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A COMPARISON OF FEMALE COACHING BEHAVIORS
IN TWO ATHLETIC ENVIRONMENTS

by

Ellen J. Staurowsky

An Abstract

of a thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science in the School
of Health, Physical Education
and Recreation at
Ithaca College

September 1979

Thesis Advisor: Dr. Victor H. Mancini

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ABSTRACT

This investigation compared and analyzed coaching behaviors in two different athletic environments. Athlete responses on Form R and Form I of the Group Environment Scale (GES) were used to classify teams as either satisfied or less satisfied with their athletic environments. The division of teams into the satisfied or less satisfied group was made using a median-split technique. This was followed by multivariate analysis of variance to determine if the results on the two scales were significantly different. The GES data were then subjected to analysis of variance to determine the variables on which the scale differed. Discriminant function analysis was then run to establish the percentage that each of the variables accounted for toward the overall difference. Female coaches and athletes from 20 secondary school teams in the Central New York area served as subjects. These subjects were videotaped two times during the 1979 basketball season. Form R and I of the GES were administered following the first and second videotaping sessions respectively. All videotaped practice sessions were coded using CAFIAS. Multivariate analysis of variance was performed on the eight CAFIAS variables to determine behavioral differences between the satisfied and less satisfied groups. Results from the multivariate analysis of variance led to the acceptance of the first major hypothesis stating that there will be a significant difference in behaviors of coaches from different athletic environments as measured by eight variables identified through the use of CAFIAS. Analysis of variance identified five CAFIAS variables that contributed independently to differences between the two groups. These were coach use of questioning, verbal; coach use of acceptance and praise, verbal; coach

use of acceptance and praise, nonverbal; athlete verbal initiation, coach suggestion; and athlete nonverbal initiation, coach suggestion. Two variables, coach use of acceptance and praise, verbal; and athlete verbal initiation, athlete suggestion, were identified by discriminant function analysis as accounting for the shared variance among the eight CAFIAS variables. Figures were constructed from the GES results which graphically illustrated trends between athletes' and coaches' perceptions of their environment and an ideal environment. The investigator was able to make conclusions regarding the remaining four hypotheses from these figures.

The second hypothesis was accepted because differences were found between athletes' and coaches' perceptions of their environments. Coaches perceived their environments to be more positive on 5 of the 10 GES variables than their athletes. The third hypothesis stating there will be a significant difference between athletes' perceptions of their environment in relation to an ideal environment was accepted. Athletes indicated that 7 of the 10 GES variables were less than ideal. The fourth hypothesis was accepted because coaches' perceptions of the real and ideal environment were significantly different. Coaches generally perceived their environment as less than ideal. The fifth and final hypothesis stating that there will be a significant difference between athletes' and coaches' perceptions of an ideal environment was accepted. In contrast to athletes' perceptions, coaches perceived an ideal situation as containing higher ideal scores on 8 of the 10 GES variables.

A COMPARISON OF FEMALE COACHING BEHAVIORS
IN TWO ATHLETIC ENVIRONMENTS

A Thesis Presented to the Faculty of
the School of Health, Physical
Education and Recreation
Ithaca College

In Partial Fulfillment of the
Requirements for the Degree
Master of Science

Ellen J. Staurowsky

September 1979

Ithaca College
School of Health, Physical Education and Recreation
Ithaca, New York

CERTIFICATE OF APPROVAL

MASTER OF SCIENCE THESIS

This is to certify that the Master of Science Thesis of

Ellen J. Staurowsky

submitted in partial fulfillment of the requirements
for the degree of Master of Science in the School of
Health, Physical Education, and Recreation at Ithaca
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DEDICATION

This thesis is dedicated to my parents, my most loving and capable of teachers.

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Chapter 1

INTRODUCTION

Societal agencies, whether they be involved in business, education, or athletics, attempt to set up environments that will serve to promote particular behaviors or create situations that lend themselves to certain directions of growth and development. In any situation that dictates performance standards, there exists a general concern and need for precise guidelines in achieving and surpassing those demands. The coaching profession is one in which the performance outcomes are explicitly defined; yet accompanying directives for achieving these outcomes are often nebulous. Coaches have relied for many years on guidelines that are based in large part on experiential foundations and traditional practices (Cratty, 1973).

According to Gaylord (1967), coaches serve to affect the success or failure of teams by their behaviors. In their roles as group-centered leaders, coaches are responsible for creating within teams a psychological climate of acceptance, understanding, and safety (Gordon, 1955). Tutko and Richards (1971) advocate the need for coaches to become more sensitive and understanding of relationships between themselves and their teams. When a favorable climate is established, goals will be attained with greater expediency and satisfaction (Rushall & Siedentop, 1972). Hirsch (1978) asserted that the sport environment should be organized in such a way as to contribute to a team reaching specific goals. Due to the great influence exerted on teams by coaches, it seems reasonable to investigate coaches' behaviors in an attempt to promote positive and productive athletic environments.

Hirsch (1978) and Kasson (1974) have asserted that coaching behaviors should be explored in light of the interaction occurring between coaches and players as demonstrated in the environment in which these particular behaviors occur. Systematic observation has been used in recent years as a means of providing empirical data upon which recommendations may be made in promoting effective coaching methods. In as much as coaching has been analogized and equated with teaching (Gaylord, 1967; Sabock, 1973), systematic observation is an appropriate vehicle for analyzing coaching behaviors.

A particular aspect of systematic observation designed specifically to measure relationships is interaction analysis. As stated previously, interaction analysis has been used primarily to investigate teacher-student relationships. Research conducted using interaction analysis has led teachers to better understand their behaviors exhibited in the classroom, resulting in subsequent awareness of their influence.

The use of interaction analysis in analyzing coaching, therefore, implies that coaches will be better able to assess their behaviors in athletic environments. By isolating behaviors, and relating these behaviors to different social climates, analysis may result in an increase in appropriate behaviors while eliminating those behaviors that are inappropriate.

The Group Environment Scale has been used in conjunction with interaction analysis to establish just such a relationship between isolated behaviors and social climates (Hirsch, 1978). The GES, designed to assess task-oriented groups, consists of 10 dimensions that depict the social climate existing on sport teams. Data collected from the GES allow for differences to be ascertained between teams that are close to ideal and

those that are in need of change. Through interaction analysis the differences in coaches' behaviors may be determined and attributed to the respective group results in the GES. This knowledge should lead to improved interaction between coaches and athletes.

Scope of Problem

This study was initiated in an attempt to determine if the behaviors of coaches vary in different athletic environments. Subjects used for this study were 20 secondary school women's basketball teams from the Central New York area. Subjects were observed during the 1979 winter basketball season. Each team was visited on two separate days. Form R of the Group Environment Scale (GES), which measures athletes' and coaches' perceptions of the environment present on their team, was administered and a 30-minute videotaping session was conducted on the first visit. During the second visit, athletes and coaches were again videotaped for 30 minutes and Form I of the GES was given. This form measures the way in which coaches and athletes depict an ideal athletic environment. The 20 teams were divided equally into two groups based on a median split of the GES scores. The first group of 10 teams was classified as being satisfied with the environment on their teams. The second group of 10 teams indicated that their athletic environment was less satisfying. Coaches were administered the same GES forms as were their athletes to ascertain how the coaches perceived the environment in comparison to their athletes. Each 30-minute videotaped practice session was coded using CAFIAS.

Statement of Problem

Cheffers' Adaptation of Flanders' Interaction Analysis System was used to analyze and compare coaches' behaviors exhibited in two distinct environments. Athletes satisfied with their environment were compared with

athletes whose environments were deemed less satisfying. A comparison was also drawn between athletes' and coaches' perceptions of their environment, players' perceptions of their environment in relation to an ideal environment, coaches' perceptions of their environment compared to an ideal environment, and players' versus coaches' perceptions of an ideal environment.

Major Hypotheses

1. There will be a significant difference in behaviors of coaches from different environments as measured by eight variables identified through the use of CAFIAS.

2. There will be a significant difference in the way the coach perceives the environment as compared to the way in which the athletes perceive the environment.

3. There will be a significant difference between athletes' perceptions of their environment in relation to an ideal environment.

4. There will be a significant difference between coaches' perceptions of their environment and an ideal environment.

5. There will be a significant difference between athletes' and coaches' perceptions of an ideal environment.

Assumptions of Study

1. Two taping sessions will provide an accurate measure of the behaviors exhibited by a coach.

Definition of Terms

1. The Group Environment Scale (GES) is a scale designed to assess the social climate in a task-oriented group (Moos, Insel, & Humphrey, 1974).

2. Cheffers' Adaptation of Flanders' Interaction Analysis System (CAFIAS) is an interaction analysis system developed for use in physical

activity settings to objectively describe both verbal and nonverbal teacher-pupil interaction, class structure, and a variety of classroom teaching agents (Cheffers, Amidon, & Rodgers, 1974).

3. Flanders' Interaction Analysis System (FIAS) is an observational system designed to assess in an objective manner verbal interaction between teachers and pupils as it occurs in the classroom environment (Amidon & Flanders, 1971).

4. Interaction Analysis (IA) is an observational technique that measures the frequency of teacher-pupil interaction of behaviors (Amidon & Hough, 1967).

5. Coder reliability is the degree to which the person or persons doing the coding are consistent at a statistically significant level.

6. Direct teaching behavior is that behavior exhibited by the teacher that limits students' freedom in the classroom.

7. Indirect teaching behavior is that behavior exhibited by the teacher that facilitates students' freedom in the classroom.

8. Nonverbal behavior is that behavior exhibited by the teacher that facilitates students' freedom in the classroom.

9. Verbal behavior is behavior expressed in an audible, observable fashion.

10. Coaches are certified educators who coach athletics in voluntary instructional programs held after school hours where individuals compete for the privilege of participation.

11. Secondary level encompasses grades 9 through 12.

12. Coaches' behavior is that behavior exhibited by coaches during coach-player interaction.

13. Team sports are sports in which performance outcomes are dependent

upon the total group's performance.

14. Social climate is one of the major ways in which human environments may be characterized (Moos, 1974).

15. Cohesion is the degree of cooperation and involvement existing in a group and the league of friendship that members have for one another (Moos, Insel, & Humphrey, 1974).

16. Leader support is the amount of help, concern, and friendship displayed by the leader of the group (Moos, Insel, & Humphrey, 1974).

17. Expressiveness is the ability with which members of the group fully show their feelings (Moos, Insel, & Humphrey, 1974).

18. Task orientation is the degree of emphasis on concrete tasks (Moos, Insel, & Humphrey, 1974).

19. Self-discovery is the ability of the group to discuss personal details (Moos, Insel, & Humphrey).

20. Independence is the degree of independent expression tolerated or encouraged in the group (Moos, Insel, & Humphrey, 1974).

21. Anger and aggression is the degree to which there is expression of negative feeling within the group (Moos, Insel, & Humphrey, 1974).

22. Order and organization is the degree to which the group is structured (Moos, Insel, & Humphrey, 1974).

23. Leader control is the degree to which the leader directs and enforces the rules of the group (Moos, Insel, & Humphrey, 1974).

24. Innovation is the degree of diversity that is encouraged in the group (Moos, Insel, & Humphrey, 1974).

Delimitations of Study

The delimitations of the study are as follows:

1. The subjects used for this study were coaches and athletes from female secondary school basketball teams in the Central New York area.
2. CAFIAS was the only interaction analysis system used to ascertain the differences in the coaches' behaviors.
3. The Group Environment Scale was the only instrument used to assess the social climate of the athletic environment.
4. Each subject in each environment was observed only twice.

Limitations of Study

1. The results of this study will be relevant only for coaches and athletes from female secondary school basketball teams.
2. The resultant information pertaining to coaching behavior may only be valid when CAFIAS is used for coding.
3. Valid classification of the environment may exist only as a function of using the Group Environment Scale to classify social climate.

