if initiating structure and consideration leadership functions are provided, but with the roles performed by different individuals. However, he then modifies this conclusion in terms of the group expectations conditioned by the prevailing leadership climate. For example, he suggests that a group highly conditioned to an authoritarian climate tends to anticipate that the designated head will provide both initiating structure and consideration.<sup>72</sup>

### Directionality of the Cause/Effect Relationship

In those studies where positive relationships exist between leadership behavior in terms of consideration and initiating structure, and group effectiveness or satisfaction criteria, there is lack of clarity concerning the directionality of cause and effect. For example, Vroom has indicated that a supervisor might be more considerate of an outstanding subordinate than an ineffective subordinate, thus reversing the usually hypothesized relationship.<sup>73</sup> Similarly, Kipness argues, on the basis of a review of the literature, supervisors rate higher those individuals who are supportive of the supervisor.<sup>74</sup> Korman suggests that a supervisor might have to exhibit more consideration with a low performing group than with a high performing one.<sup>75</sup>

Lowin and Craig discuss several broad views of interpersonal interaction, all of which predict that leadership style should be sensitive to subordinate performance. Among these views, analyses of games and instrumental action (Homans, 1961; Thibaut and Kelly, 1959) generally argue that persons whose action cause another to be rewarded are positively cathected by the other. Other examples cited include Adam's Theory of Equity (1963, 1965) and Heider's (1958) cognitive consistency model of interpersonal attraction. Lowin and Craig conducted a laboratory experiment wherein subjects believed that they had been hired for supervisor positions in an office. The subjects were systematically observed reacting to a series of carefully programmed probes by a competent or an incompetent subordinate; the subordinates were actually confederates of the experimenters. The subjects subsequently completed a "confidential evaluation" post-situation questionnaire on the subordinate. The findings of the experiment indicated that, with

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few exceptions, all of the data supported the predictions that the subordinate's performance would affect his supervisor's closeness of supervision, initiating structure, and consideration.<sup>76</sup>

Lowin, and his associates, continued research on the directionality of cause/effect relationships in leadership situations. They argue:

While one would like to conclude from the pertinent literature that certain supervisory styles affect organizational effectiveness, it must be emphasized that organizational effectiveness is known to strongly affect supervisory style ... Ordinary observational research is in this most serious respect therefore fundamentally handicapped. Such criticism is not mere quibbling, for the results of observational studies of supervisory style are interpreted by many as support for prescribed changes in organizational policies.<sup>77</sup>

The significance of this problem of directionality, and the problems of measurement and analysis of such a relationship in a field study, have been considered in the research subsequently reported in this thesis.

#### Fiedler's Theory of Leadership Effectiveness

Fiedler's "contingency model" of leadership effectiveness is a logical extension of the situational theory previously discussed. It evaluates leader effectiveness in terms of group performance on the group's primary assigned task. It also incorporates the initiating structure/consideration dichotomy in its measurement and analysis of leadership style. This model has generated considerable research by others, much of which has been reported upon in professional journals in the 1960's.

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### Description of the Fiedler Theory

Fiedler's A Theory of Leadership Effectiveness summarizes and projects the results of his research in the area of leadership theory from 1950 to 1967. In this book, Fiedler argues that:

... Except perhaps for the unusual case, it is simply not meaningful to speak of an effective leader or of an ineffective leader; we can only speak of a leader who tends to be effective in one situation and ineffective in another.<sup>78</sup>

.....

...Morale and member satisfaction, while certainly affected by the leader's behavior, are here seen as interesting by-products rather than as measures of task-group performance.<sup>79</sup>

His research developed two measures of leadership style, the Least Preferred Co-worker (LPC) scale and the closely related Assumed Similarity between Opposites (ASo) score. It also introduced the concept of the favorableness of the leadership situation in providing the leader with influence. The degree of situational favorableness is a function of three variables: (1) position power -- the potential power which the organization provides for the leader's use; (2) task structure -- the degree of which is closely related to the reinforcement of position power; and, (3) the personal relationship between the leader and group members as perceived by the leader's assessment of the group atmosphere.<sup>80</sup> Fiedler operationalizes quantitative techniques for measuring the four major variables in his situational model of leadership effectiveness. Based upon the three variables which determine situational favorableness, Fiedler classifies group-task situations into nine cells as indicated in Table 1.



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TABLE 1

FIEDLER CLASSIFICATION OF GROUP TASK SITUATIONS<sup>81</sup>

	Leader-Member Relations	Task Structure	Position Power
I	Good	High	Strong
II	Good	High	Weak
III	Good	Weak	Strong
IV	Good	Weak	Weak
V	Moderately poor	High	Strong
VI	Moderately poor	High	Weak
VII	Moderately poor	Weak	Strong
VIII	Moderately poor	Weak	Weak
VIII-A	Very poor	High	Strong

He categorizes task groups into interacting, coacting, and counter-acting groups on the basis of the relations among group members resulting from task performance requirements. Coacting groups work together on a common task, but each of the group members does his job relatively independently of other members. Counteracting groups involve individuals who are working together to negotiate and reconcile conflicting opinions and purposes. Although most groups are a mixture of all three types, one feature generally predominates. The discussion of his theory, and the author's research will solely relate to predominantly interacting groups which are described by Fiedler as follows:

The hallmark of the interacting group is the interdependence of group members. It is generally difficult in these groups to assign credit for good team performance to any one member of the group. It may be possible to identify a team member who failed to perform his assigned job and therefore prevented his group from completing the task successfully. However, it is not easily possible in such teams to identify the degree to which a particular group member directly contributed to success. Each man must do his part if the team is to be successful, and the group is generally rewarded as a group or else the leader alone is rewarded.<sup>82</sup>

### Measuring Leadership Style

Fiedler emphasizes his distinction between leadership style and leadership behavior:

...By leadership behavior we generally mean the particular acts in which a leader engages in the course of directing and co-ordinating the work of his group members. ... Leadership style will be defined here as the underlying need-structure of the individual which motivates his behavior in various leadership situations.<sup>83</sup>

This definition of leadership style is analogous to Alfred Adler's definition of the life-style as an integrating goal or dominant purpose which determine the individual's behavior.<sup>84</sup> Fiedler emphasizes that his distinction between leadership style and leadership behavior is critical for understanding the theory which he presents because he shows that: "...important leadership behaviors of the same individual differ from situation to situation, while the need-structure which motivates these behaviors may be seen as constant."<sup>85</sup>

The ASo measure of leadership effectiveness was originally developed in an attempt to assess the diagnostic competence of clinical psychologists working with patients in psychotherapy. Although such attempt was unsuccessful, it was discovered that reputedly good therapists tended to describe their patients as more similar to themselves. Conversely, reputedly poor therapists tended to describe their patients as quite dissimilar. The correlation between reputed therapeutic competence and the similarity which the therapist assumed between himself and his patient turned out to be .59 in a study reported in 1951.<sup>86</sup>

This measure of assumed similarity was initially interpreted as indicating psychological warmth, acceptance, and permissiveness. Further studies emphasized the effect of perceived similarity between another

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individual and self in the performance of small task groups. "Interpersonal perception scores are based on the assumption that the way in which one person perceives another will affect his relations with him ... This perception may, of course, change in the course of time, but so, presumably would the relationship."<sup>87</sup>

The ASo score reflects the comparison of the subject's Most Preferred Co-worker (MPC) and his Least Preferred Co-Worker (LPC) and is measured by means of the D- score statistic developed by Cronbach and Gleser.<sup>88</sup> The instructions for the completion of the LPC form include:

Think of the person with whom you can work least well. He may be someone you work with now, or he may be someone you knew in the past.

He does not have to be the person you like least well, but should be the person with whom you had the most difficulty in getting a job done. Describe this person as he appears to you.<sup>89</sup>

The instructions for completion of the MPC form are identical except for the substitution of "best" in lieu of "least well."<sup>90</sup>

The description of the MPC and LPC is currently made on an eight-point, bipolar, adjective scale developed from Osgood's Semantic Differential.<sup>91</sup> The items deal with personality attributes rather than personal characteristics such as: blond versus dark haired, tall versus short, etc. An example of two items on the MPC and LPC forms is:

Cooperative	:	8	:	7	:	6	:	5	:	4	:	3	:	2	:	1	:	Uncooperative
Supportive	:	8	:	7	:	6	:	5	:	4	:	3	:	2	:	1	:	Hostile

See Appendix A for a reproduction of the complete sixteen item MPC and LPC forms used in this study.

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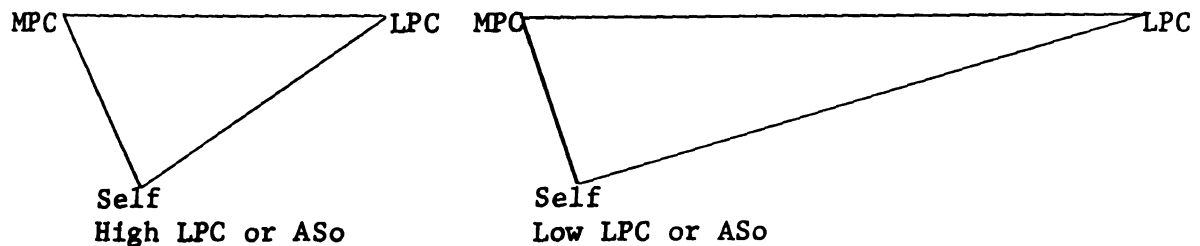
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The difference score between the MPC and LPC for each item is squared. By summing these item difference scores ( $D^2$ ) and extracting the square root of the sum, the ASo (D) score is obtained. MPC and LPC scores are merely the arithmetic summation of the point values of each bipolar item on their respective instruments.

#### ASo and LPC Scores

A high D score indicates a low ASo. This may be indicated by the following graphical analogue:<sup>92</sup>



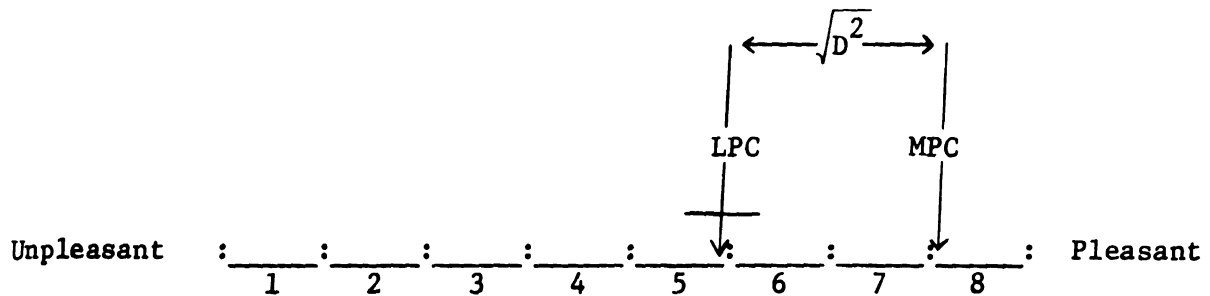
Fiedler reports, concerning individual adjective items, that low LPC scores run from about 1.2 to 2.2; high LPC scores range from about 4.1 to 5.7; and the mean of all LPC scores for 320 subjects was 3.32, and the standard deviation was 1.39.<sup>93</sup> These typical scoring patterns are depicted in Figure 2.



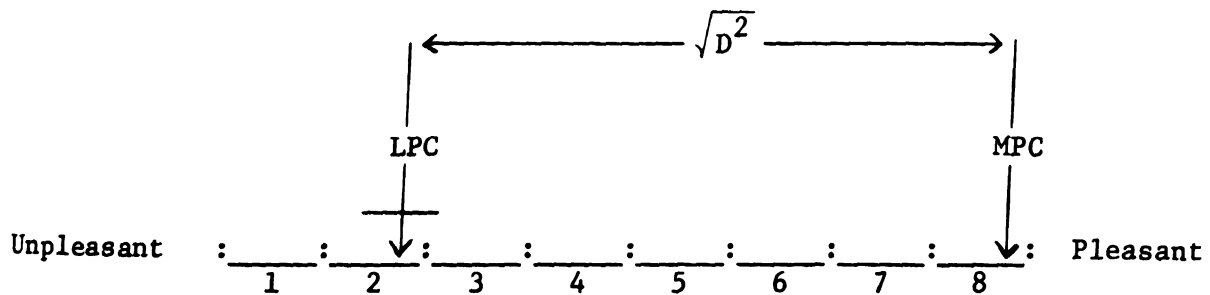


FIGURE 2

SCHEMATIC REPRESENTATION OF TYPICAL SCORING PATTERN,  
WHICH RESULTS IN HIGH OR LOW LPC SCORES



Typical High-LPC and High-ASo Patterns of Response  
(mean high LPC=4.9, SD=.82)



Typical Low-LPC and Low-ASo Patterns of Response  
(mean low LPC=1.8, SD=.43)

MPC = Most-preferred Coworker description  
LPC = Least-preferred Coworker description  
ASo = Assumed Similarity between Opposites  
(that is, opposite types of coworkers)

Fiedler and others do not report, or define, "low" or "high" ASo or MPC scores. The stability of LPC and ASo scores has ranged from .35 to .70, depending upon intervening experience and the duration of elapsed time.<sup>94</sup>

He also reports that:

...ASo and LPC scores are highly correlated, i.e., .80 to .90, which is about as high as the reliability of these two scores will permit. We have, therefore, interpreted ASo and LPC scores interchangeably, even though there seem to be some minor differences between these two scores.<sup>95</sup>

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### Interpretation of ASo and LPC Scores

In brief, we visualize the high-LPC individual (who perceives his least-preferred coworker in a relatively favorable manner) as a person who derives his major satisfaction from successful interpersonal relationships, while the low-LPC person (who describes his LPC in very unfavorable terms) derives his major satisfaction from task performance.

Both types of leaders may thus be concerned with the task and both will use interpersonal relationships, although the high-LPC leader will concern himself with the task in order to have successful interpersonal relations, while the low-LPC leader will concern himself with the interpersonal relations in order to achieve task success.<sup>96</sup>

Fiedler reports a large number of studies which attempt to interpret ASo and LPC scores by correlating them with various personality, attitude test, and biographical items. "None of the independent measures correlated above .30 with LPC, and most of the correlations were not statistically significant."<sup>97</sup> Fishbein, and others, interpreted the lack of correlations between LPC and personality test responses as indicating that this logically follows from the LPC being an attitude measure which is fairly specific to a team situation.<sup>98</sup>

Content analysis of task groups, using the Bales system of interaction process analysis, indicated the difference in behavior between high-LPC and low-LPC leaders under group conditions that they perceive as pleasant and as unpleasant. From such study it was concluded that:

...the situation which is less personally satisfying causes the high-LPC leader to interact on an emotional and personal level while the low-LPC leader interacts in a more task-related manner by giving more suggestions and directions, asking for information and orientation, as well as asking for suggestions and direction.<sup>99</sup>

For clarification of future discussions, definitional relationships between attitude-behavioral classifications of the Fiedler, Ohio State Leadership Studies/Blake-Mouton, and Zalesnik models are indicated



in Table 2.

TABLE 2  
DEFINITIONAL RELATIONSHIPS BETWEEN  
LEADERSHIP TYPOLOGIES

Attitude/behavior	Test Score	Fiedler Typology	Ohio State/ Blake-Mouton	Zaleznik
High task - low consideration	High ASo Low LPC	Low ASo Low LPC	9:1 High concern for production; low concern for people	Idea or task orientation
Intermediate range task and consideration	Middle ASo Middle LPC	? ASo ? LPC	5:5 Intermediate concern for production; moderate concern for people	Fusion orientation
Low task - high consideration	Low ASo High LPC	High ASo High LPC	1:9 Low concern for production; high concern for people	Person orientation

The close relationship with the "initiating structure" - "consideration" behavioral dichotomy previously discussed is obvious. The important distinction is Fiedler's operationalization of the interrelationship of this personality measure with the situational variables in terms of developing a predictive model of leadership effectiveness.

#### The Contingency Model

According to Fiedler, group performance is:

...related to both the leadership style and the degree to which the situation provides the leader with the opportunity to exert influence. Task-oriented (low-LPC or -ASo) leaders perform best in situations which are highly favorable for them or in those which are relatively unfavorable. Considerate, relationship-oriented leaders tend to perform best in situations in which they have only moderate influence, either

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because the task is relatively unstructured or because they are not too well accepted although their position power is high and the task is structured.<sup>100</sup>

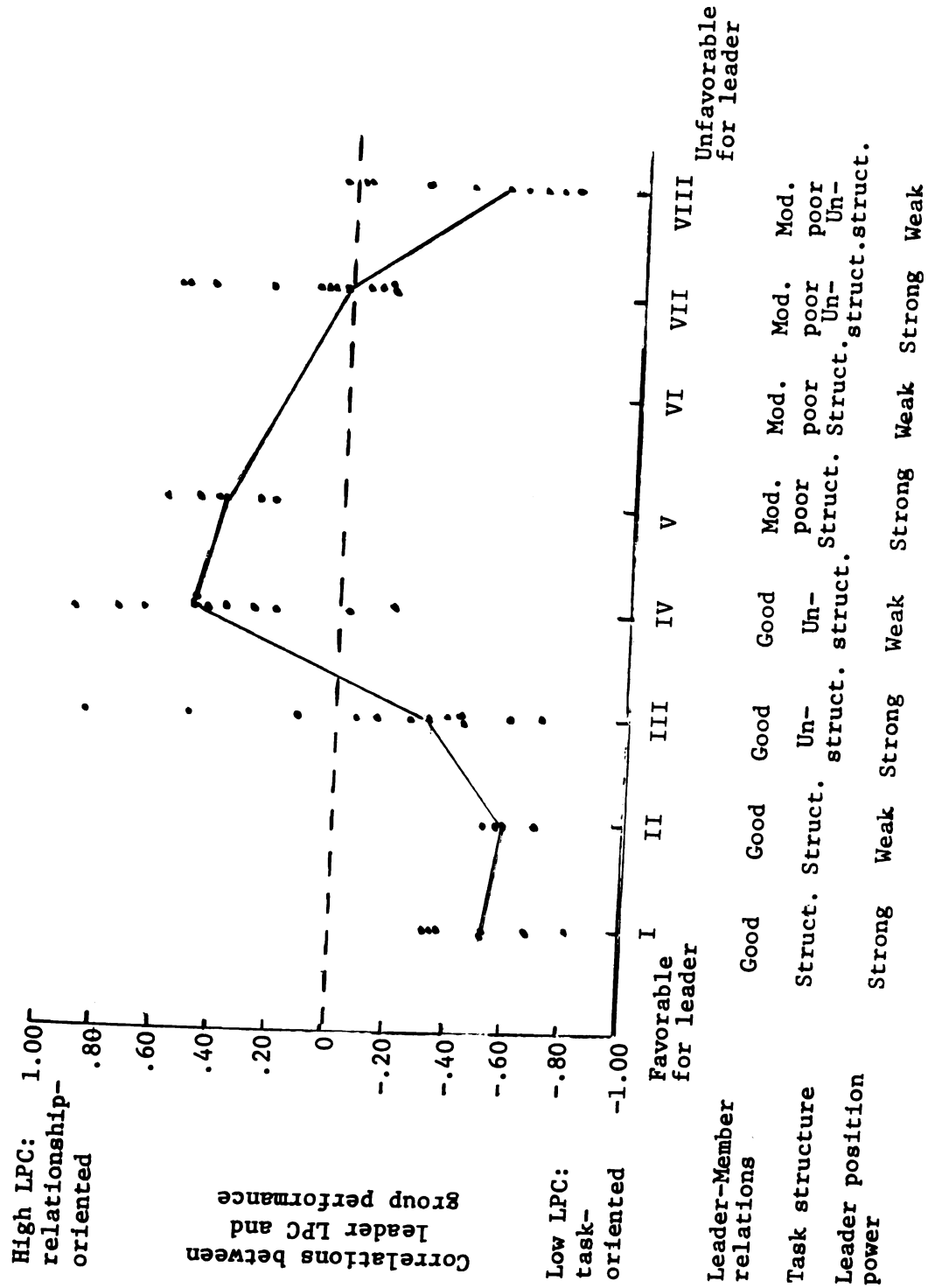
This theoretical formulation has been called the "Contingency Model" of leadership effectiveness. Fiedler has reported the median correlations between leader LPC and group performance within the octants of his model previously described. These results are indicated in Table 3 and Figure 3.

TABLE 3  
MEDIAN CORRELATIONS BETWEEN LEADER LPC AND  
GROUP PERFORMANCE IN VARIOUS OCTANTS<sup>101</sup>

	Leader- Member Relations	Task Structure	Position Power	Median Corre- lation	Number of Relations Included in Median
Octant I	Good	Structured	Strong	-.52	8
Octant II	Good	Structured	Weak	-.58	3
Octant III	Good	Unstructured	Strong	-.33	12
Octant IV	Good	Unstructured	Weak	.47	10
Octant V	Moderate Poor	Structured	Strong	.42	6
Octant VI	Moderate Poor	Structured	Weak		0
Octant VII	Moderate Poor	Unstructured	Strong	.05	12
Octant VIII	Moderate Poor	Unstructured	Weak	-.43	12

If the contingency model is determined to be valid by sufficient evidence from organizational research, it has important operational implications for improving leadership performance. Fiedler suggests that it is usually easier to change a man's work environment than it is to change his personality or his style of relating to others. Therefore, it follows that low producing groups should be assessed in terms of leadership style

FIGURE 3  
CORRELATIONS BETWEEN LEADER LPC AND GROUP PERFORMANCE<sup>102</sup>





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and situational favorableness and that appropriate changes should be made in the situational factors to make them more compatible with the leader's style; or, alternatively the leader should be replaced by one whose style is predictive of higher performance in conjunction with the given elements of situational favorableness.<sup>103</sup>

Of primary interest, for the purpose of research discussed in later chapters, is Octant I since this is the Octant in which the football organization studied was hypothesized to be located. Fiedler reported a mean correlation of  $-.52$  for the 8 separate studies reported within this octant. These studies were made during the period 1951 through 1962 and included the following: 2 studies of Air Force B-29 bomber crews; 2 studies of Army tank crews; and 1 study each of -- Army antiaircraft artillery crews, infantry squads, open-hearth steel shops, and company management.<sup>104</sup>

Fiedler enumerated a listing of immediate, prominent problems relating to his contingency model which require further research. From among his list, three have been selected for incorporation into this research study:

[1]...While the leader's Group Atmosphere scores reflect the leader's perception of his group, to what extent is this perception based on the reality of the situation?  
 . . . . .

[2] We have dealt primarily with two styles of leadership, measured by high and by low LPC or ASo scores. We still know very little about individuals whose LPC falls into the middle range. It is possible that there is more than one meaning for high or middle LPC, more than one type of task and relationship orientation.<sup>105</sup>

[3] Also, studies should be undertaken which consider changes in behavior of differing ASo and LPC types based upon changes in situational favorableness, including feedback to the group and the leader concerning

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their performance.<sup>106</sup>

### Summary

This chapter has provided an overview of the historical development of leadership theory with particular emphasis upon: modern situational theory; the initiating structure/socio-emotional consideration behavioral dichotomy; and, problems in predicting leadership effectiveness and determining the directionality of cause and effect in leadership relationships. The Fiedler "Contingency Model" has been emphasized since it has important potential operational implications and provides the primary focus for the research design of this thesis. This model considers that leadership effectiveness is a function of: (1) the leadership style of the leader (as measured by test instruments which are interpreted in terms of the initiating structure/socio emotional consideration dichotomy); (2) the group atmosphere as perceived by the leader; (3) the degree to which the group's task is structured; and, (4) the position power of the leader. The author hypothesized that the football team studied involves Octant I of the Fiedler model wherein group atmosphere is good; and, the degree of task structure and position power of the leader are high. The background information in this chapter should clarify the thrust and implications of the research discussed in subsequent chapters.

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## CHAPTER III

### METHODOLOGY

#### Introduction

Although social scientists, and leadership theorists in particular, have expressed considerable interest in field studies of athletic teams, a review of the literature indicates that this study is unique. Because of this singular opportunity, the methodology employed is reported in sufficient detail to support further analysis of the data, and replication and extension by other researchers. This chapter discusses: the general conceptual approach of the research; subjects studied; test and questionnaire measures used; observational and archival techniques employed; data processing and statistical operations; and, methodological limitations.

#### General Conceptual Approach

Give a small boy a hammer, and he will find that everything he encounters needs pounding. It comes as no particular surprise to discover that a scientist formulates problems in a way which requires for their solution just those techniques in which he himself is especially skilled.<sup>1</sup>

It appears to the author that there has been a superabundance of laboratory tools used in leadership research. Although this researcher is not especially skilled in any particular research method, he confesses a personal preference for field rather than laboratory research of organizations. Field research is herein defined as:

... observation of people in situ; finding them where they are, staying with them in some role which, while acceptable



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to them, will allow both intimate observation of certain parts of their behavior, and reporting it in ways useful to social science but not harmful to those observed.<sup>2</sup>

This predilection is a reaction to the abstraction of so little of total organizational reality in typical small group, laboratory studies of leadership. It follows Sells advocacy that psychologists should generally pay much greater attention to field research and focus upon the "ecological niche" as a source of substantial contributions to behavior variance.<sup>3</sup> Further, Heinicke and Bales have presented convincing experimental evidence demonstrating that laboratory findings cannot be considered aggregatively with any confidence.<sup>4</sup>

Selltiz, and associates, have distinguished between three types of field study designs: exploratory, descriptive, and hypothesis testing.<sup>5</sup> The research herein reported is essentially exploratory, where the primary purpose is to achieve new insights into a situational model of leadership which can assist future research in organizational leadership.

In terms of research stance toward a theoretical model, Dubin suggests two possibilities:

1. The researcher may set as his task the proof of the adequacy of his theoretical model.
2. The researcher may set at his task to improve the starting theoretical model.<sup>6</sup>

The second research stance has been attempted in this study. Starting with a "middle range" theory of Fiedler's (and others), new ground has been broken with a field study which offers no pretensions of adequate controls. Consequently, following Dubin's prescription concerning the "improvement" research stance, all the data developed have been retained as potentially relevant; and, the intellectual appeal of the results pertain to unexpected outcomes.<sup>7</sup> The findings reported in this thesis

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also respond to several caveats enumerated concerning research secrecy. First, negative results have not been buried. Second, mundane statistics, such as means and standard deviations, are reported to permit further analysis by other researchers. Third, no subjects for analysis have been dropped. And fourth, a description of organizational context and methodology sufficiently complete to support replicatory studies has been attempted.<sup>8</sup>

Webb, Campbell, and associates, have argued strongly for a research method encompassing multiple measurement of the same phenomenon or comparison, in contrast to overreliance on any single approach such as exclusive dependence upon questionnaires or interviews. They believe that all research methods involve bias. But testing social science variables by different methods having different methodological weaknesses should greatly reduce the uncertainty in interpreting findings.<sup>9</sup> The research design used has attempted to triangulate multiple points in conceptual space, as previously suggested, by means of: using questionnaire reports on the same leadership behavior by superiors, subordinates, and peers; formal classificatory, observational analysis of the leadership behavior of the same coaches by the researcher; and, using reasonably well understood test measures concerning the predisposition to such leadership behavior. Further, extensive data was gathered from totally non-reactive, archival sources.

### Subjects

The subjects in this study involved four groups:

1. The head football coach, and nine assistant football coaches for the 1969 season of the university football team studied.

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2. The twelve former assistant football coaches at the university who served under, and were selected by, the current head coach. Five of these individuals currently are head football coaches at major universities; one is an assistant coach of an American Football League team; and, one is Assistant Director of Athletics at the university where the study was conducted.

3. The three former assistant football coaches at the university who served under the current head coach, but were selected by his predecessor. A fourth member of this population is deceased.

4. The 81 members of the 1969 football team of the university studied. They began pre-season practice with the team in August 1969 and completed the pre-season tests and questionnaires required by the study in that month. Subsequently, some of these players left the team prior to or during the season, the primary cause of departure being injuries. No additional players joined the team subsequent to the pre-season period and the acquisition of study data.

All individuals were assigned a unique three digit identification code number. In order to preserve the strict confidentiality of the data, these code numbers were the sole identification on the questionnaires and tests on each individual, as well as all computer input, output, and data for evaluation. Post-season tests and questionnaires, some of which were identical to pre-season tests and questionnaires, were differentiated from pre-season ones by changed suffixes to the identification code numbers.

The total number of subjects was 106; with 99% response. One former assistant coach declined to respond because, as he stated in his letter, "...My relations and feelings concerning the fine men I played

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and coached with are personal." In the case of this sole nonrespondent, all biographical data required, except birth order information, were subsequently developed from archival sources. Data received from four other former assistant coaches were partly unusable because of non-compliance with instructions pertaining to the question(s) involved. Considering the 99% response, and the total enumeration of the populations studied, problems associated with the validity of population samples have been eliminated in this study.

A 99% response rate in a study of this nature is rare. It results from the following factors: (1) the strong support for the research indicated by the head coach in his letter preceding the researcher's request for data (see Appendix B); (2) the opportunity and support provided by the assistant director of athletics and the defensive coordinator which permitted the researcher to brief the players as a group and to clarify questions pertaining to the test instruments and questionnaires at that time; (3) the continuous cooperation of all the present coaches; and, (4) the researcher's written and telephone follow-ups to several former coaches who did not respond to the initial request.

#### Research Measures

The original research design, approved by the head coach prior to the beginning of the study, included the use of the tests and questionnaires at the times specified as indicated in Table 4.



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TABLE 4<sup>10</sup>

## ORIGINAL RESEARCH DESIGN

Test or Questionnaire	Present Pre- Season	Coaches: Past Post- Season	Coaches: Past Pre- Season	Coaches: Post- Post- Season	Players: Pre- Season	Post- Post- Season
Most Preferred Co- worker (MPC) and Least Preferred Co-worker (LPC)	Yes	No	Yes	No	Yes	No
Key Managerial Orientations	Yes <sup>A</sup>	Yes <sup>A</sup>	Yes <sup>B</sup>	No	Yes <sup>C</sup>	Yes <sup>C</sup>
Group Atmosphere Scale	Yes	Yes	No	No	Yes	Yes
Miscellaneous ques- tions primarily biographical	Yes	No	Yes	No	Yes	No

<sup>A</sup>The head coach will rank himself and each of the nine 1969 assistant coaches. Each assistant coach will rank himself, the head coach, and the eight other assistant coaches.

<sup>B</sup>Each ex-coach will rank only himself and the head coach (under whom he formerly served as an assistant).

<sup>C</sup>Each player will rank only the head coach and the assistant coach with whom he worked most closely during spring practice (for the pre-season portion); and, the head coach and the assistant coach with whom he worked most closely during pre-season and the 1969 season.

Just prior to issuance of the test and questionnaire packages to players, the assistant director of athletics informed the researcher that he strongly objected to the completion of the "Key Managerial Orientations" by the players. He considered gathering such data inappropriate in terms of player maturity and the authority relationships involved, and he presented this position to the head coach. Since this

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was a critical time where the researcher was striving for acceptance by the head coach and other subjects, he acceded to deletion of this item from the research design. It was intended to secure this data post-season after the personal acceptance of the researcher, including his professional competence and discreetness, had been established.

After the season, and full acceptance of the researcher by all subjects, the head coach determined that it would not be desirable for the previously planned tests and questionnaires plus one additional open-ended question to be administered to the players. He stated that responses would tend to emphasize "scapegoating" and that further preoccupation with the past season would not be consistent with the comprehensive program generated toward maximum success in the next season. The head coach, however, offered full cooperation of all the coaches in post-season data generation and specifically agreed to two additions to the original research design:

- (1) A retest on the MPC and LPC with the purposes of establishing the effects of the intervening football season and the reliability of the instruments over time; and,
- (2) Responses to the following open-ended question concerning the degree of achievement of the superordinate organizational goal:  
"What do you consider the most important factors or 'turning points' that affected the final won-loss record of the 1969 (name of university) football season?" It is believed that data recorded concerning players during the observational phase, to be next described, provides a partial substitute for the open-ended question which was deleted in their case.

In addition to the research measures previously enumerated,

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at the completion of the season, Position Power questionnaires were administered to seven individuals, who were intimately familiar with the operations and authority relationships on the football team studied. These subjects included: the executive vice-president of the university, the team physician, two team trainers, the director and assistant director of athletic information for the university, and an assistant football coach (selected by random choice). This questionnaire was also self-administered by the researcher prior to testing the other subjects.

On December 19, 1969, the president of the university was interviewed to elicit his beliefs concerning the role of the football team, one of his sub-organizations. The final data gathered resulted from a depth interview with the head coach on April 21, 1970. At this time, important questions generated by the total research and data analysis (which was not completed until April, 1970) were discussed.

#### MPC, LPC, and ASo

As previously cited in Chapter II, Fiedler most recently is using LPC and ASo scores interchangeably, and consequently is gathering only LPC data because of greater ease in scoring it. Nevertheless, both MPC and LPC data were collected in this study and ASo scores were computed therefrom. This decision was consistent with the exploratory, and model improvement, nature of the research design. And it was reinforced by a recent longitudinal study which indicated: "It would appear that in this study it was MPC and not LPC that accounted for most of the variance over time [in the ASo score]. This would appear to be in contradiction to Fiedler's previous findings."<sup>11</sup>

The MPC and LPC instruments administered to subjects both pre-

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season and post-season, and instructions for their completion, are reproduced in Appendix A. This material is identical in content to that reported by Fiedler.<sup>12</sup> The only change made in the MPC and LPC forms used by Fiedler was that the researcher removed all the numbers on each item in order to minimize response set bias by the subjects. This change increased the workload in manually scoring the instruments, but was considered to be worth the additional effort. The intermixing of the position of the positive and negative poles on the MPC and LPC forms also tended to reduce "halo effect" response bias. Based upon the sixteen semantic differential items on each instrument each having a range of values from 1 to 8, the range of values for total MPC and LPC scores was 8 to 128. Computation of the ASo D-score, as previously explained in Chapter II, yields a range of values from 0 to 28.00. Utilizing data reported by Fiedler for low, middle, and high LPC data,<sup>13</sup> and extrapolating it to the 16 LPC items used in this study, the following LPC categories were defined:

Low LPC 8-48  
Middle LPC 49-66  
High LPC > 66

Fiedler does not provide definitional ranges for either MPC or ASo scores. In addition to correlations and other analyses, the author attempted to sharpen the categorical definitions for LPC, MPC, and ASo and the interrelationships between high and low LPC with high and low ASo scores. The results of such analyses are reported in Chapter VI.

None of the pre-season questionnaires -- MPC, LPC, ASo, or GAS -- were reviewed or scored until after completion of the football season to protect against possible biasing of observational data collection and analysis.



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## Position Power

In considering the effect of position power on group performance, a modified version of Fiedler's 18 item checklist,<sup>14</sup> which contains various indices of position power, was used. See Appendix C for a copy of the questionnaire used. Fiedler reports that the sum of the checked items on his 18 item list: "Provides a highly reliable scale for measuring leader position power. The average correlation indicating the interrater agreement among four judges rating thirty-five tasks was .95."<sup>15</sup> The only modifications to the Fiedler form, in the questionnaire used in this study, were:

- Item 15. Leader knows his own as well as members' job and could finish the work himself if necessary, e.g., writing a report for which all information is available.

This item was deleted because of its potential ambiguity in the task context being studied. There is no question that the coach knows his own as well as the player's job, but finishing the work himself implies physically playing the game, in contrast to physically demonstrating how to play.

- Item 16. Leader enjoys special or official rank and status in real life which sets him apart from or above group members, e.g., military rank or elected office in a company or organization.

The example portion of this item was deleted to decrease the ambiguity due to literal interpretation of this requirement which occurred in testing the instrument.

- Item 17. Leader is given special or official rank by experimenter to simulate for role-playing purposes, e.g., "You are a general" or "the manager." The simulated rank must be clearly superior to members' rank and must not be just that of "chairman" or "group leader" of the group during its work period.

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This item was deleted as clearly inappropriate to the field study context of the research conducted.

The arithmetical effect of deleting the two foregoing questions was to adjust the range of possible position power scores to: -5 to 19. Interrater agreement, reported in Chapter VI, was high.

#### Group Atmosphere Scale (GAS)

The degree to which leader-member relations are good or poor is an important variable in the Fiedler model. As an alternative to group member sociometric preference ratings, Fiedler has found the leader's rating of group atmosphere to be especially useful.<sup>16</sup> This scale is quite similar to that on the eighteen item LPC and MPC; seven of the ten items are identical. (See Appendix D for a copy of the GAS used.) The three unique items involved the following bipolar adjectives: Satisfying - Frustrating; Productive - Nonproductive; and, Successful - Unsuccessful. The range of potential total GAS scores is 8 to 80. Fiedler contends that the summation of the ten item scores yields a quite reliable and meaningful Group Atmosphere Score, indicating the degree to which the leader feels accepted by the group and at ease in his leadership role.<sup>17</sup> Fiedler notes, however, that: "It should be recognized that the leader's assessment of the group atmosphere is quite often at variance with the group member's assessment."<sup>18</sup> He then hypothesizes that: "Leader behavior will, therefore, depend on how the leader thinks his subordinates feel about him rather than how the subordinates really think."<sup>19</sup> In this research GAS data was developed from all current coaches, pre-season and post-season, as well as all players pre-season. This was done with the intent of operationally evaluating

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Fiedler's theses; to consider the degree of comparability of perceptions of the head coach and the nine assistants -- the leadership group concept as suggested by Gouldner; to investigate the correlation between the GAS and LPC, MPC, and ASo scores; to permit an item analysis of each of the ten items in attempting to identify key dimensions in the total group relationship; to consider the relationship of the GAS score of assistant coaches and the players for whom each was directly responsible; and, to evaluate the change in pre-season and post-season scores as a function of pre-season levels of expectation and actual goal achievement. The author believes that the GAS is conceptually analogous to the Ohio State Group Dimensions Description questionnaire described by Hemphill. Based upon this analogue, the use of the GAS was extended following Hemphill's reasoning that:

...Thus, the Group Dimensions Description questionnaire may be used either (a) to assess an individual group member's particular orientation toward a group in which he is a member, or (b) to obtain a description of major dimensions of a group as seen by its members.<sup>20</sup>

#### Task Structure

A final variable of the Fiedler model is the degree of task structure, which determines the degree of leader influence to a great extent. Fiedler uses four dimensions of Shaw's<sup>21</sup> classification of tasks:

1. Decision verifiability The degree to which the correctness of the solution or decision can be demonstrated either by appeal to authority (e.g., the census of 1960), by logical procedures (e.g., mathematical proof), or by feedback (e.g. examination of consequences of decision), as in action tasks.
2. Goal clarity The degree to which the requirements of the task are clearly stated or known to the group members.
3. Goal path multiplicity The degree to which the task can be solved by a variety of procedures (number of different

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methods to reach the goal, number of alternative solutions, number of different ways the task can be completed) (reversed scoring).

4. Solution specificity. The degree to which there is more than one correct solution. (Some tasks, such as arithmetic problems, have only one correct solution; others have two or more, e.g., a sorting task where items could be sorted in several different ways; still others have an almost infinite number of possible solutions, e.g., human relations problems or matters of opinion).

Based upon the following factors, the task structure for the football team studied was determined by the researcher to be high and this conclusion was not subjected to verification by other evaluators: (1) the extreme degree of "decision verifiability" and "goal clarity"; and, (2) the high degree of position power of the coaches and the "non-participative" leadership philosophy implemented in coach-player relations. The bases of this determination will be elaborated in Chapter IV.

#### Blake-Mouton Managerial Styles

Blake and Mouton, in The Managerial Grid, within a situational context, present classifications of different sets of assumptions about managerial behavior as an aid for an individual to become more knowledgeable regarding his own assumptions about how to manage. They acknowledge that a concept of one dominant style is not sufficient to catch the full implications of an individual's approach to management. And they suggest that the concept of a backup style is useful -- one that an individual uses when his dominant approach fails to get the desired results.<sup>22</sup> They have provided as an aid to self assessment of key managerial orientations, five paragraphs descriptive of distinctly different managerial orientations to be ranked from 1 to 5, from most to least typical of one's own style or behavior. These descriptions were used verbatim by the researcher for each of the ten coaches of the 1969



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team, not only to provide self-assessment, but to provide a basis for assessment of the leadership style of subordinates (assistant coaches ranked by the head coach), peers (assistant coaches ranked by all other assistants), and superiors (the head coach ranked by assistant coaches). The primary intent for using these paragraphs beyond the scope of Blake and Mouton's usage was to provide an additional point of triangulation of leadership style and/or behavior, in addition to MPC, LPC, and ASO scores, and observer ratings. Further, the pre-season and post-season administration to all coaches provided additional data for attempts to analyze the directionality of changes in leadership behavior. For a copy of the instructions and Blake-Mouton instruments used in this study, see Appendix E.

The paragraph descriptions of the five Blake-Mouton managerial styles<sup>23</sup> used in the instrument administered to the coaches before and after the season (with the grid position parenthetically indicated), are:

- [1,1] a. He accepts decisions of others. He goes along with opinions, attitudes, and ideas of others or avoids taking sides. When conflict arises, he tries to remain neutral or stay out of it. By remaining neutral, he rarely gets stirred up. His humor is seen by others as rather pointless. He puts out enough effort to get by.
- [1,9] b. He places high value on maintaining good relations. He prefers to accept opinions, attitudes, and ideas of others rather than to push his own. He tries to avoid generating conflict, but when it does appear, he tries to soothe feelings and to keep people together. Because of the disturbance tensions can produce, he reacts in a warm and friendly way. His humor aims at maintaining friendly relations or when strains do arise, it shifts attention away from the serious side. He rarely leads but extends help.
- [9,1] c. He places high value on making decisions that stick. He stands up for his ideas, opinions, and attitudes, even though it sometimes results in stepping on toes. When conflict arises, he tries to cut it off or to win his position. When things are not going right, he defends, resists or



comes back with counter arguments. His humor is hard hitting. He drives himself and others.

- [5,5] d. He searches for workable, even though not perfect, decisions. When ideas, opinions, or attitudes different from his own appear, he initiates middle ground positions. When conflict arises, he tries to be fair but firm and to get an equitable solution. Under tension, he feels unsure which way to turn or shift to avoid further pressure. His humor sells himself or a position. He seeks to maintain a good steady pace.
- [9,9] e. He places high value on getting sound creative decisions that result in understanding and agreement. He listens for and seeks out ideas, opinions, and attitudes different from his own. He has clear convictions but responds to sound ideas by changing his mind. When conflict arises, he tries to identify reasons for it and to resolve underlying causes. When aroused, he contains himself, though his impatience is visible. His humor fits the situation and gives perspective; he retains a sense of humor even under pressure. He exerts vigorous effort and others join in.

The five managerial styles connoted by the five paragraphs are so named because of their location on the "managerial grid" which is indicated in Figure 4.

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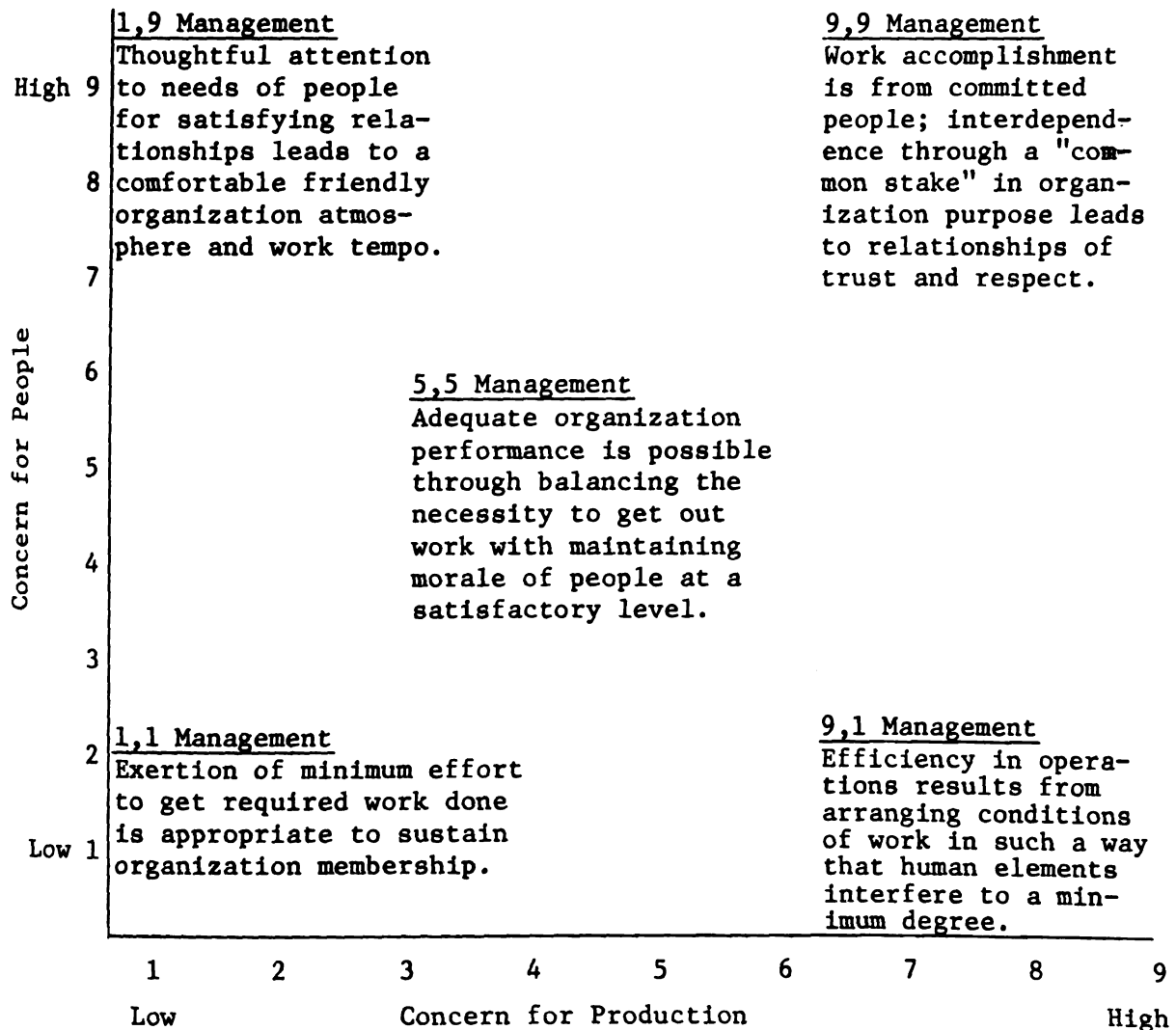
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FIGURE 4

BLAKE-MOUTON MANAGERIAL GRID<sup>24</sup>

## Miscellaneous Questions

Additional biographical and other information was requested from subjects. See Appendix F for the three different general information questionnaires administered to the current coaches, ex-coaches, and current players. The purpose of the biographical questions was to determine relationships between biographical variables and the ASo, LPC, and MPC

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measures. In the case of the coaches, there was an additional purpose of comparing the degree of commonality in characteristics and factors used by the head coach in selecting his assistants. Two pre-season questions asked of all current coaches and players required a quantitative and qualitative prediction of the degree of success for the team in the forthcoming football season. This was intended to establish a "level of expectations" against which subsequent leadership behavior, leadership ratings of others, and changes in evaluation of group atmosphere could be assessed in terms of actual achievement versus "level of expectations."

#### Observational Data

##### General.

Weick defines an observational method as: "the selection, provocation, recording, and encoding of that set of behaviors and settings concerning organisms 'in situ' which is consistent with empirical aims."<sup>25</sup> He then elaborates on the components of this definition.

Two points are noteworthy regarding the author's research. First:

...The word "selection" is included in this definition to underscore the fact that observers do make choices before, during, and after observations are made. It is not true that observation is free of editing or focusing.<sup>26</sup>

This researcher attempted explicitly to make and recognize such choices. The primary focus was on the leadership behavior of the coaches and not the players. Also, the primary focus concerned behavioral interrelations between organization members, i.e., coach to coach, coach to player, player to player, etc., in contrast to interchange with outsiders such as sportwriters, visitors, and the researcher. Further, the author had a conscious "perceptual filter" operating in terms of task and consideration types of leadership behavior. Second, Weick states



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that recording:

...retains the distinction that a considerable portion of observational research consists of making extensive records of events which at some late time are subject to analysis.<sup>27</sup>

The observation notes developed in this study most closely approximate the recording method of "specimen records" which can be collected by unsophisticated observers and subsequently quantified.

Scott suggests that the formal character of the organization is a primary advantage to field researchers:

...The investigator does not have to spend a part of each day searching for the organization, since it usually has a definite place for conducting its business; organizations also typically operate on a fixed schedule, establishing routine days and hours of work. Officials have offices and workers have locations where they can usually be found or from which they can be reached...<sup>28</sup>

Such advantages were available in this study since there was a generally recurring weekly schedule both pre-season and during the season. The daily schedule during the season will be discussed in Chapter IV.

With their advantages, there are also problems in organizational, observational research such as observer identification with the head of the organization, acceptance by organization members, and possible biasing effects such as "the guinea pig effect", wherein subjects feel compelled to make a good impression.<sup>29</sup> The researcher believes that after a normal initial "feeling out" period, excellent acceptance of the observer and minimum observer influence upon the subjects was achieved. The study experience tends to support Weick's contention that: "...most investigators who study persons in familiar habitats argue that subjects soon forget that they are being watched or, if they do not, the observer will notice their concern."<sup>30</sup> In this field study, observer influence was particularly minimized because of the

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intense level of total physical and emotional concentration by the subjects typical of their task environment.

Scott states the following field researcher's dilemma:

...participation is usually required of the investigator if he is to be allowed to continue his research; but participation, because of the involvement it generates, interferes with the collection of unbiased data.<sup>31</sup>

To counter negative and threatening features of his research role, Scott suggests that the investigator may temper his research role with friendliness, helpfulness, and concern for his subjects as persons.<sup>32</sup> Although continuance of the research was not dependent upon it, the author found it desirable to follow this approach. As examples of helpfulness, after the first two games, each week he prepared the scouting boards of the next opponent for the player's dressing rooms, he provided certain statistical data pertaining to practice and/or game performances, and counselled players concerning military service options, etc. It is not believed that the time spent on these activities detracted from data gathering to any significant extent. Since such exchanges reduced the heavy workload of the coaches, they facilitated the total effort wherein the investigator required critical time of coaches in completing tests and questionnaires, and responding to many oral questions.

Prior to specifically discussing the actual observational methodology used in this study, several comments are appropriate concerning limitations. First, Birdwhistell comments that:

Observers who are accustomed to analyzing speech behavior in naturalistic settings may regard nonverbal actions as a redundant source of information. This point of view neglects the fact that humans spend a very small portion of their interactional time vocalizing.<sup>33</sup>

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Due to the researcher's lack of training in sensitivity to nonverbal behavior, such behavior was not included within the data collected in this study which recorded and analyzed only verbal behavior. One brief parenthetical exception to the foregoing may be reported. Hall discusses the distances between persons in his concept of spatial relations as a variable in interpersonal interactions hypothesizing that the more positive the relationship, the closer people will stand. He distinguishes among four distances, with the closest distance being classified as "intimate." The intimate distance ranges from full contact to 18 inches.<sup>34</sup> It was noted throughout the study that in interactions with single players, whether task or socio-emotional, the head coach often used the intimate, full contact range, wherein he placed his hands on the shoulder pads of the player.

Second, there is the inherent assumption in the systematic categorization of behavior used in this study that each behavior placed in a category is equivalent to every other behavior placed in the same category. It is acknowledged that the differential intensity of such behavior is lost in the ultimate quantitative manipulations made.

Third, it is recognized that the observations recorded and analyzed within this study were only a sample of the total array of interactions occurring among the members of the football team during the period of observations. And the validity of this sample has not been empirically established. As previously noted, the sample reflected a deliberate emphasis upon the verbal interactions of the formal leadership group, the coaches. Within that group, emphasis was placed on the head coach.

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Formal Recording, Classification, and Analysis of Observational Data.

The initial research design of this study included the use of the Borgatta-Crowther, 18 category, Interaction Process Scores (IPS) revision to the Bale's Interaction Process Analysis. The following is a summary of the revised categories in the Borgatta-Crowther system:<sup>35</sup>

Category\*

- 1 - Common social acknowledgments (1a)
- 2 - Shows solidarity through raising the status of others (1b)
- 3 - Shows tension release, laughs (2)
- 4 - Acknowledges, understands, recognizes (3b)
- 5 - Shows agreement, concurrence, compliance (3b)
- 6 - Gives a procedural suggestion (4a)
- 7 - Suggests solution (4b)
- 8 - Gives opinion, evaluation, analysis, expresses feeling or wish (5a)
- 9 - Self analysis and self-questioning behavior (5b)
- 10 - Reference to the external situation as redirected aggression (5c)
- 11 - Gives orientation, information, passes communication (6a)
- 12 - Draws attention, repeats, clarifies (6b)
- 13 - Asks for opinion, evaluation, analysis, expression of feeling (8)
- 14 - Disagrees, maintains a contrary position (10)
- 15 - Shows tension, asks for help by virtue of personal inadequacy (11a)
- 16 - Shows tension increase (11b)
- 17 - Shows antagonism, hostility, is demanding (12a)
- 18 - Ego defensiveness (12b)

\*Major relationship to Bales' IPA categories is indicated... in parentheses.

These 18 categories are ultimately collapsible into the "initiating structure" - "consideration" behavioral dichotomy previously discussed. Categories 1-5, above, can be aggregated into positive socio-emotional reactions; categories 14-18 can be aggregated into negative socio-emotional reactions; and, categories 6-13 can be aggregated into initiating structure (neutral task).<sup>36</sup>

This system was used in two pre-practice observation periods in the coach's dressing room and subsequently abandoned as a system for



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gathering primary data although it was subsequently used as a classificatory system for the specimen records developed in the study. The reasons for abandoning the initial planned use of this system were:

(1) it tended to create reactivity to the observer on the part of the subjects; (2) there was a high concentration of behaviors in the task categories 6-13. This development was consistent with Allport's finding that: "If an observer watches persons who are performing a structured task, it is unlikely that he will see many expressive acts, and even if he does, they will assume a limited number of forms."<sup>37</sup> (3) as

Reisman and Watson report:

If behavior is categorized as it occurs, there are such disadvantages as ... more time pressure and therefore more errors, omission of descriptive detail, fewer chances to rework the data later, and a more fragmented impression of the event.<sup>38</sup>

These limitations were immediately apparent to the researcher, and,

(4) it was initially planned to use another observer, skilled in the IPS system, to make simultaneous observations until a high level of inter-rater agreement was achieved. But this plan was abandoned because of the danger of compromising the entire study at the extreme, and the increased probability of creating barriers to acceptance of the researcher and creation of reaction biases in the subjects as a minimum. In a field study within a complex organization, Blau reported that he had just begun to overcome suspicion and resistance to him as an investigator when his attempt to record interactions increased the resistance. Blau stated:

Of course, I explained that I simply wanted to get a systematic record of the social contacts among officials, but this did not overcome the objections of the agents. Even those who apparently believed my explanations considered such a record ridiculous ...<sup>39</sup>

The sites of observation, both planned and unplanned, per cent of total observation time per site, and estimated site sample percentages

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are indicated in Table 5.

TABLE 5  
OBSERVATION SITES, TIMES, AND SAMPLES

Research Site(s)	Per Cent of Total Obser- vation Time	Estimated Per Cent of Total Verbal Interactions Observed at Site
Stadium and other practice fields, including team meetings and non- game scrimmages on field, but not day of games.	33	30
Coaches' dressing room at stadium.	20	65
Coaches' offices -- game film critiques, scouting film reviews, etc.	9	100
Stadium stands, players' bench, or sideline during games and prac- tice games.	8	10
Dormitory or fieldhouse classrooms -- film reviews, game critiques, and team meetings.	6	100
University team training table and team meals at hotel and motel dining rooms	5	12
Coaches' and players' dressing room -- pre-game, halftime of games, and post-game.	5	50
Coaches' and players' rooms at motels or hotels -- day before and morning of games.	2	5
Players' dressing room -- other than day of games.	2	5
Miscellaneous: stadium training room; players' dormitories; hospital rooms; transportation with team to and from games; press conferences; private players' meetings, etc.	<u>10</u>	5-100
Total	<u>100%</u>	

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The functional groups observed during pre-season and in-season practice sessions, as well as observation of offensive and defensive groups and coach and player meetings, were systematically varied to secure a representative distribution of weekdays and the amount of observation time. This was done in recognition of differential task schedules each weekday. Observational notes were made concerning interaction among football team members and both context and verbatim or paraphrased statements were recorded. When it was not feasible to complete the observation notes on a "real time" basis, they were recorded or expanded soon after observation, usually not in the presence of the subjects. The total observational recording phase encompassed 13, 7-day weeks and 1, 3-day week; a total of 458 hours and 30 minutes of observations. The mean weekly observation time was 36 hours and 54 minutes, with a range of from 24 hours and 30 minutes to 47 hours. The minimum weekly time resulted from the researcher missing much of one full day of pre-season practice because of his final doctoral oral comprehensive examination. The maximum weekly time occurred during the only full week of practice that involved both morning and afternoon practices each day. Independent reviews of the researcher's observation notes by the three members of his dissertation guidance committee, plus another professor from the Department of Psychology, indicated that the notes were consistent over time in both scope and method of reporting observations. Also, the post-season classification of the observations as part of an interrater reliability test (to be discussed in the next paragraph) indicated that there was a high level of consistency over time in the number and composition of interactions reported. Because of the early acceptance of the observer by the subjects, it was not considered necessary to

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attempt to control for erosion of "observer influence" by eliminating early observations from analysis. The rich qualitative data in the observation notes subsequently provided a stimulus for, or source for evaluation of, new ideas developed during the study.

Subsequent to completion of the football season, since the initial interrater reliability check had been abandoned, an after-the-fact reliability test was conducted. The researcher systematically extracted 494 interaction statements by coaches from the observation notes. Each statement was typed on a separate strip of paper and was preceded by a description of the environmental context in which the statement was made. This approach followed Barker's contention that:

Behavior always occurs with reference to only a portion of the multiplicity of things and events surrounding the person. This behavior-and-context forms a pattern, a figure, against the nonrelevant background, and it can be seen and described by an observer.<sup>40</sup>

A Ph.D. candidate, who had completed a minor field in organization theory and personnel, and a housewife with a B. S. degree, neither of whom had any prior familiarity with the IPS system, were provided with the complete written description of the IPS as it appears within A Workbook for the Study of Social Interaction Processes. They then received a short briefing from the researcher to reinforce this material and were instructed to categorize the statements provided to them strictly within the categorical definitions of the IPS system. The Workbook was available to them for reference throughout their categorization. The researcher then placed all the 494 slips into a large mixing basket and randomly mixed them. The raters were given three boxes, respectively labelled 1,2,3,4,5; 6,7,8,9,10,11,12,13; and, 14,15,16,17,18 (corresponding to the IPS categories) and instructed to:



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(1) select a statement from the input basket; (2) analyze the statement in terms of the IPS category rules; and, (3) categorize it according to IPS rules and place it in the appropriate box. Following completion of this categorization, the researcher then compared the results with his prior categorization. For cross-reference, each individual statement had a code number indicating the speaker and page number of the observation notes from which the statement had been extracted.

Using the following notations: A - the researcher; B - the Ph.D. candidate; and, C - the housewife -- the following level of interrater agreement was developed:

	<u>A</u>	<u>B</u>
<u>B</u>	.79	
<u>C</u>	.91	.76

Although there is no precisely comparable categorization interrater reliability data reported in the literature, a recently reported experiment provides enough comparability to support the judgment that a high level of interrater reliability concerning IPS categorization of study observations had been achieved. The experiment reported involved two observers trained in the IPS coding system. These observers independently viewed videotapes of 10, 5-man groups working in a variety of conditions and coded the group's linguistic interaction into 23 categories. The additional 7 categories were shreds of, which may be subsumed under, the 16 basic IPS categories. The mean correlation ( $r$ ) of the raters across the 23 categories was .51.<sup>41</sup> This experiment had two factors which would tend to degrade the interrater agreement scores: (1) the requirement for immediate judgments; and, (2) a greater number

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of categories than the standard IPS. But there are several offsetting factors which also tend to depress the level of agreement within the author's study: (1) the inexperience of the raters with the system; (2) the lack of familiarity of the raters with the unique environmental contexts of a football team (the tasks and task environments in the laboratory were much more mundane and readily familiar to the raters); (3) Many of the comments of the head coach, who was the most frequent interrater, were susceptible to alternative interpretation as humor (positive socio-emotional) or sarcasm (negative socio-emotional). Discrimination between these alternative interpretations by the two raters was undoubtedly extremely difficult where contextual clues were not available.

The final categorized IPS statements were developed as an independent check concerning the behavior of the coaches; to be triangulated with MPC, LPC, ASo, and Blake-Mouton scores. The Borgatta-Crowther IPS data provides the opportunity for several different types of comparisons for the coaches: (1) Blake-Mouton (behavioral) versus IPS (behavioral); (2) IPS (behavioral) versus MPC, LPC, ASo (predisposition to behavior); and (3) IPS (behavioral) over the season as a function of weekly differential responses to victory and defeat, and changes in Group Atmosphere Scores.

#### Archival Data

In addition to biographical data secured via questionnaire, missing bits of biographical data, and alternate sources of the same biographical data used for cross-validation purposes, were secured. The primary source of such information was the Athletic Information

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Office at the university whose football team was the subject of the study. Another source for some of this information, and a unique source for some of the sociometric data, was the university student telephone directory for the fall term, during which the observational phase of the study was conducted. Other sources of archival data used were the university student newspaper, university Department of Intercollegiate Athletics, the newspaper in the city adjacent to the town in which the university was located, national magazines, and 1969 Facts Books of other members of the same athletic conference as the university football team studied. A common advantage of this archival material, and that used in the sociometric analysis, is the lack of any potential reactivity on the part of the subjects.

#### Sociometric Analysis

Although tangential to the main thrust of this study, it was decided to attempt some limited sociometric analysis. The football players had three different types of opportunities to select roommates associated with the period of the study. First, in August and September, 1969, for the several weeks of pre-season practice prior to the beginning of classes at the university they were all housed and fed at one dormitory; this included married players also. During this period players had free selection of rooms and roommates on a "first-come, first-served" basis. Second, once the formal university term began, the married players lived in varied married housing locations, while single players had free choice in selecting roommates, but were scattered throughout different dormitories on campus. A few single players lived off-campus. Third, during the 10 Friday nights preceding the season's football games,

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the 44 man travelling squad, and usually approximately 50 men at home games, were housed in either commercial motels, or university-operated hotels. In each instance, the players could select their roommate with one restrictive proviso established by the coaches -- offensive players must room with offensive players, and defensive players must room with defensive players. Since records were available concerning roommates, in some dormitories 4 sharing a common bath rather than just 2, analysis was made to determine if there was any significant commonality between consistently selected player roommates in terms of primary variables considered in the study: MPC, LPC, ASo, and GAS.

#### Directionality of Cause and Effect

It was decided to evaluate the difficult problem of "directionality," discussed in Chapter II, from two approaches. One was the differential response to victory and defeat during the season and the coaches' changes in MPC, LPC, ASo, and GAS from pre- to post-season. Recognizing that this was a limited time sampling, it was also determined to compare the relationship of mean LPC and ASo scores of the total leadership group (coaches) by year from 1954 through 1969 to the win-loss records for the same years.

#### Data Processing and Statistical Operations

All responses to test instruments, questionnaires, computation of test entry scores, and entries onto computer coding forms were subjected to multiple independent checks for accuracy of the data by both the researcher and one other individual. Similarly, the computer print-out of the 318 punched cards on the subjects, following validation within the computer center keypunch operations, was completely rechecked for



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errors by the researcher and one other individual. The author manually computed some of the data reported in Chapters VI and discussed in Chapters VII and VIII, however, the majority of the data gathered was manipulated by the Michigan State University Computer Center in accordance with the programming request of the author, using Michigan State University computer programs: BASTAT and ACT. BASTAT is a program which was programmed by William L. Ruble, Frederick J. Ball, and Donald F. King, and formally described by William L. Ruble, Marylyn Donaldson, and Rita Platte, in BASTAT, East Lansing, Michigan: Michigan State University Agricultural Experiment Station, STAT Series Description No. 5, October 1969. For each variable, this program develops the following statistics: (1) sum; (2) mean (3) sum of squares; (4) sum of squared deviations from the mean; (5) standard deviation; (6) skewness; (7) kurtosis; (8) standard error of the mean; (9) t of the mean; (10) F of the mean; (11) and, significance probability of the mean. For each pair of variables, this program develops: (1) simple correlation; and, (2) tests of zero mean difference between variables. The program also outputs statistics to aid in checking results. Considerable additional information optionally may be obtained from this program by means of special coding, but such information was not requested.

The bulk of non-parametric statistics, and some additional parametric statistics were developed by the Computer Institute for Social Science Research (CISSR) Act 2.01, March 24, 1969. This CISSR program was further developed by the Michigan State University Computer Laboratory, Applications Programming Group. It has been modified four times, and the most recent modification was written by Alan Lawson. Additional Pearson product moment correlations,  $X^2$  tests; and, all Spearman rank

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Borgatta has commented that:

The popularity of "non-parametric" statistics is associated with a glib set of reasons why they are better than parametric statistics. The fad is passing, however ... more emphasis is being placed on improving measures than on learning to live with poor measures.<sup>42</sup>

In this study, parametric statistics were used wherever legitimate since:

If all the assumptions of the parametric statistical model are in fact met in the data, and if the measurement is of the required strength, then nonparametric statistical tests are wasteful of data.<sup>43</sup>

Wherever the assumptions of the parametric statistical model have not been met in the data, nonparametric statistical tests have been used. A description of the parametric and non-parametric measures used, is provided in Appendix G.

#### Research Time Schedule

The research began October 1, 1968 with initiation of extensive background investigation into leadership theory literature and specific archival, and organizational contextual data concerning the university football team. This initial research phase ended with submission of a formal research proposal in February, 1969. At this time, no contact had been made with the head coach to secure approval to conduct the proposed study.

By June 15, 1970, the head coach had given tentative approval to conduct the proposed study. A revised research proposal was submitted to the author's dissertation guidance committee and they approved it. The head coach was provided with a copy of the approved research proposal and on June 19, 1969 he formally agreed to the study as described

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in the research proposal. The only change in the research design subsequent to June 1969, other than those previously discussed, was to eliminate the acquisition of Rokeach Value Survey data. Such data was considered marginal in terms of the primary thrust of the research and unresolved problems existed in administering the Rokeach test instruments. The balance of June, July, and August, 1969 was devoted to the following activities: general leadership theory research; refinement of the research design; telephone consultation with Dr. Fred E. Fiedler concerning his research and the proposed study design; solicitation of methodological advice from dissertation guidance committee members, other faculty and staff personnel at the university; and, preparation and coordination of subject address lists, questionnaires, and cover letters.

The formal data-gathering phase began August 26, 1969 with introduction of the researcher to all members of the football coaching staff. At this time, the study and researcher's planned participation were explained and pre-season questionnaires were distributed to the head coach and nine assistant coaches. Simultaneously, questionnaire packages were mailed to all ex-assistant coaches who served under the current head coach. The players questionnaires were distributed at a team "grant-in-aid" meeting the evening of 31 August 1969.

The formal observational phase of research began with Press Day on 28 August 1969 and the first day of pre-season practice, 29 August. Observations continued 7 days a week until 23 November 1969, the day after the final game of the 10 game season.

Periodically during the season, guidance committee and other faculty members were contacted pertaining to methodological advice, and

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Position Power questionnaires were completed. During a visit to Dr. Ralph M. Stogdill, Director of Organization and Leadership Studies, Ohio State University, on 10 October 1969, Dr. Stogdill reviewed and commented favorably upon the research design. He suggested possibly administering the Ohio State Leader Behavior Description Questionnaire - Form XII to subjects. This suggestion was not adopted because of the additional workload involved, and the apparent availability of comparable data from other sources in the study. Also, the author accomplished followup visits, letters and telephone calls to secure total response of all subjects.

The post-season questionnaires were distributed to all current coaches, 7 January 1970.

From 30 August 1969 to 30 April 1970 further research, reliability testing of observational data, data compilation, programming and analysis was accomplished. Concurrently, writing of the thesis began 17 February 1970, and the final draft was approved in May, 1970.

#### Limitations

It is important to explicitly comment upon some of the limitations inherent in field research generally, and in this study specifically. Hyman reasons that a variety of other factors affect the variables found in a natural setting, and the respondents characterized by particular attributes may vary in other important respects.<sup>44</sup>

In discussing the study of leadership behavior in task-oriented groups within a bureaucratic organization, Dubin states:

... by moving the group within an organized setting larger than itself, we introduce an external boundary-determining criterion that includes functional linkages between the particular work group and other groups in the larger



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organization. Indeed, it may very well be that the linkage of the work group with other such groups may materially influence leadership behavior inside the work group.<sup>45</sup>

This "open system" interchange problem is partially considered in Chapters IV and V, but it is acknowledged that the researcher was not privy to many important external individual and organizational pressures upon the coaches during the study period.

The behavioral observations, discussed previously in this chapter, involved a sampling from a great potential field, and the validity of the sample developed is not subject to empirical test. And the problem of "directionality" of cause-effect relationships, within a field study, is difficult to resolve. Also, there are limitations to the non-parametric statistical data reported.

Additional limitations peculiar to this study may be recapitulated as: emotional involvement of the researcher; non-participation of the researcher in coaches tactical and strategic planning meetings; elimination of player Blake-Mouton questionnaires and other post-season information which would have expanded the triangulation measurements pertaining to the leadership behavior of the coaches; lack of experimental controls; and lack of real longitudinal or comparable organizational studies for analysis.

### Summary

Because of the uniqueness of the subjects and methodology employed in this study, it is hoped that it might provide a basis for advancement of leadership theory. To support evaluation of the research reported in this thesis, and to assist in accomplishing replicatory or related future studies, a detailed discussion of the methodology

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employed has been provided in this chapter. Notwithstanding limitations common to field studies, and those peculiar to this specific study, the author attempted to emphasize methodological rigor. Injunctions and suggestions of leading psychologists and sociologists were followed. Also, the primary focus of this study, leadership style, was measured by several different approaches to minimize the uncertainty in interpreting findings. In addition to the information on methodology, the next chapter will provide important contextual information required for the evaluation of this study.

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## CHAPTER IV

### ORGANIZATIONAL FACTORS

#### Introduction

Chapter III provided detailed information concerning the methodology employed in this study. To further enhance the evaluation and extension of this research by others, it is also important to understand the significant organizational features of the football team studied as well as unique motivations of organization members. This chapter will provide the organizational context vital to understanding the findings reported in subsequent chapters, and will discuss: unique psychological considerations pertaining to football teams; and, differing leadership concepts of football coaches. Having established this general background, attention will be focused upon the football team studied, including: history during the tenure of the current head coach, internal and external organizational relationships; the annual operating cycle; daily operations during the season; organizational goals; technology; players "getting up" for games; and personnel turnover.

#### Unique Psychological Considerations Pertaining to Football Teams

A speculative typology of athletic activities, based upon their psychological demands, has been developed based upon work started by Kodym.<sup>1</sup> Football is subsumed under the following major classification:

Sports activities involving the anticipation of movements of other people ... Tactics are usually important; thus strategic thinking by participants is important. They must predict how situations will unfold. ... The individual participating in

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tasks of this nature are self-disciplined so that their emotions will not cause them to erupt and to lose self-control.<sup>2</sup>

Within this major classification football is subclassified among games in which direct aggression against one's opponents is possible.

Psychological qualities involve mental and physical toughness, speed, and endurance, the ability to change the rate of response patterns, and a resistance to pain. In these games there is specialization of roles, so that a variety of personality types may interact well.<sup>3</sup>

Kroll and Peterson have identified a group of personality traits found in football players that indicate a kind of "combative" type. Further, after comparing trait differences between winning and losing football teams, they found that winning teams were generally composed of individuals who were more venturesome and had a higher degree of self-confidence and self-control.<sup>4</sup>

Psychiatrists have joined psychologists in their interest in studying football, in part because of the many significant implications for aggression and cultural factors. Beisser comments that:

... modern sports are dominated by the spirit of work; arduous practice, long hours of learning signals and plays, sweating, bruising, bone-breaking practice, all in preparation for the big game. Long hours often with limited reward, absolute obedience to coach ...

There is a fascinating illustration of the complete reversal of relationships of work and play. Those sports which began as play, such as ball games, have now lost that playful and lighthearted characteristic, and have assumed instead all the qualities of serious, hard work. Hunting and fishing, in contrast, began as the soul of work ... But in our culture, hunting and fishing have assumed the true spirit of play....<sup>5</sup>

Beisser also comments upon a phenomenon, which was observed during this study, concerning the characteristic attitude of a football team and fans before Saturday football games where:

As the big event nears, the students recall or invent more and more horrendous stories of how "dirty" or "unworthy"

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their opponents are. By the time the team comes on the field, the event has become a grudge match.<sup>6</sup>

Like many sports experts, Beisser believes that there is a distinct advantage of playing games at home, but it is not based solely upon the encouragement and support of the home crowd; it is the knowledge by a home team player that the fans share with him the responsibility for his aggression. "The guilt which they might otherwise experience if they were alone is diluted and shared by the fans."<sup>7</sup>

Stone further comments on the "aggression" theme that:

The football player in college has an enormously exacting role to fill. He must compete not only on game days against the opposition, but all week long as well against highly competent teammates. He must continually and openly compete against his peers while group feeling and solidarity are maintained. When he commits himself to the absolute goal of winning, to the cult of success, a new code of ethics develops. This code has earlier beginnings, but it emerges full blown in highly competitive college football. The code clearly condones violence.<sup>8</sup>

Stogdill makes another observation concerning unique organizational features of football teams:

Football teams are able to invest maximum levels of exertion during a game because they work for comparatively short periods of time. If a football game lasted eight hours, rather than one hour, the pace and character of the play would be profoundly changed despite all methods that ingenious coaches might invent to intensify player inputs of effort and goal striving.<sup>9</sup>

Tutko and Ogilvie clarify the special meanings and feelings associated with football coaches:

One may wonder why the coach continues in a profession which makes so many demands upon him. Why would someone remain in a profession that is so taxing physically, emotionally and psychologically? The authors have been continually impressed by the number of admirable traits displayed by these men. Their dedication to and genuine love for athletics, their pride and ambition for their teams, their willingness to give unselfishly of themselves in order to bring about success for their teams, their eagerness to meet a challenge and, above all, their ability

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to derive real pleasure from their work stand out as qualities that can be matched by few other professions. They are, in fact, the intangible qualities they convey in subtle ways to their athletes. What better models can we ask for than these? But to be "a great coach," all you have to do is win.<sup>10</sup>

The coach must play multiple roles in motivating his athletes: strategist, salesman, public relations man, counselor, and psychologist. The coach's primary training has been in the strategy of his sport. He must change with the times, but only as his player talent will allow; timing of strategic changes is critical to success.

It is in the role of masterful strategist that the coach prefers or is willing to risk his career. It is unfortunate, however, that he really fails in other roles, which may appear on the surface to have little if any relation to the sport itself.<sup>11</sup>

The first of these other roles is the necessity of being a public relations man.