Chapter 2

REVIEW OF RELATED LITERATURE

The review of related literature in this chapter will deal with the following topics: descriptive techniques in physical education, analyzing the coaching environment, social climate, the role of the coach's leadership in social climate, the role of cohesion in social climate, Group Environment Scale, and summary.

Descriptive Techniques in Physical Education

Prior to 1970, very little research had been done in the systematic observation of physical education settings. Analysis of the physical activity settings mandates a system that will effectively depict the extent of teacher-student interaction in terms of both verbal and nonverbal behaviors (Cheffers, 1972).

Descriptive-analytic techniques have been used to determine teaching and coaching styles through the identification of teaching and coaching behaviors actually occurring in the classroom and on the practice field. One of the first investigations using descriptive analytic tools was conducted by Medley and Mitzel (1958). The researchers developed a system called the Observation Schedule and Record (OScAR), which was designed to objectively assess teacher function in relationship to classroom climate. OScAR was used by Medley and Mitzel (1958) to study teacher behaviors in 36 physical education settings. Bookhout (1967) later conducted similar studies using OScAR to study relationships between behaviors of teachers in differing social-emotional climates.

Extensive research in the development of descriptive analytic tools

suitable for use in the physical education environment was conducted by Anderson (1975). Anderson (1975) and his associates coordinated a databank consisting of 83 videotaped samples of elementary and secondary physical education classes. Various analyses, using these tapes, resulted in the development of several instruments designed specifically for the physical education setting.

One type of analysis used in assessing the videotape databank was interaction analysis, a form of descriptive analysis designed to study teacher-student relationships and one which results in the categorization of teacher behavior as direct or indirect. In using interaction analysis, a trained observer categorizes and records each interaction occurring in a particular setting. The purpose of this type of analysis is to provide objective feedback of the actual behaviors occurring in the teaching-learning environment.

Flanders developed the most popular interaction analysis system, the Flanders' Interaction Analysis System, referred to as FIAS (Cheffers, 1972). Its primary function was to accurately determine, through observation and coding, teacher-student verbal interaction. Information gathered using FIAS dichotomized teacher behaviors into that which was direct or indirect (Flanders, 1970).

Other research using modifications of FIAS include Dougherty (1971), Kurth (1969), Mancuso (1972), and Melograno (1971). Results generated from these early adaptations of FIAS lent little supporting evidence that a solution had been reached in discovering an adequate observational system that measured the moment-to-moment events occurring in the physical education setting.

FIAS, although appropriate for verbal behavior and teacher-student

interaction, is inadequate in effectively assessing the physical activity setting in that it neglects nonverbal aspects of behavior (Cheffers, 1972). Cheffers, in 1972, designed the most extensive and refined adaptation of FIAS for use in physical education settings. CAFIAS, Cheffers' Adaptation of Flanders' Interaction Analysis System, is an observer system that deals with the assessment of human behavior in terms of verbal and nonverbal dimensions as well as identifying teaching agents and the structure of the activity session (Cheffers, 1972).

Using CAFIAS, Keane (1976b) investigated teachers in terms of leadership styles and found that leadership styles were not influenced by the sex of the teacher. Keane (1976b) suggested that teachers should begin to develop an understanding of their own leadership styles and the situation in which they find themselves, in order to become more effective and more considerate. He pointed out that the environment may be the key variable.

CAFIAS is only one descriptive technique that has been used in analyzing behaviors in physical activity settings. In a comparative study, Bain (1976) used the Implicit Values Instrument for Physical Education in studying male and female classes in urban and suburban settings. Significant differences were found between the urban and suburban classes in the areas of autonomy and universalism. Differences were also noted in male and female classes. Bain (1976) concluded that class organization had an influence on values, norms, and student behavior.

Analyzing the Coaching Environment

The nature of analysis of coaching and coaching behaviors has been typically formulated from a framework of assumption, tradition, and opinion (Cratty, 1973). Inconsistent findings resulting from research rooted in

this type of analysis indicate the apparent need for objective information in assessing coaching behaviors. Different societal agencies have had a great deal of influence on the overall perception of the coach. The news media have created a stereotypic image of the coach, an image readily identified by the public as dominant, aggressive, and authoritative.

Research in coaching assessment has been approached in a variety of ways. Hendry (1973) and LaGrand (1970) chose to study coaches through specified dimensions of behavior and personality. LaGrand (1970), studying behavioral characteristics of coaches, used a semantic differential scale in describing a coach's enthusiasm, willingness to give individual help, ability to inspire, and use of discipline. Results of the study indicated that significant differences existed in characteristics of coaches of different sports as viewed by their players. Basketball players and wrestlers rated their coaches' methods of teaching and use of discipline higher than did both soccer and tennis players. Wrestlers perceived their coaches as having a greater ability to inspire. LaGrand (1970) concluded that each sport contained a unique set of behaviors different from any other sport.

In a study by Hendry (1973), behaviors of teachers and coaches were compared along the dimensions of personality and social orientation. Forty-eight physical education teachers and 63 coaches, all working at the college level, were chosen as subjects and asked to complete a personality inventory. Teachers were shown to possess qualities of overt sociability, high aspiration, and drive; whereas, the coaches were more controlled individuals with restricted ideals and high organizational abilities. On results obtained from the six female coaches who participated in the study, Hendry described them to be extremely self-contained, conventional, and

controlled.

Several researchers have advocated the use of direct observation in pursuing a more empirical approach to the analysis of coaching. Tharp and Gallimore (1976) indicated that direct observation was the most efficient way of assessing coaching behavior. Agnew (1977), Hirsch (1978), and Kasson (1974) have acknowledged the need for more effective methods of observing coaching behavior and have demonstrated means for reaching that goal.

Tharp and Gallimore (1976) were prompted to investigate the coaching behavior of John Wooden from an interest in educational method, labeling Wooden as a master teacher whose techniques were worthy of researching. They used a traditional observer system that consisted of categories such as reinforcement, punishment, modeling, and instruction. Two additional categories, scold/instruction and hustle, were needed to fully depict the behaviors elicited by Wooden. Results indicated that over 50% of Wooden's coaching behavior was instructionally oriented.

Smith, Smoll, and Hunt (1977) constructed the Coaching Behavior Assessment System (CBAS) in order to code and analyze the behaviors of athletic coaches in naturalistic settings. The CBAS consisted of 12 behavioral categories derived from content analysis of coaching behaviors during practices and games. The researchers concluded that the CBAS could be used with varying effectiveness to analyze different sports. Baseball and volleyball were found to be easily coded due to the discrete nature of the events. Sports, like basketball and soccer, were more difficult to code because coaches' behaviors were less easily traced.

Bain (1978) used a 1976 revision of the Implicit Values Instrument for Physical Education in conducting an indepth investigation of values

and norms implicit in secondary school physical education classes and athletic team practices. Autonomy, competitive achievement, instructional achievement, orderliness, privacy, specificity, and universalism were the seven dimensions used in assessing the values of the subjects. Bain (1978) concluded that female subjects scored higher on privacy and instructional achievement. Coaches scored higher than teachers on privacy, instructional achievement, and specificity. Teachers scored higher than coaches in the universalism dimension.

Kasson (1974), as the first researcher to use interaction analysis in evaluating interaction patterns of physical educators while teaching and coaching, reported a significant difference in the amount of verbal and nonverbal behavior displayed by three male physical educators during teaching and coaching sessions. It was found that direct behavior was used in both environments.

Agnew (1977), using CAFIAS, explored the differences in the behavioral patterns of female secondary physical educators while teaching and coaching. It was discovered that there were, in fact, significant differences in behaviors between teaching and coaching sessions. In the coaching session a variety of behaviors were coded in contrast to the direct behavior observed in the teaching session. There existed greater interaction between the athlete and coach and more athlete initiated behavior as a result of the coach's suggestion in the coaching sessions than in the classroom. Female instructors were also found to use more praise and acceptance in the coaching setting as opposed to the classroom.

In a unique combination of interaction analysis and a separate measure of social climate, Hirsch (1978) used CAFIAS and the Group Environment Scale (GES) to investigate coaching behaviors from two distinct environments.

Scores from Forms R and I of the GES were used to discriminate teams into those considered satisfied with their environments and those who were not satisfied. Behavioral differences of coaches in each of the two groups were ascertained using eight CAFIAS variables. Hirsch (1978) concluded that in satisfied environments there existed greater athlete-coach interaction and more pupil-initiated behaviors, both teacher and student suggested. It was also found that coaches in the satisfied environment used more praise and acceptance, verbal and nonverbal, during the coaching practices.

Social Climate

In response to a demand for greater empiricism in coaching technology, sport researchers have recently adopted various systematic approaches to analyze the athletic experience (Agnew, 1974; Hirsch, 1978; Kasson, 1974). One of these approaches has sought to isolate the social climate of athletic teams as a means of monitoring coach-player interactions. In contrast to the extensive research concentrating on social climate that has been conducted in the areas of industry and the military, little work has been done in education and almost none in athletics. According to Kiritz and Moos (1974), the psychosocial environment is comprised of interactions among people. The people in their interactions create an atmosphere that may be unique to that environment. Translated into sport terms, the athletic social environment is actually a composition of interactions between coach and athlete. It is through an exploration of these interactions that an improvement of the athletic experience may result (Hirsch, 1978).

The first research dealing with social climate, conducted by Henry Murray in 1938, conceptualized a model illustrating interactions between

personality needs and environmental press (Murray, 1963). Murray (1963) described the individual as having certain needs, and the strength of these needs characterizes personality. Environmental press is defined in terms of things that would serve to potentially satisfy or frustrate these needs. Murray (1963) stressed the importance of this model, emphasizing that two organisms may behave differently only because they are, by chance, encountering different conditions. Moos (1976) suggests that the way in which an environment is arranged is responsible for much of the influence exerted on behavior so as to promote growth and development in a socially acceptable fashion. X

As the first researcher to explore social climate in the classroom, Withall (1949) identified the teacher as the single most important individual in determining class climate. Withall (1949) defined social-emotional climate as being a group phenomenon, largely determined by verbal behavior. He devised the Climate Index to assess the influence of the teacher through an analysis of statements made by the teacher.

Lippitt and White (1943) recorded significant behavior changes in 10-year old boys who were subjected to different educational climates, labeled as democratic, authoritarian, and laissez-faire. Lippitt and White (1943) indicated that social climate is a factor worth considering in observing teacher and student behaviors and demonstrated that social climate could be deliberately controlled by role-playing teachers. Further work in this area led White and Lippitt (1968) to conclude that different leadership styles produce different social climate resulting in different group and individual behavior. X

In studies done to assess the climate at colleges and universities, Pace and Stern (1958) used the College Characteristics Index (CCI). They

viewed the college culture as a complex environmental press which may be related to the corresponding complex of personal needs. Students were asked to answer specific true-false questions about the environmental climate. In studies completed at five institutions, the CCI was administered to 423 students and 71 faculty. In characterizing the institution, it was indicated that students and faculty perceived their environment in a similar fashion.

Schmuck and Schmuck (1975) described classroom climate as the feeling tones of the group. The interpersonal relationships students encounter in regards to their classmates, or the levels of competence and skill that students perceive themselves to have, encourage positive feelings about school and increased involvement in classroom tasks. Even though there is general agreement about social climate there have been few direct and detailed empirical analyses that have been made of the characteristics of positive and negative classroom climates.

Walberg (1969) cites the fact that authors for the past few years have been investigating classroom measures of social environment and their correlations with learning. The Learning Environment Scale defines environment using the extent of student agreement with statements describing the class. It was found that a satisfying and socially cohesive environment encouraged high rates of achievement and understanding in the classroom.