Because he is seen as the public spokesman for his team, what he says and how he says it may have a profound effect on the team. The popular image of many a team has resulted not so much from its type of play but from the way the coach has conducted himself in public. Often the coach's attitude has a subtle effect on various members of his team and this, in turn, affects the team as a whole.<sup>12</sup>

This role is complicated by the necessity of simultaneously motivating the team and the fans to continue supporting the team.

The problem is less difficult when the team is winning. If, however, the team is losing, he must reassure the fans as well as the team. Such a task is as simple as walking a tightrope blindfolded while wearing splints.<sup>13</sup>

Lawther argues that: "The courageous coach will frequently conceal from the public the very errors of a boy that bring upon the coach both defeat and harsh criticisms."<sup>14</sup> The author has observed that the head coach studied scrupulously adheres to this injunction and continuously, aggressively protects his players and assistant coaches from

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public criticism. His criticism of them is conducted privately and with the primary emphasis upon learning objectives.

The salesman role involves several facets. He must sell his fellow coaches on his strategy and general philosophy of the game. He must also sell his tactics or philosophy to his players. Additionally, he must sell all interested groups -- faculty, fans or friends. In the case of this study, new tactics -- a new, triple option offense -- and new technology -- a synthetic playing turf -- were involved. And among those being sold were three new assistant coaches, many new players, and others. Recruiting of players is another critical salesmanship responsibility. "In this domain, the coach must sell his team, the school ... the team philosophy and, above all, himself."<sup>15</sup>

Another role of the coach is that of team problem-solver or counselor. As head coach he represents different things to different athletes. As chief authority figure he confronts player attitudes toward authority varying from humbleness and respect -- to hostility and open rebellion. His success as coach may well depend upon his ability to satisfy the varied and complex needs of his men.<sup>16</sup> Beisser, from his own college playing experience and subsequent psychiatric work, has concluded that coaches fill some of the functions of the traditional father.

... The model of the good coach is the same as the model of the good father. He is strong, tough, and virile, deserves and expects respect, is not punitive, but neither is he easy. Though firm discipline has almost disappeared in many homes it is still expected in athletics. The coach demands and receives obedience. He is the expert and the teacher. The errant athlete receives physical punishment, not in the traditional spanking given by fathers but rather in the form of extra physical demands -- several laps around the track, additional calisthenics .. The successful coach is one who

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gains the respect of his team, and whom the young athlete usually obeys.

Alumni, fans, and parents also view the coach as a substitute father. Because of his unchallenged authority he is responsible for the "boys" and for the performance of the team.<sup>17</sup>

The most complex responsibility for the coach, and one relating to the primary thrust of this study, is the motivation of his players. Of the hundreds of coaches interviewed by Tutko and Ogilvie, "all have agreed that motivation was anywhere from 50 to 90 per cent of his responsibility."<sup>18</sup> An authoritative source, Vince Lombardi, contends that mental attitude of football players (largely a function of the coach's leadership) accounts for 70% of the cause of winning.<sup>19</sup> The task of motivation involves motivating individual coaches, players, and also motivating a team.

Whether the coach is authoritarian, democratic or even laissez-faire is a function of his personality and how he views his responsibility.

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The one unique quality that the coach contributes to the motivation of his team is his own personality. ... No matter how he may attempt to be objective or to minimize his personal influence, his personality manifests itself. ... The team eventually becomes an extension of the coach's personality. The way he himself responds in a variety of situations inevitably molds the team's behavior. ... This personal aspect of coaching may be the toughest of all since a coach is not in a position to change what he has become over the years.<sup>20</sup>

The foregoing comments intimately relate to the research design of this study and data developed in subsequent chapters will consider them in depth.

#### Leadership Concepts of Football Coaches

There definitely is no agreement among football coaches concerning the most effective leadership style. Concepts range from an

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"authoritarian" approach to one of "participative management" with many intermediate positions on the continuum of leadership concepts. Dr. Darrell Mudra, a successful college football coach, in writing about coaching concepts relates the authoritarian/democratic leadership dichotomy to the learning theory dichotomy of "perceptual" / "stimulus-response" theory. Although he indicates a bias toward the perceptual (democratic) approach, supported by extensive descriptive experiences and arguments, he acknowledges that much of his theorizing is tentative. His philosophy is indicative of the thinking of modern leadership theorists such as Maslow, McGregor, Likert, and Schein who argue for greater "participative management" and opportunity for "self-actualization" of workers. Mudra suggests:

... In the future... coaches are going to be dealing with students who will expect to participate more in decision making. As players become more enlightened through public education it becomes more difficult to manipulate them. If there are areas such as training and strategy where the coaches feel that the players should not be involved, then the team may lose the intelligence and energy of a great many whose insights should be important.<sup>21</sup>

Of course, leadership decisions by a coach are complex matters.

Beisser considers his psychoanalytic research findings in making a suggestion which could be construed by some as an authoritarian approach:

In a crucial moment sending in the play to a football ... team may relieve the players of the burden of responsibility and allow them to "just play." Often I believe, it is not that the play itself was better than one the team might have used but the psychological relief it provides.<sup>22</sup>

Vanek and Cratty express a psychological preference for the so-called democratic leadership approach in coaching yet they suggest the following guidelines for coaches:

It appears helpful when coaches devote attention to reproducing psychological stresses in practice that the athletes

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will encounter in competition. Adaptation to these stresses should result in better performance.<sup>23</sup>

Another complicating factor they report is:

Although there are some indications that extremely harmonious teams may not be ones that are necessarily prone to win, there is little information available about the optimums of group tension that are likely to elicit the best group performance.<sup>24</sup>

In 1951, Lawther, in the first major book on the psychology of coaching, stated:

The key to handling athletes lies in the adoption of an impersonal, analytical attitude. ... The coach must meet situations when they arise and he must make the decisions. Athletes will respect discipline if they respect the one who enforces it. Without discipline, training tends to be lax both on the field and off. Discipline means such management as will speed up the learning of the athlete and increase the chances of winning. It means kind, sympathetic treatment when analysis indicates that such treatment is best for the boy and squad. It means firmness and rebuke when such treatment seems most likely to improve the athlete. A season's discipline can be broken up by one foolish relaxation of the person in charge. Discipline must be all ways and always.<sup>25</sup>

In 1964, Blake and Mouton commented that:

Good football coaches expend much effort in perfecting those aspects needed for success which many managers disregard as "fol-de-rol." ... Most significant is the capacity of people to become involved in activities -- to be committed to a purpose and to work autonomously once this condition has been achieved.<sup>26</sup>

The following are some recent leadership philosophies and suggestions of several highly successful football coaches.

#### Vince Lombardi

Based upon his college and professional coaching experience, Vince Lombardi concludes:

Running a football team is no different from running any other kind of organization - an army, a political party, a business. The principles are the same. The object is to win - to beat the other guy. Maybe that sounds hard or cruel. I don't think it is.

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It's a reality of life that men are competitive and the most competitive games draw the most competitive men ... The objective is to win - fairly, squarely, decently, by the rules - but to win.<sup>27</sup>

#### Paul "Bear" Bryant

Paul "Bear" Bryant is quite direct about this theory of winning football:

Our slogan is, "Winning is not everything, but it sure beats anything that comes in second." Our theory on how to develop a winning team is very simple -- WORK! If the coaches and players will work hard, then winning will be the result.<sup>28</sup>

Quitting comes easy for many people. Many do not want to pay the price to be a winner. ... The "solid citizens" who finish my "course" will be better men as a result of having stuck it out. The boy who sets his mind to do what is required of him in order to be a winner is not only the type of boy we are looking for, but he will get the most from the program. Those who stay will be champions and will become winners not only on the football field but in life itself.

We must inspire our boys to the degree they think and know they are capable of doing what it takes to win. Teaching the boys how to accomplish this is extremely gratifying and one of the rewards of coaching.<sup>29</sup>

#### W. Woodrow "Woody" Hayes

In discussing leadership, Woody Hayes states:

1. A leader must project a positive image of initiative, enthusiasm, competence, resolution, character and integrity. This is an extremely big order but these are basic qualities of leadership.
2. Mental toughness, the ability to withstand pressure, to rise above hardship and disappointment, is a real test of a man's leadership ability.
3. The leader must be able to communicate his feelings as well as his ideas to those whom he would lead. He must say the right thing, in the right way at the right time.
5. The leader must BE HIMSELF. ...<sup>30</sup>

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Hayes offers some motivational observations in discussing the player-coach relationship:

4. WE MUST RECOGNIZE THE CHANGING EDUCATIONAL AND SOCIAL CONDITIONS UNDER WHICH FOOTBALL IS PLAYED. Today in understanding a young man it is important to understand his I.Q., however it is more important to understand his F.Q., his FRUSTRATION QUOTIENT. Young people, football players or otherwise, are under enormous pressures. It is not enough for the mature coach to dismiss this situation by saying, "We all went through that period and we all had our emotional frustrations." Perhaps we did go through this, however, we must accept the fact that the pressures today are much greater and much more encompassing. ...

5. FOOTBALL AS GROUP THERAPY. No psychologist will deny that football gives the player the opportunity to relieve his aggressive tendencies. More important, it gives him the opportunity to achieve TOGETHER in a purposeful situation. ...

Recent university studies have pointed up the fact that somewhere between 15 to 25 percent of all college students need psychiatric care or at least psychiatric counseling during their undergraduate career. ...

In dealing with the football player, one thing becomes apparent. The football player is an extremely healthy individual, both physically and mentally, for in the last 18 years at Ohio State it has been necessary for only two players to see a psychiatrist, and neither of these situations were in any way connected with football.

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7. A GOOD FOOTBALL SQUAD IS CONTROLLED BETTER BY ATTITUDES THAN BY RULES. Attitude includes many things: First, the desire to improve individually, to warrant membership on a team; second, the desire to win as translated into team conduct; third, to develop a high respect for the rights and privileges of others on the squad. ...<sup>31</sup>

#### The Head Coach in this Study

Typical of comments in national magazines and newspapers throughout the country over the years concerning the head coach in this study was one in a column by the sports editor of an Oklahoma newspaper: "He is a master psychologist who can be sentimental or tough with his players. He has a closer relationship with his players than most head coaches."

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In a book on coaching, written in the early 1960's, the coach expressed his philosophy of leadership:

Athletics, by their very nature, present a constantly emotionalized environment. The extrinsic pressure for success from the school and community populations, the intrinsic desire for self or ego satisfaction, assure a constantly emotionalized setting. The coach thus must be more than a technician, an offensive and defensive strategist. These are certainly attributes necessary for success, but first of all he must be a student of human relations, an educator of outstanding insight and perception of the interactions of people. He must be all this if adequate education is to take place with any hope of success in teaching desirable behavioral patterns that will be adhered to in out-of-school situations.

These observations are certainly consistent with the coach's roles of counselor and psychologist as previously enumerated by Tutko and Ogilvie.

Concerning the values of football, the coach has stated in an interview with a national magazine in 1966, themes comparable to earlier cited quotations of Lombardi and Bryant:

Young men learn the value of hard work, that there's no easy way to become a champion, that you have to go in and dig and dig, then dig some more if you're going to excel. They also learn the value of teamwork, the value of being able to judge their teammates on their qualities as individuals, and on their courage and loyalty and dedication to the team.

They learn the value of being willing to accept discipline, to respect authority and to obey a few simple rules handed down to them.

But above, all, they learn the value of the desire to excel, to try to be the very best in everything they undertake.

.....

There are certainly more than immediate values to athletics. If a coach is to expect any carry-over of his training to other than athletic competition, he must teach for it. He must relate his teachings to basic problems and their solutions, rather than to aggressive "do this or else" techniques. The coach must understand and use psychological principles of adjustment and guidance techniques if he is to expect any semblance of adequate learning in his team personnel. Without insight and concern, the athletic experience serves only as another stereotyped behavioral situation with little, if any, lasting value.

In his Foreward, Mudra states:

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This book attempts to show how coaching methods would differ depending upon differences in philosophy that relate to learning theory and practice. An intelligent approach to coaching does not require the acceptance of any specific system, but it does require the ability to see the relationship between theory and practice.<sup>32</sup>

It is recognized that Mudra used only polar extremes of democratic and authoritarian approaches in discussing football leadership theory and practice as a device to facilitate exposition of his philosophy.

Nevertheless, it is difficult to find a consistent pattern of leadership in attempting to apply his examples to the leadership of the head coach in the study. For example, in Mudra's chapter on leadership he cites the following as an authoritarian practice: "A player could be dropped by an assistant coach and the head coach would be expected to uphold his decision."<sup>33</sup> This is not the practice of the head coach studied. Over the years, and during the 1969 season, there have been many players that assistant coaches have wanted to eliminate from the team because of their poor attitudes toward authority and discipline; and, frequently these were players whose technical abilities were outstanding. The head coach has emphasized the more difficult, but potentially more rewarding, position of attempting to develop the proper attitudes in these players.

Mudra cites another example of authoritarian practice: "Graduate assistants or part time coaches do not have the same privileges in staff meetings and usually are assigned the less important tasks."<sup>34</sup> This is typical of the use of such assistants by the coaches in the study.

Another authoritarian principle stated is:

The coach should never fraternize with the players. Familiarity breeds contempt. There should be a certain social distance or the coach's direction will not be as highly regarded and the lines of authority will break down.<sup>35</sup>

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This principle is certainly not practiced by the head coach studied, whose deep concern with personal problems of his players extends throughout their playing and post-university careers. This personal interest also continues with regard to football players whose careers are terminated prematurely due to injuries while undergraduates.

An authoritarian principle enumerated, practiced by the head coach studied, is: "In order for leadership to be effective, lines of authority to determine formal policy need to be delineated at the outset."<sup>36</sup>

This researcher believes that the apparent inconsistency in leadership practices of the head coach studied, in terms of the dichotomous model presented by Mudra, results from the model not considering other leadership configurations such as the Blake-Mouton 9,9 and 5,5 styles previously discussed.

The balance of this chapter contains organizational and personnel information about the football team studied as background to the forthcoming discussion of the 1969 season and other aspects of this study.

#### History Under the Current Head Coach

The ultimate criterion of effective leadership is the performance of subordinates.<sup>37</sup> In terms of commonly accepted measures of the performance of college football teams, during the prior fifteen seasons under the leadership of the head coach (1954-1968), the football team studied has been successful. Such measures include:

1. A winning percentage of .658. This success measure is partially depressed since the schedule of opponents typically is abnormally difficult in terms of "national rankings." Further, typically 30% of the opponents are non-conference universities which operate under more

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advantageous rules of recruiting such as the number of athletic scholarships for football and "redshirting," as well as having lesser academic standards in many instances.

2. In seven years, the team has been ranked in the "Top 10" in the final Associated Press and United Press football polls -- including one ranking of 1st; two of 2nd; and, one of 3rd.

3. Twenty-four of this coach's players have been selected for first team All-American honors on National Collegiate Sports Services (formerly the National Collegiate Athletic Bureau) recognized major football team selections. Also, twenty-eight of his players have been selected for the Chicago Tribune All-Star Football game; and more of his players have advanced into the National Football League than those of any other current university football coach.

4. Eight of the fifteen assistant coaches who served under the head coach subsequently advanced to head coaching positions in college football. The other assistants advanced to positions in the business, academic, and athletic (university assistant director of athletics, and assistant professional football coach) communities.

5. The head coach was the first to be twice named "Coach of the Year" by the Football Writers Association.

6. When not participating in Bowl Games, the head coach has been selected as head coach in eleven major post-season All Star college football games.

Other indications of successful leadership by the head coach include: continuous high attendance records; a continuous "positive" image toward the university football program expressed within local and national news media; and, general support from the university administrative,

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faculty, student, and alumni bodies.

This record of team success over a fifteen year period was one of the reasons for selection of the organization as the subject of research, and the 4 win - 6 loss record in the season studied was not representative of the total period and can be attributed to a variety of reasons to be subsequently discussed.

An alternative assumption can be made that the success of the football team under the head coach has been primarily a function of successful recruiting rather than leadership. Although recruiting is an important factor, and an important role of the head coach, the assumption that it is the preeminent cause of team success is rejected for the following reasons:

1. There has been a continuous increase in the availability of well coached high school football players to man a relatively fixed number of major college football teams. This tends to eliminate college "dynasties" based upon relative monopolization of scarce talent which occurred in prior decades.

2. Superior leadership can provide superior organizational results with comparable personnel, as has been demonstrated in both football and business competition. The twenty-four All American players who played for the head coach may appear to support recruiting as the primary cause of his success. But this argument may be just as plausibly reversed -- the publicity related to a winning team enhances the probability of All American selection for a player on a winning team over one of equal ability who played with a less successful team.

3. As Tutko and Olgilvie argue: "The coach who comes up with a new game formation cannot prevent his opponents from adopting it in due

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time. In this way teams tend to become equalized, and motivation remains the deciding factor."<sup>38</sup> This diffusion of football strategic and tactical information has been accelerated by recent developments in motion pictures and television videotapes of games, intensive scouting and computer analyses, and the proliferation of coaching clinics. As previously discussed, motivation is recognized as the primary cause of winning, and the head coach has the primary responsibility for motivation and team results.

#### Concepts of the University President

Since the football team studied is organizationally embedded within one of the leading universities in the United States, it is important contextually to understand the goals of the football team in terms of the ends of the university. This is best understood in terms of the public positions of the two university presidents under whom the head coach served.

The head coach served under one president through the 1968 season, and then he served under another president during the 1969 season -- the period of the field study. In his State of the University message of January, 1963, the earlier president stated that the university's first and only responsibility is to serve society. Throughout his career, this president made frequent references to the societal values that have made the United States great and cited a learning analogue to these values which results from the participation in intercollegiate football. The specific values cited in his model are: love of competition; demand for fair play, high regard and reward for true excellence; and, equality of opportunity.

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This president also publicly spoke concerning contributions of football to the university. In a November 1967 address, he noted that in the American culture, like it or not, universities are often judged by the quality of their teams because of the massive public exposure of athletics. He also commented concerning the contributions of football to the university:

Football and other competitive athletics provide a natural outlet for the enthusiasms and energies of students ... Football affords a natural rallying point for the university community and provides an item of common interest to students and faculty, townspeople, alumni, friends and supporters, and promotes a feeling of mutual interest and enthusiasm that carries over into many useful fields.

His position concerning the contributions of football to the university appears to represent that of the broader academic community, stated by the American Council on Education:

American colleges and universities engage in intercollegiate athletics because of a deep conviction that when properly administered they make an important contribution to the total educational services of the institution.<sup>39</sup>

Like his predecessor, the university president during the 1969 season was a devotee of football and rarely missed one of the university's games. The author conducted an extensive interview with the president on December 19, 1969, as part of this study, and the following pertinent comments have been extracted from a larger total content of this interview.

Coen: What do you believe is the current role of football in the total [university] community? And, has this role changed significantly in recent years?

President: Well, I think it's changed in recent years because football once upon a time was a disproportionate element in student life and student life has become much more rounded now than it was in the past. Students take football more in their stride. They're still interested in it, but it isn't a

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preclusive or exclusive obsession with them. And, of course, to the extent that campuses have become a little more politicized than they traditionally have been, to that extent, football has tended to recede into the background. Now, this is not to say of course that it is not important and students do not care about it, but it's just one of several things that students are interested in.

Coen: What do you think should be the primary criteria for selecting a head football coach at a major university such as [this one]?

President: Well I imagine my answer would degenerate into an attempt to describe the qualities of a man like [the head coach in the study] because I think he is the type of person who should be a football coach at an academic insitution. [The head coach], I'm sure, like any coach loves to win, but I don't think that he projects the philosophy of [another coach] "that winning isn't the most important thing, it's the only thing." I mean, [the head coach] doesn't subscribe to that. And I think there's a very delicate balance here, of being goal-oriented which of course means victory. There's no question about it, and I love to win myself, but at the same time you have to put the ... game into perspective; recognize that the players are students primarily and to some extent you have to think of the coaches as teachers. And it's a student-teacher relationship. The unfortunate thing from the coaches' point of view, and from the players' point of view, is that the examinations are being graded by 76,000 observers every Saturday afternoon.

.....  
Coen: Could you comment on the importance of the rapport between the football coach and the university president?

President: Well, I haven't given the matter any philosophical thought. As far as the facts of our situation are concerned, [the head coach] and I came to [the university] in 1947. We were both assistant professors at the time. We lived in the brick apartments in ... and got to know each other. [He] knows that I've always been a football fan and I've been an admirer of his as a human being, and when I came into the presidency I didn't think that changed our personal relationship in any way. [He] understood that I consider intercollegiate athletics an integral part of the university, and therefore he understood that he always had my full support, win or lose, but preferably win.

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Coen: What do you think are the pros and cons of the [university's] system of providing academic status and tenure to football coaches as contrasted to the strict contract system?

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President: I'm very much in favor of our system because it recognizes, as I said before, that the players are primarily students, and the coaches are primarily teachers and I think that's the way it ought to be. And this should also indicate that the coaches ought to be protected from the excessive zeal of insiders or outsiders who may be critical of their performance. They ought to enjoy all the privileges and immunities of an academic institution. I don't think this ought to be a business! It ought to be a wholesome adjunct of a university which means of essentially an academic enterprise.

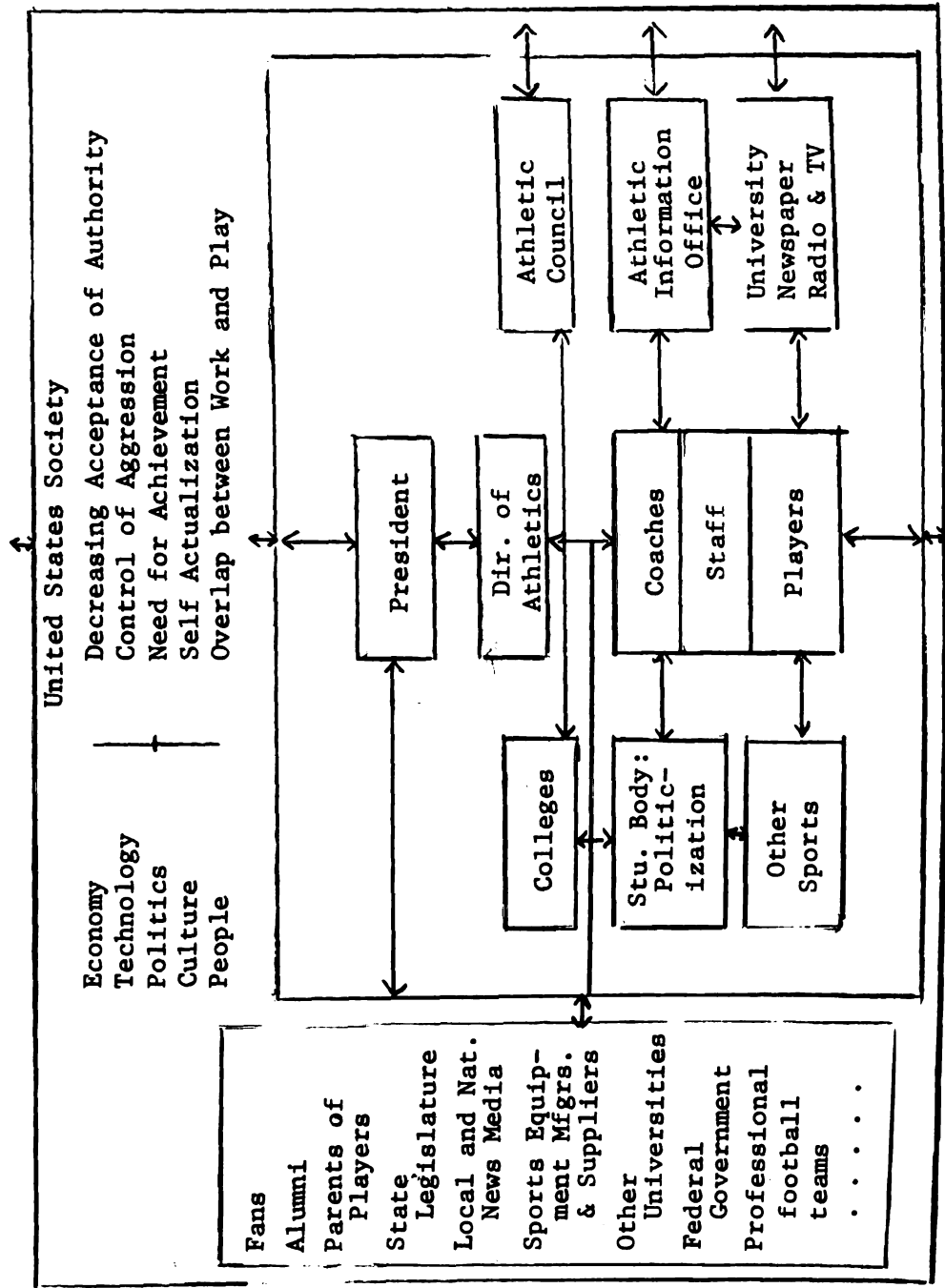
"Yale's Professor William Lyon Phelps once said: 'Teaching is a great art, and the best college teaching is usually found in the department of athletics.'"<sup>40</sup> The university president during the period of this study reinforced this contention in a football press conference on August 28, 1969 where he said that, with no disrespect to other faculty members intended, in his 22 years at the university he had most admired the teaching ability of the head football coach.

### Organizational Relationships

#### Open and Closed Systems

Although within the limits of this study the football team essentially is treated as a "closed system," in reality it is an "open system" which conducts important interchanges with its external environment. An oversimplified graphic depiction of the football team as an "open system" is indicated in Figure 5.

FIGURE 5  
THE UNIVERSITY FOOTBALL TEAM AS AN OPEN SYSTEM





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### The Formal Organization

The Director of Intercollegiate Athletics is the administrative head of all intercollegiate athletics and also the program of physical education, health, and recreation. In the former capacity he reports directly to the president of the university; in the latter capacity he reports to the dean of the college of education. The primary contact with the football coaches and players from this office is the assistant director of athletics, a former assistant football coach. He is responsible for: recruiting admission, grants, eligibility, tutoring, housing, counseling, and liaison with the university Director of Admissions.

The university Athletic Council has the major functions of serving in an advisory capacity to the university administration on matters of intercollegiate athletic policy, providing advice on request by the director of intercollegiate athletics, and providing advice to the faculty representative on matters requiring faculty action coming before the conference or National Collegiate Athletic Association. The majority of the 13 members represent the academic faculty to emphasize the academic perspective of athletics. The council specifically considers such athletic policy matters as: eligibility, facilities, schedules, ticket prices and regulations, television and radio policies, and athletic awards.

The Department of Intercollegiate Athletics is operated on the same basis as is any academic department. Funds are allocated in the budget at the start of the fiscal year and expenditures are subject to the same budget, audit, and accounting procedures. Income from admission to athletic events goes into the general fund similar to income from student fees or sales at the university bookstores; it is available for

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Consistent with the philosophy of total integration of the athletic program with the general academic program, as previously discussed, all of the ten football coaches are full members of the teaching faculty and three of the coaches have academic tenure. This is in contrast to the usual university policy of coaches operating under contract and not having academic status or tenure.

Before discussing some of the unique organizational features of the football team, the following organization matrix and chart (Table 6 and Figure 6) will respectively depict: (1) the years on the football staff, academic status, and tenure for each coach; and, (2) the formal authority relationships. These charts do not exist in the organization, but have been developed by the author from formal sources and his observations.

TABLE 6  
COACHES' EXPERIENCE AND ACADEMIC STATUS

Coach: Functional Responsibility	Years on Coaching Staff*	Academic Rank	Academic Tenure	
			Yes	No
Head Coach; Offensive Coordinator	16**	Professor	X	
Defensive Coordinator; defensive line	11	Assistant Professor	X	
Offensive Line	13	Assistant Professor	X	
Passing Game	5	Instructor		X
Freshmen and Administrative Assistant	5	Instructor		X
Linebackers	3	Instructor		X
Defensive Backfield	3	Instructor		X
Running Backs	1	Assistant Professor		X
Assistant Backfield	1	Instructor		X
Assistant Line	1	Instructor		X

\*Including 1969 season.

\*\*As head coach.

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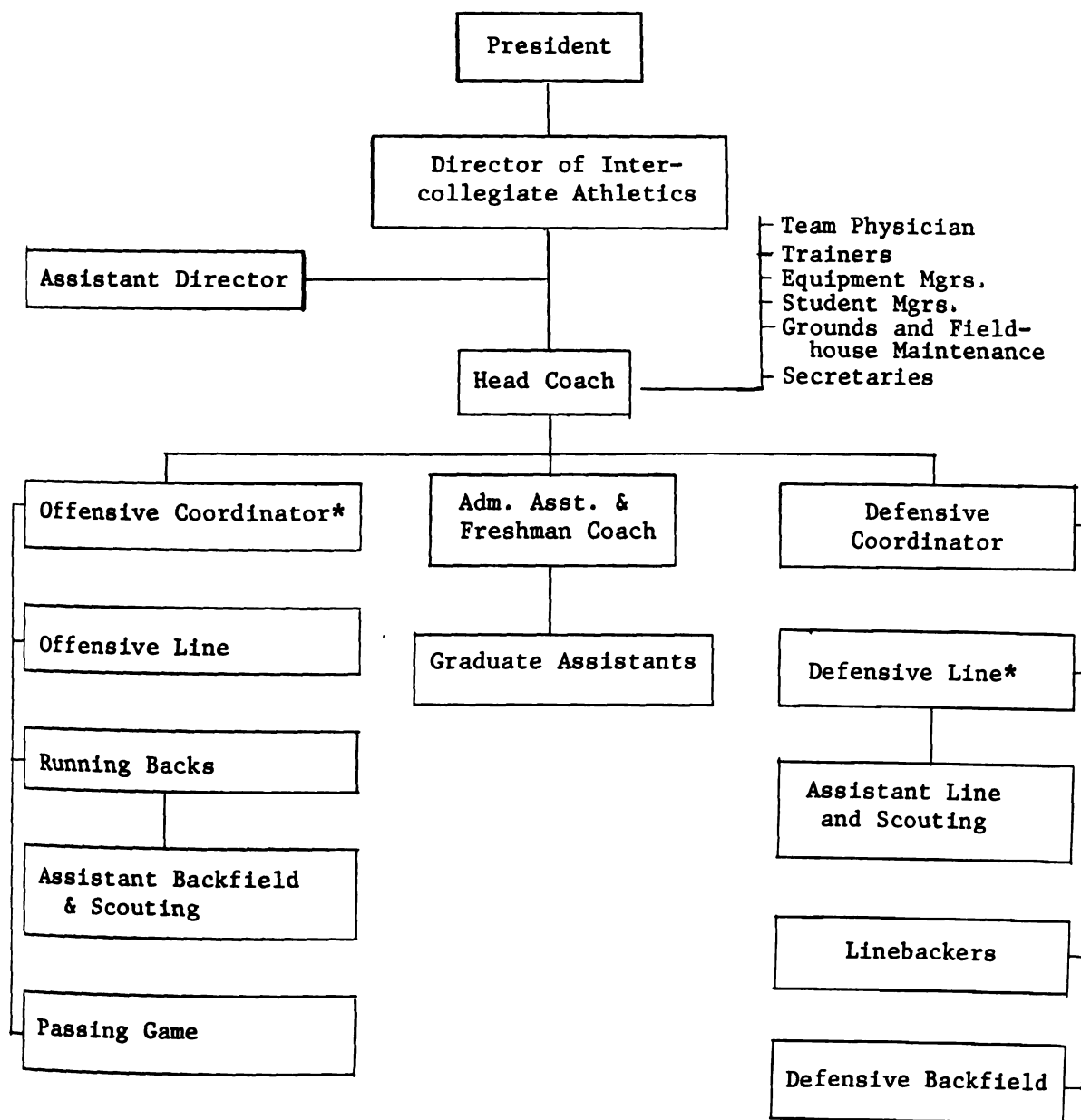
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FIGURE 6

## ORGANIZATION CHART: 1969 FOOTBALL TEAM\*\*



\*\*Organization levels above head coach are shown in abbreviated form.

\*Head coach also serves as Offensive Coordinator; and, Defensive Coordinator has the additional responsibility for the Defensive Line.

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Annual Operating Cycle

The following information briefly summarizes the annual operating cycle of the football coaches studied. Recruiting is a continuous process all twelve months and is only indicated in the months of most intensive activity.

## January

The coaches attend the national football coaches convention; the head coach presents coaching clinics through the United States; the coaches intensively recruit; and, the winter training program for players is started. In 1969, this program was conducted by the coaches. The 1970 program is operated under direction of two qualified trainers. This program ends with spring vacation.

## February and March

Intensive recruiting continues and the head coach presents additional coaching clinics. Conference football tenders are signed by March 15.

## April

The coaches attend university athletic scholarship fund gatherings throughout the state; continue recruiting; visit other universities (not on their football schedule for the next several years) to observe football practice, strategy, and to interchange ideas with other coaches; planning for spring practice is completed; and, spring practice begins.

## May

The recruiting cycle ends with the signing of National Letters of Intent by May 6 (formerly May 20). The first weekend in May a



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coaching clinic is conducted for high school coaches; football coaches from other universities visit spring practice to interchange ideas; and, spring practice ends with a major public intrasquad game with the first teams playing the substitutes.

#### June

Eligibility reviews of varsity players are made to determine if their summer school enrollment is required; players are counselled concerning summer employment and summer physical conditioning; and the coaches begin their summer vacation period. A minimum of two coaches are always available in the offices.

#### July

Most of the coaches are on vacation.

#### August

August 15, the final pre-season planning begins; and, the last week of August pre-season practice begins.

#### September, October, and November

Preseason practice is completed in September and the regularly scheduled season of ten games begins and is completed in late November.

#### December

The coaches attend football banquets; and, begin intensive recruiting.

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Typical Weekday Activities During the Season

## General

Although there are some departures, which are discussed in Chapter V, the following summary highlights the usual regimen for the football team by day of the week.

In a book he authored on coaching, the head coach studied stated: "It is essential that the staff coach their group of players according to the philosophy and basic principles outlined by the head coach. The staff should never improvise or change procedures without first consulting him." The approach appears to underlie the team operations. All morning, the coaches attempt to simultaneously accomplish their required correspondence and administrative actions and are also available for player counselling. Game film reviews continue throughout the week and films are loaned to players for study.

The coaches carefully plan and coordinate practice schedules to maximize the effective utilization of the critically limited time available. As the season progresses such planning time is reduced.

Practice plans include as much time as possible for small group and individual coaching because of the importance of such instruction for player improvement; and, because this minimizes player inactivity. Practices are usually ended with small group physical conditioning drills.

The coaches' usual evening schedule involves meetings of the full coaching staff Sunday through Wednesday. The game plan for the next game primarily is developed by the end of the Monday evening meeting. The Tuesday and Wednesday meetings evaluate the afternoon practice sessions and develop any required adjustments in the game plan. Friday

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evenings high school football games are scouted wherever feasible; and, Saturday evenings are free for "unwinding" from the afternoon's game.

#### Sunday

In the morning, game films of the preceding day's game are analyzed and team and individual performances graded. Such game film analysis may continue into the afternoon. Game films are cut and spliced so that all defensive plays are continuous and all offensive plays combined to permit analysis by functions. The players report to the stadium in the morning for any required therapy and a light workout. The coaches receive injury and weight reports. Subsequent to completion of the game film analysis, review is begun of the game films for the next opponent and oral and written reports are received from the coach who scouted their game the preceding day. In the afternoon, the head coach tapes his thirty minute television program for showing Sunday evening. At 6:30 P.M., all coaches and players meet in a fieldhouse classroom and the head coach critiques the preceding day's game and comments upon the forthcoming game. This meeting is followed by separate offensive and defensive meetings where the coaches run the game films for the players and provide critical commentary based upon their prior detailed analysis. The balance of the evening is spent by the coaches continuing to review game films of the next opponent. From this review, preliminary game planning begins and a scouting report to be given to the players is developed. Assistant coaches, and graduate assistants, encode detailed data cards from the films for each play. These cards are subsequently manually manipulated to provide key offensive and defensive "tendencies" of the forthcoming opponent under a

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#### Monday

In the morning, and in the afternoon prior to practice, the coaches continue analysis of the forthcoming opponent and prepare the scouting report to be given to the players. The offensive coaches usually congregate in their field house offices and the defensive coaches meet in the coaches' dressing room at the football stadium. Monday's practice begins at 3:30 with simultaneous separate gatherings of the offense and defense where the coaches present their scouting reports and answer questions from the players. The regular players from the preceding game have a light workout, primarily working on new formations and/or plays for the next game, and polishing old ones. The offensive and defensive substitutes usually scrimmage against freshmen and varsity substitute scouting teams who simulate the next opponent. Practice ends approximately 5:30 to 6:00.

#### Tuesday and Wednesday

These are the primary work days. Game plans are usually firm prior to Tuesday's practice. In addition to installation of new formations and plays, the first team varsity offensive and defensive units scrimmage part of the time against substitutes and freshmen scouting teams, who simulate the tactics of the next opponent. As an alternative to a full contact scrimmage, the substitutes hold dummies and/or do not engage in full contact. Practice runs from 3:30 for 2 to 2½ hours. Wednesday the head coach speaks at the luncheon of the Downtown Coaches Club. He is accompanied by the team's "Player of the Week" and the player's responsible assistant coach.



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## Thursday

Generally the rough work is complete and practice time emphasizes special plays and drills. This is the beginning of the period of intense psychological concentration for the Saturday game. Practice is usually of lesser duration than on Tuesday or Wednesday. The list of the travelling squad for road games is posted in the players' dressing room.

## Friday

Friday is a day of a very light and short workout. The kicking game is emphasized as well as perfecting major plays in the game plan. Lists of those players who will stay overnight at the university hotel for home games, and logistic details for road games are explained. For road games, commercial airline transportation is most frequently used with the team travelling Friday afternoon. Upon arrival at the locale of away games, either a light workout or "walk-around" is conducted at the football stadium and/or game plan review meetings are held separately for the offense and defense. The head coach usually speaks at the dinner of press representatives. After the team dinner, movies are shown, usually a western or other type of action drama. A light snack is then served prior to bedtime. For home games, the visiting team usually works out in the stadium immediately following the completion of the team's practice; so there are usually brief "sizing up" interchanges between the rival coaches.

## Saturday

Team chaplains are available to conduct mass or provide counseling prior to breakfast. After a team breakfast, of steak or eggs, a

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meeting of the entire squad and all coaches is held in which the head coach reviews the game plan and makes other pertinent comments. Immediately following this meeting, the players have a brief private meeting with no coaches present. Player taping begins as soon as the player meeting is completed. The interim period prior to going to the stadium at noon to dress for the game is spent in attempted relaxation by the players. The two most common diversions are watching television and playing cards. The coaches often entertain recruits and other guests during this period. The players begin dressing for the game in the stadium dressing room at noon. The coaches dress, tour the field to study field and weather conditions, check on communications and equipment to the pressbox spotters, greet visitors, etc., during this period. Approximately 12:45 the specialists -- kickers, passers and pass receivers -- go to the field to begin practice. 10 to 15 minutes later the balance of the squad goes to the field for pre-game practice. About 10 minutes before game time, the team returns to the dressing room for a few last comments from the coaches and team captains, and a prayer.

Halftime is usually highly organized. The first few minutes are spent with the team physician and trainers attending to injured players and the players resting and having a brief beverage refresher. During this time the coaches are evaluating the results of the first half and comments of coaches who are "spotting" from the pressbox. From such discussion, appropriate adjustments to the game plan for the second half are determined. In the final minutes of the halftime, coaches analyze for the players important first half developments and outline the game plan, and any adjustments, for the second half.

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the players boisterously sing the university fight song); and, appropriate "game ball" awards are made. In all cases the coach makes a few appropriate evaluative and motivational comments to the team. Following this period, where no outsiders are permitted in the dressing room, the head coach conducts a press conference and press representatives seek out individual players for interviews. Injuries are immediately treated, as required. There is normally a large number of friends and relatives of the coaches and players waiting outside of the dressing room to subsequently greet them. Following road games, the team immediately returns to campus the evening of the game.

#### Organization Goals

As previously discussed, the superordinate goal of the football team is winning. John Bridgers, former Baylor University football coach stated: "In pro football, it's obvious that you must win. In college football there's sometimes talk of other goals, but when you get right down to it that's what really matters there, too."<sup>41</sup> This approach has been qualified by the head coach studied in an interview with a local newspaper where he commented:

Trying to do your best is more important than winning. A football player must do everything in his power to help the team win. If there are enough fellows on the team who feel this way, it is a winning team.

At the completion of a 5 win, 5 loss season, the head coach commented, and was reported in a local newspaper, that the season was the most frustrating and heartbreaking, yet enjoyable in all his years as head coach. He said that no team under his charge had demonstrated more desire and experienced more adversity than this team.

One of the greatest advantages of this study is the unambiguous,

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superordinate goal of the team, and unambiguous, immediate feedback concerning goal achievement with each game. Further, before the season began, the head coach established sixteen quantitative subgoals for each game, which presumably were significantly related to the achievement of the superordinate goal of winning. These subgoals included six for the offensive team; six for the defensive team; and, four for the kicking teams. Again, unambiguous, immediate feedback was available concerning achievement of the subgoals for each game. These goals will be discussed in subsequent chapters.

### Technology

Modern organizational theorists consider technology as an important factor which influences organization structure, interpersonal relationships of members, and relations of the organization with its external environment.<sup>42</sup> The dynamics of technology, in a broad sense, significantly affected the operations of the football team during the period studied. Two of the most important technological developments were the adoption of a new offensive strategy (and its subsequent abandonment) and the installation of a new synthetic turf field in the football stadium.

### Multiple Option Offense

After observing the success of the Universities of Houston and Texas with their different versions of a multiple option offensive strategy, and after members of the coaching staff personally visited these campuses to study and question the operation of these systems, a new offensive system was installed beginning with the spring practice of 1969. This system incorporated features of both systems plus concepts



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of the head coach studied. This action was taken at a period in which college football scores were rapidly escalating. An ex-head football coach theorized that the cause of the increased scoring was that coaches are placing their eleven best athletes on offense. This results in the 1st eleven of each team playing against the 2nd eleven of their opponent. The head coach studied believed that the talents and depth of his players for the 1969 season were particularly suited for a multiple option offensive system.

#### Synthetic Football Field

A new synthetic football field was installed in the stadium prior to the beginning of fall practice. Over a black asphalt base of five inches, a 3/8 inch cushion of combinations of several kinds of rubber was layed. On top of this cushion, a 5/8 inch thick synthetic Tartan turf was fastened. The field and sideline area was then covered with an area of pebbled indoor/outdoor rubberized-type material nine feet in width. Running the length of the field, there was an 18 inch crown. The field slopes toward both sidelines to facilitate drainage and the Tartan turf extends 10 feet beyond the out-of-bounds lines before the pebbled material begins.

This synthetic field provides improved running traction, an advantage to the team with the most speed, and recruiting of players will emphasize speed. Special lowcut shoes with short cleats are used for games on this synthetic field and a shoebank was established to meet the requirements of visiting teams. Also, elbow pads and other equipment are needed to prevent abrasion burns from the field.

The short cleats are used so that when a player is hit his

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ankles, knees, etc. will "give" rather than hold or lock causing serious injury. Universities which had previously installed synthetic fields reported a significant reduction of injuries requiring knee surgery, but sufficient data has not yet been developed to permit statistical validation. The author did observe cases in practice whereby serious injuries were forestalled because of the features of the synthetic turf. There is no question that the field was in good playing condition during and after rain and snow, where a grass field would have been in very poor condition.

The head coach stated in a press conference on September 13, 1969; "I like having all practices in the stadium. It is more realistic and makes for better concentration." Conversely, during the season both coaches and players observed that players had been overrunning opponents and slipping on dry grass in away games, possibly due to the difference in its holding ability as compared to synthetic turf. This problem should be eliminated in the future since it appears that opponents, who have not already done so, will be installing synthetic fields also.

### "Getting Up"

"Getting up" is an expression used to denote intense psychological preparation of players for a game. Lawther comments that: "Today, most teams have so many hard games that they do not dare to put too much emphasis on special ones. ... Usually some arch-rival stirs them to unusual heights of determined preparation."<sup>43</sup> It is generally agreed that a team can only effectively "get up" for three games during a college football season. Intensive preparation does occur for the other games, but it is at a less intensive level of excitation.

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Lawther suggests:

It is the responsibility of the coach to try to determine how much stimulus the boys can endure without becoming over-tense, overexcited, and upset in performance. The more stimuli they can endure and the more they can continue to direct the aroused energy into appropriate actions, the more superb those actions are likely to be. But there is a limit to effective excitation beyond which inefficiency begins to creep into performance.<sup>44</sup>

Lawther further comments, however, that due to individual differences in players' emotional responses, it is difficult for the coach to optimize overall team performance in inciting high emotional peaks.<sup>45</sup>

Another significant problem relating to players' emotional preparation is cited by Lawther:

The individual's pre-performance feeling about his own probable degree of successful performance is not highly related to his actual performance. Such pre-contest feeling by the player is almost useless for predicting his play.... At times, with the less experienced athlete, the relationship between this feeling and later performance seems to indicate slightly negative correlation.<sup>46</sup>

The enigma of determining a team's readiness and "upness" for a game extends to the coaches also. The author's observations concerning the team studied, and his own conclusions, will be discussed in subsequent chapters.

#### Personnel Turnover

In addition to the uniquely high physical and emotional loadings associated with a football team, which have been previously discussed, another critical unique feature is the high rate of annual turnover of personnel. This turnover requires increased emphasis upon personnel recruiting, selection, training, and appraisal, than organizations having more stable memberships. The author analyzed the officially recorded playing time data of the past three seasons for the football team studied. This analysis indicated that player experience was lost

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due to graduation, injuries, or withdrawal for other reasons as indicated at the end of the following seasons: 1967 - 52%; 1968 - 35%; and, 1969 - 38%. During the current head coach's tenure, there has been an average annual turnover of two assistant coaches. For the 1969 season studied, three of the nine assistant coaches were serving their first year on the coaching staff.

#### Summary

The newly emerging field of sport psychology has provided data and concepts vital to the understanding of a football team and its leadership requirements. As in organizational theory in general, there is a controversy, ideological and otherwise, concerning the most effective leadership style. And this disagreement extends to the positions of successful football coaches themselves. Organizational relationships; peculiarities; and, the concepts and operations of the head coach, staff, and team studied are emphasized to provide a background for understanding the findings reported and analyzed in subsequent chapters.



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## CHAPTER V

### THE 1969 FOOTBALL SEASON

#### Introduction

Chapter II provided background on the leadership theory model explored in this study. Chapter IV discussed features unique to football teams in general, and specific to the football team studied. This chapter is the first which enumerates findings from the study, but it also provides further background for evaluation of the findings in the remaining chapters. It provides a chronological summary of the 1969 football season of the team studied, as seen by members and outside observers. This chronology begins with pre-season expectations and practice and concludes with: a summary of the observed leadership behavior of the coaches including their differential responses to victory and defeat; an analysis of subgoal achievement for each game; and, an after-the-fact analysis of the season's outcome by the coaches, players, press and the author.

#### Pre-season Predictions

##### Public Positions of the Head Coach and Athletic Information Office

The positions of the head coach, provided in press conferences, and university Athletic Information Office releases, are the logical starting point for reviewing pre-season predictions. The author noted that many of the press predictions relied heavily on data from these

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sources in framing their analyses or stories. With the exception of university Athletic Information Office personnel, the sports editor of the largest newspaper adjacent to the university, and the sport staff of the student newspaper, the press representatives were notable in their absence from pre-season and in-season practices of the team. Thus, they relied most exclusively on secondary sources of information.

The first official discussion of the 1969 season prospects was a university press release subsequent to spring practice. Under "general outlook," this release indicated:

[The university] should have an improved football team in 1969, but moving up from last fall's 5-5 mark in which the losses came by a total of 31 points against top-ranking teams, may not be easy.

The potential plusses appear to be better over-all depth, improved experience, bigger and stronger lines, redesigned offense and defense and some talented newcomers.

Factors which counsel caution include a mind-boggling schedule, dangerous thinness at some key positions and the same restructured offense and defense just counted in the plus column. New systems often are perfected slowly over several seasons and bugs may appear next fall.

The head coach was then quoted:

We definitely should be an improved team next fall.

We were one of the younger teams in the conference in 1968. Our sophomore group was an eager, enthusiastic bunch which should get better with experience. Our junior group ... should provide fine leadership.

Our freshman team of last fall contained some high quality players who should help us quite a bit. ...

This doesn't mean that we don't have plenty of problems. We have. But we have hopes of working them out.

.....

... I think we have the toughest schedule in the country, bar none.

The foregoing information also was included in the comprehensive football facts brochure distributed by the university in August 1969 prior to the

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On August 28, 1969 the author attended a luncheon and press conference which preceded initiation of the pre-season practice period. The Athletic Information Director, acting as master of ceremonies, commented that twice as many press representatives were in attendance than in any prior year. He attributed this attendance to "the smell of success."

The head coach made a thorough presentation which was followed by a lengthy question-and-answer session. He was enthusiastic in discussing many of the players, the new offense, and new field. Cautiously, he emphasized that the team had the most difficult schedule in the country and that he had two critical problems, particularly early in the season: (1) an inexperienced secondary; and, (2) mounting a passing game. On balance, it appeared that the press representatives came away with an overall conclusion of optimism.

#### The Press

In order of publication, the pre-season predictions made by the press are presented in Table 7.

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TABLE 7

## NEWS MEDIA PRE-SEASON PREDICTIONS

Publication/Source	Prediction												
Annual College Football Yearbook	Team will rank sixth nationally.												
National monthly magazine (not a sports publication)	Team will rank tenth nationally with a final record of 8 wins and 2 losses.												
National sports weekly magazine	Team will not rank in "Top 20." The team will be better than last year, but may have difficulty improving their record because of a "masochist's schedule."												
National weekly magazine (not a sports publication)	Team will rank sixteenth nationally. There are problems with offensive backfield speed and potential problems on defense.												
Travelling group of sportswriters from newspapers covering conference universities	Team will have a final conference standing of: <table> <tr> <th><u>Standing</u></th><th><u>Number of Votes</u></th></tr> <tr> <td>1st</td><td>8</td></tr> <tr> <td>2nd</td><td>10</td></tr> <tr> <td>3rd</td><td>15</td></tr> <tr> <td>4th</td><td>3</td></tr> <tr> <td>5th</td><td>1</td></tr> </table>	<u>Standing</u>	<u>Number of Votes</u>	1st	8	2nd	10	3rd	15	4th	3	5th	1
<u>Standing</u>	<u>Number of Votes</u>												
1st	8												
2nd	10												
3rd	15												
4th	3												
5th	1												
University student newspaper -- sports editor	Team will have a final conference record of 6 wins and 1 loss (resulting in bowl selection) -- notwithstanding the extremely difficult schedule.												
Largest local newspaper -- sports editor	Team will have a final record of 5 wins and 5 losses. The primary reasons for this outcome are the difficult schedule and lack of experience and depth in the offensive backfield.												

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## The Coaches and Players

In the pre-season questionnaires completed as part of this study, the coaches and players predicted the season's results in both qualitative and quantitative terms. These predictions are summarized in Table 8.

TABLE 8

## RESEARCH SUBJECTS' PRE-SEASON PREDICTIONS

	Players	Coaches
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Degree of Success:		
Outstanding	77	6
Good	4	4
Fair	0	0
Poor	<u>0</u>	<u>0</u>
Total	81	10
Win-Loss Record:		
10-0	62	3
9-1	15	2
8-2	4	4
7-3	0	1
6-4	0	0
5-5	0	0
Less than 5-5	<u>0</u>	<u>0</u>
Total	81	10
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The correlations between the players' 1969 academic year, their playing time prior to the 1969 season, and their pre-season quantitative and qualitative predictions ranged from .02 to -.19. Such weak relationships indicated an insignificant effect of the veterans' past experience of non-success with their current "level of expectations." For the coaches, the correlations between their number of years on the staff and the qualitative and quantitative predictions were respectively .35 and -.38. There was no significant difference between the offensive and defensive coaches in these correlations, however, the mean prediction of the offensive coaches was one win higher than the mean prediction of the defensive coaches.

#### Week 1

Thursday afternoon the players were in uniform in the stadium for press photographs and interviews for newspapers, radio, and television. Practice officially began the next morning. The first three days involved two-a-day conditioning drills with no pads worn in accordance with NCAA requirements. Temperatures exceeding 90 degrees aided conditioning especially since the synthetic field radiated heat and the temperature on the field was in excess of 100 degrees. Refresher training on techniques was emphasized. Friday night most of the players completed their questionnaires for this study. At that time, it was learned that a letterwinning linebacker had decided not to play football this year.

By Saturday, the players were anxious to begin contact. Already, the first position changes were made and an offensive and defensive back were exchanged. The head coach established sixteen goals for each game which the players agreed were realistic, -- six each for the offense

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and defense; and, four for the kicking team. The degree of achievement of these goals for each game will be subsequently identified. A sophomore lineman was informed that a prior knee operation did not heal properly and further surgery was required -- his season was ended.

### Week 2

The temperatures in the 90's continued on Sunday, with even higher humidity. A lineman, who had returned from several years military service, decided to leave the team. The players were extremely exhuberant in drills; one linebacker lost fifteen pounds in the first three days of practice.

Monday, Labor Day, was aptly named; this was the first day in pads. The heat became so oppressive, however, that after 1½ hours of morning drills, the players were directed to remove their shoulder pads. In the afternoon a surprise scrimmage was announced. After six series of downs, the scrimmage was interrupted by a torrential rainstorm. After a delay, the scrimmage was resumed and the synthetic field proved to provide vastly superior footing to grass under the circumstances. The scrimmage was terminated again by lightning and a large hailstorm.

By Tuesday, the field had rapidly dried, and the morning was devoted to small group drills. The players were animated and looking forward to a practice game on Wednesday. In the afternoon, another surprise scrimmage was initiated. The head coach was quoted in the local press as being pleased with the performance and commenting: "As is normal at this stage of the drills, the defense has progressed more than the offense."

Wednesday morning, small group work continued in the intense heat.

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A linebacker was hospitalized for extreme dehydration and a fourth string quarterback quit the team. In the afternoon, there was a simulated game with players in game uniforms, referees, and coaches in the pressbox. The first offensive and defensive teams opposed the substitutes, and the first half ended with the first team leading only 2-0; the substitutes showed greater enthusiasm. The first teams won the game 15-0 with all points scored by, or as a result of an interception by, the defense. After the game the players ran conditioning windsprints.

Thursday the defensive coaches expressed concern about the players meeting their weight goals. Team injuries mounted and only three of ten receivers were healthy. Also, the sophomore breakaway back sprained his ankle. Two defensive linemen decided not to play this season, and a linebacker quit the team. Contact work continued. In the afternoon the coaches and players reviewed the films of Wednesday's game.

Friday morning small group drills were emphasized and everyone was in good humor. In the afternoon, there were small groups drills and some scrimmaging. The head coach talked to the squad, said that the opening game was in two weeks, and therefore contact work would significantly decrease. In the evening, "Rookie Night" was held in the players' dormitory. Rookie players, coaches, trainers, and managers presented skits, jokes, and miscellaneous entertainment acts. The evening ended with a short "pep talk" by the defensive coordinator.

Saturday morning no players were in pads during the workout. In the afternoon a regulation game began, but after an hour it was ended by torrential rains and a weather bureau advisory of more storms with possible 70 mile per hour winds. The game was rescheduled for Sunday.

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Week 3

Sunday afternoon, the practice game was played. The first team led 30-0 at halftime. In the second half a promising sophomore line-backer severely injured his knee -- resulting in knee surgery. The game ended with the first team winning 63-0, and the defense scoring, or setting up, 33 of the points. But the offense was improved over the first game.

Monday the team formally began one-a-day drills; and the freshmen players reported to campus. The offensive coaches were pleased with the execution of their players in practice.

Tuesday practice was spirited and Wednesday a game was played with the scoreboard operating and the few approved spectators, other than the author, were limited to the press box. The first team won 46-6. The performance by the offense was improved, although only 38% of the passes were completed, and the defense scored or set up only 12 of the 46 points. The substitutes scored their first touchdown against the first team in a game since the beginning of pre-season practice. The local newspaper quoted the head coach as saying he: "wasn't pleased about the workout."

After a light workout on Thursday, the head coach announced to the press that several players would miss the final game-type scrimmage on Saturday because of the danger of aggravating injuries just one week prior to the first game.

Friday's practice emphasized small group drills and conditioning. Later, the varsity ran plays against freshmen holding dummies. Two assistant coaches expressed concern about inadequate conditioning and the needed mental preparation for the first game. The head coach commented

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that the players showed more "zip" than they did during 2-a-day drills.

In Saturday's practice game, the first team won 59-13, with defensive players scoring two of the touchdowns. The head coach was quoted in the local paper that:

We had just too many bobbles and fumbles. You can't turn the ball over to the opposition like we did and hope to win. It was lack of concentration. We were doing some experimenting in the second half as it was the last shakedown for the personnel, but we still fumbled too much.

#### Week 4

Sunday morning the offensive and defensive coaches gave scouting reports concerning the first opponent to their respective player groups. This was followed by small group calisthenics and a discussion of rules with the squad. In the afternoon the coaches graded the films of the previous day's game scrimmage.

Monday morning, in dormitory classrooms, the coaches critiqued the game films to their respective players followed by question-and-answer sessions. The afternoon practice was spirited. A second string lineman was transferred from the offensive to the defensive line.

Tuesday's practice began building the psychological pace for Saturday's game. Tuesday evening after dinner, a team meeting was held in a dormitory classroom and a former conference football official gave a detailed presentation on the rules, some of the infractions he observed in team practice games, and answered questions from the players.

Wednesday noon the Downtown Coaches Club met in the stadium stands. The head coach demonstrated the new offense using the Number 2 offensive team and the assistant coaches simulating defensive players. Later in the afternoon there was a one hour and ten minute practice

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which emphasized perfecting plays and kickoffs. Team enthusiasm appeared high.

Thursday's practice was spirited and final intensification of mental preparations began for the game Saturday. A scout from a professional team who attended practice remarked he thought the team looked "sharp."

Friday morning the defensive players met with their coaches in a dormitory classroom. The defensive coordinator made an extensive talk emphasizing the high standards of personal appearance, behavior, and scholarship expected of them since they represent the entire university. He also emphasized leadership by example on the playing field. The team appeared for the afternoon practice wearing game uniforms without pads. There were small group drills and kickoffs and extra points were emphasized. Also, the detailed placement of players on the bench for the game was explained. 55 players were selected to stay overnight at a local motel. They were issued special university blazers and shirts (as was done prior to each game).

Saturday after trailing by two points at halftime, the team won the game by sixteen points. Passing by both teams was ineffectual and both teams fumbled four times, losing the ball three times, however, the winners had twice the rushing yardage of the visitors. The local newspaper quoted the head coach:

Our fumbles weren't coming on our ball-handling. We're losing the ball after the tackle - and there's no rhyme or reason for that, and not much you can do about it.

The offensive line coach said that at halftime the team shifted their offensive backfield set and their new alignment worked much better. The head coach also said in his post-game press conference: "Our players

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will be very coachable this week. You can't be satisfied with an opener when you make five turnovers." This was reinforced by post-game comments of other coaches and players who acknowledged they were lucky to win.

#### Week 5

Sunday it was determined that a defensive end had severely cut his forearm in an accident, requiring surgery, and was out for the season. Sunday evening there was an extensive critique of the game films by the coaches to the players and the coaches noted that the defense had performed better than the offense.

At the beginning of practice Monday, the defensive coordinator awarded decals to be worn on game helmets for outstanding game performances by defensive players. This was the first time that such awards had been issued to this team, although they had been used at some other schools. The offensive coaches had not planned on issuing such awards, but decided to "go along" after the establishment of appropriate criteria. Monday's practice emphasized conditioning for much running, especially by the defense on pass plays, for the next game when the team would oppose one of the nation's leading passers. Tuesday the scouting team ran plays, especially pass patterns, of the next opponent. Wednesday's practice emphasized small group drills and polishing specialized techniques, and punting drills. At the completion of practice, the seniors were introduced to a large group of students who were admitted to the stadium stands as part of the annual "Meet the Team Day." The team then ran a few plays for the students who demonstrated great enthusiasm.

The coach had expressed great concern to the press that the next opponent had 95 offensive plays in their last game and they won't lose

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many games having this many plays. He attributed this large number of plays as contributing to their many second half comebacks the prior season since their opponents became tired rushing the passer. His planned response was to maintain offensive control of the ball which would limit the opponent's passing and also rest his defense for an all-out pass rush.

Thursday's defensive practice was devoted almost exclusively to pass defense with the offensive passing game coach, a former outstanding college and professional passing quarterback, simulating the opponent's quarterback. The defense was outstanding. Of 92 passes attempted only 24 (26%) were completed and 6 (7%) were intercepted. The head coach was enthused because he believes that pre-game practice performance is a good indicator of game performance. The offense emphasized running plays against freshmen holding dummies. The outstanding sophomore pass receiving prospect injured his back in Monday's scrimmage and it was severely hampering him. Subsequently, he was determined medically unfit to play for the balance of the season.

Friday's drill presaged the loss of an outstanding defensive lineman, who had won two previous letters. He ruptured a leg muscle in Wednesday's scrimmage and he was subsequently diagnosed as having calcium deposits in his muscle -- and was eliminated for the season. Friday's light drill concentrated on polishing plays and the kicking game.

The weather for the game was warm and there was a strong crosswind in the stadium. The team trailed by one point at halftime, but ultimately won by eight points. The team outrushed the opponents by 243 yards, but were outpassed by 204 yards. Nevertheless, this was the best overall defensive performance against the opponent's great passer by any team during his two years at quarterback. Also, he was tackled by

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defenders eight times while attempting to pass. In his press conference the head coach praised the defense for playing a fine game. The local sports editor wrote that this game resembled the opening game since the ball was lost on fumbles four times. He noted that the defense "played over" two of the fumbles, but the other two led to the only touchdowns by the opponent.

This was one game in which it appeared during the practice of the preceding week that the team, particularly the defense, was ready, and the game performance indicated that they were.

#### Week 6

Both the coaches and players were dissatisfied even though the team won. The head coach was quoted in the student newspaper as expressing confidence that his quarterback's passing would improve. Further, the game plan had called for an offense with two tight ends and a flanker, but the injury to one tight end in the first quarter affected this offense since the replacement for the tight end had not played that position since the 1968 season.

Monday was a usual type of practice with the Number 2 offensive and defensive teams scrimmaging against the freshmen. The coaches were all quite pleased with the workout.

The Tuesday practice began on the grass, secret practice field. It was the first practice of the season on grass and was in preparation for a Saturday road game to be played on grass. After twenty-five minutes, the head coach became concerned with the excess hardness and roughness of the field and returned the team to the stadium to decrease the possibility of injury. The evening newspapers carried the two major

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national football polls and the team was ranked high in both.

The coaches' statistical analysis emphasized that inability to execute 3rd down plays successfully critically impeded sustained offensive drives by the team. Practice emphasized situation plays against a defense simulating the next opponent. On third down situations, the offense made 1st downs on only 16 of 88 attempts. On goalline situations, they scored on only 2 of 21 attempts. The defensive coaches were very displeased with their practice session too; since the scouting team had 5 touchdown passes against the Number 1 defense. They also were disturbed that some of the players had commented publicly that they didn't think their next opponent, a perennial national power, was as good as usual.

Although the coaches were disturbed by the players' mental attitude on Wednesday, Thursday's lighter practice appeared to be much more impressive. On Friday, the team appeared to be "up".

The players were much more animated in the dressing room before the game Saturday than they were before the last two games. Based upon their performances to date, the press expected the game to be a defensive battle. Instead, the game was primarily an offensive display. The team trailed at halftime by seven points as a result of a long touchdown pass completed against them with just seconds remaining. The head coach later considered this play to be the turning point in the game. In the second half, the team was forced to play "catchup" football and finally lost by 14 points. The game reversed the form of the first two games; the offense was greatly improved, but the defense collapsed allowing six touchdowns on sustained drives of from 58 to 85 yards. This was the most points scored against the head coach's team in 16 seasons, and he

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acknowledged that he never thought this could happen. The defensive coaches later stated to the press that they had been outcoached. This game indicated the difficulty of determining the degree of player readiness. Although practice through Wednesday was poor, and the pass defenders made the same mistakes that caused touchdowns in the game, from Thursday on the team appeared to be mentally "up". It is possible that the players took this opponent too lightly since in the films of their first two games they appeared vastly inferior to their level of performance in this game.

#### Week 7

On Sunday, the coaches still evidenced their shock from the game, but undertook intensive preparation for the next game, the first conference game, with the team ranked number one nationally. Notwithstanding their loss, the team was still ranked in the "Top 20" nationally.

Monday's practice involved a differential response to defeat by the defensive coaches. All defensive players, including regulars, who were not injured were in pads for a rough workout. Also, several starters were demoted. The offensive starters were not in pads, and the substitutes who scrimmaged made many mistakes.

Tuesday's practice was concluded by a scrimmage in which the Number 1 defense was tackling ferociously against the Number 2 offense. The defensive players concluded practice with their most extensive wind-sprints of the season. Both the coaches and players were quite tense. The coaches emphasized that the game Saturday was an opportunity to regain lost pride and prestige.

Wednesday's practice atypically involved a second straight full

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team scrimmage. The team was established a 3 touchdown underdog, for the first time during the head coach's regime. The head coach and other offensive coaches also responded by increased task pressures. And the offensive game plan was kept simple to eliminate mistakes.

Two coaches commented that the Thursday offensive practice was not good, but the defensive practice was good.

Friday, the head coach departed from his usual procedure on road games and cancelled the light workout at the opponent's stadium. Instead, he convened team meetings to review the game plans.

Pre-game Saturday, the dressing room was extremely quiet with most of the players sitting separately mentally preparing for the game. This level of concentration had continued since breakfast and usually was a sign of psychological readiness. But disaster struck early in the game, and within the first eight minutes a pass interception, fumble, and punt return gave the opponents a shocking 20 point lead. The team fought back scoring 2 touchdowns, but like the preceding week, allowed a touchdown pass by the opponents with only seconds remaining in the half, thus trailing by 20 points. They finally lost the game by 33 points, the largest point total ever scored against any of the head coach's teams. In his post-game press conference the head coach suggested that the players were overeager and that the early scores of the opponents forced him to abandon his game plan of control football; and, his team did not have the type of offense to play "catchup" football. Here, the team appeared to be "up" for this game, and possibly was, but the game was over in the first few minutes; perhaps because they were overly tense.

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Week 8

The coaches were constructively critical in the Sunday team meetings and film critiques. The next game with the Number 1 traditional rival, which was vital to possibly achieving a bowl bid, was emphasized.

Monday, all players were in pads for "live" blocking and tackling. The triple option offense was abandoned due to injuries, and a Power I offense was installed. The offense fumbled frequently while learning the new system, however, the defense spent most of their time scrimmaging and the coaches were extremely satisfied with their performance.

Tuesday, both the offense and defense scrimmaged. The coaches were very pleased with the offensive execution and two coaches commented that this was the best the team had performed to date. The defense emphasized protection against long passes, which had resulted in 7 touchdowns against them in the past two games.

Tapering off for the game began Wednesday and the coaches were satisfied with the players' concentration. A substitute linebacker was transferred to offensive fullback.

Thursday's workout was light and the offense looked impressive. A defensive halfback was transferred to offensive halfback after it was determined that a first team halfback required knee surgery. The head coach re-emphasized the singular importance of the upcoming game.

Friday's short practice polished the new offense and emphasized the kicking game. The players were in high spirits, but, considering the week of practice as a whole, the author was not sure whether the team was psychologically ready.

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and, the president of the university said a few words of encouragement to them. The wind on the field was strong and affected the game plan. The head coach decided he would take the wind if his team won the toss. Surprisingly, the other team won the toss and did not choose the wind. As a result of a strong offensive running attack and good defense, the team led by 13 points at halftime. The wind and fumbles constrained the offense in the second half, but the team finally won by 13 points although the ball was lost on 3 of 5 fumbles during the game. Everyone was exhuberant in the dressing room after the game. The defensive players awarded the game ball to the defensive coordinator in appreciation for the results from the hard work he required, and he verbally shared the award with his defensive assistants. The head coach commented to the press that he had not been forced to abandon his game plan this week, and had extensive praise for the players particularly the offensive line whom he called: "the finest group we've ever had..." This game put the team back in definite contention for a bowl bid.

#### Week 9

The Sunday meetings and film critiques carried over the general elation and praise, particularly for the offense, but the defensive coaches were somewhat less effusive. Discussion of the next opponent emphasized their explosive offense, third best in the nation.

Monday's practice reverted to the usual pattern, at least after a win; award decals were handed out; scouting reports presented; and, substitutes did most of the scrimmaging. After light practice, the No. 1 offense was dismissed early. The defense used its normal practice time.

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Saturday's road game would be on grass. Small group and kicking drills were emphasized, followed by some contact work. The weather was bitter cold, and the offensive coaches were not satisfied with the practice session.

Wednesday, the weather continued below freezing and windy. Both the No. 1 offense and defense scrimmaged against scouting teams. The defense made many mistakes, appeared to be affected by the cold, and their performance was criticized by the coaches.

Thursday, offensive and defensive polishing continued. The head coach emphasized that the game Saturday was a "hinge" game in terms of overall success for the season.

After an early morning workout at home Friday, the team flew to the game location. There was a short "walk-around" of the visitor's field which was covered with a tarpaulin and then the players were given the afternoon off for sightseeing on campus. In the late afternoon, the players met with the coaches to review the game plan.

The game Saturday was on national television and was homecoming for the opponents. The players were quiet and in deep contemplation in the dressing room before the game. Tragedy and trauma characterized this "hinge" game. A sure touchdown pass was dropped early. Next, a perfect 38 yard pass play for a touchdown was nullified by a penalty. With the score tied 3-3, and attempting to secure a halftime lead, the team had a pass intercepted and the opponents scored on a pass just before halftime to lead by 6 points. Thus, the team trailed by a touchdown instead of leading by at least one. Although the defense had essentially stymied the opponent's offense, and given the offense several scoring opportunities, the offense was ineffectual. With several minutes

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remaining in the game, the team had regained a 6 point lead. The opponents then marched 80 yards to score with only 1:25 remaining to win by 1 point. The post-game scene in the dressing room was one of extreme anguish and frustration, but the worst came later.

#### Week 10

By Sunday it was determined that two calamitous mistakes by the officials probably caused the defeat. First, the touchdown pass that was nullified by a penalty call, was shown in the films to be a legal play; thus, the team should have led by at least one touchdown at half-time. Additionally, it was discovered that the official timer made an error which permitted the opponents an extra minute in their final touchdown drive and profoundly affected the tactics of both teams during this period. Even though the opponents played errorless ball, and the team lost the ball on two fumbles and two pass interceptions, they probably would have won except for the officials' errors. After learning of the improperly nullified touchdown, in reviewing the films Sunday and receiving expert corroboration from two officials (neither of whom worked in the game), the head coach was quoted in the press saying:

Probably, there is some kind of an infraction on every play that can be called. I can't blame any official for not seeing all of them. But, I think it is wrong when they call an infraction that is not there. That's what happened last Saturday.

This game ended the opportunity for an outstanding season and a bowl bid.

Due to the extreme trauma, for the first time after any game there was a proliferation of "scapegoating" evaluations. In the Sunday evening game film critique with the players, criticism was constructive and subdued. But the coaches were still mystified why the players'

motivation appeared so low in the game.

Monday the preparations for the next game, homecoming, began. Notwithstanding their three losses and a quality opponent, the oddsmakers made the team a 6 point favorite. The coaches' negative socio-emotional behavior increased and there were efforts to tighten player discipline. The No. 2 offense scrimmaged against the No. 2 defense, rather than against scouting teams and the No. 1 teams installed some new plays. By the end of practice the coaches expressed great satisfaction with progress.

Tuesday the offense worked on new pass plays against freshmen and the defense scrimmaged against freshmen. The defensive coaches were dissatisfied with the effort of some of the regulars and they were replaced. The offensive coaches were enthusiastic about their game plan and the results of their scrimmage. The head coach concluded practice by announcing there would be no more contact, just perfecting plays.

Wednesday involved play perfection, punting and goalline defense practice. The quarterbacks completed only 39% of the new sprintout passes and the coaches were not satisfied with team enthusiasm.

Thursday, play polishing continued with emphasis on the offensive passing game. The coaches believed the players had worked hard all week and would do well Saturday, although the defensive coaches were more concerned because they more highly rated the opposition. During practice, the leading offensive back pulled a leg muscle.

Friday's rain caused the practice to be moved to the grass practice field because the stadium field was covered with a tarpaulin. After calisthenics, the offense ran plays -- the passing was poor; and, the scouting team ran plays against the defense.



Saturday, the players were very quiet and contemplative in the dressing room. By halftime the team was trailing by 10 points. The passing had been 0 for 7 and the home fans were booing the team. The team finally lost 16-0 and the fans continuing their booing. In the postgame press conference the head coach said:

That's the worst our offense has looked in a long, long time -- very inept....

[They] didn't have much respect for our passing game, so they came up to the line with eight men to stop our running game and they were generally successful....

Our defense did pretty well -- forced them into some early mistakes to give our offense a chance to get going. We just didn't seem to find the spark to get unwound.

When questioned about the possible changes at quarterback, the quarterback's passing was 0 for 11, the head coach said:

We'll study the films of this game and see why we are not completing the passes. When you complete only six of 27, it's obvious something is wrong. ...

Quarterbacks are like coaches--they get most of the blame when a team isn't moving the ball.

#### Week 11

Sunday morning during their workout some players made "scape-goating" comments and others commented that they couldn't understand the teams' performance. Sunday on his television program, and to the players in the evening meeting, the head coach said that he and the coaches were paid to take the blame, but the players were not professionals and there was no excuse for booing them. After giving extensive background information, he announced that the quarterback would be given an opportunity at another offensive position, and the Number 2 quarterback was promoted to replace him. It was an emotionally charged presentation. The defensive coaches conducted their standard film critique with controlled, objective criticism. The offensive coaches,

however, ran their film quickly with no evaluative comments and said that they would discuss individual matters with the players Monday.

Monday it was raining hard so the coaches presented their scouting reports to the players indoors. Still another differential response to defeat was employed, as the head coach had announced to the players the preceding evening. The players were in sweatsuits to stretch out and learn about their opponent's tactics. The scouting team ran some of the opponent's plays and the offense practiced passing. The ex-quarterback ran at flanker with the No. 1 offense. The head coach sent the offense in early, but they voluntarily stayed later to run a few plays and still later the new quarterback worked on passing with two flankers (one was the ex-quarterback). After practice the defense watched the opponent's game films in the coaches' dressing room.

Tuesday's practice was conducted in a cold, continuous light rain. The offense began installing new double wing plays. This was the third distinct offensive formation used during the season. The local papers highlighted the story about the change in quarterbacks. The student newspaper quoted the head coach as saying: "[The ex-quarterback] is a fine athlete and a fine young man and I'm not going to see him crucified any longer."