Social climate research can thus be viewed in light of inferences made regarding groups. These inferences take on a variety of dimensions-- often focusing on leadership and cohesion. It was Withall (1949) who first identified the teacher as singularly important in determining classroom climate. White and Lippitt (1968) further concluded that the person in position of leadership is very often responsible for the climate of the

group and consequently plays a major determining factor in the productivity of the group itself. Studies done by Walberg (1969) and Schmuck and Schmuck (1975) illustrated the importance of group cohesion in reporting the increased likelihood of higher achievement with socially cohesive groups. These two dimensions of leadership and cohesion have often appeared in the sport literature.

The Role of the Coach's Leadership in Social Climate

In viewing leadership in a sport setting, the coach emerges as the prominent figure in the leadership hierarchy in a team environment. Frost (1971) describes the coach as the single most important factor in influencing the personality, the character, and the development of the participant. The coach is looked upon as the acknowledged group leader, a role inherent in the fabric of the coaching profession. Fiedler (1967) stated that the performance of a group depends on both the nature of the group and the leader's style of interacting with group members. Fiedler (1967) pointed out that leader effectiveness bears directly upon group effectiveness as seen by the group output, its morale, and by the satisfaction of its members.

In a study conducted by Keane (1976a), coach-leader behavior factors were explored. The study consisted of an exploration of the relationship of sex, coach behavior, leadership style, and coach-player interaction in a university setting. Players' perceptions of coaches' leadership behavior were recorded using the Leader Behavior Description Questionnaire. The Least Preferred Co-worker Scale was given to each coach to measure leadership styles. It was found that there was no difference between coach's sex and the coach's leadership style.

In 1969 Percival (Cratty, 1973) began a series of studies on leadership

of coaches. His interest in the topic was prompted by his own self-analysis and realization that the manner in which he perceived himself as a coach was inconsistent with the manner in which others perceived him. The incompatibility was especially evident with observations of his athletes as contrasted with his own judgments (Cratty, 1973).

Percival, between 1969 and 1971, tested 382 Canadian athletes and 65 coaches from 25 sports (Cratty, 1973). Athletes were asked to rate coaches on a 10-point scale while coaches rated themselves. Self-ratings and athlete ratings differed by about 40 percentage points. Coaches rated themselves about 7 on a 10-point scale while athletes ranked them 4 on the same 10-point scale (Cratty, 1973). These rankings were broken down into four general areas: personality, techniques and methods, mechanics, and knowledge. Personality was the area in which there was the greatest degree of discrepancy. Seventy-two percent of the coaches perceived themselves as having a positive coaching personality. Coaches were given a negative evaluation by 66% of the 382 athletes. Twenty-four percent of the athletes gave their coaches a positive ranking. It was also found that players from team sports rated their coaches higher than did those from individual sports. Athletes with more experience, who competed at higher levels, tended to be more critical of coaches' leadership.

The Role of Cohesion in Social Climate

Bird (1978) discussed the concept of cohesion in a group process context. Group processes, according to Bird (1978), were those relations or intermember dynamics that took place along structural paths, dependent on structure and quality of output of the group. Bird, using the label group processes, was in essence describing those interactions Kiritz and Moos (1974) identified as proponents of psychosocial environments. These

group processes are specified as key factors in the successful or unsuccessful performance of sport teams. Of all the elements that are identified with group process, social cohesion receives the most attention. Described as being the sum of all forces that act upon members so they remain in the group, Hagstrom and Selvin (1965) defined cohesion in terms of social satisfaction and sociometric cohesion. Social satisfaction was the satisfaction with the group and the influence of the group on significant behavior. Sociometric cohesion was the amount of positive effect that can be attributed to team membership. Although with many successful teams there appeared to be a high degree of team cohesion (Bird, 1977; Klein & Christiansen, 1969; Martens & Peterson, 1976), studies relating structural dimensions to degree of cohesion found that it cannot be said that cohesion causes success, or success increases cohesion.

Bird (1977) tested a model capable of predicting team success regardless of skill level by evaluating five dependent variables, two measures of cohesion, and three measures of leadership. It was found that both measures of cohesion revealed significantly greater cohesion within successful teams. The two measures of cohesion were factors most capable of discriminating between successful and unsuccessful teams. Leader behavior had very little influence on the total predictive power of the model.

The relationship of cohesion and team performance was studied by Klein and Christiansen (1969) using a short, sociometric questionnaire. Results of the study support the hypothesis that cohesion facilitates effectiveness of the group.

In a study using intramural basketball teams, Martens and Peterson (1976) assessed different levels of cohesiveness and their influence on the

effectiveness and individual member satisfaction of these teams. On the basis of their research Martens and Peterson (1976) concluded that high cohesive teams win significantly more games than do low cohesive teams.

Group Environment Scale

Moos (1974), as an investigator of environmental determinants of behavior, cited social climate as a major identifiable characteristic of human environments. It was Moos' (1976) contention that the arrangement of the environment is probably the single most powerful influence on behavior.

Investigations under the direction of Moos, Insel, and Humphrey (1974) at the Social Ecology Laboratory at Stanford University resulted in the development of the Social Climate Scales, nine instruments designed to assess the natural social environment. One of these nine instruments, the Group Environment Scale (GES), is designed to assess social climate in social, task-oriented groups. The GES was developed in an effort to distinguish dimensions among different groups. Initially, a 211-item form was created by drawing items from other scales used in measuring social climates.

Form A of the GES was given to leaders in 26 groups and members of 30 groups. Included in the sample were six different types of groups: five sensitivity training groups, seven outpatient groups, six inpatient therapy groups, four mutual support groups, five recreational groups, and three executive action groups. Leadership varied among the groups, some having no leader, others having leadership elected by the members, and leadership in others established by an external source. The purpose of the administration of Form A was to make the GES applicable to a wide range of groups (Moos, Insel, & Humphrey, 1974).

The original 211-item form was then reduced to a 90-item questionnaire. Each item was evaluated and four criteria were used to reduce the scale. The four criteria were as follows: each item should discriminate significantly among groups at the .05 level, the overall item split should be as close to 50-50 as possible to avoid items characteristic only of extreme groups, items should correlate more highly with their own than with any other subscale, and each of the subscales should have an equal number of true-false responses (Moos, Insel, & Humphrey, 1974).

Kiritz and Moos (1974) indicate that there are six major ways of assessing and characterizing human environments: ecological analysis, behavioral settings, organizational structure, personal and behavior characteristics of individual members of a particular environment, functional analysis of environments in terms of social reinforcement contingencies, and perceived social climate. Perceived social climate is a most recent and promising field of study that analyzes the general norms, values, and other psychosocial characteristics of diverse environments (Kiritz & Moos, 1974).

Moos (1976) identifies common underlying patterns of various social environments and groups them into three broad categories: relationship dimension, personal development dimension, and system maintenance dimension. The relationship dimension encompasses both the nature and the intensity of personal relationships as they appear within the environment. The personal development dimension, also called the personal growth dimension, assesses the extent to which the group encourages its members to be independent and self-reliant, the practicality of the groups' actions, the degree to which personal matters are revealed, and the extent to which the expression of angry feelings is emphasized. System maintenance

and system change dimensions relate to the orderly and coherent manner used in changing and improving the group program or structure.

Studies conducted by Baum and Nutter (1974), Duncan and Brill (1977), Menard (1974), and Schroeder (1979) verified that the GES is indeed effective in accurately discriminating between groups that are content with their situation and those that are in need of change. The importance of a GES assessment lies not only in its function in establishing a distinction between groups but also in the fact that the information from the GES pinpoints problem areas, thus aiding both researchers and practitioners in constructing suggestions for improving relationships.

In the only study where the GES was used to assess an athletic environment, Hirsch (1978) administered Forms R and I to 20 high school male basketball teams and their coaches as a means of determining those teams satisfied with the dimensions of their particular environment and those who were less satisfied. Based on those various dimensions, two different athletic environments were distinguished and behavior patterns were analyzed. Comparisons between athletes' and coaches' perceptions were formulated using information obtained from the GES.

Hirsch (1978) concluded that in satisfied environments there existed greater athlete-coach interaction and more athlete initiated behaviors than in less satisfied environments. He also found that coaches in a more satisfied environment were more likely to demonstrate praise and acceptance in both verbal and nonverbal behavior. It was found that coaches perceived their environments as more ideal than their athletes; whereas, their athletes indicated that their present team atmosphere was in need of change. In regard to team dimensionality, satisfied teams were generally cohesive, well-organized, and had strong leader support and control. Those teams that

were less satisfied lacked cohesion and leader support.

Summary

In improving the quality of coach-athlete interaction, researchers have been conducting studies using a technique called interaction analysis (Agnew, 1977; Hirsch, 1978; Kasson, 1974). Interaction analysis has been used extensively in physical education research, and it has emerged as an appropriate technique in assessing athletic environments.

Several researchers have advocated a more empirical approach to the analysis of coaching. Agnew (1977), Kasson (1974), and LaGrand (1970) have acknowledged the need for more effective methods of observing coaching behavior and have demonstrated different means of pursuing that goal.

One of the most popular interaction analysis systems, the Flanders' Interaction Analysis System (FIAS), functions to accurately determine teacher-student interaction through verbal behavior alone. A significant modification of FIAS, the Cheffers' Adaptation of Flanders' Interaction Analysis System (CAFIAS), was developed to assess human behaviors in terms of verbal and nonverbal dimensions as well as identifying teaching agents and the structure of the activity sessions.

Studies done by Agnew (1977) and Kasson (1974) have provided information concerning the role of verbal and nonverbal behavior in teaching and coaching. According to Agnew (1977), more pupil initiated behavior was observed in coaching environments. Kasson (1974) found that more direct behavior was observed in both teaching and coaching environments.

Hirsch (1978) conducted a study using CAFIAS and the Group Environment Scale (GES) in investigating coaching behavior from two distinct environments, labeled satisfied and less satisfied. The GES measured the

social climate of groups, with behaviors identified using CAFIAS. A relationship was drawn between behaviors that occurred in satisfied environments and those behaviors that occurred in less satisfied environments. It was found that greater athlete-coach interaction and more pupil initiated behaviors were displayed in satisfied environments than in less satisfied environments. This type of research should lead to improved interaction between coaches and athletes, resulting in a more satisfactory athletic experience for both parties.

Chapter 3

METHODS AND PROCEDURES

Selection of subjects, methods used to assign teams to an environment, and the test instruments used to measure social climate as well as the differences between the two environments will be discussed in this chapter. Statistical procedures applied to the data will also be described.

Selection of Subjects

Twenty female secondary school basketball teams and their coaches from schools in the Central New York State area served as subjects for this study. Information obtained from the two forms of the Group Environment Scale was the criteria used for classifying teams as either satisfied or less satisfied.

Upon visiting each school, coaches and players were given informed consent forms explaining the specific details of the study. Coaches were introduced to the two data collection devices, interaction analysis and the Group Environment Scale, and informed of their purposes. Both parties were made aware that information would be kept confidential. Each subject was also given the option of not participating or withdrawing from the study at will.

Testing Instruments

The following test instruments were used in this study:

1. Cheffers' Adaptation of Flanders' Interaction Analysis System (CAFIAS) was used to code coach-athlete interaction patterns and behavior. The primary purpose of this system is to evaluate and record both verbal and nonverbal behavior in the physical education setting. Behaviors were

recorded every 3 seconds or whenever a particular behavior change was noted. The categories of CAFIAS are presented in Appendix A.

2. Moos, Insel, and Humphrey's (1974) Group Environment Scale was designed to provide information about the characteristics of diverse social environments of task-oriented groups. Coaches and athletes were administered two forms of the GES. Form R measured the athletes' and coaches' perception of the climate that actually existed on their teams and Form I measured how the athletes and coaches perceived an ideal climate. A comparison of these two sets of data resulted in the classification of teams as either satisfied or less satisfied with their athletic environment. The variables used to classify the environment were cohesion, leader support, expressiveness, independence, task orientation, self-discovery, anger and aggression, order and organization, leader control, and innovation.