Wednesday's practice was on the stadium field for the third straight day. Although the next game would be on grass, the grass practice field was too wet. The kicking game was emphasized, and the varsity offensive and defensive teams worked against the scouting teams. The team was so depleted by injuries that one player was preparing for the game as both a backup offensive tailback and as a defensive corner back.

Five of the opposing seven quarterbacks faced in games to date had been among the national leaders in total offense, but the quarterback to be faced Saturday was possibly the best in the country. Thursday's practice was on the grass practice field. The defense worked against a scouting team and the offense emphasized passing. At the end of practice, there was another innovation. A relay race was run between the eleven fastest offensive and defensive players, with each player handing off a football, rather than a baton, at the end of each "leg of the race." The defense led throughout most of the race and barely lost at the end due to a fumbled handoff.

Friday, practice returned to the stadium field. The players were in sweatsuits, ran plays and practiced the kicking game. After practice and lunch, the team flew to the site of the next game.

Saturday morning, in the player's private meeting a humorous approach was attempted to relax the players. Prior player meetings usually were serious, but there was concern about overtenseness. This was the first game start for the new quarterback. Just before gametime a telegram was delivered to him from one of his professors reporting a high mid-term grade and wishing him good luck. The coaches attempted to encourage "looseness" pre-game, but the first half was a disaster. The quarterback tore his knee ligaments in the second quarter and his replacement received his first playing experience. The fullback broke his arm, there were other injuries, and the team trailed by 31 points at halftime. The team lost, but outscored the opponents the second half 13-10, when the substitute quarterback set a new school passing record for yardage gained and almost set a new conference record.

In his post-game comments the head coach complimented the

oustanding performance of the opponents, but acknowledged his pride with his team's second half effort and refusal to quit.

### Week 12

Through the first 8 games the defense had allowed the opponents 4 more total points than the school record for the most points allowed in 10 games. But this was typical of the general collegiate emphasis on scoring and the team having opposed 4 of the best teams in the nation. The 41 points allowed in the game Saturday was only 3 more than this opponent's average for its first seven games. The Sunday evening meetings were typical and the head coach emphasized the importance of ending the season on a winning note. By Monday's practice, the No. 3 quarterback was No. 1 by a process of attrition. The defensive scouting report praised the next opponent and the defensive coaches began installing new defenses for this game. Concurrently, several defensive regulars were demoted to the second team. Since the remaining quarterback was primarily a passer, the double wing offense was emphasized with pass patterns using backs as receivers, another new approach. Both the coaches and players evidenced frustration with the disappointing season. The original No. 1 quarterback practiced as backup quarterback, and his passing appeared to be greatly improved.

Tuesday, everyone was in pads. The offense ran new plays against the freshmen and the defense worked against a freshmen offense. Wednesday's practice was comparable to Tuesday's in both content and length.

Thursday's practice indicated poor concentration by both the offense and defense who made many mistakes.

Friday the temperature was 32 degrees, and the offense made

frequent mistakes.

The head coach was very philosophical in his talk to the team Saturday morning. Weather conditions on the field were unfavorable for football. It was below freezing, windy, and part of the field, where the tarpaulin had been removed early in the morning for a girl's football game, was icy and slippery. These were particularly unfavorable conditions for the most passing-oriented game plan of the season. The first half was scoreless and the new quarterback sprained his ankle. With 7:25 remaining in the game the team was leading by 3 points. Then the recovery of a fumbled punt, and a pass interference penalty, ultimately led to a touchdown pass by the opponents, and with 5:16 remaining the team was behind by 4 points. At this point, the old quarterback replaced the injured quarterback and the team marched from its own 22 yard line to the opponent's 3 yard line where a 4th down pass was intercepted in the end zone, effectively ending the game. The team won the statistical battle (they outgained the opponents by 153 yards), but lost the game. Naturally, everyone was extremely depressed. In his press conference the head coach stated:

It was another classic example of beating ourselves.

I thought our defense played as fine a game as they've played all season.

We gave them the opportunities for both their scores with fumbles.

#### Week 13

Sunday involved considerable second guessing about the play calling on the 4 abortive attempts to score within the opponent's 4 yard line at the end of the game. The public had blamed the quarterback for

the pass interception in the end zone on fourth down. But the game films indicated that the play would probably have worked if an eligible pass receiver, who should not have been in the play, had not run an incorrect pass pattern bringing his defender (who intercepted the pass) into the area of the pass to the intended receiver. The author believes this is a classic example of the fact that sportswriters, spectators, and fans do not have adequate information upon which to evaluate the causes of success and failure on specific plays. The evening meetings and film critiques were of the standard variety. The head coach accepted responsibility for various players not playing (although it was not as a result of his decision) and for the failure of the offense; his characteristic acceptance of responsibility.

Since all fields were covered by snow and ice, Monday's practice was held on dirt indoors at the fieldhouse. Comprehensive scouting reports were given and players emphasized conditioning and small group drills. Due to injuries, only one quarterback was left. The placekicker operated as the No. 2 quarterback.

Tuesday's practice was on the stadium field during a heavy rain, and there was hard tackling.

Due to below freezing temperature and snow, Wednesday's practice began in the fieldhouse. The defense went outside for 40 minutes of contact work in preparation for possible inclement weather Saturday. As another indication of attrition due to injuries, a player who started the season as a substitute defensive back was now running as halfback in the No. 1 offensive backfield.

Thursday, the poor weather continued, but both the offense and defense spent part of the practice working outdoors. The head coach

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cancelled the post-practice windsprints and running to rest the players for Saturday.

Friday afternoon the team flew to the site of the final game and immediately went to the stadium for a light workout. The stadium field was covered by a tarpaulin so the workout was held on a muddy, semi-frozen adjacent practice field.

Prior to dinner the coaches had lengthy meetings with their players. In addition to reviewing the game plan, the head coach philosophized on many matters, and discussed the plans for success in the 1970 season.

Saturday morning the players appeared relaxed, but the dressing room was very quiet. The team played its best game of the season. After establishing a 19 point halftime lead, they finally won by 32 points. The defense accounted for 3 of the 6 touchdowns; 2 on pass interception returns, and 1 on a punt return--they demolished the opponent's highly rated passing game. And the offense scored on plays developed specifically to attack this opponent's defenses. Everyone was enthused with the victorious ending to a disappointing season. In the post-game comments, the head coach said: "Both our offense and defense did a fine job today. But it was the defense particularly in the early part of the game that got us going." The author did not conclude from the player's attitude and execution during the week's practice that they were prepared for such an outstanding effort. Of course, the coaches' excellent game plan was a vital factor in the outcome.



Observation of Leadership Behavior

As discussed in Chapter II, the author coded the coaches' verbal interactions for thirteen weeks and these were classified by coach, by week, into the following categories:

- A Positive Socio-emotional
- B Task (neutral)
- C Negative Socio-emotional

Figure 7 indicates the results for each of the thirteen weeks in terms of percentages of total behavior observed. For all 13 weeks, and all coaches (the total leadership group) the distribution of interactions was:

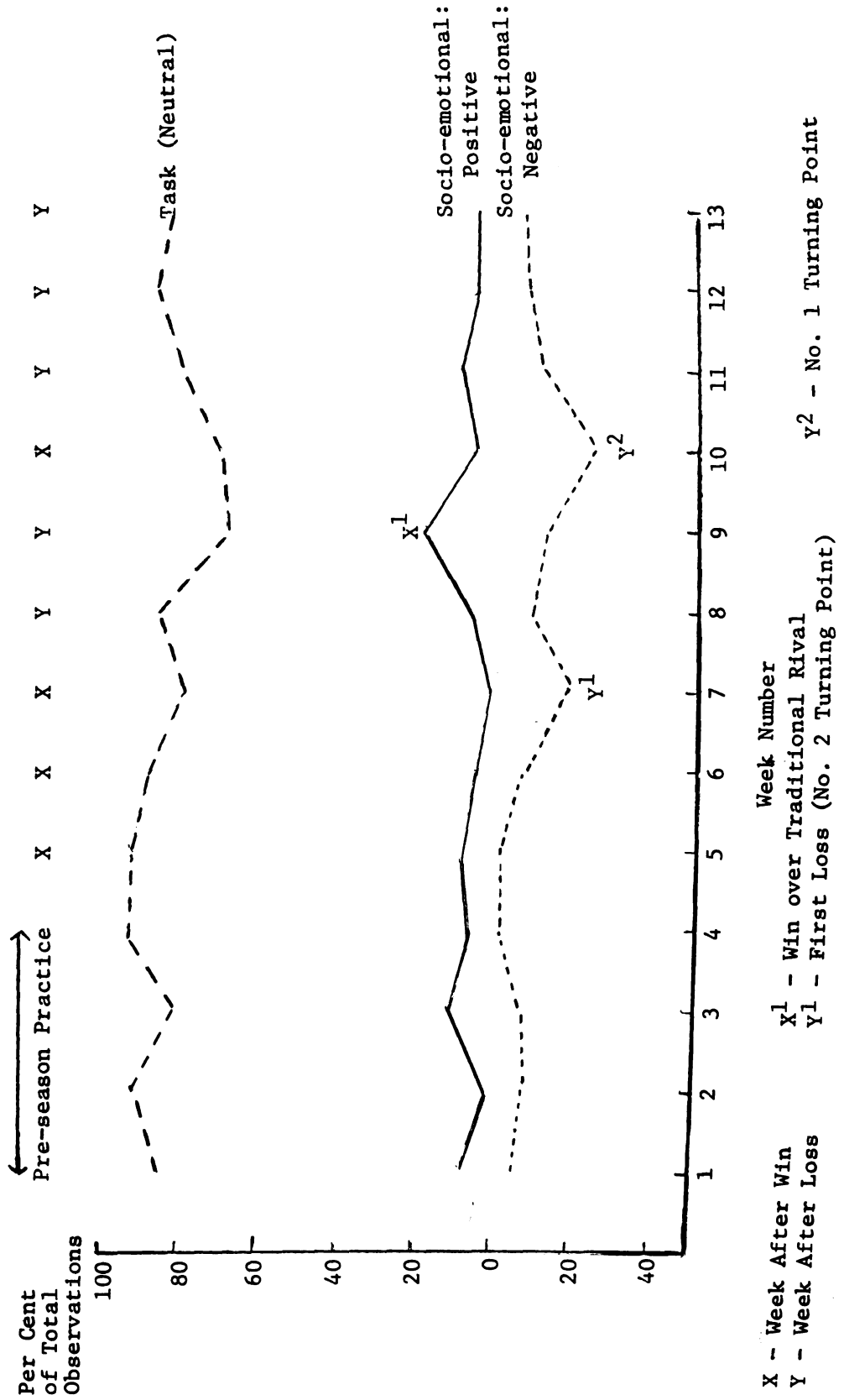
(A) Positive Socio-emotional	9%
(B) Task (neutral)	81%
(C) Negative Socio-emotional	10%

Several important points were developed in analysis of the data:

- (1) In the seventh week, following the first loss in the third game, there were 17% negative socio-emotional interactions.
- (2) In the ninth week, following the important win over the leading traditional rival, there were 20% positive socio-emotional interactions.
- (3) In the tenth week, following the traumatic loss, probably caused by officiating errors, (and eliminating the team from bowl consideration) there were 23% negative socio-emotional interactions.
- (4) There was little difference in the percentage distribution of interaction categories over the season between coach-to-coach and coach-to-player interactions. But these subgroups varied considerably in the three most unique weeks of the season with

FIGURE 7

PER CENT OF TOTAL OBSERVATIONS BY MAJOR  
BORGATTA-CROWTHER IPS GROUPINGS



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no consistent pattern. A comparison of socio-emotional behavior for these weeks is given in Table 9.

TABLE 9

PER CENT TOTAL INTERACTIONS: SOCIO-EMOTIONAL  
THREE KEY WEEKS

	Coach-to Players		Coach-to Coach	
	A	C	A	C
	Positive	Negative	Positive	Negative
Week 7 (key loss)	4	23	3	12
Week 9 (key win)	16	8	26	16
Week 10 (key loss)	10	14	3	30

- (5) There was a difference between the four full-time offensive and four full-time defensive coaches in categories of interactions over the season, as indicated in Table 10.

TABLE 10

PER CENT TOTAL INTERACTIONS FOR SEASON

IPS Category	Offensive Coaches	Defensive Coaches
A Positive socio-emotional	8	7
B Task (neutral)	87	79
C Negative socio-emotional	5	14

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This data appears to indicate less "consideration" behavior by the defensive coaches, but both groups indicated predominantly "task" behavior. This data will be compared with the results of the Blake-Mouton behavioral measures and the LPC and ASo scores; and, further discussed in the following chapters.

#### Differential Task Level Responses of Coaches to Victory and Defeat

The preceding discussion has included the differential responses of the coaching staff in terms of task level in the weeks following victories and defeats. Table 11 summarizes these responses in terms of two major functional groupings -- the offense and defense. It is emphasized that the "typical" task level is high, so that the meaning of "lower" and "higher" are differing degrees of "high" task.

TABLE 11

#### DIFFERENTIAL TASK LEVEL RESPONSES TO VICTORY AND DEFEAT

Number	Week Followed:		Lower	Typical	Higher
	Win	Loss			
5	X			Offense	Defense
6	X			Offense & Defense	
7		X			Offense & Defense
8		X			Offense & Defense
9	X			Offense & Defense	
10		X		Offense & Defense	
11		X	Offense & Defense		
12		X		Offense & Defense	
13		X		Offense	Defense

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Although the next chapter will discuss test scores in detail, it is considered desirable at this point to consider some of this data. The pre-season LPC scores for the offensive and defensive assistant coaches differed significantly between these leadership subgroups. The defensive coaches' mean was 69, in the "high" LPC category; while the offensive coaches' mean was 56, a clearly middle (an undefined behavioral) score. Pre-season, there were one "high" and two "low" LPC scores among the four offensive coaches and two "high" LPC scores among the defensive coaches. Fiedler states: "...the situation which is less personally satisfying causes the high-LPC leader to interact on an emotional and personal level while the low-LPC leader interacts in a more task-related manner."<sup>1</sup> Since the offensive coaches' LPC scores are more indeterminate on the basis of their mean, the Fiedler position was evaluated concerning the defensive coaches whose mean was "high." It was found that 22% of the defensive coaches' total interactions for the season were on the socio-emotional level (in contrast to 13% for the offensive coaches). To further investigate "personally satisfying" the 13 weeks of defensive interactions were broken into two subgroups -- the first 6 weeks; 4 weeks of optimistic pre-season practice and the weeks after two wins -- and the last 7 weeks; 6 of the 7 weeks following losses. The author defines the first period as "personally satisfying" to the coaches in contrast to the last 7 weeks. Another possible indication of decrease in satisfaction was the large decline in GAS from pre-season to post-season, as perceived by all the coaches. Only 20% of the total socio-emotional interactions of the defensive coaches for the season occurred in the first 6 weeks; thus appearing to support Fiedler's hypothesis. However, these findings are not consistent with



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other behavioral findings which are discussed in the next chapter; and it is reiterated that the preponderant behavior of both coaching groups remained high task throughout the season.

#### Comparison of Coaches and Laboratory Study Groups

Bales reported the categorization of interpersonal behavior of sixteen small groups in an experimentally observed case discussion task.<sup>2</sup> The means of the sixteen groups were reported in categories amenable to summarization into the three basic behavioral categories used in this study in the IPS analysis. The means for all the Bales groups are indicated in Table 12. This table permits a comparison with the coaches' behavior observed in this field study. The coaches studied appear significantly higher in the task category with the difference almost totally accounted for by the lower amount of positive socio-emotional behavior. This appears to follow logically from the differences in group members and group task. The coaches are experienced leaders, with high self-confidence, so that they may concentrate upon their continuous high task responsibilities which have longstanding continuity. Conversely, since the experimental groups have no continuity, more emphasis must be placed upon social ordering and the fact that the group is not highly conditioned to a task-oriented climate. Further, as was noted in Chapter II, in laboratory groups of fairly similar college students an effort by a person to exercise leadership is seen by others as a direct personal challenge, and requires a less assertive individual to take action to relieve emotional tension.

Following the previously cited classification of the first 6 weeks of the football season as "satisfying" and the next 7 weeks as "dissatisfying," the percentages of the coaches' behavior is compared

with that of the Bales experimental task groups who were "satisfied" or "dissatisfied" with their case solution after-the-fact. This comparison is presented in Table 13. Again, the coaches display a more heavily oriented task behavior in both modes and the major categorical difference is in socio-emotional: positive in both modes.

TABLE 12

COMPARISON OF MEANS: PERCENTAGE OF TOTAL INTERACTIONS BY  
MAJOR IPS CATEGORIES

IPS Category	Mean Bales All Groups	Total All Coaches	Coaches' Difference
Socio-emotional: Positive	25	9	-16
Task (neutral)	64	81	17
Socio-emotional: Negative	<u>11</u>	<u>10</u>	<u>- 1</u>
Total	100	100	0

TABLE 13

COMPARISON OF MEANS: PERCENTAGE OF TOTAL INTERACTIONS BY  
MAJOR IPS CATEGORIES IN "SATISFIED"  
AND "UNSATISFIED" CONDITIONS

IPS Category	"Satisfied"			"Dissatisfied"		
	Bales	Coaches	Coaches d	Bales	Coaches	Coaches d
Socio-emotional: Positive	34	7	-27	17	8	- 9
Task (neutral)	61	89	28	66	79	13
Socio-emotional: Negative	<u>5</u>	<u>4</u>	<u>- 1</u>	<u>17</u>	<u>13</u>	<u>- 4</u>
Total	100	100	0	100	100	0

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### Frequency of Interactions and Formal Status

The Spearman rank correlation coefficient was computed to determine the relationship between the frequency of observed behavioral interactions and the formal organizational status of the coaches, as identified in Chapter IV.  $Rho = .83$  which is statistically significant at the .01 level for a one-tailed test (.83 observed value > .75 critical value). This high degree of relationship is not surprising considering the clearly identified formal hierarchy and the head coach's management philosophy, which were described in Chapter IV. The majority of total observations by the author involved groups of coaches; thus, this correlation does not result from more frequent observation of individual coaches.

### Achievement of Game Sub-goals

As was previously indicated, before the season the head coach established, and the players agreed to the feasibility of, fourteen sub-goals for each game. Presumably, a high correlation was implied between achievement of the subgoals and the superordinate goal of winning. Table 14 indicates the degree of achievement of these subgoals by game (the numerator indicates the number of goals achieved and the denominator indicates the total number of goals):

TABLE 14

## SUBGOAL ACHIEVEMENT BY GAME

Game Number	Win	Loss	Offense	Defense	Kicking Team	Total
1	X		3/6	3/6	0/4	6/16
2	X		3/6	2/6	1/4	6/16
3		X	1/6	1/6	0/4	2/16
4		X	0/6	1/6	0/4	1/16
5	X		0/6	3/6	1/4	4/16
6		X	0/6	1/6	1/4	2/16
7		X	0/6	3/6	1/4	4/16
8		X	2/6	0/6	1/4	3/16
9		X	0/6	3/6	1/4	4/16
10	X		3/6	5/6	2/4	10/16
Total	4	6	12/60	22/60	8/40	42/160
Percentages	.400		.200	.367	.200	.263

The author believes that the absolute specification of some of the goals, in contrast to using averages, seriously biased the percentage of achievement downward. This may have artificially affected player motivation in terms of "levels of expectation." To further explore this hypothesis the author reviewed the "play-by-plays" for each game in an undefeated former season of this coach. This earlier team was considered to be one of the greatest all-time college teams, and the best under the current head coach. The 1969 goals were applied to the undefeated team's

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performances yielding the following data: (1) the range of total goal achievement per game was from 4/16 to 10/16 with a mean of 7/16, a mode of 6/16, and a season's goal achievement percentage of .446; (2) the season's goal achievement percentages for the offense, defense, and kicking team were respectively -- .317, .670, and .300. Although rules changes in the interim would probably have enhanced the goal achievement percentage of the undefeated team's offense positively and the defense negatively, goals were too tightly specified to permit a high percentage of achievement. Because of the questionable relationship of subgoal achievement to primary goal achievement, no subsequent analysis of subgoals results in terms of the model has been attempted for the coaching subgroups.

#### Injuries and Attrition

Before evaluating the causes of the season's outcome, the author considers it important to recapitulate some of the effects of player losses. When the new triple option offense was installed in spring practice, said offense requiring four good running backs, it appeared that there were two excellent backfields. Over time, these backfields were reduced by injuries which led to a change in offense in mid-season to formations where essentially one good running back was emphasized. Of the eight top backs in spring practice, the following toll was taken: both fullbacks -- one with a broken leg, and the other with a broken arm; two halfbacks with knee surgery -- one of the other halfbacks, the leading "breakaway" threat was limited by leg injuries for most of the season, and the other played several games with an injured hip; and, one quarterback from knee surgery. Other key losses for the season were:



two first team ends -- one from knee surgery, and the other from removal of a ruptured spleen; the leading sophomore pass receiving prospect -- injured back; and, a sophomore linebacker -- knee surgery. The author noted that by the season's end, 17 of the players who were in the team picture taken during pre-season practice had been eliminated.

### Causes of the Season's Outcome

#### The Press and Author's Analyses

In writing a post-mortem article on what happened to cause the team results to depart from the optimistic pre-season predictions, a sportswriter for the student newspaper suggested that injuries were the major cause. But additionally, he suggested that their last minute traumatic loss in the sixth game, which ended their bowl chance, was a "turning point" that irrevocably mentally deflated the players for the balance of the season.

The sports editor of the local paper suggested in review that the causes of the outcome were: weak quarterbacking; insufficient help from the sophomore group; confusion on the field; and, injuries.

A sportswriter for a major out-of-town newspaper suggested that part of the problem was caused by the inexperience of the coaching staff -- three new coaches, and two other coaches in their first season at a newly assigned functional specialty.

The author agrees with some of the foregoing analyses. Injuries were a primary cause and contributed significantly to the "insufficient help from the sophomore group" also. This compounded the problems associated with such a difficult schedule involving four of the nation's top ranked teams -- including two major bowl teams. He also agrees that the

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one traumatic last minute loss was certainly a psychological turning point. He disagrees, however, that coaching inexperience was an important contributing factor. The game plans were generally excellent. They were limited by poor execution, and forced abandonment due to early game errors in execution. The only game in which the game plan appeared questionable, was the first loss, but here again, better execution might have resulted in a win. The only coaching problem observed was a tendency for suboptimization pressures between the offense and defense.

#### The Coaches' Analysis

As part of the post-season questionnaire each coach responded to the question: "What do you consider the most important factors or "turning points" that affected the final won-loss record of the [team's] 1969 football season?" The diversity of answers, categorized by the author, is presented in Table 15.

TABLE 15

#### COACHES' ANALYSIS OF CAUSES OF SEASON OUTCOME

Factor	Frequency Factor Cited
Injuries	6
Lack of enthusiasm and sacrificial attitude by players	5
Lack of player leadership, particularly by the seniors	4
Inability to capitalize on scoring opportunities; lack of a breakaway back, and lack of "big plays"	4
Lack of a single standard of rigid discipline	3
Lack of player confidence in the triple option offense	3
Lack of traditional coach and player "togetherness"	2
Lack of simultaneous offensive and defensive consistency	2
Lack of good quarterbacking	2
Superior personnel of three opponents	1
Bad luck	1
Only two games were cited as being "turning points":	
The traumatic last minute loss (the sixth game)	3
The first loss (the third game)	2

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The weeks after the games cited as "turning points" were the two highest periods of negative socio-emotional interactions, as previously indicated. These responses were given over one month after the end of the season in an atmosphere of greater objectivity than would have been the case in early responses. Also, the author considers that the coaches accepted their leadership responsibility in many of the above reasons. It should be noted however, that at least 29% of the attributed causes were exogenous to any elements of coaching leadership.

#### Player's Analyses

A review of the author's observation notes, sampling player comments throughout the season, indicated general agreement with the coaches' analyses of causes. The primary attribution of causes were self-criticism directed at poor player execution, concentration, discipline and general attitude and lack of team "togetherness." Also cited were injuries, lack of confidence in the offensive system, offensive versus defensive sub-optimization, and problems of playing on grass after being used to synthetic turf. Attribution of causes to coaching was definitely secondary to self-criticism.

#### Summary

This chapter discussed the football team's 1969 season, the environment in which the leadership style and behavior of the coaches was studied. Specific findings were as follows:

1. The pre-season "level of expectations" of both coaches and players appeared quite high in terms of reported predictions of success.

Generally, the news media also predicted a successful season for the team.

2. It was difficult to determine before-the-fact whether the team was psychologically prepared for a game.
3. The categorization of leadership behavior of the coaches indicated a heavy task loading as typical of the operation. Atypical negative socio-emotional behavior followed the two most critical losses of the season. Conversely, atypically high positive socio-emotional behavior followed the important victory over the foremost traditional rival. These results were not surprising, but there was a difference between the behavior of the offensive and defensive assistant coach subgroups after these games and throughout the season; the defensive coaches displayed relatively lower "consideration" behavior. Also, the coaching subgroups responded differently to victory and defeat in changing practice regimens.
4. A comparison of the percentages of major categories of IPS interactions between the coaches and laboratory study groups indicated that the coaches were significantly higher in task interactions; and, the difference was almost totally accounted for by lesser positive socio-emotional behavior by the coaches. When the season was divided into "satisfying" and "dissatisfying" segments in terms of victories and defeats, the coaches differed from laboratory study groups by exhibiting higher task orientation and lower positive socio-emotional interaction in both modes.
5.  $\text{Rho} = .83$  for the relationship between the frequency of observed behavioral interactions (primarily coaches in groups) and the formal organizational status of the coaches.
6. Achievement of established team subgoals was evaluated and the feasibility of the subgoals was questioned in terms of motivation and

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7. The causes of the season's outcome were discussed from the viewpoints of the coaches, players, and press. The author concludes that injuries, an abnormally difficult schedule, player discipline and attitude, and some suboptimal conflict between the offense and defense importantly affected the outcome. The traumatic last minute loss in the sixth game, probably due to officiating errors, appeared to be the ultimate "turning point" of the season. And the author concludes that a significant portion of attributed causes were exogenous to the coaches' leadership responsibilities (and model components).

Given the background of this chapter, the next chapters integrate the findings from the pre-season and post-season test instruments in evaluating, and attempting to expand, Fiedler's contingency model of leadership effectiveness.



## FOOTNOTES

### CHAPTER V

1. Fred E. Fiedler, A Theory of Leadership Effectiveness (New York: McGraw-Hill, 1967), pp. 54-55.
2. Robert F. Bales, "Some Uniformities of Behavior in Small Social Systems," in Guy E. Swanson, Theodore M. Newcomb, and Eugene Hartley, eds., Readings in Social Psychology (New York: Holt, 1952), p. 152.

## CHAPTER VI

### FINDINGS

#### Introduction

This chapter continues the analysis of findings which began with observation results cited in Chapter V. It discusses for the four study groups: intercorrelations of key test variables, correlations of key test variables with other variables; and, presents other descriptive statistics. Group 1 and 2 statistics are compared with test findings for two other groups, business executives and United States Military Academy graduates. For Group 2, the current coaches, pre-season, post-season test scores, and differences are compared: including a comparison of offensive and defensive assistant coach subgroups. The Position Power, task structure, and GAS analyses are reported leading to identification of the appropriate Fiedler model octant(s) for the football team studied. Organizational results are then compared with model predictions for these octants. The findings from Fiedler measures are also compared with those from B-M measures and the author's behavioral observation findings. Finally, within the main thrust of the study, the "directionality" issue is considered.

Besides the mainline considerations of the study, background information is provided concerning: biographical data for all subjects; sociometric data for Group 1; comparison of two sets of identical twins, the quarterbacks, and team captains (within Group 1) on key test measures;

and, a biographical comparison of the coaches with their professional counterparts at other conference universities.

The chapter concludes with a detailed summary of findings by category of data.

#### Questionnaire Response

Response to the pre-season and post-season questionnaires is indicated in Table 16. The four groups are coded as follows:

Group 1 -- Players, 1969 season.

Group 2 -- Coaches, 1969 season.

Group 3 -- Former assistant coaches who served under, and were selected by, the current head coach.

Group 4 -- Former assistant coaches who served under, but were selected by, the predecessor to the current head coach.

In subsequent findings and discussion, "offensive" and "defensive" coaches on the 1969 coaching staff indicate subgroups of Group 2. Group 2A represents offensive assistants, and 2B represents defensive assistants. For each subgroup, N=4; the head coach and freshman coach are not included in either of these subgroups.

This response involves total enumeration of the groups and 100% response for Groups 1 and 2, the primary subjects of the study. There was a 92% response rate in Group 3, but only 83% usable data in the case of LPC, MPC, and ASo. For Group 3, there was 92% usable data on B-M self rating and 83% usable data on B-M on the head coach. There was 100% response in Group 4, but only 67% usable data on the B-M for the head coach.

TABLE 16

## NUMBER OF SUBJECT RESPONSES AVAILABLE FOR ANALYSIS

Group	Response Measure - Pre-season						Biograph- ical Data
	MPC	LPC	ASo	Blake-Mouton Key Managerial Orientations (B-M)	Group Atmosphere Scale (GAS)	Predicted Season Results	
1	81	81	81		81	81	81
2	10	10	10	10	10	10	10
3	10	10	10	11			12
4	3	3	3	3			3
Total	104	104	104	24	91	91	106

Group	Response Measure - Post-season						Causes of Season's Results
	MPC	LPC	ASo	Blake-Mouton Key Managerial Orientations (B-M)	GAS		
1	10	10	10	10	10	10	10

Intercorrelation between Variables

Pearson product moment correlations were obtained between key test measures and other variables. The resulting intercorrelation between key test measures, for each of the four groups, is indicated in Tables 17 through 21. Inspection of these tables indicates several important relationships. The expected high negative correlation between LPC and ASo is apparent for both the pre-season and post-season tests for all groups although there are differences between groups ranging

from  $-.68$  for Group 3 to  $-.95$  for Group 2 (post). The test-retest reliability for Group 2 LPC and ASo is  $.63$  and  $.80$  respectively. This is higher than the test-retest reliability reported by Fiedler for "experienced leaders" over an eight week period of: LPC  $.57$  and ASo  $.74$ .<sup>1</sup> The intervening period between tests in this study was fourteen weeks and the author considers that the intervening experience of the coaches studied was dynamic as, if not more dynamic than, that of the Fiedler group reported (military officer candidate trainees who had prior military experience).

For Group 2, there is a high positive correlation between MPC and ASo pre-season ( $.85$ ), although this declined to  $.50$  in the post-season tests. The test-retest reliability for Group 2 on MPC is  $.85$ , which is higher than the test-retest reliability for LPC and ASo. Fiedler does not report any comparable data for MPC.

The only significant level of correlation between MPC, LPC, ASo and GAS, is that of  $.92$  with MPC for Group 2 pre-season. The test-retest reliability for GAS of Group 2 is  $-.02$ , possibly due to the major changes in GAS scores resulting from significant failure to achieve "level of expectations."

A separate intercorrelation matrix, Table 21, considers only change scores for Group 2 from pre-season to post-season. These correlations indicate, as expected, that there is a high negative correlation between LPC and ASo change scores ( $-.76$ ). Although there is a weak negative correlation between MPC, LPC and GAS change scores, there is a  $.60$  positive correlation between the ASo and GAS change scores, whose means both changed in a negative direction.

An evaluation of the intercorrelations between the same

variables for the offensive and defensive coach subgroups, indicates extremely high correlations between LPC and ASo, ranging from  $-.83$  to  $-.99$  and test-retest reliabilities ranging from  $.75$  to  $.99$ . The only important differences (d) between these two subgroups are in the correlations between the MPCd and LPCd scores and the ASod and GASd scores. The offensive coaches' MPCd correlates  $-.85$  with LPCd whereas the defensive coaches' correlates  $.71$  with LPCd. This results from MPC and LPC scores of offensive coaches changing in different directions whereas all of the scores of the defensive coaches changed in the same direction. The offensive coaches' ASod correlates  $.42$  and the defensive coaches'  $.73$  with GASd. The complete matrixes of intercorrelation between variables for the offensive and defensive coach subgroups is provided in Appendix H.

There were no high order correlations between pre-season MPC, LPC, and ASo scores and other variables. See Appendix I for a listing of these intercorrelations and comparison with data reported by Fiedler.

TABLE 17

INTERCORRELATION BETWEEN VARIABLES  
PLAYERS (GROUP 1) N=81

Measure	LPC Pre	ASo Pre	GAS Pre
MPC Pre	$-.16$	$.52^{**}$	$.20$
LPC Pre		$-.82^{**}$	$.15$
ASo Pre			$-.06$

**\*\*Significant at .01 level.**

TABLE 18

INTERCORRELATION BETWEEN VARIABLES  
COACHES (GROUP 2) N=10

Measure	LPC Pre	ASo Pre	MPC Post	LPC Post	ASo Post	GAS Pre	GAS Post
MPC Pre	-.71*	.83**	.85**	.36	.50	.92**	.23
LPC Pre		-.89**	-.61	.63*	-.80**	-.55	-.21
ASo Pre			.77*	.63*	.80**	.74*	.11
MPC Pre				-.11	.34	.95**	-.05
LPC Post					-.95**	-.13	-.12
ASo Post						.31	.09
GAS Pre							-.02

\*\*Significant at .01 level.

\*Significant at .05 level.

TABLE 19

INTERCORRELATION BETWEEN VARIABLES  
COACHES (GROUP 3) N=10

	LPC Pre	ASo Pre
MPC Pre	-.20	.08
LPC Pre		-.68*
*Significant at .05 level.		

TABLE 20

INTERCORRELATION BETWEEN VARIABLES  
COACHES (GROUP 4) N=3

	LPC Pre	ASo Pre
MPC Pre	.18	.32
LPC Pre		-.88

TABLE 21

INTERCORRELATION OF CHANGE SCORES BETWEEN VARIABLES  
COACHES (GROUP 2) N=10

	LPC d	ASo d	GAS d
MPC d	.41	-.28	-.20
LPC d		-.76*	-.36
ASo d			.60

\*Significant at .05 level.

In an attempt to sharpen the theoretically defined relationships and to evaluate additional relationships, intercorrelations were computed in terms of "high," "middle," and "low" categorical scores using contingency tables and the  $X^2$  test for statistical significance. The only statistically significant relationships are indicated in Table 22. Although negroes represent 25% of N (see Appendix L), they represent 62% of the "low" ASo scores and only 15% of the "high" ASo scores. This indicates an overrepresentation of negroes in the low task/ high consideration



category and their underrepresentation in the high task/ low consideration category. As expected, these significantly differential representations of negroes were reduced by broadening the definition of "low" and "high" ASo scores. It should be noted also that there was no statistically significant difference between negroes and whites on "low" and "high" LPC scores at .05 level (observed value 3.69 < critical values of 5.99).

The significant interrelationships between the categories of LPC and ASo scores, per se, merely reinforce the already established high negative correlation between these scores.

No statistically significant relationships were found between LPC or ASo scores and: religion, GAS, and, birth order--based upon series order or a distinction between first born and all later born. Also, neither modification of category range limits nor intercorrelation of categories between MPC, LPC, and ASo scores, indicated any statistically significant relationships other than those reported in Table 22.

TABLE 22  
NONPARAMETRIC INTERCORRELATION OF VARIABLES

Variables	N	Observed Value	X <sup>2</sup> Critical Value	X <sup>2</sup> Level of Significance
Race X ASo (divided into three equal categories)	104	10.9	9.2	.01
Race X ASo (divided into categories of 40-20-40% of the range of scores)	104	11.0	9.2	.01
ASo (40-20-40%) X LPC using categories extrapolated from Fiedler's reported "low" range of LPC scores)	104	33.2	18.5	.001
ASo (40-20-40%) X LPC (40-20-40%)	104	43.1	18.5	.001

## Means of Groups

The LPC and ASo means of each group are indicated in Table 23.

TABLE 23  
GROUP LPC AND ASo MEANS

Group	LPC	ASo
1	55.6	15.3
2	58.1	16.0
2A	55.8	18.8
2B	69.3	10.8
3	48.7	17.4
4	43.7	18.8

Appendix J indicates by group, for MPC, LPC, and ASo, the N, mean, standard deviation, skewness, and kurtosis.

The mean scores between the leaders and followers (Group 2 and 1) are quite similar, the coaches having a slightly higher task orientation in terms of ASo and slightly lower task orientation in terms of LPC. Most important, there are major differences between the means of the offensive and defensive assistant coaches with the offensive coaches indicating a much higher task orientation in terms of both LPC and ASo. A trend may be noted over time from the three coaching groups where both the mean LPC scores have increased and the mean ASo scores have decreased indicating a decline in task orientation.

The leadership group of the current coaches was compared with a

group of middle level business executives who are part-time M.B.A. students (median salary \$20,000); and the players were compared with a population of United States Military Academy cadets, with the results indicated in Table 24. The coaches and players in this study scored somewhat higher in task orientation than their counterparts. There was no significant difference in the percentage of "high" and "low" LPC's and ASo's between the coaches and business executives. Sufficient information concerning the cadets was not available to permit a comparable comparison between the cadets and the players. It is important to note that the greatest frequency of typologies in both experienced leadership groups, the coaches studied and the business executives is in the middle range of both LPC and ASo scores, which range in behaviorally undefined in the Fiedler model. The only middle typology that represents less than 50% of the total scores within either group is the coaches' LPC which is still a large 40%.

Comparing all coaches studied (N=23) with the 320 subjects reported by Fiedler<sup>2</sup> the LPC means are extremely similar: coaches, 52.5; Fiedler subjects, 53.1. The means of the LPC "lows" and "highs" also are not significantly different.

TABLE 24

COMPARISON OF DIFFERENT LEADERSHIP GROUPS  
LPC AND ASo MEANS (PRE-TEST)

Group	N	LPC Mean	ASo Mean
Group 2 -- Current coaches	10	58.1	16.0
Business Executives	50	60.6	13.6
Group 1 -- Current players	81	55.6	15.3
U.S. Military Academy Graduates	360	53.8	12.1

Changes between Pre-season and Post-season LPC and ASo scores

The mean LPC and ASo pre-season, post-season, and difference scores for the current coaches, total leadership group, are indicated in Table 25. In each case the mean is located in the "middle" range of scores; however the post-season LPC mean is just below Fiedler's cutting edge for "high." The LPC scores included 3 "highs" and 3 "lows" pre-season and 5 "highs" and 1 "low" post-season. The ASo scores pre- and post-season included 2 "highs" and 2 "lows" and 1 "high" and 1 "low" respectively. The Wilcoxon Matched-Pairs Signed-Ranks Test was applied to the changes in these scores. In the case of LPC, the observed T value of 8.5 > 8 the critical T value, therefore the null hypothesis that LPC will not change significantly over time (although leadership behavior may change significantly) may not be rejected at the .05 level of significance for a 2-tailed test. However, in the case of ASo the observed T value of 5.79 is < 8, the critical T value; and, the null hypothesis that ASo will not change significantly over time is rejected at the .05 level of significance for a 2-tailed test. Considering the head coach only, his LPC and ASo score changed 83% and -35%, respectively, between the pre-season and post-season tests; the largest ASo change and second largest LPC change of the ten coaches. Thus, he changed from a "low" LPC and "high" ASo to a "middle" LPC and ASo.

TABLE 25

LPC AND ASo MEANS, GROUP 2: N=10

	Pre- Season	Post Season	d
LPC	58.1	65.5	7.4
ASo	15.97	13.90	-2.07

The offensive and defensive coach subgroups are shown separately in Table 26. Although the LPC means are significantly higher for the defensive assistants both pre-season and post-season, the difference means for both groups are extremely stable as specified in Fiedler's null hypothesis. The offensive mean is in the middle Fiedler range of LPC scores (undefined), whereas the defensive mean is in the high (consideration oriented) range. Although the ASo means are significantly higher for the offensive coaches both pre-season and post-season, the means of both groups at both times are in the middle range of scores, and are relatively stable.

TABLE 26

LPC AND ASo MEANS, GROUPS 2A AND 2B; EACH N=4

Group		Pre-Season	Post-Season	d
Offense 2A	LPC	56	57	1
	ASo	18.79	16.70	-2.09
Defense 2B	LPC	69	69	0
	ASo	10.81	11.41	.60

#### Other Comparisons of MPC, LPC, and ASo Data

Although it is not essential to the main thrust of this study, several other types of test score results are considered worthy of report. First, two sets of identical twins are included in Group 1. The comparisons of their scores are indicated in Table 27. Each of the four twins worked under a different assistant coach in the spring

practice preceding the study so there is no meaningful basis of comparing the GAS scores. The amount of difference in the other scores within a twin set appear to be higher than might be expected based upon their commonality of heredity and environment. Twin set 1 are first borns and have two later siblings. Twin set 2 are 7th and 8th born and have 7 siblings.

TABLE 27  
COMPARISON OF TWINS

		MPC	LPC	ASo	GAS
Twin Set 1	1A	75	37	13.64	64
	1B	97	39	15.81	62
Twin Set 2	2A	117	48	19.60	69
	2B	108	68	14.90	80

Second, five of the 81 players are specifically cast into formal leadership roles, the two team captains and the three quarterbacks. Their test scores are shown in Table 28.

The GAS scores of four of the five players is higher than the player mean, as might be expected. The range of LPC and ASo scores appears to be surprising. Quarterbacks A and C are extremely "high" task in terms of both their LPC and ASo scores as may be expected, but quarterback B is at the lower extreme of the "middle" range of ASo scores and in the high extreme range of LPC scores indicating a "low" task, "high" consideration orientation. One captain is "high" task in terms of both LPC and ASo scores, whereas the other is in the "middle" range of both

LPC and ASo scores.

TABLE 28  
COMPARISON OF PLAYER LEADERS

		MPC	LPC	ASo	GAS
Quarterbacks	A	123	19	26.19	77
	B	73	83	11.40	64
	C	128	16	28.00	70
Team Captains	E	94	63	10.34	73
	F	117	48	19.60	69
Group 1 Mean N=81		103	56	15.26	66

Third, sociometric analysis was made concerning the roommates selected by the 81 players. During the fall term, 27 of the players chose to room together, twelve dyads and one triad; none of these sets were racially mixed. Of these 13 sets, only 7 previously had chosen to room together during the several weeks of pre-season practice. During the several weeks of pre-season practice period-- a typical suite involved 4 roommates -- 2 double rooms sharing a common bathroom. 4 of 24 of these suites were racially mixed. None of either the 7 or 13 sets consistently (5 or more of the 10 games) roomed together the night preceding games due to a combination of restraints -- the requirement that offensive players room with offensive players and defensive players room with defensive players; married players lived with their spouses during the fall term; limits to and changes in the composition of players selected to stay in special accommodations the nights prior to the games; and,

injuries. 18 sets of players roomed together 5 to 10 times the night prior to games; 2 of these sets were racially mixed. The complete test scores of the sets of roommates are indicated in Appendix K.

If scores within a range of 10% of each other are defined as being significantly common, there is little significant commonality among LPC, ASo, and GAS scores for roommates either for the fall term or the nights before games. For the 13 sets of fall term roommates there is significant commonality of: 2 sets for LPC, 4 sets for ASo, and 4 sets for GAS. Of the 18 sets of pre-game roommates, there is significant commonality of: 3 sets for LPC, 2 sets for ASo, and 4 sets for GAS. This is expected because of the uniqueness of these test measures and the greater relevance for roommate selection of other variables such as common social values, academic interest, and mutual liking. Further, it is reiterated, there were many restraints affecting the selection of pre-game roommates. There was a higher level of significant commonality in the case of MPC scores: 7/12 of fall term roommates, and 1/3 of pre-game roommates.

#### Group Atmosphere Scores (GAS)

GAS was more extensively gathered and analyzed than in Fiedler's work as part of the attempted model improvement -- particularly in three areas: (1) considering leadership groups in addition to the single leader; (2) considering actual versus perceived GAS by the leaders; and, (3) considering the followers (players) also. As might be expected, due to the intervening lack of achievement of the high "level of expectations," the mean GAS for the coaches declined from a pre-season 71.7 to a post-season 47.0; a decline of 24.7 or 34%. The respective mean declines of



the offensive and defensive assistants were 27 and 19 points. These changes in GAS appear to support the previous dichotomization of the season into "satisfying" and "dissatisfying" parts. Application of the Wilcoxon matched-pairs signed-ranks test to the coaches' GAS change scores indicate that the negative changes are statistically significant at  $>.005$  level for a one-tailed test (the observed value of T was 1 and the critical value was 8).

The four most important shifts in individual GAS items for coaches from pre-season to post-season were:

Successful-Unsuccessful	-5.2
Satisfying-Frustrating	-4.0
Productive-Unproductive	-3.3
Enthusiastic-Unenthusiastic	-2.8

These four (of 10) items account for 67% of the total GAS decline.

Although slightly higher than actual, the coaches' perception of GAS was reasonably accurate pre-season. Table 29 indicates the differences between coaches' and players' GAS mean in total and for each of the ten GAS items.

Players' GAS scores indicated uniformly low levels of correlation with test instrument scores and all other variables correlated. The correlations with pre-1969 playing time and prior football letters won were .15 and -.01 respectively. This did not support the hypothesis that there is a high relationship between these factors and GAS.

TABLE 29

COMPARISON OF COACHES' AND PLAYERS'  
PRE-SEASON GAS MEANS  
(Range: 1.0 to 8.0)

GAS Item Number	Dimension	Coaches	Players	Players' d
	<u>All items</u>	<u>7.2</u>	<u>6.6</u>	<u>- .6</u>
1	Friendliness	7.4	6.5	- .9
2	Acceptance	7.1	6.3	- .8
3	Satisfaction	6.9	6.2	- .7
4	Enthusiasm	7.5	7.0	- .5
5	Productivity	7.2	7.0	- .2
6	Warmth	6.9	5.9	-1.0
7	Cooperativeness	7.7	6.8	- .9
8	Supportiveness	6.7	6.7	0
9	Interestingness	7.3	6.5	- .8
10	Successfulness	7.4	7.1	- .3

Table 30 indicates a matrix of mean GAS scores by item for players assigned to each assistant coach in spring practice; thus, the head coach and freshman coach are not considered. As cited in Chapter II, Fiedler's model considers that morale and member satisfaction are affected by the leader's behavior, but they are seen as by-products rather than measures of task performance. However, the GAS scores of players assigned to specific assistant coaches have theoretical implications for interpreting the multiple behavioral measures used in this study. At this point the Blake-Mouton measure is not incorporated since

it will be discussed shortly. 12 of the 14 "high" ranks are given to offensive assistants and all 10 of the "low" ranks are assigned to defensive assistants. The scores do not appear to relate logically to Fiedler's interpretation of the LPC and ASo scores. For example, coach 5, who received 9 of 10 "low" GAS scores, had a "low" ASo score presumably indicating high consideration for people -- and by far the lowest ASo score of any of the coaches, and his LPC score was in the Fiedler "high" range consistent with his ASo score. Coach 4, with a "high" ASo score, indicating primary task orientation (and an inconsistent "middle" LPC score), received 6 of the "high" GAS rankings.

TABLE 30

GAS-PRE  
PLAYERS MEAN GAS SCORES BY ASSISTANT COACH  
HIGHEST AND LOWEST RANKING SCORE BY GAS ITEM

GAS Item No.	Coach*							
	1	2	3	4	5	6	7	8
1				High	Low			
2		High			Low			High
3		High			Low			
4				High	Low			
5				High	Low			
6		High			Low			
7	High				Low			High
8				High	Low			
9	High			High			Low	
10	High			High	Low			

\*These numbers do not relate to the assigned code numbers to protect the anonymity of the coaches.

There is no statistically significant ( $\rho$ ) relationships between the LPC score of assistant coaches and the GAS mean of their players although one might have expected the GAS mean for higher LPC coaches to be higher because of the greater consideration imputed to high LPC leaders. Of course, Pelz' findings suggest that this relationship would only exist if the considerate leader also was considered by his subordinates to have high influence with his superiors.<sup>3</sup> However, this explanation does not clarify the findings either. For example, an assistant coach with a high LPC, and considered by the author (and players) to have the highest influence with the head coach, has the lowest player GAS mean of all the assistant coaches.

There is no statistically significant difference in the GAS means between players based upon race; this is also consistently true for assistant coaches who have relatively equal distribution of races among assigned players.

#### Test for Response Set

As a review for possible contamination of test instrument scores due to response set, all instruments were reviewed against the following criteria: (1) all responses in a single row in the MPC, LPC, and GAS; and, (2) all responses left or right of center in the MPC or LPC. The results of test (1) indicated this pattern in 2 of 60 cases for (Group 2); both GAS pre-season. This pattern occurred for the Group 1 in 12 of 243 cases. For test (2), which is even more critical for the model analysis, there are 0 of 40 occurrences for the coaches; and, 6 of 162 cases for the players. Of course, the alternation of positive poles on test line items is a built-in protective measure

against positional response sets, and the author's elimination of cell numbers is another preventive device.

The author thought that the completed questionnaires of one player were lost. Consequently, the instruments were re-administered one week later. The results in terms of the differences in test scores were as follows: MPC, 0; LPC -5; ASo, + .73 and, GAS + 1. Although no scientific conclusions can be drawn from this anecdote, it gave the author a great sense of confidence in the conscientiousness with which the respondents completed the test instruments.

#### Position Power

The modified Fiedler Position Power Check List was completed by the author and seven other subjects who were intimately familiar with the continuous operations of the head coach and football team studied. Out of a range of possible scores of -5 to 19, the following array of scores resulted from completion of the instrument for the head coach of the team studied: 19, 18, 17, 17, 16, 16, 15, and 12; a mean of 16. Under any circumstances, this represents a significant level of agreement that the head coach has a "high" degree of position power. The author believes that the atypical score of 12 resulted from a confusion between position power "potential" and its actual use by one of the respondents who apparently believed that the head coach should apply his position power more extensively.

Although the position power instrument was not administered in evaluating the position power of the assistant coaches, it appears to the author based upon his 13 weeks of observations, that the assistant coaches all possessed a "high" degree of position power, although there

were slight variations between coaches and none would rate quite as high as the head coach.

### Task Structure

Based upon his observations, and application of the Fiedler criteria, the author concludes that the task structure of the football team studied is high. "Decision verifiability" is ultimately demonstrated by a real-time feedback in terms of the results of games; and, interim feedback is received to the level of individual plays. Such verifiability is available in practice periods also. "Goal clarity" is unequivocal in terms of winning as the superordinate goal and achievement of established functional sub-goals. "Goal path multiplicity" is severely constrained by model training on techniques of blocking, tackling, specific offensive and defensive system concepts, and, in terms of "game plans" directed toward the superordinate goal of winning. Finally, "solution specificity" is uniquely limited in terms of a win-loss dichotomy. As expected, high position power and high task structure are mutually reinforcing.

### Octant of the Football Team in terms of the Fiedler Model

On the basis of the pre-season measures, the football team studied unequivocally falls within Octant I of the Fiedler model where leader-member relations are good; task structure is high; and, position power is strong. In such a case, the model predicts that a task-oriented leadership style (low LPC) will be most effective in terms of team performance -- with a median correlation of  $-.52$ . However, if post-season measures are considered, based upon the major decline in perceived GAS by the coaches, the football team appears to fall into Octant V where

leader-member relations are moderately poor while task structure and position power are high. In this latter case the model predicts that a high relationship oriented (high LPC) leadership style will be most effective.

The results of the season do not appear to support the model's prediction in the Octant I case. The head coach's pre-season LPC (and ASo) were categorically "low" indicating high task orientation, yet the final team performance measure is .400. If the entire leadership group, of ten coaches, is considered, the results are ambiguous since the mean of the leadership group is in the middle LPC and ASo range which is undefined in terms of both leadership style and relation to group performance. Similarly, the Octant V evaluation in terms of model predictions is ambiguous since the head coach's post-season LPC (and ASo) significantly shifted into the "middle" undefined range; and, the mean of all coaches remained in the "middle" undefined range. The head coach's shift does not support the model's assumption of relative fixity of the underlying leadership style. The shifts of the leadership group means of both LPC and ASo in the direction of lower task orientation possibly reflect conscious (or subconscious) recognition of the decline in GAS.

Since this field study, a sample of one, did not appear to support the model's prediction the author artificially expanded the sample size to provide a broader test of the model. The model assumes relative fixity of underlying leadership style, and this hypothesis was confirmed in this study for the total leadership group LPC mean at the .05 level of statistical significance. Therefore, the current LPC scores of the ex-assistant coaches and current coaches were projected to each year when

the coach was a member of the coaching staff and means of the total leadership group were computed for each season from 1954 through 1969. A Pearson product moment correlation was computed between this mean LPC and the winning percentage for the season and the result was a correlation of .006. This indicated a total lack of relationship between the mean LPC and team performance in contrast to the model's theorized relationship. It should be noted that task structure and position power may be considered essentially fixed for the period evaluated, therefore the only other element of the model which could vary was GAS. Of course no quantitative data is available on the perceived or actual GAS for these periods. The head coach stated in the final depth interview of this study that for almost all the years of his tenure the pre-season GAS was high and it did not decline significantly during the season as a result of losses. This position was independently supported by an assistant coach who was on the staff for 13 of these 16 years. It is recognized that these statements may be questioned based upon memory fallibility and/or "approval effect" bias. But in the absence of contrary evidence they do not appear to support the model's predicted relationships.

Although the model does not consider them, it is possible that exogenous intervening variables such as injuries, luck, and difficulty of the schedule are important. However, it is plausible that the first two variables would tend to cancel over time and cannot account for the total lack of relationship between LPC and team results in terms of the model's prediction. The differences in schedule difficulty were evaluated in terms of the final post-season press polls ranking college football teams. Considering the number of opponents rated in the "Top 10" of these post-season polls as a rough measure of schedule difficulty,



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the mean has increased from 1 for 1954-1959 to 2.5, 1960-1969 (per the Football Writers Association data). Analysis of opponent "power ratings" computed by Dr. G. L. Wise<sup>4</sup> for the period 1965-1969 indicates a rho of .6 with winning percentage for the team studied. But this schedule difficulty variability apparently cannot substantially account for the lack of support for the model's predicted relationships.

The reconstruction of LPC and ASo typologies for all the coaching staffs from 1954-1969 (subsequently indicated in Table 33) appears to indicate a much lower relationship in terms of LPC and ASo typologies than the correlation of scores within groups indicates. Each year the number of high task LPC's exceeds the number of high task ASo's. Similarly, each year the number of high consideration LPC's exceeds the number of high consideration ASo's. This may result from the fact that the ASo categories are not defined in the Fiedler model which in recent years has tended to rely solely upon LPC scores (on the assumption that they are a sufficiently close approximation of ASo scores) to determine underlying leadership style. Under any circumstances, Table 33 clearly indicates a trend in staff composition toward lower task and higher consideration. This may well relate to the changes in socialization patterns of incoming players -- particularly in regard to type of acceptance of authority relationships. The head coach stated in his post-season interview that players are much more questioning than they were fifteen years ago, even five years ago. And he commented that the coach must "wear two hats;" on the field unquestioned authority must be maintained, but off the field players expect to be treated with respect and dignity. Further, a greater sensitivity to their individual problems is required and an increased dialogue is required in response to many

questions concerning why operations are conducted in a certain manner and why their team position and status has been determined in a particular way.

#### Blake-Mouton (B-M) Scores

Although they are not usually used for this purpose, and comparative data is not available, the B-M scores were used as an independent measure of the coaches' perceived leadership behavior over the period studied.

Pre-season and post-season each member of the staff ranked himself and each Group 2 coach from "most typical" to "least typical" by type of B-M managerial orientation (behavior). The author converted these rankings to separate task and consideration scores by multiplying the "most typical" ranking score for each by the frequency of times so ranked. Self-rankings were eliminated since in 7 of 10 cases, both pre- and post-season, self-rankings were 9,9 (a general response set which was unrelated to peer rankings). Table 31 indicates the mean converted B-M scores for pre-season and post-season and the mean difference (d) scores. The pre-season mean (6,5) is close to prototypic 5,5 leadership behavior and the post-season mean (6,4) indicates a slight increase in task level and a large decrease in consideration level. Based upon three equally sized categories, this table indicates the number of coaches whose mean score is "high" or "low" in terms of task or consideration behavior. 5 coaches were "high" task both pre-season and post-season; 2 coaches were "high" consideration pre-season, but none were "high" consideration post-season. The shift of "highs" and "lows" was consistent with the overall shifts of mean scores.

TABLE 31

## B-M RANKINGS OF GROUP 2

				Categories						
Mean				Pre-Season		Post-Season		d		
	Pre-Season	Post-Season	d	High	Low	High	Low	High	Low	
Task	54.6	56.6	2.0	Task	5	1	5	0	0	-1
Consideration	49.0	39.7	-9.3	Consideration	2	2	0	3	-2	1
To nearest Integer	6,5	6,4								

The head coach's perception of B-M leadership behavior of his assistant coaches compared with the B-M rankings of these same assistants by peers as follows: (the only cases considered are where there is agreement of at least 5 of 9 assistants in a specific typology) pre-season, the head coach's perception agreed in 4 of 5 cases; post-season the head coach's perception agreed in 2 of 4 cases. The disagreement is limited to "consideration" level in all but one case. The head coach's ranking is higher in "consideration" in two cases, and lower in "consideration" in two cases; and, it is lower in task in one case.

Considering some suboptimization problems observed, the author evaluated the B-M rankings inter- and intra-the offensive and defensive assistant coach groups; with self-rankings deleted. Pre-season, the offense perceived the defensive mean as 6,6 whereas the defense perceived themselves as 7,4 -- higher task and lower consideration. The defense perceived the offensive mean as 4,6 while the offense saw themselves as 6,7; in both cases a higher consideration orientation than the defense.

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Post-season, the offense perceived the defense as 7,3 and the defense saw themselves as 8,3; in both instances a shift over the season toward higher task and lower consideration. Post-season, the defense perceived the offense as 6,4; and, the offense's self-perception was 5,5. In both cases, this was a slight decline in both task and consideration. There was close agreement on the B-M style of 6 of the 8 coaches by all other coaches. But there was considerable disagreement on the other 2 coaches, although this is not surprising since they are 2 new members of the staff and have the least interface with the balance of the staff.

Immediately after the season, the author ranked all 10 coaches in terms of task and consideration based upon his total overall observations. This ranking was made prior to his evaluating the observational interaction notes, coaches' B-M rankings and other test instruments. All coaches were considered to be high task. Based upon a ranking of 10 for highest consideration to 1 for lowest consideration, the offensive total was 27 and the defensive total was 13. This is generally consistent with their self and peer rankings which indicate the defensive coaches to be definitely lower in consideration behavior than the offensive coaches.

It should be noted that although all findings concerning the B-M rankings have been limited to the "most typical," a review of the order of all five rankings indicated the rank order of subsequent choices was highly consistent with the "most typical" ranking (79 of 90 pre-season; and, 68 of 90 post-season). Also, consistent with the active typologies typical of football coaches, slightly over 50% of the "least typical" rankings were 1,1.

As an alternative test of the Fiedler hypothesis relating to effectiveness of groups with a "high" task leader (and favorable situations

for the leader), the Spearman rho was computed for the relationship between the B-M task level of the head coach as perceived by his assistant coaches (mean of such ranking) and the winning percentage of the team for each year from 1954-1969.  $Rho = .01$ , a result almost identical to the total lack of correlation determined in the Pearson  $r$  for mean LPC and winning percentage.

#### Comparison of Different Measures

For Group 2, the LPC and ASo "underlying leadership style" measures were compared with the B-M and observational behavioral measures. Table 32 indicates such comparisons. The following results are indicated by this data:

TABLE 32

#### COMPARISON OF MEASURES BY SCORE AND TYPOLOGY

Coach Number <sup>#</sup>	1	2	3	4	5	6	7	8	9	10
LPC Score Pre**	MID	HI	MID	HI	MID	MID	LO	HI	LO	LO
LPC Score Post**	MID	HI	MID	HI	MID	HI	LO	HI	HI	MID
ASo Score Pre	MID	LO	MID	LO	MID	MID	HI	MID	MID	HI
ASo Score Post	MID	LO	MID	MID	MID	MID	HI	MID	MID	MID
% Soc. emot.: Posit.	16	0	X	5	3	X	9	7	X	9
% Soc. emot.: Neg.	11	12	X	15	11	X	2	0	X	7
Task B-M Pre	HI	HI	LO	HI	MID	MID	HI	MID	MID	HI
B-M Post	HI	HI	MID	HI	HI	MID	HI	MID	MID	HI*
Con- B-M Pre	MID	LO	HI	LO	HI*	HI	MID	HI*	MID	MID
sid. B-M Post	LO	MID	MID	LO	LO	MID	MID	MID	MID	MID

<sup>#</sup> These numbers are different than the assigned code numbers to protect the anonymity of the subjects.

\* 1 point under lower limit of "high" category.

X Insufficient observations.

\*\* Fiedler categories.

(1) In terms of categories ("high," "middle," and "low"), LPC did not exhibit the relative stability attributed to it by the Fiedler model; 3 of the 10 coaches changed their categorization over the period of the 1969 season. The overall movement was one toward lower task orientation.

(2) ASo was more stable than LPC, with 8 of 10 coaches remaining in the same category between pre- and post-season. But 8 of the 10 coaches were in the "middle" undefined range post-season.

(3) B-M task rankings are as stable as ASo with 8 of 10 coaches remaining in the same category. The overall orientation of the leadership group is "high" task and there was a slight movement to more highness over the season.

(4) B-M consideration is the least stable of the four measures: 6 of 10 coaches changed their categorization over the season. The overall movement is in the direction of less consideration.

(5) As the model suggests, there is no relationship between the defined LPC or ASo styles, either "high" or "low" and the B-M behavioral rank typologies for the same coaches. Similarly, the "middle" range LPC and ASo scores relate to every possible B-M typology.

(6) The percentage of socio-emotional responses do not appear to support Fiedler's contention that "high" and "low" LPC leaders generally react in different ways to an unsatisfying situation, i.e., the "highs" interact on a more emotional level, while the "lows" interact in a more task related manner. The vast preponderance of each coach's behavior is task oriented and the higher socio-emotional percentages do not closely relate to the LPC typologies.

Spearman rho's were computed to determine the interrelationships



between the LPC, B-M, and behavioral observation measures since all measures purportedly emphasize the "initiating structure" - "consideration" dichotomy. The highest rho was .65 between B-M consideration and socio-emotional positive IPS observed behavior. None of the relationships are statistically significant at the .05 level (the critical value is .714). A matrix of comparative relationships between all leadership test measures is provided in Appendix L.

In an attempt to somewhat clarify the behaviorally undefined middle categories of LPC and ASo, the author studied 11 cases of coaches who indicated middle range scores in both categories; 3 of the group 2 coaches were considered twice -- both pre-season and post-season. There was no relationship to B-M categories in the cases of the 8 Group 2 coaches. The B-M task typologies for these coaches included: 4 "high," 3 "middle," and 1 "low." The B-M consideration typologies for these coaches included: 3 "high," 3 "middle," and 2 "low." There was no consistency of LPC scoring patterns in terms of extreme markings (1, 2, 7, and 8) and middle markings (3, 4, 5, and 6). However, there was great similarity in extreme MPC rankings with a mean of 15.5 of a potential maximum of 16.

#### Directionality of Cause and Effect

Directionality may be considered in two time dimensions for the data developed in this study. First, assuming the relative fixity of the leadership styles represented by the LPC and ASo measures, there has been a trend in the mean of the coaching staffs from 1954 through 1969 in the direction of decreased task orientation for both LPC and ASo. It should be noted that there is an inverse relationship between the LPC and

ASo scores and the theoretical meaning of "high" and "low." This trend is indicated in Table 33 which also identifies a decline in the actual categorical number of high task oriented types. Second, directionality may be considered within the context of the pre- and post-season scores for the season studied. Figure 8 graphically depicts the positioning of the head coach on the B-M grid as seen by the mean of his assistant coaches' rankings of him. This was constructed retroactively in the same manner as the LPC and ASo of the coaching staff for prior years was developed. The head coach, irrespective of success or failure is seen in the B-M quadrant indicating both high task and high consideration. The only two anomalous points are outside the quadrant because of lower consideration, but one was for a highly successful season and the other for a very unsuccessful season. Figure 9 graphically depicts the B-M directionality as indicated by the 1969 pre- and post-season rankings by other coaches. Both the offensive and defensive coach subgroups moved in the direction of increased "task" and decreased "consideration" orientation, although the offensive group started from a higher point on "consideration" and a lower point of "task." The perceived movement of the head coach is counter to the movement of the two assistant groups and is in the direction of decreased "task" with no change in "consideration."

FIGURE 8

MEAN BLAKE-MOUTON GRID POSITION OF HEAD COACH AS  
PERCEIVED BY ASSISTANT COACHES, 1954-1969

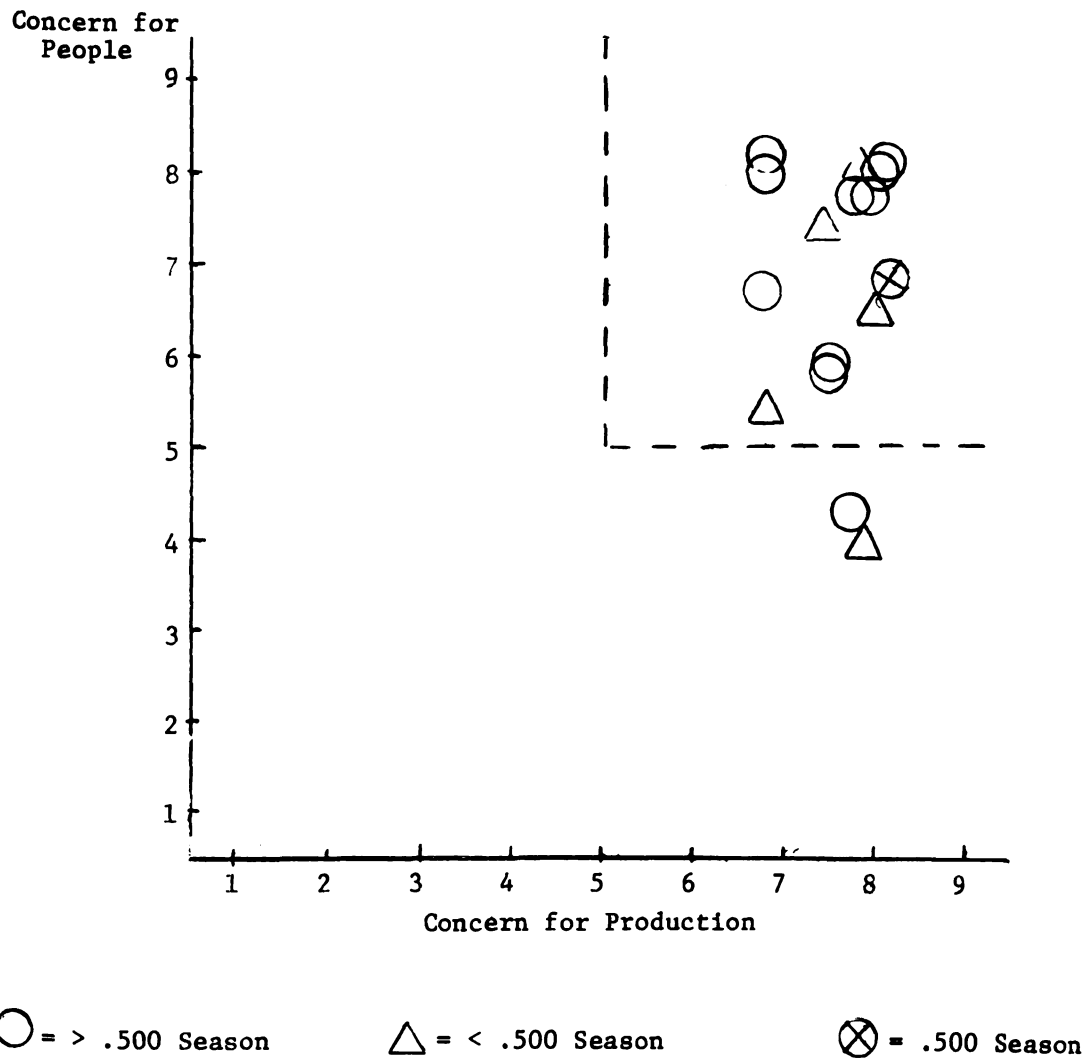


FIGURE 9

MEAN BLAKE-MOUTON MANAGERIAL STYLES, 1969  
PRE-SEASON AND POST-SEASON

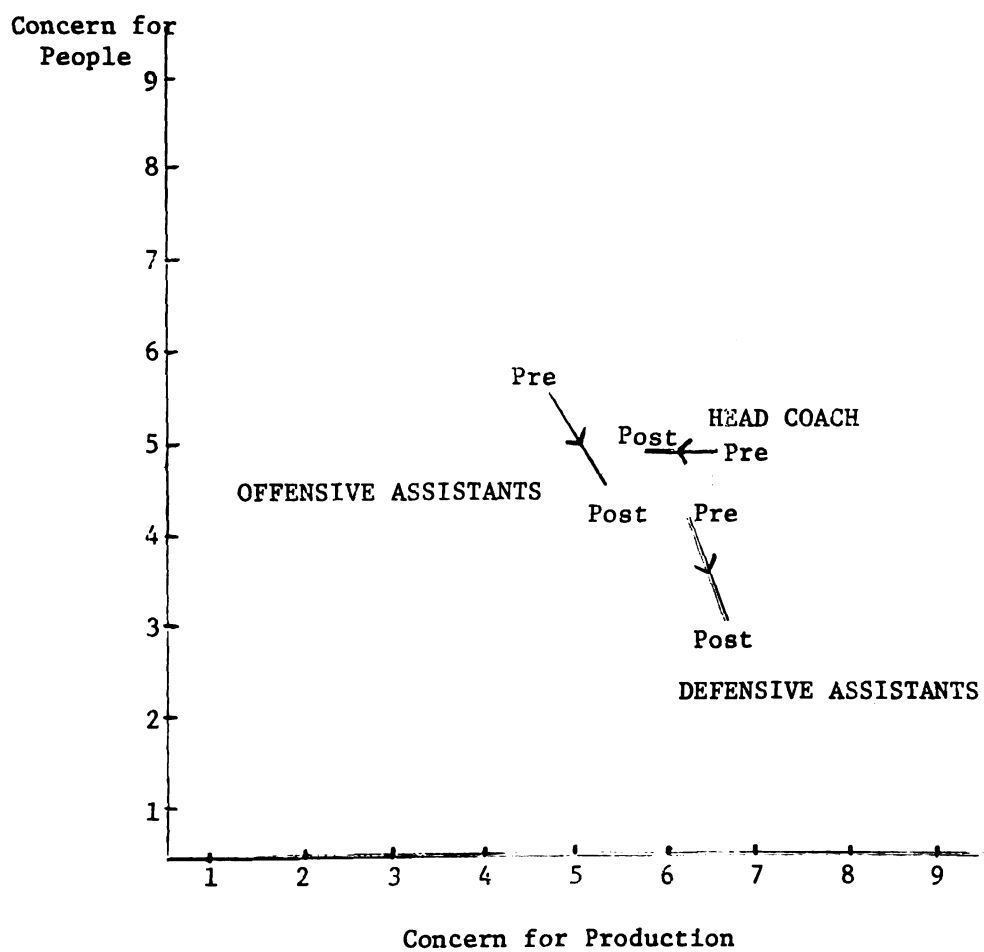


TABLE 33

COACHING STAFF LPC AND ASo MEANS AND TYPOLOGIES  
1954-1969

Year	LPC Mean	No. LPC "High Task"	No. LPC "High Cons."	ASo Mean	No. ASo "High Task"	No. ASo "High Cons."
1954	42	5	1	19.52	3	0
1955	42	5	1	19.78	4	0
1956	43	5	1	20.05	4	0
1957	46	5	2	19.76	5	0
1958	46	5	2	19.41	4	0
1959	56	3	3	15.71	2	1
1960	62	2	4	14.63	1	1
1961	57	2	4	14.63	1	1
1962	57	3	3	15.12	2	1
1963	57	3	3	15.12	2	1
1964	57	3	3	15.12	2	1
1965	63	2	3	14.93	1	1
1966	63	2	3	14.93	1	1
1967	65	2	4	14.32	1	2
1968	62	3	4	14.67	1	2
1969	58	3	3	14.67	2	2

### Biographical Data

As explained earlier, biographical data was compiled by means of archival and questionnaire research. Much of this information is summarized by group in Appendix M. There is a high degree of commonality on certain items between the coaches and players of the 1969 team studied. For example, for both groups: there is an approximately equal distribution of Protestants and Catholics; 65% of the players and 60% of the coaches were born in the North Central states; 74% of the players and 60% of the coaches predominantly lived in the North Central states prior to entering college; the majority had two or more siblings and were second or later born. This biographical commonality, combined with the previously cited similarity of LPC and ASo test scores (and typologies), would appear to minimize impediments to leadership effectiveness that might result from significant differences in these characteristics between leaders and followers.

The current coaches have several biographical characteristics in common with their predecessors in Groups 2 and 3. An equal division between Protestants and Catholics has been maintained. Also, typically the subjects are married; have at least two children; have 2 or more siblings, are not first born; and, were born and raised in the North Central states. The major differences are that less than half of the prior coaches were alumni of the university studied, and the earlier group had a slightly lower mean age.

The coaches were also compared to their professional counterparts at the other universities in their conference; the detailed results are indicated in Table 34. They differ most significantly from their counterparts in the number of coaches on the staff who are alumni of the

university where coaching; 7 of the coaches studied are alumni whereas the next highest university has only 4 alumni. All 7 of these coaches were selected by the current head coach, and all of them played under his coaching. When interviewed concerning his criteria for selection of assistant coaches, the head coach stated:

...first I think we look for someone who is a dedicated coach, someone who has the desire to improve himself, and someone who has had an obvious love for the game and considers himself a professional in the sense of the word that this is going to be his life's work. Then I think of getting someone who you know will be extremely loyal, in good times and bad -- I think that this is very important. The technical knowledge is important, but not nearly as important as these other factors because you can find hundreds of coaches who are good technicians ... and you can always orient them and indoctrinate them to the type of things that you want taught. You also would like to have someone with some independence of thought ... and you're looking for fellows who have the ambition someday to go out and be head coaches on their own. So, to find this composite, sometimes you don't always succeed, but this is what you're striving for.

With regard to the balance of task and consideration leadership typologies on the staff, the coach suggested that sometimes you can become overbalanced one way or another. He believes a mixture of types is desirable since if all members were high task there would not be sufficient consideration offset to the extensive built in drudgery of game preparation -- and that the game is meant to be fun. He noted additionally that the real fun comes from winning.