The GES is a 90-item test that takes approximately 15 minutes to complete (Moos, Insel, & Humphrey, 1974). Moos, using internal consistencies (Kuder-Richardson Formula 20), average item-to-scale correlations, and subscale intercorrelations, evaluated the psychometric characteristics of the GES Form R subscales. The internal consistencies, ranging from .86 to .61, were all acceptable. Overall internal consistency scores included one below .70, five between .70 and .79, and four that were .80 and higher. The average item-to-subscale correlations varied from moderate (.42 for independence) to very substantial (.65 for anger and aggression, .64 for cohesion and order and organization) (Moos, Insel, & Humphrey, 1974).

Procedure

Each coach was personally contacted by the investigator and instructed on the procedures involved in the study. Two visits were made to each school, with the first and second visits being approximately a week apart. Each visit consisted of 30 minutes of videotaping and, at the conclusion of practice, the administration of one of the two forms of the GES. Form R was given during the first visit while Form I was administered at the conclusion of the second visitation. The GES was given to both players and coaches to compare the way in which coaches perceived their environment in relation to the way their athletes perceived it. Comparisons were also made between athletes' perceptions of their environment in relation to an ideal environment, between coaches' perceptions of their environment and an ideal environment, and between athletes' and coaches' perceptions of an ideal environment. The videotaping provided an account of the coaching behaviors displayed during each practice session.

Scoring of Data

Information from the GES was formulated by using a transparent overlay used to score both forms of the test. A raw score for each of the 10 variables was found for each of the two forms. These scores were recorded by adding up the number of items of each subscale that best described the dimension being evaluated. The raw scores for each form for each team were then changed to mean scores. Mean scores were derived by adding up all of the responses for each form and dividing by the number of athletes per team. The mean difference between each of the 10 variables in Form R and I for each team formed a cumulative mean total of all of the variable differences. Through the use of a median split the 20 teams were divided into two groups. Those teams that were least discrepant were

designated as satisfied with their environment with the remaining teams being designated as less satisfied.

Coder Reliability

The Spearman rank-order correlation was the statistical procedure used in determining coder reliability. Two randomly selected practice sessions were coded at two different times by Dr. Victor H. Mancini, and subjected to the Spearman rank-order correlation (see Appendix B).

Treatment of Data

Information from the Group Environment Scale (GES) was treated to a multivariate analysis of variance to determine overall differences between satisfied and less satisfied groups across the 10 GES variables (Harris, 1975). Significant differences were treated with follow-up analyses, using analysis of variance and discriminant function analysis. ANOVA identified which of the 10 GES variables contributed independently to differences between the two groups. Discriminant function analysis tested the individual GES variables dependently, accounting for the shared variance among them (Spector, 1977).

Using mean scores from the GES, figures were constructed comparing athletes' perceptions of their environment in relation to an ideal environment, coaches' perceptions of their environment in relation to an ideal environment, and athletes' and coaches' perceptions of an ideal environment.

Multivariate analysis of variance was performed on the eight variables of CAFIAS to determine whether differences in coaching behaviors existed between the satisfied and less satisfied groups (Harris, 1975). ANOVA located which of the eight CAFIAS variables contributed independently to differences between the two groups. In testing the CAFIAS variables

dependently, discriminant function analysis identified those variables accounting for the shared variance among them (Spector, 1977).

Summary

Twenty female secondary school basketball teams and their coaches in the Central New York State area comprised the population used to compare the behaviors of coaches from two distinct environments. During each of the two visits made to each team, the practice session was videotaped and a form of the GES was administered.

Information from the GES was tabulated using a transparent overlay which elicited raw scores. The raw scores for each form for each team were then changed to mean scores by adding up all of the responses for each form and dividing by the number of athletes per team. Through the use of a median split teams were divided into satisfied and less satisfied.

The GES data were subjected to multivariate analysis of variance to determine overall group differences between the satisfied and less satisfied group. Significant differences were treated to two follow-up analyses, analysis of variance and discriminant function analysis.

Mean scores from the GES were used to construct figures comparing athletes' perceptions of their environment in relation to an ideal environment, coaches' perceptions of their environment in relation to an ideal environment, and athletes' perceptions of an ideal environment.

Overall group differences were determined for the eight CAFIAS variables using a multivariate analysis of variance. Analysis of variance located those variables that contributed independently to differences between the two groups while discriminant function analysis identified those variables accounting for the shared variance among them.

Table 2
 Cell Means for the Analysis of Variance for the Satisfied and
 Less Satisfied Environment on Eight CAFIAS Variables

CAFIAS Variables	Satisfied Group		Less Satisfied		F
	(n = 10)		Group (n = 10)		
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	
Coach Use of Questioning, Verbal	15.00	5.11	5.76	4.56	10.75*
Coach Use of Questioning, Nonverbal	12.22	17.82	7.34	10.79	2.00
Coach Use of Acceptance and Praise, Verbal	63.61	4.10	16.61	12.95	273.54*
Coach Use of Acceptance and Praise, Nonverbal	73.81	12.38	25.38	19.26	111.07*
Athlete Verbal Initiation, Coach Suggestion	86.71	15.35	64.00	25.36	8.31*
Athlete Nonverbal Initiation, Coach Suggestion	63.47	25.40	32.55	27.55	11.67*
Athlete Verbal Initiation, Athlete Suggestion	8.14	6.87	11.95	8.80	1.97
Athlete Nonverbal Initiation, Athlete Suggestion	5.46	6.26	10.37	9.14	1.43

*
 $p < .05$

Table 3
 Discriminant Function Analysis and Percentage of
 Contribution of the Eight CAFIAS Variables

Variable Ranking	Standardized Discriminant Weighting	Percentage of Contribution to the Discriminant Function
Coach Use of Acceptance and Praise, Verbal	.807	65.12
Athlete Verbal Initiation, Athlete Suggestion	.467	21.80
Athlete Nonverbal Initiation, Athlete Suggestion	.236	5.57
Coach Use of Questioning, Verbal	.209	4.37
Athlete Verbal Initiation, Coach Suggestion	.142	2.02
Athlete Nonverbal Initiation, Coach Suggestion	.106	1.12
Coach Use of Acceptance and Praise, Nonverbal	.018	.03
Coach Use of Questioning, Nonverbal	-.013	.00

be seen in Table 4. Extended interpretative drills or scrimmage by the athletes, (10-8\,8\ -10) as the dominant behavior pattern for the satisfied group, occurred 31.02% as compared to the same behavior pattern occurring in the less satisfied group 20.12%. In the less satisfied group the dominant behavior pattern exhibited was extended athlete narrow response (10-8) indicating that practices in the less satisfied environment consisted of drills more mechanical rather than interpretative in nature. Extended information giving by the coach (5-5) occurred 7.72% in the satisfied group; whereas, in the less satisfied group, extended information giving by the coach (5-5) occurred a greater percentage of time at 12.07%. Coaches in the less satisfied environments exhibited a conspicuous lack of praise and acceptance in comparison to satisfied teams. The satisfied group was characterized by the occurrence of interpretative athlete behavior followed by coaches' praise (8\ -2) and coach praise followed by athlete interpretative behavior (2-8\)

Comparisons were also drawn from the mean percentage of CAFIAS behaviors between the satisfied and less satisfied groups. Figure 1 graphically illustrates these comparisons. Results for the satisfied group indicated coach praise, verbal and student to student interaction were the prominent behaviors. The less satisfied group was characterized by greater mean percentages of information giving, verbal and nonverbal; coach direction giving, verbal and nonverbal; athlete narrow behavior, nonverbal; and student to student interaction, nonverbal.

Multivariate Analysis of Variance of Group Environment Scale Data

Multivariate analysis of variance (MANOVA) was used to analyze information from the GES to determine overall differences between satisfied

Table 4

Summary of Most Frequent Interaction Patterns and Percentage
of Occurrence among the Top 10 Cells of Women Basketball
Coaches for Satisfied and Less Satisfied Groups

Satisfied			Less Satisfied		
Interaction Patterns	# of Times	% of Occurrence	Interaction Patterns	# of Times	% of Occurrence
10-8\	10	15.40	5-5	10	12.07
8\-10	9	15.62	6-8	10	9.87
5-5	8	7.72	10-8\	9	9.29
8\-2	8	7.50	8-6	9	5.46
10-8	7	6.86	8-10	8	8.79
5-8\	7	5.29	10-8	8	8.65
2-8\	6	5.34	5-6	8	4.99
8-5	5	4.78	8-5	7	5.98
6-8	5	4.63	8-8	6	21.74
6-8\	5	3.98	8\-10	6	10.83

10-8\ athlete to athlete interpretative drills and scrimmage

8\-10 athlete to athlete interpretative drills and scrimmage

5-5 extended information giving by the coach

8\-2 interpretative athlete behavior followed by coaches' praise

10-8 athlete to athlete predictable behavior

5-8\ coach information followed by athlete interpretative behavior

Table 4 (continued)

- 2-8\ coach praise followed by athlete interpretative behavior
- 8-5 athlete narrow behavior followed by coach information giving
- 6-8 coach direction followed by athlete narrow behavior
- 6-8\ coach direction followed by athlete interpretative behavior
- 8-6 athlete narrow response followed by coach direction
- 8-10 athlete to athlete predictable response
- 5-6 coach information giving followed by coaches' information
- 8-8 extended athletes' narrow response

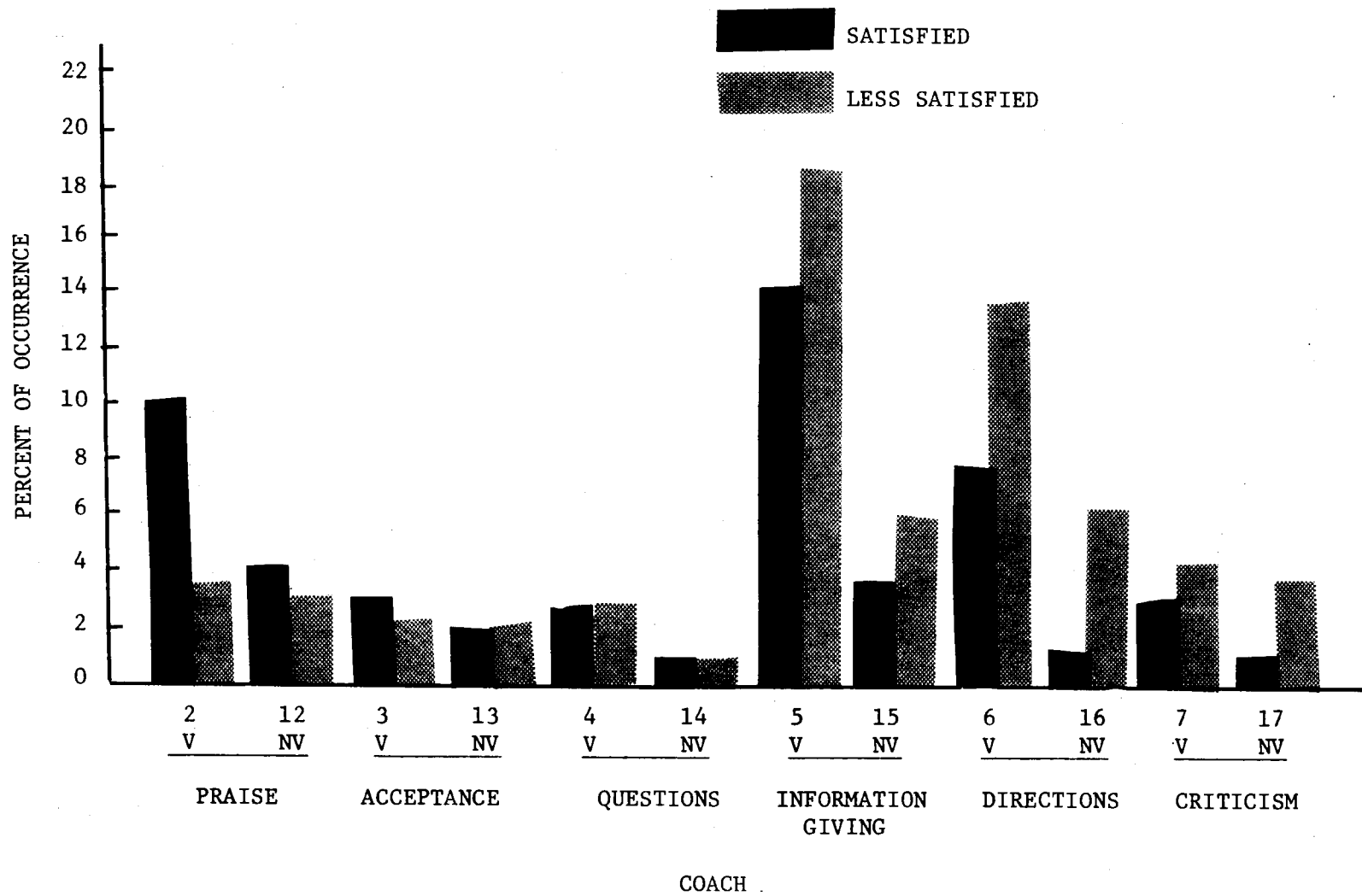


Figure 1. Mean percentages for the CFIAS variables.