The coaches studied also ranked highest in the conference in the percentage of the staff whose college playing experience was as linemen. The head coach studied, and 7 of his contemporaries, were college linemen. 7 of the 10 coaches were born in the North Central states, slightly higher than the conference mean. This is not surprising since all conference universities are located in North Central states. The mean age of the coaches studied is 40, which is only 2 years higher than the mean of conference

TABLE 34

## COMPARISON OF BIOGRAPHICAL CHARACTERISTICS OF CONFERENCE FOOTBALL COACHES

Biographical Item	Team Studied	University										Conf. Mean*
		2	3	4	5	6	7	8	9	10		
Staff N	10	10	10	10	12	8	9	9	7	8	9	
Mean Age (Est. #)	40	-	31	45	38	36	-	36	-	41	-	
Alumni of Univ. Where Coaching	7	3	3	4	4	2	4	4	2	2	4	
Mean Years on Staff	6	7	1	11	7	4	10	5	5	8	6	
M.S.	2	2	3	3	7	1	2	3	1	7	3	
B.S.	8	8	7	7	5	7	7	6	6	1	6	
H.S. Coaching Experience	4	7	7	5	8	4	2	6	4	4	5	
Professional Player Experience	4	0	1	1	3	4	2	1	3	1	2	
Professional Coach Experience	0	0	0	0	0	0	1	0	1	0	0	
College Position Played												
Lineman	7	4	5	4	7	4	2	2	4	3	4	
Back	3	4	4	3	4	4	7	4	3	3	4	
Unknown	0	2	1	3	1	0	0	3	0	2	1	
Born in North Central States												
Yes	7	5	5	3	8	3	5	8	4	6	5	
No	3	3	0	3	3	3	2	1	0	1	2	
Unknown	0	2	5	4	1	1	0	0	3	1	2	

\*Rounded to nearest integer.

#As of 1 Sept. 1969 -- Ages not available on all members of all staffs.



schools for which data is available. The mean age of the staff has not been lower than 38 for the past decade.

### Summary of Findings

Generally, the findings of this case study do not appear to support the predicted relationships of the Fiedler Contingency Model of Leadership Effectiveness. Further, the model is not able to characterize the leadership style of a large number of the subjects. The following list summarizes the study findings by category of data, and is additive to the findings enumerated in Chapter V.

#### MPC, LPC, ASo

1. There is an expected high negative correlation (Pearson  $r$ ) between LPC and ASo; significant at the .01 level.
2. Although the test-retest reliability of LPC and ASo appears high in terms of Pearson  $r$ 's (and is statistically significant at the .05 and .01 level, respectively), the results for Group 2 are not internally consistent. The LPC and ASo scores of the head coach display major changes over time. And although the LPC changes are not statistically significant, the ASo changes are statistically significant in terms of the Wilcoxon matched-pairs signed-ranks test.
3. There are no high order correlations (Pearson  $r$ ) between MPC, LPC, and ASo and other variables, as expected. However, by analysis of contingency tables and use of  $X^2$  tests, negroes are found to be significantly (at the .01 level) overrepresented in the ASo category indicating low task/high consideration orientation; and negroes are underrepresented in the ASo category

representing high task/low consideration orientation. No similar differences for negroes are found in the categorizations of LPC scores.

4. The definition of "high" and "low" LPC and ASo scores is not improved by manipulating the category limits.
5. A large percentage of LPC and ASo scores fall in the "middle" category which is undefined in terms of leadership style in the Fiedler model.
6. Coach and player (leader and follower) LPC and ASo means are quite similar, with the coaches slightly higher in task orientation.
7. The LPC and ASo means for coaches are somewhat higher than those for a group of middle business executives; and, the LPC and ASo means for the players are slightly higher than a comparative group of U.S. Military Academy graduates. The LPC means for the coaches and 320 subjects reported by Fiedler are almost identical.
8. The LPC and ASo means of the offensive and defensive coach subgroups is stable as predicted in the Fiedler model, but there is a significant difference between the two subgroups both pre-season and post-season. The offensive coach subgroup has a higher task orientation in terms of both LPC and ASo.
9. There does not appear to be any major "response set" bias in the completion of the test instruments.
10. There is little commonality in LPC and ASo scores between sets of player roommates; both regular roommates for the entire fall term, and roommates for the night before football games.

There is a higher degree of commonality of MPC scores between roommates.

11. There is no significant commonality of LPC and ASo scores within the subsets of: two sets of identical twins; the three quarterbacks; and, the two team captains.

#### Group Atmosphere Score (GAS)

12. There was little correlation (Pearson  $r$ ) between GAS and MPC, LPC, ASo and other variables.
13. The coaches' pre-season GAS perceptions are a reasonably accurate portrayal of the player GAS mean, although slightly higher than the player mean. This relationship is true for each of the ten individual GAS items.
14. The coaches' GAS mean declined significantly from pre-season to post-season.
15. The players' GAS means, when evaluated in terms of their responsible assistant coach in spring practice, indicated a clustering of the highest and lowest score rankings for the GAS items among three coaches. Such clusters do not appear to be consistent with the model's interpretation of these coaches' leadership style in terms of LPC or ASo scores. The rankings appear to relate more closely to the behavioral styles identified in terms of B-M rankings.
16. There is no statistically significant relationship between the consideration of assistant coaches and the GAS mean of the players for whom they are responsible. And this result is not changed by considering the influence of the assistant coach

with superiors.

17. There is no statistically significant difference in GAS means of players based upon race.
18. The GAS scores of 4 of the 5 designated player leaders is higher than the GAS mean for the 81 players.

#### Other Components of the Fiedler Model

19. The head coach has high position power; and the assistant coaches have high position power, but less than the head coach.
20. The degree of task structure is high.
21. Based upon the GAS, position power, and task structure components, the team is unequivocally positioned in Octant I of the model for pre-season. It probably can be positioned in this Octant for at least the first six weeks of the study.
22. Based upon the major decline in post-season GAS and the period of feedback concerning non-achievement of organization goals, the team may be repositioned into Octant V of the model for the last seven weeks of the season. There is no change in position power or task structure during this period.
23. Performance results in achieving organizational goals as a function of model components, do not appear to support model predictions for the Octant I case. Results for the Octant V case are more ambiguous, but generally do not appear to support model predictions.
24. An artificially constructed longitudinal analysis of the model for the team, 1954-1969, does not appear to support model predictions.

## Blake-Mouton (B-M)

25. The coaches' B-M shifted from a 6,5 to a 6,4 (rounded) grid position from pre-season to post-season, an increase in "task" and a decrease in "consideration" orientation.
26. The defensive coach subgroup has more clearly agreed B-M types than the offensive coach subgroup; three defensive coaches have a high task-low consideration (9,1) orientation.
27. The head coach's perceptions of the B-M behavior of his subordinates do not differ notably from the perceptions of the other assistant coaches (in cases where there is substantial agreement among the assistant coaches). Where the head coach's perceptions are different, they concern only the level of "consideration," but there is no consistency to the direction of disagreement.
28. There is close agreement among the offensive and defensive assistants in the B-M typologies on all except two new members of the coaching staff. Both pre-season and post-season there is no major difference in the group self-perceptions and the perceptions of the other group between the offensive and defensive assistants. In both cases the offense see themselves as somewhat more consideration-oriented than they are perceived by the defense; and the defense see themselves as somewhat more task-oriented than the offense perceives them. The author concurs with the consensus that the offense is higher in consideration and lower in task than the defense.

## Comparison of Different Measures

29. There is no statistically significant relationship (at the .05 level) between the B-M, IPS, and LPC measures for the coaches. The "middle range" of LPC and ASo scores encompasses the full range of B-M typologies.
30. The preponderance of the coaches' observed behavior over time and different "feedback" conditions is heavily task oriented and does not appear to support Fiedler's suggested relationships concerning differential behavior responses to an "unsatisfying situation" by "high" and "low" LPC or ASo leaders.
31. Changes in the coaches' LPC and ASo scores from pre-season to post-season indicate decreasing task and increasing consideration orientation, however, changes in their behavior over the same time period, according to B-M measures, indicates an opposite movement toward increasing task and decreasing consideration.
32. The Spearman rho indicates almost a total lack of relationship between the mean B-M task level of the head coach as perceived by his assistant coaches over the years and the team's winning percentage.

## Directionality

33. The head coach suggests that changes in socialization of players has contributed to a higher degree of consideration (off-field) by the coaches.
34. The head coach suggests that he strives for a balance of task and consideration orientations among staff members.
35. An artificially constructed LPC and ASo mean for the coaching staff, 1954-1969, indicates a trend of decreasing task

- orientation which is unrelated to organizational success.
36. An artificial reconstruction of the head coach's most typical B-M style based upon the perceptions of his assistant coaches, for 1954-1969, indicates a trend of decreased "task" orientation with no decline in a reasonably high level of "consideration." He approximates the B-M 9,9 "ideal."
  37. For the 1969 season, the offensive and defensive assistant coach subgroups both move in the direction of higher "task" and lower "consideration" from pre-season to post-season according to B-M scores. This movement is counter to that of the head coach who maintains his level of "consideration" and is perceived to move in the direction of "lower" task. These movements are counter to the direction of the changes in LPC and ASo scores which generally reflect decreasing task orientation.

#### Biographical Data

38. The coaches have a high degree of commonality in terms of biographical characteristics both within their group and with the player group.
39. The coaches have many points of biographical commonality with their professional counterparts within their athletic conference. The major areas of difference for the coaches studied are: they represent a higher proportion of alumni (all of whom played under, and were selected by the head coach); and, they have the highest proportion of members whose college playing experience was as linemen.

40. The only major changes in biographical characteristics of the staff during the tenure of the current head coach are: an increase in the proportion of alumni on the staff and a slight increase in the mean age of the staff.



## FOOTNOTES

### Chapter VI

1. Fred E. Fiedler, A Theory of Leadership Effectiveness (New York: McGraw-Hill, 1967), p. 48.
2. Ibid., p. 43.
3. Donald C. Pelz, "Leadership within a Hierarchical Organization," The Journal of Social Issues, Vol. VII, Number 3, 1951, pp. 49-55.
4. Gordon L. Wise, Schedule Power Ratings (Dayton, Ohio: Wright State University, 1965-1969).

## CHAPTER VII

### DISCUSSION

#### Introduction

This chapter will attempt to integrate the findings developed in Chapters V and VI. The initial phase of the discussion emphasizes the basic Fiedler model and the findings in terms of its components and predictions. The next phase considers the major model improvement findings. And the final part suggests problems associated with the findings and possibilities for further research.

Unexpected developments affected this study, as is common in field research. For example, richer behavioral observations were developed than probably would have been the case if the season studied had been successful as the author and organization members had anticipated. However, this advantage was counterbalanced by the denial of accession to player perceptions of the leadership behavior by their responsible assistant coaches; which information was contemplated in the initially approved research design. Such data would have provided a valuable additional check-point in conceptual space. Additionally, throughout the field study, the author operated with a research stance of model improvement, and acceptance of the validity of the model. Only in the later stages of analysis of findings did he begin to seriously question the model's validity.

#### The Fiedler Model

Although this study provides interesting findings, it appears

to generate more questions than answers. Fiedler's contingency model provides two general hypotheses. The first predicts the direction and level of group effectiveness in terms of the specific model octants. The second, and weaker hypothesis merely states that the task-oriented leaders will perform more effectively under very favorable and very unfavorable conditions, while the relationship-oriented leaders will perform more effectively under conditions intermediate in favorableness.<sup>1</sup> This field study does not appear to support either hypothesis in terms of strict construction of the basic model, or attempts at improving and expanding the model.

Considering the single leader, the head coach, the pre-season LPC and ASo scores (36 and 23.11 respectively) are unequivocally in the range of leadership style scores defined as "task-oriented." The leader's position power is adjudged to be very high, with a high level of inter-rater agreement. Task structure is also considered to be extremely high reinforcing the high position power. Such evaluation is based upon the "non-participative management" approach and the major dimensions of task structure used within the model. The single leader's perceived GAS was a maximum 80 pre-season. This configuration of situational favorableness for leader influence clearly places the team in model Octant I which predicts group effectiveness related to leader LPC of  $-.52$ ; and that a task-oriented leader will perform most effectively in such very favorable conditions. But in terms of the superordinate goal of winning, the team's performance was  $.400$ , certainly unsuccessful.

Assuming the model's validity, and that other intervening variables are not necessary for interpretation and prediction, the only

apparent explanation of non-support of the hypotheses requires an expansion of the model. Specifically, with the addition of "feedback" on performance in terms of game losses, the leader's GAS perception declined to 45, an intermediate score which the author interprets as "moderate" leader-member relations. Since there was no change in either task structure or leader position power this would redefine the model Octant to be V, where there is a median correlation of .42 between leader LPC and group performance. Assuming the stability of the "low" leader LPC, conditions would then appear to support the weaker hypothesis that the task-oriented leader would be less effective in such a condition of intermediate favorability for the leader. But in fact, the leader's LPC changed over time to 66 (with a comparable decline in ASo to 15.00); thus, the leader moved to an undefined middle range ASo and an LPC score at the cutting edge to "high"--consideration oriented; and, is no longer defined as task-oriented in terms of the model. Further, this considerably higher LPC score supports a higher level of group performance in terms of model predictions, but this did not occur. Of lesser importance, is another example of nonsupport of the model's hypothesized behavioral actions; Fiedler comments that both types of leaders (high and low LPC) should react to a need-threatening (unfavorable) group situation by intensifying the kinds of behavior which will result in need gratification. "The low LPC leader should react by becoming more concerned with task-relevant aspects of the interaction so that he can experience the feeling of having done a good job."<sup>2</sup> But the author's extensive observations of the leader's behavior during a period where the group situation became increasingly unfavorable -- performance feedback of losses in contrast to a high "level of expectations" and a perceived major decline in GAS --

indicated that the head coach maintained a constant level of task-oriented behavior; comparable to that in a favorable feedback and perceived GAS period.

The apparent non-support of the model was not accepted based upon the foregoing evidence. The author more extensively evaluated the model on an attempted "model improvement" basis. First, following the suggestion of Gouldner, he evaluated the model in terms of the total leadership group, all of the coaches. The LPC and ASo mean of this leadership group was substituted for that of the single leader, the head coach. Position power and task structure remained high. This led to ambiguous results since the means fell in the middle ranges undefined in terms of leadership style by the model, but pre-season 3 of the coaches were unequivocally within the range of "low" LPC scores and 3 were "high". Post-season there were 1 "low" and 5 "high". Thus, the leadership group stability was not consistent with the model parameters. Further, the post-season mean, on the lower boundary of "high" LPC, does not support the model predictions for Octant V any better than the results previously discussed in the case of the single leader, the head coach. Second, since there still did not appear to be support for the model's hypotheses, the author was concerned about the limitations of his case study, a sample of one, with possible contaminating intervening variables. Consequently, an artificial longitudinal analysis was attempted by computing the LPC means of the leadership group for the 1954-1969 seasons. The retrospective projection of the currently gathered LPC scores was considered justified based upon the model's assumption that these leadership style scores are essentially constant. The correlation (Pearson  $r$ ) of these leadership group LPC scores with the group performance (winning

percentage) yielded a correlation of .006. Here again, the results provided no support for the model's hypotheses. All components of the model plausibly could be considered constant over the period except for GAS. When interviewed concerning the variability of his perception of GAS over this period, the head coach commented that pre-season GAS generally was high. Further he stated that GAS remained relatively high throughout the season irrespective of the degree of team success. His evaluation was corroborated by an assistant coach for 13 of these 16 years. Thus, the artificially constructed test did not support the model's predicted relationships for Octant I (the same result obtained considering the head coach only). Explanations of such evidential non-support of the model have to consider variables exogenous to the model.

A recent review of Fiedler's contingency model by Graen, and associates, concludes that analysis of supporting research evidence and methodology, "...casts grave doubt on the plausibility of the contingency model of leadership effectiveness."<sup>3</sup> Methodological criticisms specified in this analysis include: (1) assessment of GAS after the group has completed the task, allows for contamination of GAS with performance; (2) dichotomization at the median within each cell of the design (nesting) resulting in the all-important GAS dimension having as many potentially different cutting points as one has cells; (3) lack of consideration of variables exogenous to the model; (4) interpreting results as supporting the main hypothesis of the model even though the results are not statistically significant; (5) insulation of "the model from the possible correcting influences of disconfirming empirical results by trapping the theorist within the data-proof confines of his model ... The theorist can change the model only by expanding it to include more variables; however, he is usually not in a position to doubt

the essence of the central model." (underlining added by author for emphasis). This article concludes:

Though the antecedent probability for this model appeared to be greater than zero, the evidence reported in this paper indicates that the evidential probability for this model approaches zero.<sup>4</sup>

#### Extension of the Fiedler Model

MPC, LPC, ASo

Having discussed the basic model on a macro basis, the extended model is considered including micro analysis of its two most important elements, the leadership style measures and the GAS. In this study, notwithstanding Fiedler's suggestion that the LPC and ASo measures of leadership style are essentially interchangeable, both scores were developed. Similar to Fiedler's findings, no high correlations were found with any other variables. The Pearson  $r$ 's indicated the suggested high level of negative correlation between LPC and ASo scores. Also, the overall LPC means and LPC "high" and "low" means and ranges developed in this study were comparable to those reported by Fiedler. But the pre-season and post-season testing of the leadership group did not fully support the hypothesis that these leadership style measures (underlying personality need structure) are relatively constant over time. Evaluation of mean scores indicated greater stability than analysis of individual change scores revealed. Two coaches, including the head coach, had major changes in their LPC and ASo scores; and, two other coaches had large changes in their ASo scores. Instability was particularly evident in shifts of typologies. There was a shift from 3 "high" and 3 "low" LPC's pre-season to 5 "highs" and 1 "low" post-season. Also,

there was an ASo change from 2 "high" and 2 "low" pre-season to 1 of each typology post-season. The relationship of these typologies does not appear to be consistent with the apparently high correlation between LPC and ASo.

Another perplexing problem in dealing with the Fiedler model is the finding that among experienced leaders, Groups 2 and 3, a large proportion of LPC and ASo scores are in the middle range which is behaviorally undefined by Fiedler. The author was unsuccessful in his statistical attempts to sharpen the definitional ranges of the category limits. Alternatively, the author analyzed the marking patterns of the experienced leaders on the MPC and LPC. The findings from this analysis did not appear to support Fiedler's hypothesized relationships. The stability of the entry patterns varied much more than is consistent with the posited stability of the personality measures, although the difference in LPC markings considerably exceeded the differences in the MPC markings. Further, there was no consistency of marking pattern for the LPC by leader typology, but there was an almost universal use of extreme poles on the MPC by all typologies. Notwithstanding the predominant extreme markings in the MPC, the majority of ASo scores were in the middle, behaviorally undefined range. This is interesting since the scoring system for developing the ASo D-score is one that statistically gives disproportional effect to the more extreme cells in contrast to the middle cells by the squaring process, and the use of the square root which does not proportionately reduce this effect. The problems described concerning LPC and ASo leadership style definitions, and additional findings from other test measures used in the study, raise fundamental questions concerning the validity of these tests. Specifically, the



author questions whether the model is built upon a primary component which is dependent upon internal mathematical operations and is not necessarily related to the leadership style/behavior it purports to measure. Related to this issue, Steiner and McDiarmid have reported research which indicates that leaders with identical ASo scores, as measured by the D-score, may be quite different personality types.<sup>5</sup>

O'Brien comments that Fiedler's research has concentrated primarily on small groups and has dealt with a limited number of the variables known to affect organizational development. He suggests that the personality structures of the workers exemplifies one set of problems which Fiedler has not investigated.<sup>6</sup> This study investigated the personality structures of all the players in terms of the leadership style dimension (LPC, ASo) and found their means and distributions to be notably similar to those of the coaches. This could possibly enhance the favorability of the climate for the leaders, and could have contributed to the player's high GAS scores. Additionally, analysis of selection of roommates by players indicated no significant relationship to the primary LPC and ASo measures, but a higher commonality of MPC scores.

#### Group Atmosphere Score (GAS)

Before coming to more definitive conclusions it is important to consider the environmental element considered most important in the model, the GAS. This was a major area of attempted model improvement and addressed itself to one of Fiedler's specific suggestions for further research, i.e., "to what extent is the leader's perception of GAS based on the reality of the situation?" The author found that the head

coach, and total leadership group, perception of GAS was quite realistic, although a little high, in comparison to the GAS mean of the players pre-season. Unfortunately, this comparison was not possible post-season due to redirection of the planned research design by the head coach. But the author considers it plausible to assume that a comparable decrease in GAS would have been reported by the players based upon non-success versus their extremely high "level of expectations" and his observations of behavioral interactions over the season. The GAS analysis was extended to the major functional leadership subgroups, the offense and defense. Differences were found, although not major ones like those found in terms of LPC and ASo scores. Also, important levels of difference occurred between the individual GAS items. The author concludes from the GAS findings that there was a positive relationship between the decline of perceived GAS and the shift of LPC and ASo scores in the direction of lower task orientation. In terms of the directionality issue, this could be construed as a reaction by the coaches to the significant decline in GAS over time. More important, since there was little significant difference between perceived and actual GAS, and thus the degree of situational favorability, this cannot account for the failure of the findings in this study to support model hypotheses. As earlier mentioned, the model was expanded in the GAS area by securing GAS measures from all leaders and followers. Whether the post-season GAS measurement allows for contamination of GAS with group performance, is a moot question. But the author suggests that the pre-season GAS measure was certainly uncontaminated by prior team performance unless an exotic interpretation such as a mass "cognitive dissonance" response is suggested as an explanation.

The major decline in GAS, presumably related to the failure to approach the high "level of expectations," although subject to Graen's contamination criticism, seems to justify the dichotomization of the season into two different model octants, I and V; a procedure not encompassed in the basic model. The later change of octant is considered responsive to Fiedler's suggestion that further research should be conducted concerning the favorableness of the group situation in relation to the degree to which the group and leader receive feedback on their performance. In this study, such feedback was prompt and unambiguous.

There was little correlation between GAS and the other test measures or other variables studied. Also, GAS means of players assigned to particular assistant coaches did not logically relate to the degree of consideration of the assistant coach or assistant coach influence with superiors, as Pelz' research suggests. This finding may relate to research by Graham which indicates that high-LPC leaders, despite their primary human relations orientation, were not evaluated more favorably than low-LPC leaders. Graham speculates: "that high and low-LPC leaders are evaluated not on the basis of their primary orientations but, instead, on the basis of how well they carry out their particular leadership styles."<sup>7</sup>

There was no significant difference in GAS means by race. This result may be explained by Rokeach's finding that similar beliefs, including organizational goals, will take precedence over racial and ethnic factors.<sup>8</sup>

## Task

The task component of the Fiedler model has been questioned by Shaw and Blum.<sup>9</sup> They question ex post facto interpretation (comparable to Graen's criticism) and the operationality of inferring leadership behavior from personality scores. But most important, they suggest that based upon their research, the task variable is ambiguously related to the favorability continuum postulated by Fiedler. They argue for further analysis of specific task dimensions since their findings in laboratory experiments "indicated that the directive leader was more effective than the non-directive leader only when the group-task situation was highly favorable for the leader."<sup>10</sup>

## Complementary Leadership Style

According to Fiedler:

The executive at the level above that of the first-line supervisor can exert control in at least two ways. He can select subordinates who will perform their leadership and supervisory functions in accordance with his implicit or explicit expectations; or he can influence by his own style of leadership the leadership style and administrative behavior of his subordinate supervisors. Both of these modes of exerting influence may play a part.<sup>11</sup>

The head coach in this study uses both modes of exerting influence. He has selected all of his assistants in accordance with the criteria previously enumerated including an emphasis upon personal loyalty. Further, he expects and readily accommodates a balance of relatively higher task or consideration leadership styles among his subordinates. This is possibly easier for him, since he personally approaches the ideal of simultaneous high task and high consideration, than it would be for a leader who was either high task or high consideration in his predominant style.

## Directionality

The artificial reconstruction of the coaching staff mean leadership styles for 1954-1969, in terms of LPC, ASo, and B-M measures indicates a definite trend of decreasing task, and increasing consideration orientation. This apparently relates to the head coach's evaluation of changing socialization processes wherein the players have been progressively conditioned to take a more questioning stance toward authority; and, consciously, or subconsciously could have affected his selection of assistants as well as his modelling leadership influence for his assistants. However, over the season studied, there was a movement of the coaches in terms of LPC and ASo measures reflecting increasing consideration and decreasing task orientation. This could be interpreted as leadership responding to the situation (a major decline in GAS). But, the B-M measures indicate a diametrically opposite movement which would relate more closely to Fiedler's suggestion that "high" task leaders will react by increased task behavior to unsatisfying situations. The issue then is which instrument is a more valid measure of the leadership style-behavior and the findings do not support a conclusive determination. Both instruments have test-retest reliabilities in excess of .5, with the LPC and ASo reliabilities somewhat higher. The B-M measures indicated higher relationships with the IPS measures, for consideration, but not for task.

Considering both the long run and single season cases, the evidence would appear to support a directionality effect from feedback of organization results to changes in leadership style. Taken in conjunction with the head coach's selection philosophy and his leadership modelling for his assistants, there appear to be examples of both

types of directionality in terms of leadership cause-and-effect and organizational results. The .60 Pearson  $r$  between coaches' ASo and GAS change scores from pre-season to post-season resulted from a negative shift in both scores. This implies a possible conscious or subconscious adjustment in the direction decreased task orientation by the coaches resulting from a perceived decline in GAS (and leadership favorability).

#### Comparison of Different Test Measures

In describing his theory, Fiedler emphasized: "important leadership behaviors of the same individual differ from situation to situation, while the need-structure which motivates these behaviors may be seen as constant."<sup>12</sup> The findings of this study indicate that there was greater stability of behavior over the season, as measured by B-M typology and the IPS observation codings than the LPC and ASo (leadership need structure) typologies.

The results of this study are apparently ambiguous and inconsistent in terms of the relationship of the B-M and IPS to the LPC, ASo, and GAS measures and to team effectiveness. This relates to the findings from a review of relevant literature by Lowin and associates, which concluded:

There appears to be much evidence that consideration and initiating structure can each correlate positively and negatively (depending on other variables), and only weakly if at all with effectiveness and morale indices. There seems to be no apparent preponderance of any of these kinds of findings.<sup>13</sup>

This ambiguity of findings is precisely why the author considered Fiedler's model deserved investigation in an attempt to clarify the complex leadership relationships.

In his leadership study which used both MPC, LPC, and ASo instruments, in addition to an eighteen item "Leadership Opinion Questionnaire" as a measure of "initiating structure" and "consideration," Bons reported that the intercorrelations between these measures approach zero in most cases and are in no cases significant. Bons also reported that correlations between change scores for these two sets of variables are in the vicinity of zero.<sup>14</sup> Although the intercorrelations of B-M and IPS measures of "initiating structure" and "consideration" with LPC scores in the present study are not statistically significant at the .05 level, they ranged from  $-.32$  to  $.63$ .

The behavior of the coaches differed from laboratory study groups. The coaches exhibited a much higher level of task interactions and comparable lesser level of socio-emotional positive interactions than laboratory groups. This pattern of the coaches was consistent in both "satisfying" and "dissatisfying" conditions and appears to follow logically from their greater experience and maturity as leaders as well as the continuous organizational fabric of their operation in contrast to the ad hoc nature of the laboratory groups. Again, based upon the continuity and clearly established hierarchical arrangements within the team studied, there was a rho of  $.83$  (significant at the .01 level) between interaction frequency and formal organizational status. The foregoing is typical of findings throughout the study that raise serious questions concerning the validity of generalizing laboratory study findings concerning leadership to "real-life" organizations.

The behavioral responses of the offensive and defensive assistant coach subgroups, although both highly task-oriented, differed

throughout the season with the defensive group indicating lower "consideration" behavior for both B-M and IPS measures. Analysis of behavioral patterns by week indicate that two games were definite "turning points"; and, both were followed by increased negative socio-emotional response.

#### Problems and Possibilities for Future Research

Although the Fiedler model may not be valid, and evidential results of the field study and much broader analysis by Graen do not support its basic hypotheses, methodological problems in this study possibly contributed to the results. The following listing briefly enumerates some problems and suggestions for future research:

1. Inattentiveness to, and/or non-compliance with, instructions by the subjects may have affected the test instrument results. This did not appear to be the case based upon the level of test-retest reliability. Further, there did not appear to be any significant response set bias by the subjects according to an analysis of cell marking patterns.
2. The IPS system used may have been an inadequate vehicle for recording the observed leadership behaviors. The problem of non-differentiation of the strength of interactions is recognized, but the author is not aware of a superior coding system for this purpose. Further, there appeared to be no problem of observer influence on the subjects being observed since they were seen in their usual roles in a very dynamic setting which minimized the presence of the observer. However, the size and representativeness of the sample of behavioral observations may have been inadequate. Restriction from attending the coaches' nighttime planning and evaluation meetings eliminated an important area of interactions; and, physical separation of subjects at other observation



sites further limited observation sampling.

3. The B-M instrument has not been validated for the purpose for which it was used in this study and also may not be sufficiently discriminating. An alternative validated instrument (providing a broad base of comparative data) for measuring leader behavior should be considered for use in any replicatory studies. An example of such instrument is the Ohio State Leadership Behavior Description Questionnaire (Form XII). Behavioral perceptions of the leaders has been limited to those of superiors and peers and does not necessarily represent the perceptions of the player subordinates -- as other studies have indicated. Although the author's observations generally appeared to support these judgments, it would be definitely appropriate to gather player ratings of the leadership behavior of superiors in replicatory studies. The data gathered in this study should not be disregarded in this area since research has indicated that peer ratings appear to be a good measure of all areas of leadership, whereas self-ratings (which were eliminated in the data analyzed in this study) were not found to be a good measure of overall leadership.<sup>15</sup>
4. The GAS may not be the most meaningful instrument for measuring group atmosphere and other instruments should be evaluated for expanded or replicatory studies. Examples of alternative instruments include: The Ohio State Group Dimensions Description Questionnaire;<sup>16</sup> the Litwin and Stringer Revised Climate Questionnaire (Form B);<sup>17</sup> and, the Gerson and Aderman Company Climate Index.<sup>18</sup>
5. Reliance upon the memory of coaches in describing team GAS in prior years is highly questionable in terms of the artificial historical testing of the model. An obviously superior approach would be an extension of this study longitudinally or replicatory studies which encompass several years.

6. Important intervening variables, exogenous to the model, may have significantly contributed to study results. Such variables include: player quality, injuries, schedule difficulty, differences between organizational functional components, and organizational dysfunctional suboptimization. Such problems would require model expansion and create problems of generalization. It should be noted, however, that there are analogues to these variables in other types of organizations such as actions by competitors, differences between functional components, recruiting and personnel turnover. But there does not appear to be a meaningful analogue for injuries, however, it is suggested that this variable has a tendency to cancel over time.

7. The LPC and ASo may not meaningfully measure leadership style and behavior as they purport to do; and, the behavioral measures used in this study may have been more reasonable approximations of leadership behavior. Sample and Wilson reported as a result of laboratory experiments:

The present investigation, however, does not support the notion that the unfavorable LPC individual is generally socially distant and unfriendly. The study reveals no difference in the total amount of positive socio-emotional behavior between favorable and unfavorable LPC individuals, nor was any difference found in the interpersonal attraction in the groups with different types of leaders... It is not the occurrence of positive behavior which distinguished the two kinds of leaders, but the timing of this behavior.

Fiedler accommodates this matter in his hypothesis concerning differential behavioral response to satisfying and dissatisfying leadership favorability conditions, but the author's findings in this field study do not support Fiedler's hypothesis.

8. The LPC and ASo measures do not appear to be operationally interchangeable, particularly in terms of typologies of leadership style.

The large middle range is behaviorally undefined and seriously limits model predictions. Also, the model does not define or accommodate B-M 9:9, 5:5, or 1:1 styles in its approach of polar extremes (the leader in this study approached the 9:9 style and other coaches most closely approximated 5:5). Further studies should consider both LPC and ASo measures and include analysis along the lines suggested by Steiner and McDiarmid, in attempting to sharpen behavioral definitions.

9. Although it may be argued that the model is not meant to be applied to total organizations because of complications introduced by their open system interactions, the author suggests that open system influences are also important in small groups in on-going organizations.

## FOOTNOTES

### CHAPTER VII

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19. John A. Sample and Thurlow R. Wilson, "Leader Behavior, Group Productivity, and Rating of Least Preferred Co-worker," Journal of Personality and Social Psychology, Vol. 1, No. 3, 1965, pp. 266-270.

## CHAPTER VIII

### SUMMARY AND RECOMMENDATIONS

#### Final Results

This field study was designed to investigate and expand upon the Fiedler contingency model of leadership effectiveness. The subjects were members of a major university football team which has been successful during the tenure of the current head coach. All coaches and players for the 1969 season were studied. Also, test instruments were completed by former assistants to the current head coach (1954-1968). In addition to the Fiedler model measures of MPC, LPC, ASo, and GAS being administered to all coaches pre-season and post-season, leadership behavior was triangulated with B-M leadership style instruments and 13 weeks of observation using the Borgatta-Crowther IPS behavioral coding system. The leadership dichotomy of "initiating structure" and "consideration" is emphasized by all basic leadership test measures. Additionally, information was gathered including biographical, sociometric, and pre-season "level of expectancy" data and independent measures of leader position power.

Based upon the Fiedler measures which indicated highly favorable pre-season group atmosphere, combined with high task structure and high position power, the team was "nested" in model Octant I. The model postulates a strong relationship between a "high" task leader and group success in this octant. But the organizational results did not support this prediction for either the head coach or the total leadership group.

Further, considering feedback of negative results (losing six of the last eight games), a reevaluation of the model based upon Octant V (only moderate GAS) still did not support the model hypotheses. Artificial testing of the model over a sixteen year period for the team studied, using both LPC and B-M data, did not support model hypotheses in terms of either the head coach or the total leadership group. It appears that variables exogenous to the model must also be considered in explaining results. Examples of such variables are schedule difficulty and injuries. Quality of player talent is not considered to be a differentiating factor over time. There has been a trend of somewhat increased schedule difficulty, but this does not fully explain results which do not support the model hypotheses. In the season studied, injuries appear to be a variable that significantly affected organizational results, but this variable tends to factor out in longitudinal analysis.

In attempting to expand upon the Fiedler model, the author considered three problems suggested by Fiedler. First, it was determined that the head coach and total leadership group perceived the team GAS with reasonable accuracy. Thus, this factor does not account for anomalous findings. Second, it was attempted to clarify the behavioral meaning of middle range LPC and ASo test scores, but the results were inconclusive. This area must be emphasized in further research because a large proportion of leader scores fall in the undefined middle range. Also, it appears that the three typology ranges of LPC and ASo scores may encompass B-M 9,9 and 5,5 types of balanced leadership style in addition to styles predominantly oriented to either task or consideration. Third, this study permitted evaluation of changes in behavior of differing LPC and ASo types based upon changes in the situation, including immediate

feedback to the leader and group concerning their performance. But neither the team results or differential behavior of individual types appeared to support model predictions.

Several problems appeared relating to the model's major test instruments. First, the postulated stability of leadership style over time was not supported in terms of the "low," "middle," and "high" typologies. Second, the relationship between LPC and ASo was not supported on the basis of commonality of typology for the same subject. Third, the relationships of LPC and ASo, when compared with two independent measures of leadership behavior which presumably relate to the same factors, were not statistically significant.

Several additional areas of analysis were developed. There was an apparent balancing of the total leadership group in terms of the task and consideration orientation of the assistant coaches. Also, major differences in leadership style were found between the two major functional subgroups, the offensive and defensive assistants. Evidence of directionality indicated a possible long run movement toward declining task and increasing consideration orientation of the leadership group in terms of LPC and ASo measures. This may relate in part to the evolution of a more questioning attitude toward authority by the players. For the 1969 season the directionality effects were ambiguous because the different test measures did not yield consistent findings.

Subsequent to completion of the study the author became aware of a recent study, in press, which reviewed and analyzed reported evidence concerning the Fiedler contingency model and seriously questioned the plausibility of the model.



### Limitations of the Study

Although the findings of the present study raise some important questions about the validity of the Fiedler model, and provide some interesting insights concerning leadership theory, the following limitations to the study should be considered.

1. A field study of such an organization lacks important controls, especially the effects of "open system" interactions with the larger organization, the university; and the total external environment outside of the university. Interjection of such uncontrolled external variables contributes to residual uncertainties.
2. Comparing the results of this field study of a complex organization with other studies involving the Fiedler model presents problems. Most of these other studies have been conducted in the context of small group research and many emphasized laboratory experiments; hence these studies differ significantly from the present one.
3. Limitations in behavioral sampling and site limitations may have contributed to unrepresentative behavioral data.
4. The B-M questionnaire may not have been a valid comparative behavioral measure.
5. Interpretation of changes in test scores such as LPC is constrained by statistical regression to the mean whereby a subject already having a low score on LPC has much less chance of decreasing his score than a subject with a high score.
6. Generalization of findings to other types of organizations may be limited by the unique organizational and motivational factors of a university football team.

### Recommendations for Future Research

Notwithstanding the many questions that have been raised concerning the validity of the Fiedler model, findings from a single field study such as this certainly are not conclusive. The author believes that the need for advancing knowledge concerning the complex leadership effectiveness phenomena is so critical that continuation and/or replication of this study is warranted. If such research is undertaken the author still believes that a university football team provides a uniquely valuable context for such research. For improved research, the author suggests consideration of alternative leadership behavior and group atmosphere measures. It also appears desirable to have at least two research observers to enhance the scope of behavioral sampling and to include coaches' meetings. Again, it is emphasized that all test instruments should be administered to coaches and players both pre-season and post-season. Ideally, follow-on studies would continue for several years and comparative studies could be done comparing leaders of successful and unsuccessful teams (with as comparable factors as possible) and head coaches with significantly different leadership styles. The head coach in this study stated that he was not certain at this time if he would permit follow-on research of his team. The author believes that the United States military academies, which previously have participated in psychological leadership research, athletic and non-athletic, would be desirable sites for such research. Qualified faculty members of these academies could accomplish the suggested research with minimum expense and ease of acceptance by the subjects. Also, it would be possible to accomplish periodic follow-up studies of cadets or midshipmen during later stages of their careers.