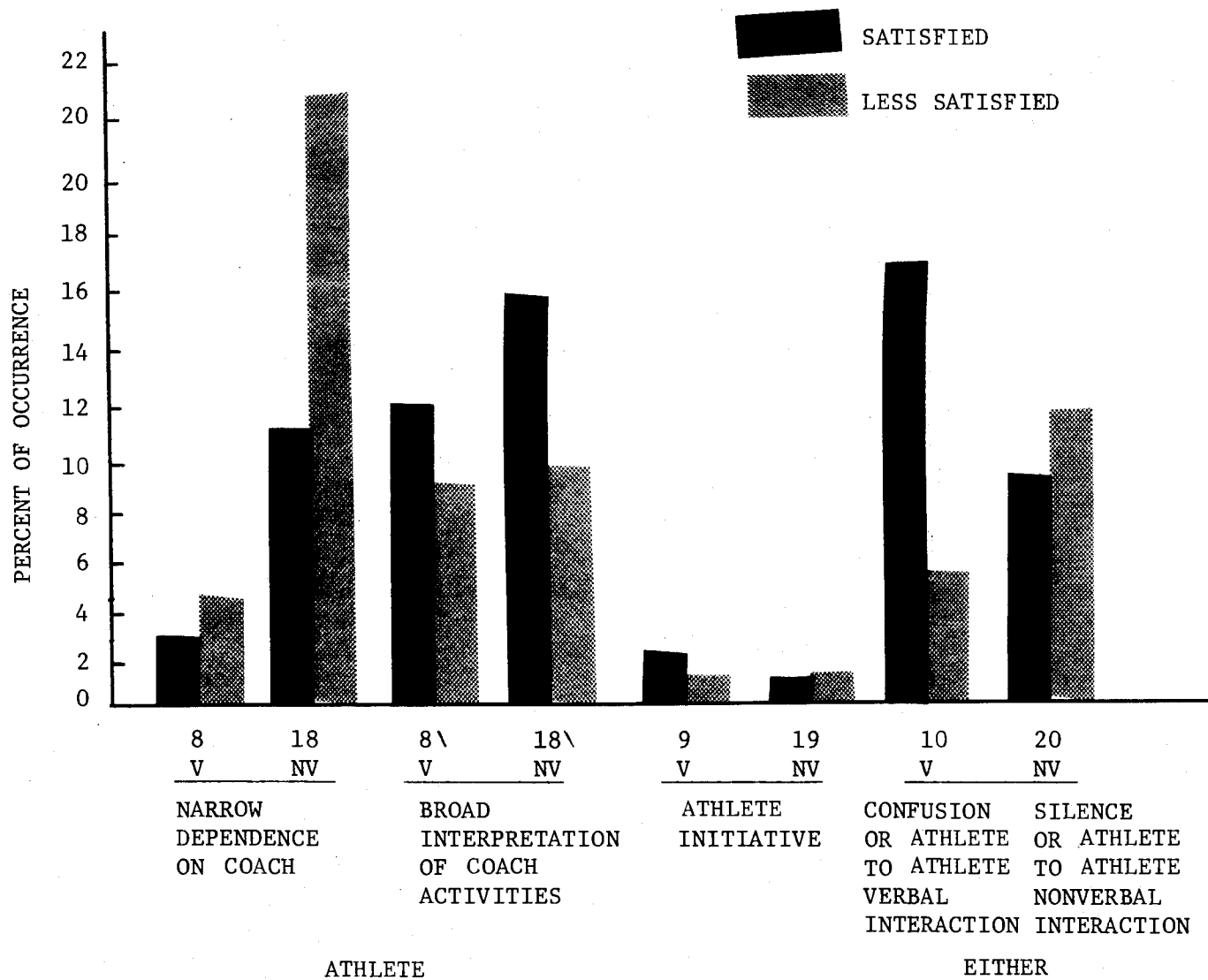


Figure 1. (continued)

and less satisfied groups across 10 GES variables (Harris, 1975). The MANOVA results for the 10 GES variables revealed that the groups were significantly different, $\eta^2 = .332$, (1, 4, 81.5), $p < .01$.

Seven GES variables were found to be statistically significant in differentiating between the satisfied and less satisfied groups as identified through an analysis of variance. As presented in Table 5, the seven significant variables included cohesion, leader support, independence, task orientation, anger and aggression, order and organization, and innovation.

Discriminant function analysis determined the amount of variance accounted for by each of the 10 GES variables dependently. As is shown in Table 6, innovation contributed 36.65% to the discriminant function. Leader support and cohesion, accounting for 21.80% and 17.14% respectively, contributed significantly to the discriminant function. The remaining seven variables contributed less than 25% to the discriminant function.

Comparisons of Group Environment Scale Data

Through a comparison of the two forms of the GES, Form R (real) and Form I (ideal), specific areas in which athletes and coaches perceived a need for change were identified. Those that showed the least amount of discrepancy in the 10 GES variables (Form R-I) were designated as satisfied. Conversely, teams having a greater discrepancy were labeled as less satisfied. These discrepancies on each variable can be identified by looking at the individual figures of each team (Figures 2-21). The 10 satisfied teams had cumulative mean scores ranging from 5.6 to 8.5 while the less satisfied group had a range of 9.4 to 18.4. These results were obtained by taking the differences between each variable on Form R

Table 5
 Cell Means for the Analysis of Variance for the Satisfied and
 Less Satisfied Environment on 10 GES Variables

GES Variables	Satisfied Group		Less Satisfied Group		F
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	
Cohesion	7.63	1.60	6.97	2.22	32.06*
Leader Support	8.23	.36	7.32	1.70	29.99*
Expressiveness	4.53	2.13	5.26	1.88	3.44
Independence	6.01	1.63	5.29	1.64	12.26*
Task Orientation	7.20	1.24	6.13	1.91	21.87*
Self-discovery	4.12	2.05	3.82	1.87	5.39
Anger and Aggression	4.33	.24	5.94	2.25	17.60*
Order and Organization	6.72	1.69	6.06	1.98	20.68*
Leader Control	7.06	1.45	6.94	1.57	5.73
Innovation	4.30	1.71	3.97	1.56	37.48*

* $p < .01$

Table 6
 Discriminant Function Analysis and Percentage of
 Contribution of the 10 GES Variables

Variable Ranking	Standardized Discriminant Weighting	Percentage of Contribution to the Discriminant Function
Innovation	.604	36.65
Leader Support	.467	21.80
Cohesion	.414	17.14
Expressiveness	-.268	7.18
Self-discovery	.248	6.15
Order and Organization	.222	4.93
Anger and Aggression	-.196	3.84
Independence	.133	1.77
Leader Control	.110	1.21
Task Orientation	-.021	.04

and Form I and making a cumulative total of all of the variable differences.

Comparisons of Athletes' Perceptions of
Real and Ideal Athletic Environments
for the Satisfied Group

Team A, represented in Figure 2, indicated a high degree of satisfaction with their environment. The team's overall cumulative mean score was 5.6. GES results show that athletes agreed quite closely on all 10 of the GES variables, particularly on leader support and leader control. There was also strong agreement on the variables of cohesion and independence. The group profile does, however, reflect the athletes' need for greater innovation and order and organization.

Team B, illustrated in Figure 3, appears to be practically oriented, and despite an already moderate emphasis on order and organization, the athletes would like to see even more. With a cumulative mean score of 5.73, this was a very satisfied team. There is close agreement on the variables of cohesion, innovation, and leader control. The athletes expressed a specific concern for an exhibition of less anger and aggression.

Team C, with a satisfactory cumulative mean score of 6, illustrated nearly ideal opinions on the levels of cohesion and task orientation present on their team, indicating a very close-knit and practical group. Members, as can be seen in Figure 4, were in close agreement on the variables of independence and self-discovery. There were discrepancies indicating a need for greater innovation and a decrease in anger and aggression.

Figure 5 portrays a group profile of Team D that indicates

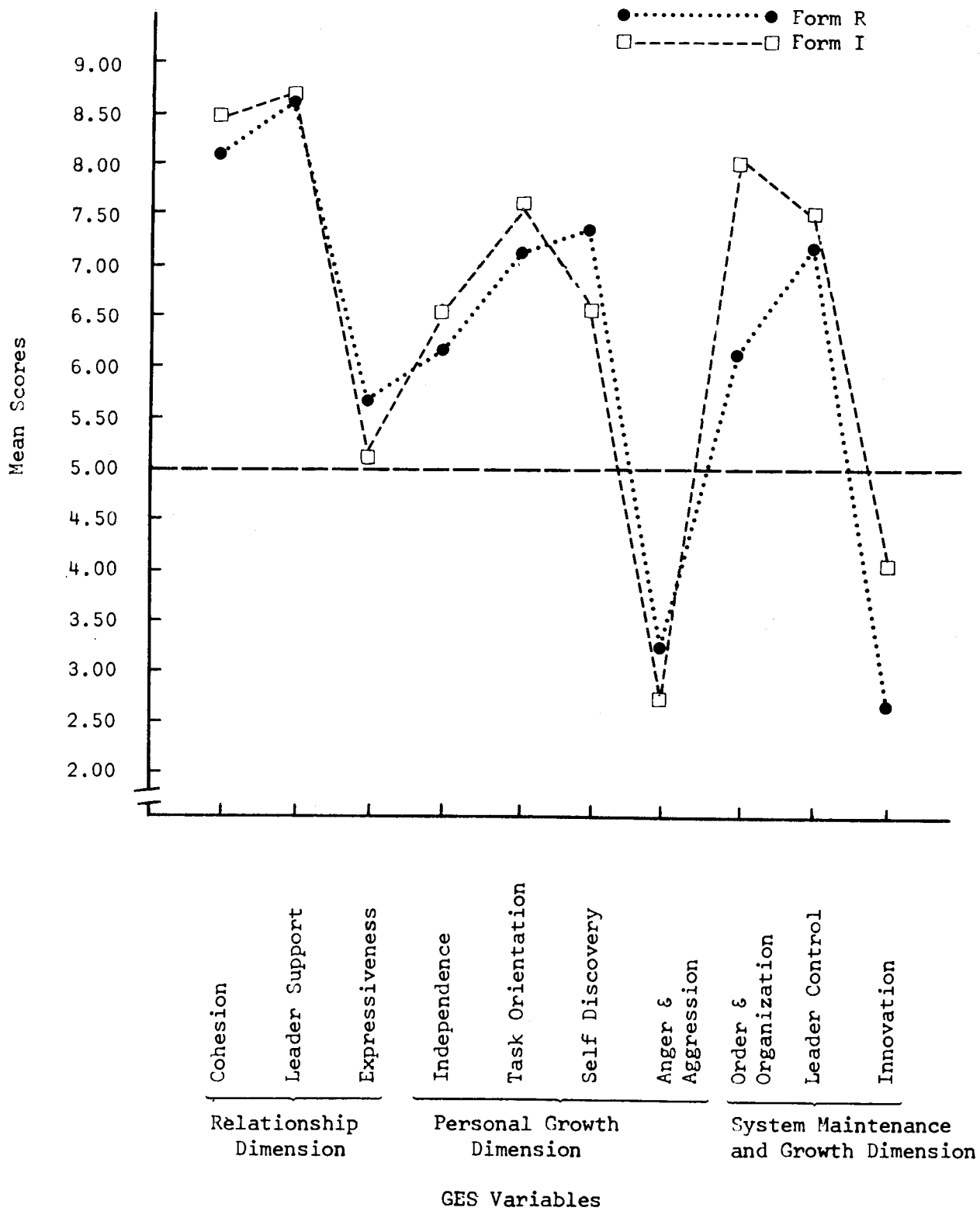


Figure 2. GES (Form R & I) for Team A.