**Confidential**

Very								Not
Neat:	8	7	6	5	4	3	2	1
	Very	Quite	Some-	Slightly	Slightly	Some-	Quite	Very
	Neat	Neat	what	Neat	Untidy	what	Untidy	Untidy
			Neat			Untidy		

APPENDIX A--Continued

If you would think of him as being very untidy, you would use the space nearest the words Not Neat.

Very								Not
Neat:	:	:	:	:	:	:	:	X :Neat
8	7	6	5	4	3	2	1	
Very	Quite	Some-	Slightly	Slightly	Some-	Quite	Very	
Neat	Neat	what	Neat	Untidy	what	Untidy	Untidy	
		Neat			Untidy			

Look at the words at both ends of the line before you put in your "X". Please remember that there are no right or wrong answers. Work rapidly; your first answer is likely to be the best. Please do not omit any items, and mark each item only once.

APPENDIX A--Continued

## MPC

Think of the person with whom you can work best. He may be someone you work with now, or he may be someone you knew in the past.

He should not necessarily be the person you like best, but should be the person with whom you have been able to work best. Describe this person as he appears to you.

Pleasant	:__ :__ :__ :__ :__ :__ :__ :	Unpleasant
Friendly	:__ :__ :__ :__ :__ :__ :__ :	Unfriendly
Rejecting	:__ :__ :__ :__ :__ :__ :__ :	Accepting
Helpful	:__ :__ :__ :__ :__ :__ :__ :	Frustrating
Unenthusiastic	:__ :__ :__ :__ :__ :__ :__ :	Enthusiastic
Tense	:__ :__ :__ :__ :__ :__ :__ :	Relaxed
Distant	:__ :__ :__ :__ :__ :__ :__ :	Close
Cold	:__ :__ :__ :__ :__ :__ :__ :	Warm
Cooperative	:__ :__ :__ :__ :__ :__ :__ :	Uncooperative
Supportive	:__ :__ :__ :__ :__ :__ :__ :	Hostile
Boring	:__ :__ :__ :__ :__ :__ :__ :	Interesting
Quarrelsome	:__ :__ :__ :__ :__ :__ :__ :	Harmonious
Self-Assured	:__ :__ :__ :__ :__ :__ :__ :	Hesitant
Efficient	:__ :__ :__ :__ :__ :__ :__ :	Inefficient
Gloomy	:__ :__ :__ :__ :__ :__ :__ :	Cheerful
Open	:__ :__ :__ :__ :__ :__ :__ :	Guarded

APPENDIX A--Continued

## LPC

Now, think of the person with whom you can work least well. He may be someone you work with now, or he may be someone you knew in the past.

He does not have to be the person you like least well, but should be the person with whom you had the most difficulty in getting a job done. Describe this person as he appears to you.

Pleasant	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Unpleasant
Friendly	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Unfriendly
Rejecting	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Accepting
Helpful	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Frustrating
Unenthusiastic	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Enthusiastic
Tense	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Relaxed
Distant	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Close
Cold	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Warm
Cooperative	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Uncooperative
Supportive	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Hostile
Boring	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Interesting
Quarrelsome	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Harmonious
Self-Assured	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Hesitant
Efficient	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Inefficient
Gloomy	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Cheerful
Open	: ____ : ____ : ____ : ____ : ____ : ____ : ____ :	Guarded

## APPENDIX B

COVER LETTERS TO RESEARCH SUBJECTS

(Return Address)

August 21, 1969

Dear (first name):

As a continuation of major leadership studies in the United States, Lt. Colonel Charles J. Coen, U. S. Air Force, is studying the leadership of the (deleted) University football team. He is doing this research in partial fulfillment of the requirements for a Ph.D. degree at Michigan State University.

I believe that the results of this study should be helpful to our coaching staff and will also provide a valuable addition to leadership theory.

Soon you will receive some questionnaires from Colonel Coen. This is the only way certain important information required in the study can be secured. Although I know you are busy, I would appreciate it if you would complete and return these questionnaires to him promptly.

I have been assured by Colonel Coen that your replies will be held in the strictest confidence. They will be seen only by him and not by any member of the football coaching staff or any other member of the university.

Your support of this valuable research will be greatly appreciated.

Cordially,

(informally signed)

(name deleted)

Head Football Coach

APPENDIX B--ContinuedLETTER TO PLAYERS

LEADERSHIP STUDY  
Michigan State University  
Graduate School of Business Administration

August 22, 1969

Dear (first name)

As Coach (deleted) has informed you, I am studying the leadership of the (deleted) University football team. Learning more about leadership in formal organizations is becoming increasingly important. The (deleted) football team, a successful organization, provides an excellent model for a study of organizational leadership and the findings from this research could have valuable applications to different types of organizations.

You will be seeing me daily (usually in civvies) at practices, team meetings, etc., just observing what is happening. Please know that I am ... not a spy or scout.

Enclosed are some questionnaires that I hope you will complete and return to me. I realize I am asking you to donate some of your time, but this is the only way I can secure certain important information about you and your beliefs. To minimize your time in answering, all questions are of a multiple choice or ranking type. These questions have no right or wrong answers--what is wanted are your beliefs. I will keep your responses completely confidential; no one else will see them. Since findings in the completed study will be in summary form, it will be impossible to associate any information with any specific person.

Thank you very much for your assistance, and I wish you the best of luck for the coming season.

Sincerely,

*Charles J. Coen*

Lt. Colonel Charles J. Coen  
2735 Hopkins Ave.  
Lansing, Michigan 48912



APPENDIX B--ContinuedLETTERS TO FORMER ASSISTANT COACHES WHO SERVED UNDER THE CURRENT  
HEAD COACH, AND ARE ACTIVE COACHES OF OTHER TEAMS AND TO  
CURRENT ASSISTANT COACHES OF THE HEAD COACH

LEADERSHIP STUDY  
Michigan State University  
Graduate School of Business Administration

August 22, 1969

Dear Coach \_\_\_\_\_:

As Coach (deleted) has informed you, I am studying the leadership of the (deleted) University football team. Learning more about leadership in formal organizations is becoming increasingly important. The (university) football team, a successful organization, provides an excellent model for a study of organizational leadership and the findings from this research could have valuable applications to different types of organizations.

Enclosed are some questionnaires that I hope you will complete and return to me. I realize I am asking you to donate some of your time, but this is the only way I can secure certain important information about you and your beliefs. To minimize your time in answering, all questions are of a multiple choice or ranking type. These questions have no right or wrong answers--what is wanted are your beliefs. I will keep your responses completely confidential; no one else will see them. Since findings in the completed study will be in summary form, it will be impossible to associate any information with any specific person.

Thank you very much for your assistance, and I wish you the best of luck for the coming season.

Sincerely,

*Charles J. Coen*

Lt. Colonel Charles J. Coen  
2735 Hopkins Ave.  
Lansing, Michigan 48912

APPENDIX B--ContinuedLETTER TO FORMER ASSISTANT COACHES WHO SERVED UNDER THE  
CURRENT HEAD COACH AND WHO ARE NO LONGER ACTIVE COACHES

LEADERSHIP STUDY  
Michigan State University  
Graduate School of Business Administration

August 22, 1969

Dear Mr. \_\_\_\_\_:

As Coach (deleted) has informed you, I am studying the leadership of the (name deleted) University football team. Learning more about leadership in formal organizations is becoming increasingly important. The (university) football team, a successful organization, provides an excellent model for a study of organizational leadership and the findings from this research could have valuable applications to different types of organizations.

Enclosed are some questionnaires that I hope you will complete and return to me. I realize I am asking you to donate some of your time, but this is the only way I can secure certain important information about you and your beliefs. To minimize your time in answering, all questions are of a multiple choice or ranking type. These questions have no right or wrong answers--what is wanted are your beliefs. I will keep your responses completely confidential; no one else will see them. Since findings in the completed study will be in summary form, it will be impossible to associate any information with any specific person.

Thank you very much for your assistance.

Sincerely,

*Charles J. Coen*

Lt. Colonel Charles J. Coen  
2735 Hopkins Ave.  
Lansing, Michigan 48912

## APPENDIX C

## POSITION POWER QUESTIONNAIRE

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## FIEDLER MEASURE OF POSITION POWER

Coach (deleted) with reference to (the university) football team

Please enter an X to indicate True or False for each item not deleted.

True    False

1. Compliments from the leader are appreciated more than compliments from other group members.
2. Compliments are highly valued, criticisms are considered damaging.
3. Leader can recommend punishments and rewards.
4. Leader can punish or reward members on his own accord.
5. Leader can effect (or can recommend) promotion or demotion.
6. Leader chairs or coordinates group but may or may not have other advantages, i.e., is appointed or acknowledged chairman or leader.
7. Leader's opinion is accorded considerable respect and attention.
8. Leader's special knowledge or information (and members' lack of it) permits leader to decide how task is to be done or how group is to proceed.
9. Leader cues members or instructs them on what to do.
10. Leader tells or directs members what to do or what to say.
11. Leader is expected to motivate group.
12. Leader is expected to suggest and evaluate the members' work.
13. Leader has superior or special knowledge about the job, or has special instructions but requires members to do job.

APPENDIX C--Continued

14. Leader can supervise each member's job and evaluate it or correct it.
15. (Deleted)
16. Leader enjoys special or official rank and status in real life which sets him apart from or above group members.
17. (Deleted)
18. Leader's position is dependent on members; members can replace or dispose leader.

## APPENDIX D

## GROUP ATMOSPHERE

Confidential

## Group Atmosphere Scale

Describe the atmosphere of the 1969 [university] football squad by checking the following items.

- |                 | 8      | 7      | 6      | 5      | 4      | 3      | 2      | 1      |                  |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|------------------|
| 1. Friendly     | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : Unfriendly     |
| 2. Accepting    | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : Rejecting      |
| 3. Satisfying   | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : Frustrating    |
| 4. Enthusiastic | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : Unenthusiastic |
| 5. Productive   | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : Nonproductive  |
| 6. Warm         | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : Cold           |
| 7. Cooperative  | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : Uncooperative  |
| 8. Supportive   | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : Hostile        |
| 9. Interesting  | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : Boring         |
| 10. Successful  | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : ____ | : Unsuccessful   |

## APPENDIX E

## BLAKE-MOUTON QUESTIONNAIRES

Instructions to current coaches for completing Leadership Orientation forms.\*

In the next ten Leadership Orientation forms please rank yourself and then each other member of the coaching staff. Names are indicated at the top of each form.

ConfidentialLeadership Study [university] Football Team-1969

Leadership Orientation For Coach: \_\_\_\_\_

Rank the paragraphs from MOST to LEAST typical, as a description of yourself; 1 is most typical, 2 is next most typical, and so on to 5 which is least typical of you. When you have finished ranking, there should be only one of each number from 1 to 5. There can be no ties.

- \_\_\_\_\_ a. I accept decisions of others. I go along with opinions, attitudes, and ideas of others or avoid taking sides. When conflict arises, I try to remain neutral or stay out of it. By remaining neutral, I rarely get stirred up. My humor is seen by others as rather pointless. I put out enough effort to get by.
- \_\_\_\_\_ b. I place a high value on maintaining good relations. I prefer to accept opinions, attitudes, and ideas of others rather than to push my own. I try to avoid generating conflict, but when it does appear, I try to soothe feelings and to keep people together. Because of the disturbance tensions can produce, I react in a warm and friendly way. My humor aims at maintaining friendly relations or when strains do arise, it shifts attention away from the serious side. I rarely lead but extend help.
- \_\_\_\_\_ c. I place high value on making decisions that stick. I stand up for my ideas, opinions, and attitudes, even though it sometimes results in stepping on toes. When conflict arises, I try to cut it off or to win my position. When things are not going right, I defend, resist or come back with counter arguments. My humor is hard hitting. I drive myself and others.
- \_\_\_\_\_ d. I search for workable, even though not perfect, decisions. When ideas, opinions, or attitudes different from my own appear, I initiate middle ground positions. When conflict arises, I try to be fair but firm and to get an equitable solution. Under tension, I feel unsure which way to turn or shift to avoid further pressure. My humor sells myself or a position. I seek to maintain a good steady pace.
- \_\_\_\_\_ e. I place high value on getting sound creative decisions that result in understanding and agreement. I listen for and seek out ideas, opinions, and attitudes different from my own. I have clear convictions but respond to sound ideas by changing my mind. When

APPENDIX E--Continued

conflict arises, I try to identify reasons for it and to resolve underlying causes. When aroused, I contain myself, though my impatience is visible. My humor fits the situation and gives perspective; I retain a sense of humor even under pressure. I exert vigorous effort and others join in.

\*Former assistant coaches were requested to only rank themselves and the head coach.

APPENDIX E--ContinuedConfidentialLeadership Study [university] Football Team-1969

Leadership Orientation For Coach: \_\_\_\_\_ (separate forms for each of the  
nine other coaches)

Rank the paragraphs from MOST to LEAST typical, as a description of the person you are rating; 1 is most typical, 2 is next most typical, and so on to 5 which is least typical. When you have finished ranking, there should be only one of each number from 1 to 5. There can be no ties.

- \_\_\_\_\_ a. He accepts decisions of others. He goes along with opinions, attitudes, and ideas of others or avoids taking sides. When conflict arises, he tries to remain neutral or stay out of it. By remaining neutral, he rarely gets stirred up. His humor is seen by others as rather pointless. He puts out enough effort to get by.
- \_\_\_\_\_ b. He places high value on maintaining good relations. He prefers to accept opinions, attitudes, and ideas of others rather than to push his own. He tries to avoid generating conflict, but when it does appear, he tries to soothe feelings and to keep people together. Because of the disturbance tensions can produce, he reacts in a warm and friendly way. His humor aims at maintaining friendly relations or when strains do arise, it shifts attention away from the serious side. He rarely leads but extends help.
- \_\_\_\_\_ c. He places high value on making decisions that stick. He stands up for his ideas, opinions, and attitudes, even though it sometimes results in stepping on toes. When conflict arises, he tries to cut it off or to win his position. When things are not going right, he defends, resists or comes back with counter arguments. His humor is hard hitting. He drives himself and others.
- \_\_\_\_\_ d. He searches for workable, even though not perfect, decisions. When ideas, opinions, or attitudes different from his own appear, he initiates middle ground positions. When conflict arises, he tries to be fair but firm and to get an equitable solution. Under tension, he feels unsure which way to turn or shift to avoid further pressure. His humor sells himself or a position. He seeks to maintain a good steady pace.
- \_\_\_\_\_ e. He places high value on getting sound creative decisions that result in understanding and agreement. He listens for and seeks out ideas, opinions, and attitudes different from his own. He has clear convictions but responds to sound ideas by changing his mind. When conflict arises, he tries to identify reasons for it and to resolve underlying causes. When aroused, he contains himself, though his impatience is visible. His humor fits the situation and gives perspective; he retains a sense of humor even under pressure. He exerts vigorous effort and others join in.



## APPENDIX F

## GENERAL INFORMATION QUESTIONNAIRES USED

Confidential

[University] Leadership Study

## GENERAL INFORMATION - FOOTBALL PLAYERS

Instructions: Please circle the letter of the one alternative which is most appropriate.

1. In what part of the country did you live most of the time before enrolling at [deleted]?
  - a. Northeast (New England and Middle Atlantic)
  - b. North Central (East North Central and Midwest)
  - c. South
  - d. West (Mountain and Pacific)
  - e. Outside the United States
2. The place in which you lived for the longest period of time prior to enrolling at [deleted] had a population of:
  - a. 0-2,499
  - b. 2,500-24,999
  - c. 25,000-99,999
  - d. 100,000-999,999
  - e. 1,000,000 and greater
3. What is your current marital status?
  - a. Single
  - b. Married
  - c. Divorced
4. What is your religious preference?
  - a. Protestant
  - b. Catholic
  - c. Jewish
  - d. Other
  - e. No preference
5. What is the total number of your brothers and sisters?
  - a. 0
  - b. 1
  - c. 2
  - d. 3
  - e. 4
  - f. 5
  - g. 6 to 9
  - h. 10 or more

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APPENDIX F--Continued

6. What was your order of birth among your brothers and sisters?
  - a. First
  - b. Second
  - c. Third
  - d. Fourth
  - e. Fifth
  - f. Later than fifth
7. At what type of position did you have the most playing time during varsity high school football?
  - a. Offense - backfield
  - b. Offense - line
  - c. Defense - backfield
  - d. Defense - line
  - e. Backfield - both offense and defense
  - f. Line - both offense and defense
8. What degree of success do you think the [deleted] football team will have in the 1969 season?
  - a. Outstanding
  - b. Good
  - c. Fair
  - d. Poor
9. What do you think the win-loss record will be for the [deleted] football team in the 1969 season?
  - a. 10-0
  - b. 9-1
  - c. 8-2
  - d. 7-3
  - e. 6-4
  - f. 5-5
  - g. Less than 5-5

APPENDIX F--ContinuedConfidential

## MSU Leadership Study

## GENERAL INFORMATION - CURRENT [UNIVERSITY] FOOTBALL COACHES

Instructions: Please circle the letter of the one alternative which is most appropriate.

1. In what part of the country did you live most of the time prior to entering college?
  - a. Northeast (New England and Middle Atlantic)
  - b. North Central (East North Central and Midwest)
  - c. South
  - d. West (Mountain and Pacific)
  - e. Outside the United States
2. The place in which you lived for the longest period of time prior to entering college had a population of:
  - a. 0-2,499
  - b. 2,500-24,999
  - c. 25,000-99,999
  - d. 100,000-999,999
  - e. 1,000,000 and greater
3. What is your religious preference?
  - a. Protestant
  - b. Catholic
  - c. Jewish
  - d. Other
  - e. No preference
4. I had prior active military service as:
  - a. An enlisted man
  - b. An officer
  - c. Both
  - d. None - reserve service only
  - e. None
5. If question 4 is answered in a., b., or c., above, did you have combat experience?
  - a. Yes
  - b. No

APPENDIX F--Continued

6. What is the total number of your brothers and sisters?
  - a. 0
  - b. 1
  - c. 2
  - d. 3
  - e. 4
  - f. 5
  - g. 6 to 9
  - h. 10 or more
7. What was your order of birth among your brothers and sisters?
  - a. First
  - b. Second
  - c. Third
  - d. Fourth
  - e. Fifth
  - f. Later than fifth
8. At what type of position did you have the most playing time during college?
  - a. Offense - backfield
  - b. Offense - line
  - c. Defense - backfield
  - d. Defense - line
  - e. Backfield - both offense and defense
  - f. Line - both offense and defense
- 9.\* What degree of success do you think the [deleted] football team will have in the 1969 season?
  - a. Outstanding
  - b. Good
  - c. Fair
  - d. Poor
- 10.\* What do you think the win-loss record will be for the [deleted] football team in the 1969 season?
  - a. 10-0
  - b. 9-1
  - c. 8-2
  - d. 7-3
  - e. 6-4
  - f. 5-5
  - g. Less than 5-5

\*These questions were deleted in questionnaires for former football coaches. The other eight questions were identical to those for the current coaches.

## APPENDIX G

## DESCRIPTION OF STATISTICAL MEASURES USED

Pearson Product-Moment Correlation Coefficient (r)<sup>1</sup>

$$r_{ij} = \frac{\sum_{t=1}^N (X_{it} - \bar{X}_i)(X_{jt} - \bar{X}_j)}{\sqrt{\sum_{t=1}^N (X_{it} - \bar{X}_i)^2} \sqrt{\sum_{t=1}^N (X_{jt} - \bar{X}_j)^2}}$$

The simple correlations are organized into a matrix of results on the printed computer output. Each matrix of results for this routine consists of a table with all the variable numbers and their labels listed on the left margin of the table and repeated along the bottom of the table.

The level of statistical significance of Pearson r's are determined by reference to charts indicating the least significant values of correlation measures for different N's.<sup>2</sup>

Spearman Rank Correlation Coefficient (rho)<sup>3</sup>

The Spearman rank correlation coefficient, sometimes called rho, is a measure of association which requires that both variables be measured in at least an ordinal scale so that the objects or individuals under study may be ranked in two ordered series.

$$r_s = 1 - \frac{6 \sum_{i=1}^N d_i^2}{N^3 - N}$$

APPENDIX G--Continued

The steps in the calculation of the Spearman rank correlation coefficient are as follows:

1. Rank the observations on the X variable from 1 to N. Rank the observations on the Y variable from 1 to N.
2. List the N subjects. Given each subject's rank on the X variable and his rank on the Y variable next to his entry. When tie scores occur, each is assigned the average of the ranks which would have been assigned if no ties had occurred.
3. Determine the value of  $d_i$  for each subject by subtracting his Y rank from his X rank. Square this value to determine each subject's  $d_i^2$ . Sum the  $d_i^2$ 's for the N cases to determine  $\sum d_i^2$ .
4. If the proportion of ties in either the X or the Y observations is not large, use the above formula.
5. For N from 4 to 30 (the case in this study), tables of critical values are available for determining the level of statistical significance of rho.

The efficiency of the Spearman rank correlation when compared with the Pearson r, is about 91 per cent.

Chi-square ( $X^2$ ) One-Sample Test<sup>4</sup>

The chi-square ( $X^2$ ) test has been employed to determine the relationship within categories of Fiedler test scores, and between these test scores and other biographical variables. The  $X^2$  test is used to test whether a significant difference exists between an observed number of persons or responses falling in each category and an expected number. This is tested by the following formula:

APPENDIX G--Continued

$$\chi^2 = \sum_{i=1}^k \frac{(O_i - E_i)^2}{E_i}$$

where  $O_i$  = observed number of cases categorized in  $i$ th category

$E_i$  = expected number of cases in  $i$ th category under  $H_0$

$\sum_{i=1}^k$  directs one to sum over all (k) categories

The procedure for using the  $\chi^2$  test in the one-sample case is as follows:

1. Cast the observed frequencies in the k categories. The sum of the frequencies should be N, the number of independent observations.
2. From  $H_0$ , determine the expected frequencies (the  $E_i$ 's) for each of the k cells. Where  $k > 2$ , if more than 20 per cent of the  $E_i$ 's are smaller than 5, combine adjacent categories, where this is reasonable, thereby reducing the value of k and increasing the values of some of the  $E_i$ 's. Where  $k = 2$ , the  $\chi^2$  test for the one-sample case may be used appropriately only if each expected frequency is 5 or larger.
3. Using the above formula, compute the value of  $\chi^2$ .
4. Determine the value of df.  $df = k - 1$ .
5. By reference to a Table of Critical Values of Chi-square, determine the probability associated with the occurrence under  $H_0$  (the assumption that there is no significant difference between the observed and expected frequencies) of a value as large as the

APPENDIX G--Continued

observed value of  $\chi^2$  for the observed value of the degrees of freedom. If that probability is equal to or less than Alpha, reject  $H_0$ .

The Wilcoxon Matched-Pairs Signed-Ranks Test<sup>5</sup>

If the relative magnitude as well as the direction of differences within pairs is known, the Wilcoxon matched-pairs signed-ranks test can be used to determine acceptance or rejection of a null hypothesis (that no significant change occurs) such as in the case of Fiedler's test scores from a pre-season to a post-season basis. The steps in the use of this test are as follows:

1. For each matched pair, determine the signed difference ( $d_i$ ) between the two scores.
2. Rank these  $d_i$ 's without respect to sign. With tied  $d$ 's, assign the average of the tied ranks.
3. Affix to each rank the sign (+ or -) of the  $d$  which it represents.
4. Determine  $T$  = the smaller of the sums of the like-signed ranks.
5. By counting, determine  $N$  = the total number of  $d$ 's having a sign.
6. For  $N$  of 25 or less, the case in this study, a table of critical values of  $T$  is given for various sizes on  $N$ . If the observed value of  $T$  is equal to or less than that given in the table for a particular significance level and a particular  $N$ ,  $H_0$  may be rejected at that level of significance.



## FOOTNOTES

## APPENDIX G

1. BASTAT, STAT Series Description No. 5 (East Lansing, Michigan: Michigan State University, Agricultural Experiment Station, October, 1969), p. 22.

2. Dale Yoder, Persomnel and Labor Relations (New York: Prentice-Hall, 1938), pp. 618-619.

3. Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill, 1956), pp. 202-213.

4. Ibid., pp. 42-47.

5. Ibid., pp. 75-83.

## APPENDIX H

INTERCORRELATION MATRIX BETWEEN VARIABLES  
OFFENSIVE ASSISTANT COACHES (GROUP 2A) N=4

	LPC Pre	ASo Pre	MPC Post	LPC Post	ASo Post	GAS Pre	GAS Post
MPC Pre	-.84	.89	.99**	-.65	.72	.90	.81
LPC Pre		-.98**	-.88	.96**	-.98**	-.64	-.48
ASo Pre			.90	-.91	.95*	.65	.64
MPC Post				-.71	.77	-.96**	.70
LPC Post					-.99**	-.40	-.28
ASo Post						.47	.37
GAS Pre							.64

## APPENDIX H

INTERCORRELATION MATRIX BETWEEN VARIABLES  
DEFENSIVE ASSISTANT COACHES (GROUP 2B) N=4

	LPC Pre	ASo Pre	MPC Post	LPC Post	ASo Post	GAS Pre	GAS Post
MPC Pre	-.31	.77	.93*	-.18	.16	.99**	-.17
LPC Pre		-.83	-.12	.98**	.97*	-.32	.25
ASo Pre			.65	-.72	.75	.79	-.42
MPC Post				.05	.03	.96*	-.42
LPC Post					-.94	-.18	.10
ASo Post						.20	.43
GAS Pre							-.31

\*\*Significant at .01 level.

\*Significant at .05 level.

APPENDIX H--ContinuedINTERCORRELATIONS OF CHANGE SCORES BETWEEN VARIABLES  
OFFENSIVE ASSISTANT COACHES (GROUP 2A) N=4

	LPC d	ASo d	GAS d
MPCd	-.85	.11	-.41
LPCd		-.49	.21
ASod			.42

INTERCORRELATIONS OF CHANGE SCORES BETWEEN VARIABLES  
DEFENSIVE ASSISTANT COACHES (GROUP 2B) N=4

	LPC d	ASo d	GAS d
MPCd	.71	.15	-.15
LPCd		-.26	-.01
ASod			.73

## APPENDIX I

CORRELATION OF MPC, LPC, AND ASo  
WITH OTHER VARIABLES

N	Other Variable	MPC Pre	LPC Pre*	ASo Pre*
34	Number of children	-.06	.18	-.16
105	Total Siblings	-.03	-.05	.05
105	Birth Order	.10	-.03(.01)	.12(-.05)
106	Age	.09	-.09(.16)	.16(.20)
61	College Board Score	.13	-.01	.10
18	ACT Score	.04	.07	-.22
80	High School Percentile Rank	.19	.07(.01)	-.11(-.09)
81	Playing Time Pre 1969	.01	-.03	.06
81	Playing Time 1969	-.11	-.06	-.09
25	Years Football Coach at University Studied	-.12	.13	-.10

\*Data in parentheses are correlations reported by Fiedler.<sup>1</sup>

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<sup>1</sup>Fred E. Fiedler, A Theory of Leadership Effectiveness  
(New York: McGraw-Hill, 1967), p. 278.

APPENDIX I--ContinuedCORRELATION OF MPC, LPC, AND ASo  
WITH OTHER VARIABLES

N	Variable	MPC Pre	LPC Pre	ASo Pre
91	Qualitative Prediction	-.10	.04	-.10
91	Quantitative Prediction	.00	-.05	.03
91	GAS Total	.28*	.10	.03
91	GAS Item 1 - Friendly	.27*	.08	.04
91	GAS Item 2 - Accepting	.20	.09	.01
91	GAS Item 3 - Satisfying	.22*	-.02	.10
91	GAS Item 4 - Enthusiastic	.18	.09	-.05
91	GAS Item 5 - Productive	.19	.13	-.04
91	GAS Item 6 - Warm	.16	.02	.08
91	GAS Item 7 - Cooperative	.23*	.02	.05
91	GAS Item 8 - Supportive	.17	.15	-.06
91	GAS Item 9 - Interesting	.21*	.06	.04
91	GAS Item 10 - Successful	.30*	.14	.03

\*Significant at .05 level.

## APPENDIX J

## MPC, LPC, AND ASO SCORES BY GROUP, PRE-SEASON

Group	N	Test	Mean	Standard Deviation	Skewness	Kurtosis
1	81	MPC	103.1	13.6	-1.8	5.3
1	81	LPC	55.6	22.4	- .1	2.2
1	81	ASo	15.3	5.3	.4	2.9
2	10	MPC	106.3	15.1	- .9	3.2
2	10	LPC	58.1	18.7	-1.0	2.8
2	10	ASo	16.0	6.3	.1	2.5
2A	4	MPC	108.3	14.8	- .4	1.9
2A	4	LPC	55.8	25.0	-1.0	2.2
2A	4	ASo	18.8	6.0	.7	2.0
2B	4	MPC	98.8	16.8	-1.0	2.3
2B	4	LPC	69.3	5.9	.1	1.4
2B	4	ASo	10.8	4.4	.1	1.5
3	10	MPC	101.7	11.0	- .1	1.7
3	10	LPC	48.7	19.9	.6	2.1
3	10	ASo	17.4	3.9	.2	1.9
4	3	MPC	112.3	2.1	- .5	1.5
4	3	LPC	43.7	9.9	.7	1.5
4	3	ASo	18.8	1.5	.2	1.5

## APPENDIX K

PLAYER SOCIOMETRIC DATA, FALL TERM  
DORMITORY ROOMMATE TEST SCORES

Player Code	MPC	LPC	ASo	GAS
005	105	50	14.18	69
059	123	19	26.19	77
042	120	79	12.37	76
086	78	103	12.45	67
013	113	35	20.30	71
021	109	83	8.83	63
016	96	38	19.75	71
049	89	55	11.92	72
020	94	63	10.34	73
037	80	82	6.00	48
028	108	46	15.91	70
071	107	57	15.68	71
030	101	64	11.00	73
076	94	69	16.40	72
031	121	23	28.00	10
067	83	77	6.00	72
041	128	77	14.59	80
043	98	16	21.02	60
055	112	32	20.00	75
065	102	74	13.49	62
081	109	78	13.08	50
014	93	56	13.38	50
061	86	69	9.75	65
069	117	51	19.65	76
080	128	16	28.00	70
070	106	43	17.00	60
083	119	53	17.72	72

## APPENDIX K

PLAYER SOCIOMETRIC DATA  
 NIGHT BEFORE GAME ROOMMATE TEST SCORES  
 (Same roommate 5 or more times)

Player Code	No. Times Roommates	MPC	LPC	ASo	GAS
001	9	87	82	4.80	60
026	9	97	94	6.40	80
003	10	99	51	17.49	67
063	10	108	68	14.90	80
013	8	113	35	20.30	71
055	8	112	32	20.00	75
016	10	96	38	19.75	69
018	10	96	41	18.47	41
006	9	150	32	21.75	72
071	9	107	57	15.68	71
021	8	109	83	8.83	63
086	8	78	103	12.45	67
025	9	97	65	9.49	71
047	9	103	94	11.70	78
028	10	108	46	15.91	70
062	10	117	48	19.60	69
031	10	121	23	28.00	10
037	10	80	82	6.00	48
036	10	103	69	11.49	69
081	10	109	78	13.08	50
043	10	98	16	21.02	60
058	10	110	65	13.82	74
059	8	123	19	26.19	77
072	8	73	83	11.40	64
075	10	100	42	16.91	64
083	10	119	53	17.72	72



## APPENDIX L

COMPARATIVE SPEARMAN RHO RELATIONSHIPS OF  
LEADERSHIP TEST MEASURES  
GROUP 2, POST SEASON

		LPC		B-M	
		Task	Consideration	Task	Consideration
LPC	<u>Task</u>	--			
	<u>Consideration</u>		--		
B-M	<u>Task</u>	.10			
	<u>Consideration</u>		-.32		
IPS	<u>Task</u>	.63		-.52	
	<u>Consideration</u>		.33		.65

## APPENDIX M

## BIOGRAPHICAL DATA BY GROUP

Var. No.	Item	Group Number			
		<u>1</u> N=81	<u>2</u> N=10	<u>3</u> N=12	<u>4</u> N=3
45	<u>Race</u>				
	Caucasian	57	9	11	3
	Negro	24	1	1	0
46	<u>Religion</u>				
	Protestant	36	5	6	2
	Catholic	31	5	6	1
	Other (including No preference)	14	0	0	0
47	<u>Marital Status</u>				
	Single	71	1	0	0
	Married	10	9	12	3
	Divorced	0	0	0	0
48	<u>Number of Children</u>				
	0	6	0	0	0
	1	4	0	3	1
	2	0	5	4	1
	3	0	1	3	1
	4	0	1	2	0
	5	0	0	0	0
	6 to 9	0	2	0	0
	10 or more	0	0	0	0
49	<u>Total Siblings</u>				
	0	3	1	0	0
	1	15	0	2	0
	2	13	5	5	1
	3	21	1	1	1
	4	9	1	1	0
	5	4	0	2	0
	6 to 9	9	2	0	1
	10 or more	7	0	0	0

APPENDIX M--Continued

Var. No.	Item	Group Number			
		<u>1</u> N=81	<u>2</u> N=10	<u>3</u> N=12	<u>4</u> N=3
50	<u>Birth Order</u>				
	1st	29	2	3	2
	2nd	27	4	3	0
	3rd	15	2	4	1
	4th	5	1	1	0
	5th	0	0	0	0
	Later than 5th	5	1	0	0
53	<u>Birthplace*</u>				
	Northeast	7	3	1	0
	North Central	53	6	10	3
	South	15	1	1	0
	West	4	0	0	0
	Outside U.S.	2	0	0	0
55	<u>Place Lived Most Prior to Entering College*</u>				
	Northeast	8	2	1	0
	North Central	60	7	9	3
	South	10	1	1	0
	West	2	0	1	0
	Outside U.S.	1	0	0	0
56	<u>Size of Variable 55</u>				
	0 - 2,499	5	4	2	1
	2,500 - 24,999	16	1	5	1
	25,000 - 99,999	23	0	3	1
	100,000 - 999,999	18	1	0	0
	1,000,000 and >	19	4	2	0
57	<u>Active Military Service</u>				
	Enlisted Only	0	5	2	0
	Officer Only	0	2	7	1
	Enlisted and Officer	0	1	1	1
	Reserve only	0	0	0	0
	None	81	2	2	1
58	<u>Military Combat Experience</u>				
	Yes	0	2	4	1
	No	81	8	8	2

APPENDIX M--Continued

\*The geographical sections are defined as follows:<sup>1</sup>

Northeast comprises:

New England - Maine, New Hampshire, Vermont, Massachusetts,  
Rhode Island and Connecticut.

Middle Atlantic - New York, New Jersey, Pennsylvania.

North Central comprises:

East North Central - Ohio, Indiana, Illinois, Michigan and  
Wisconsin.

West North Central - Minnesota, Iowa, North Dakota, South Dakota,  
Nebraska, Kansas, and Missouri.

South comprises:

South Atlantic - Delaware, Maryland, District of Columbia, Virginia,  
West Virginia, North Carolina, South Carolina,  
Georgia and Florida.

East South Central - Kentucky, Tennessee, Alabama and Mississippi.

West South Central - Arkansas, Louisiana, Oklahoma and Texas.

West comprises:

Mountain - Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona,  
Utah and Nevada.

Pacific - Washington, Oregon, California, Alaska and Hawaii.

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<sup>1</sup>(U. S. Statistical Abstract, Bureau of the Census, Washington, D.C., 1967, p. 30, Table 28 "Population by Race and Sex for States, 1960.")

APPENDIX M--ContinuedBIOGRAPHICAL DATA FOR GROUP 1  
N=81

Variable No.	Item Description	Reported Frequency
51	Parents Separated or Dead	
	Yes	13
	No	68
52	Father Played Football	
	High School only	20
	College	8
	Neither	53
63	Academic Year - 1969	
	Sophomore	35
	Junior	26
	Senior	20
64	Academic Major	
	Physical Education	26
	Other	35
	Not established	20
65	High School Position	
	Offense-backfield	11
	Offense-line	9
	Defense-backfield	5
	Defense-line	2
	Backfield - both offense and defense	28
	Line - both offense and defense	26
66	College Position	
	Offense-backfield	11
	Offense-line	28
	Defense-backfield	19
	Defense-line	14
	Backfield-both offense and defense	5
	Line-both offense and defense	1
	Kicking specialist	3
77	Tentative Plans after Graduation	
	Professional football or coaching	31
	Graduate school or non-athletic profession	50

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## VITA

Personal Data

Born: Chicago, Illinois, October 26, 1928

Married

Two children.

Education

B.S., Northwestern University, Evanston, Illinois, 1949.

M.B.A., Syracuse University, Syracuse, New York, 1957.

Distinguished Graduate, Air Command and Staff College, Maxwell Air Force Base, Alabama, 1965.

M.B.A., Michigan State University, East Lansing, Michigan, 1969.

Academic Honors

Phi Kappa Phi	Scholarship
Beta Gamma Sigma	Business Administration
Sigma Iota Epsilon	Management
Phi Chi	Psychology
Beta Alpha Psi	Accounting
Pi Gamma Mu	Social Science
Delta Phi Epsilon	Professional Foreign Service

Fields of Study

Major Field: Management.

Minor Fields: Accounting  
Economic Analysis  
Political Science, U.S.S.R.

Professional Experience

1951 - Present: On active duty with the United States Air Force continuously since 1951 in procurement and production, systems management, and resources management functions. Present rank, Lt. Colonel.

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