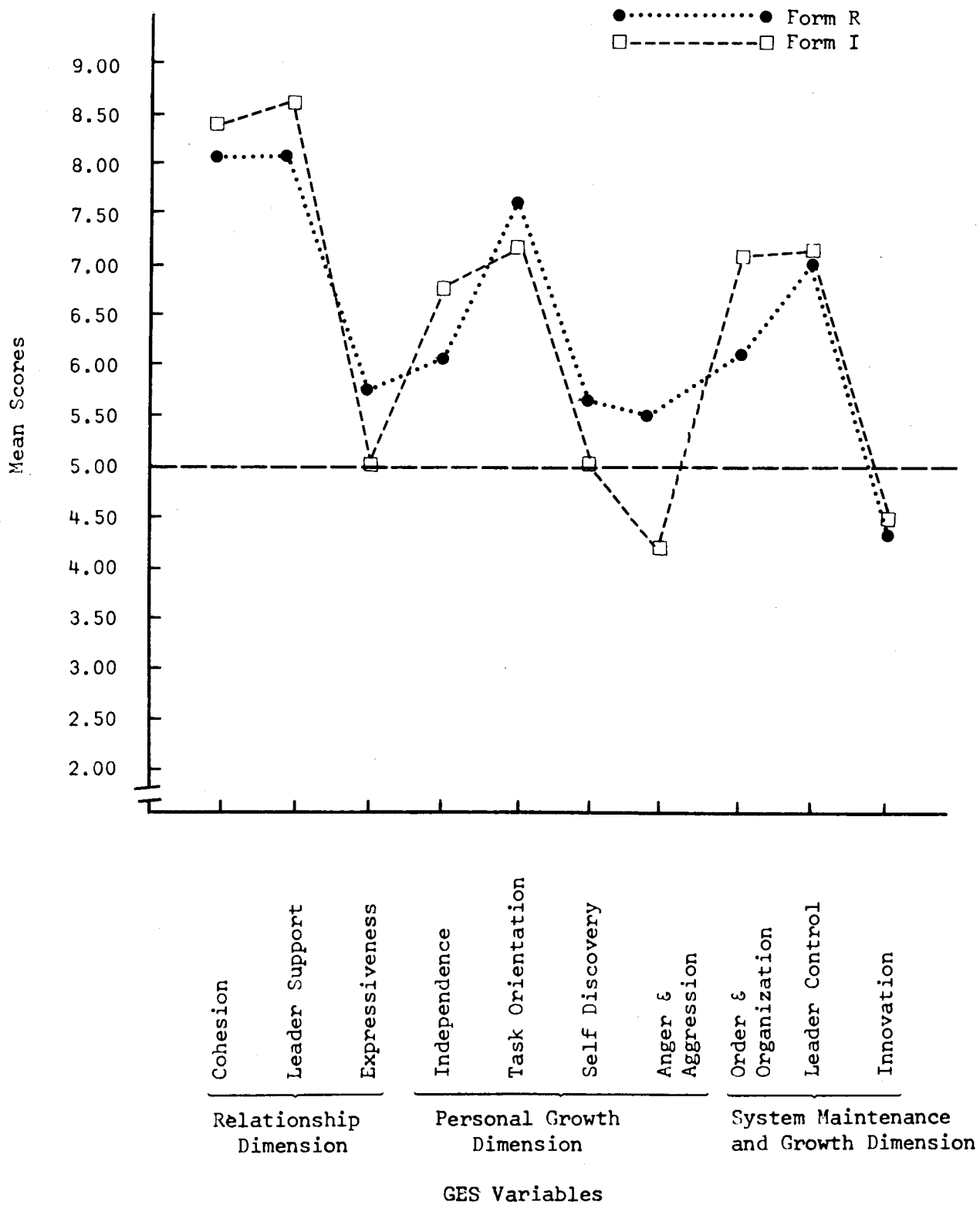


Figure 3. GES (Form R & I) for Team B.

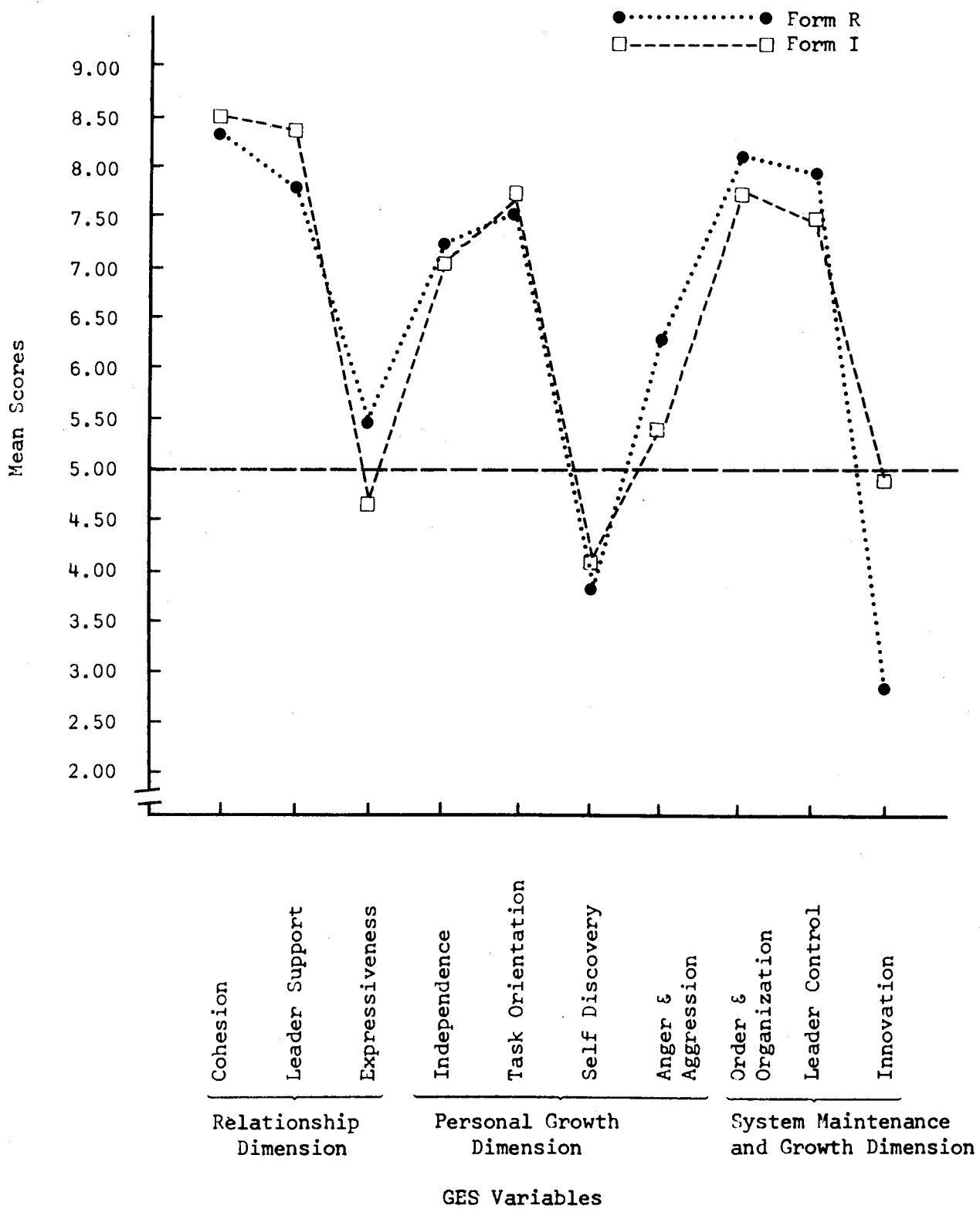


Figure 4. GES (Form R & I) for Team C.

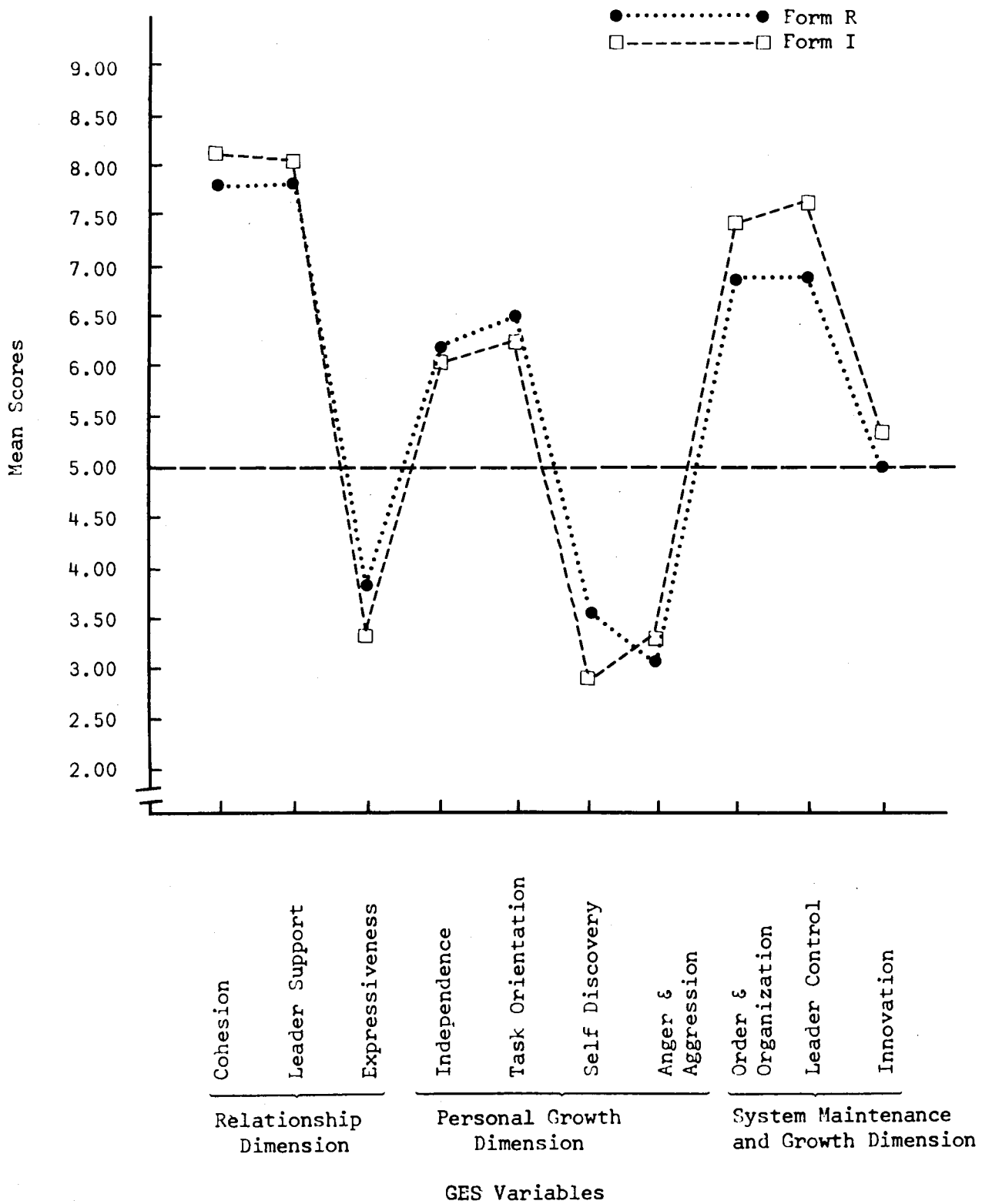


Figure 5. GES (Form R & I) for Team D.

satisfaction with their environment as is evidenced by a general agreement on all 10 of the GES variables. A total cumulative mean score of 6.2 indicated a small amount of deviation from the athletes' perception of an ideal environment. The athletes do express a desire for a great deal of leader input, as shown in their ideal representation of leader support and leader control, with a need for a slight decrease in expressiveness and self-discovery.

GES results for Team E are plotted in Figure 6. The cumulative mean score on this team was 6.5. In addition to a high degree of leader support, the athletes indicate a preference for even stronger leader input in calling for greater leader control. Members of the team were satisfied overall with their environment but depicted an ideal situation as having increased levels of expressiveness and self-discovery.

The GES results for Team F, as shown in Figure 7, is another satisfied team with a cumulative mean score of 6.7. The group profile for this team indicates a very task oriented group, a finding that may explain their high degree of cohesion. The athletes also perceive the existence of ideal levels of independence and innovation. There is a need for change on the variables of order and organization and leader control.

Figure 8, representing Team G, shows a satisfied group profile in exact agreement on the variables of order and organization, and very close accordance on cohesion, leader support, task orientation, and innovation. Team G had a cumulative mean score of 7.8. The athletes expressed a desire for increased athlete input as is seen in the difference between the real and ideal levels of expressiveness, independence, and self-discovery.

Team H, as a team labeled as satisfied, had a cumulative mean score

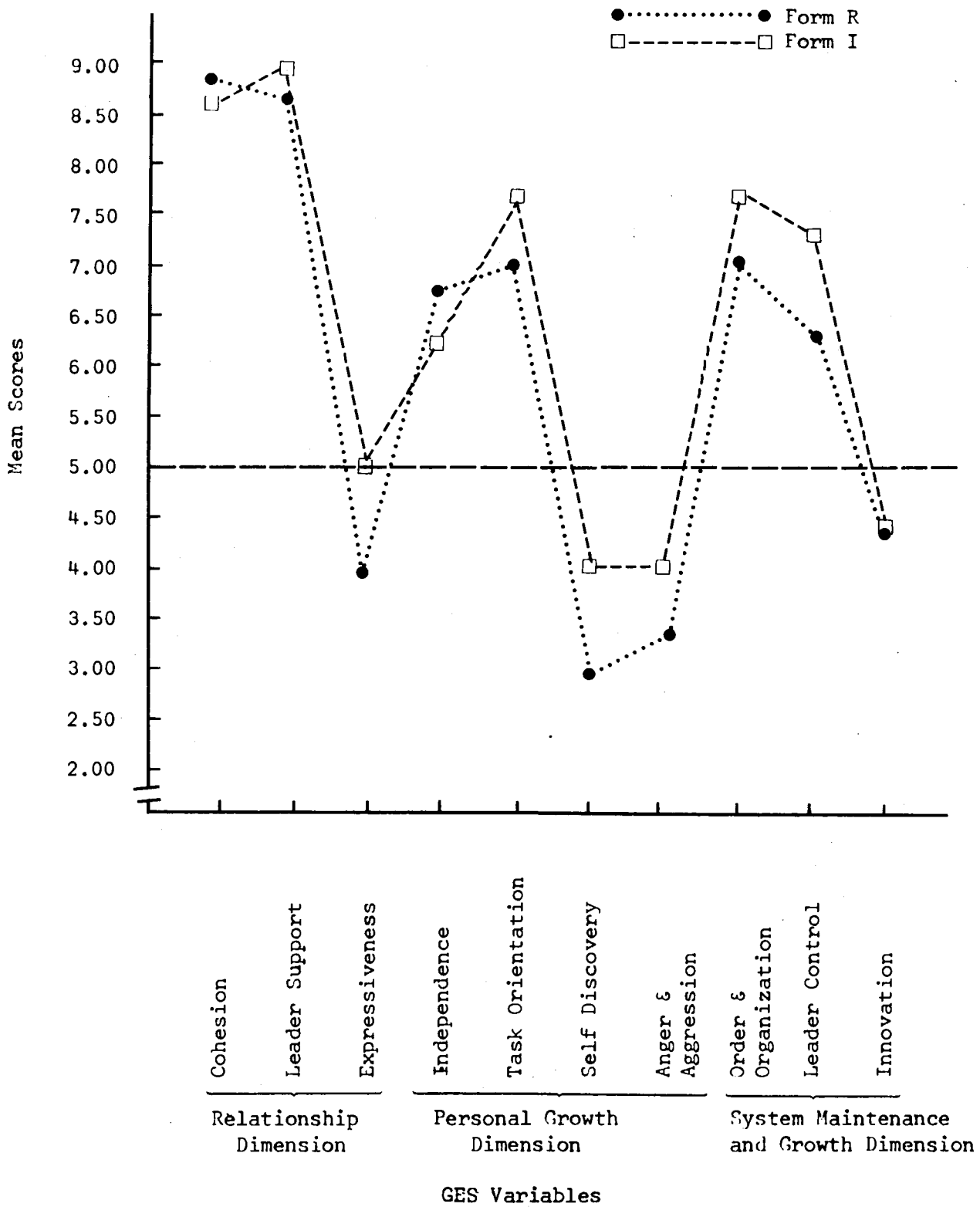


Figure 6. GES (Form R & I) for Team E.

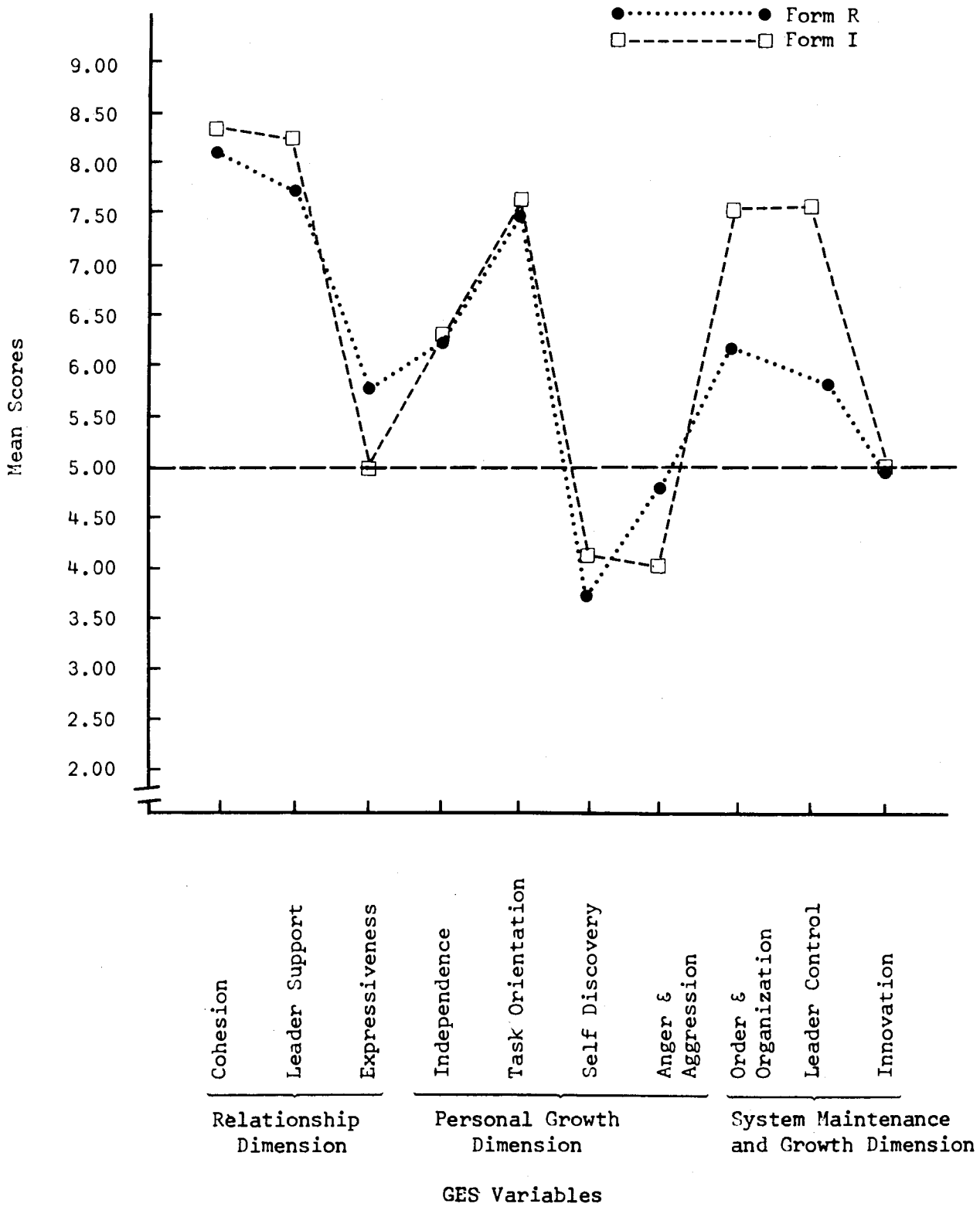


Figure 7. GES (Form R & I) for Team F.

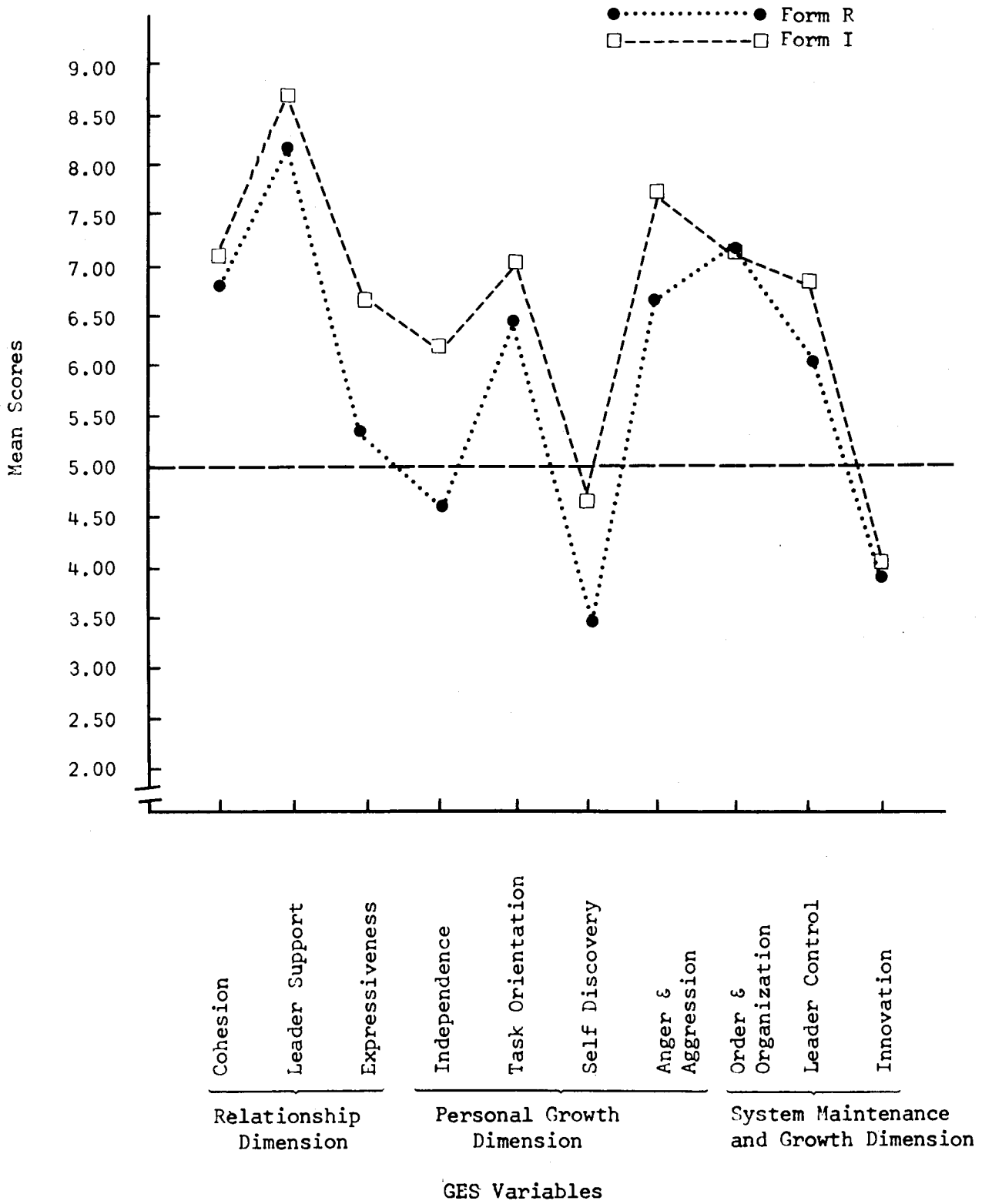


Figure 8. GES (Form R & I) for Team G.

of 7.9. As portrayed in Figure 9, Team H lacked group cohesion, and is in need of increased task orientation. The athletes do perceive the degrees of expressiveness and innovation as being satisfactory.

The group profile for Team I, illustrated in Figure 10, describes a team that is, according to its members, much too organized and restrictive, with an expressed desire for less leader input. As can be seen by the discrepancy on the variable of innovation, the athletes would like to have an increased variety of activities in their practices. The cumulative mean score for Team I was 8.0.

Results from the GES, plotted in Figure 11, depict the group profile for Team J, a satisfied team with a cumulative mean score of 8.5. Athletes perceived their environment as satisfactory, particularly in the variables of expressiveness and self-discovery. The variables on which team members indicated a need for improvement included cohesion, leader support, and leader control.

Comparisons of Athletes' Perceptions of
Real and Ideal Athletic Environments
for the Less Satisfied Group

Team K, as the first of the less satisfied teams, had a cumulative mean score of 9.4. As is shown in Figure 12, Team K was a highly cohesive group. There is a strong need, however, for an increase in both leader support and leader control with a subsequent decrease in expressiveness and anger and aggression. The athletes further desired to have a more task oriented group as well.

Team L, as is evidenced by the GES results in Figure 13, illustrates that the athletes seemed to feel that the team was too task oriented. A cumulative mean score of 9.8 indicated a discrepancy great enough to

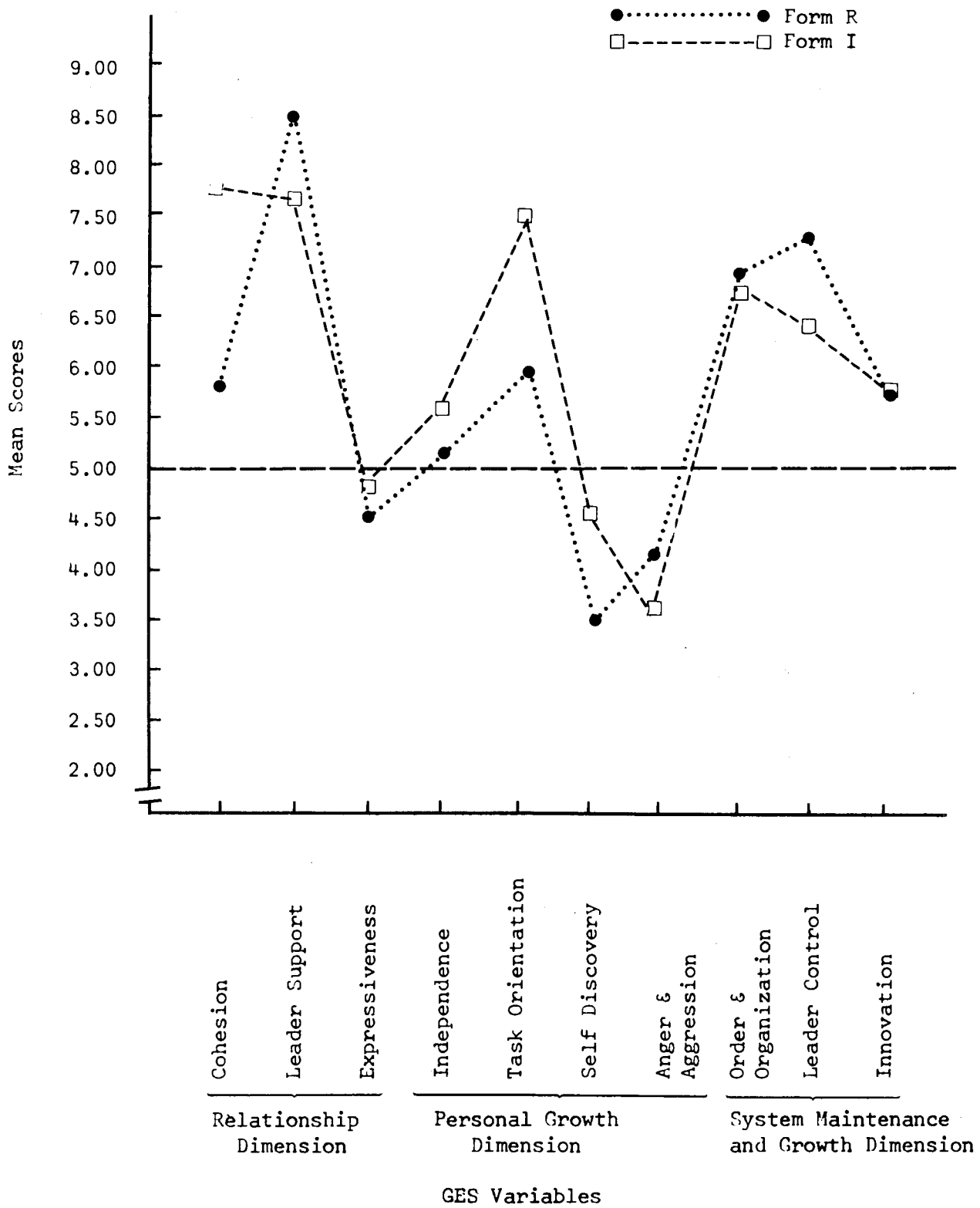


Figure 9. GES (Form R & I) for Team H.

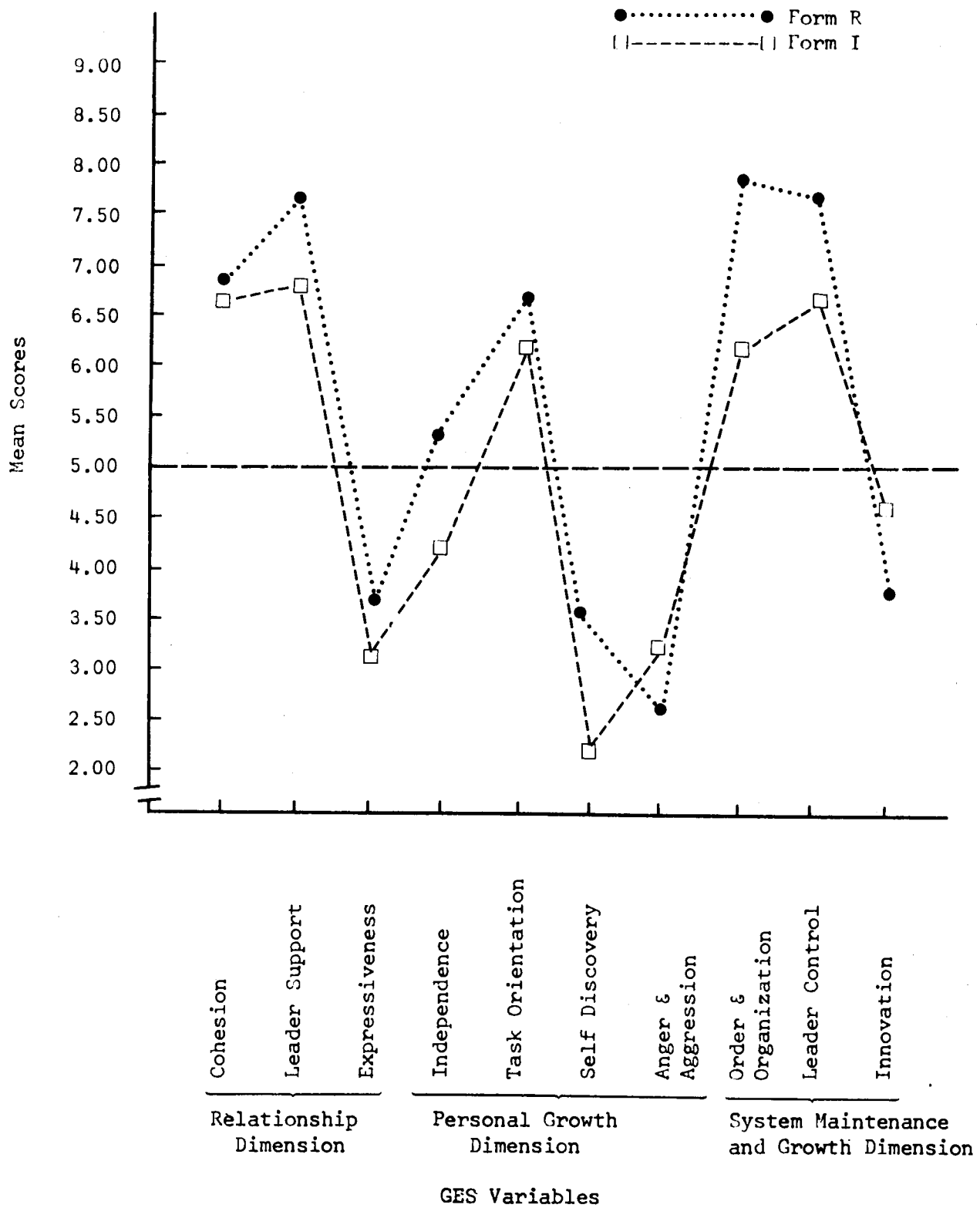


Figure 10. GES (Form R & I) for Team I.

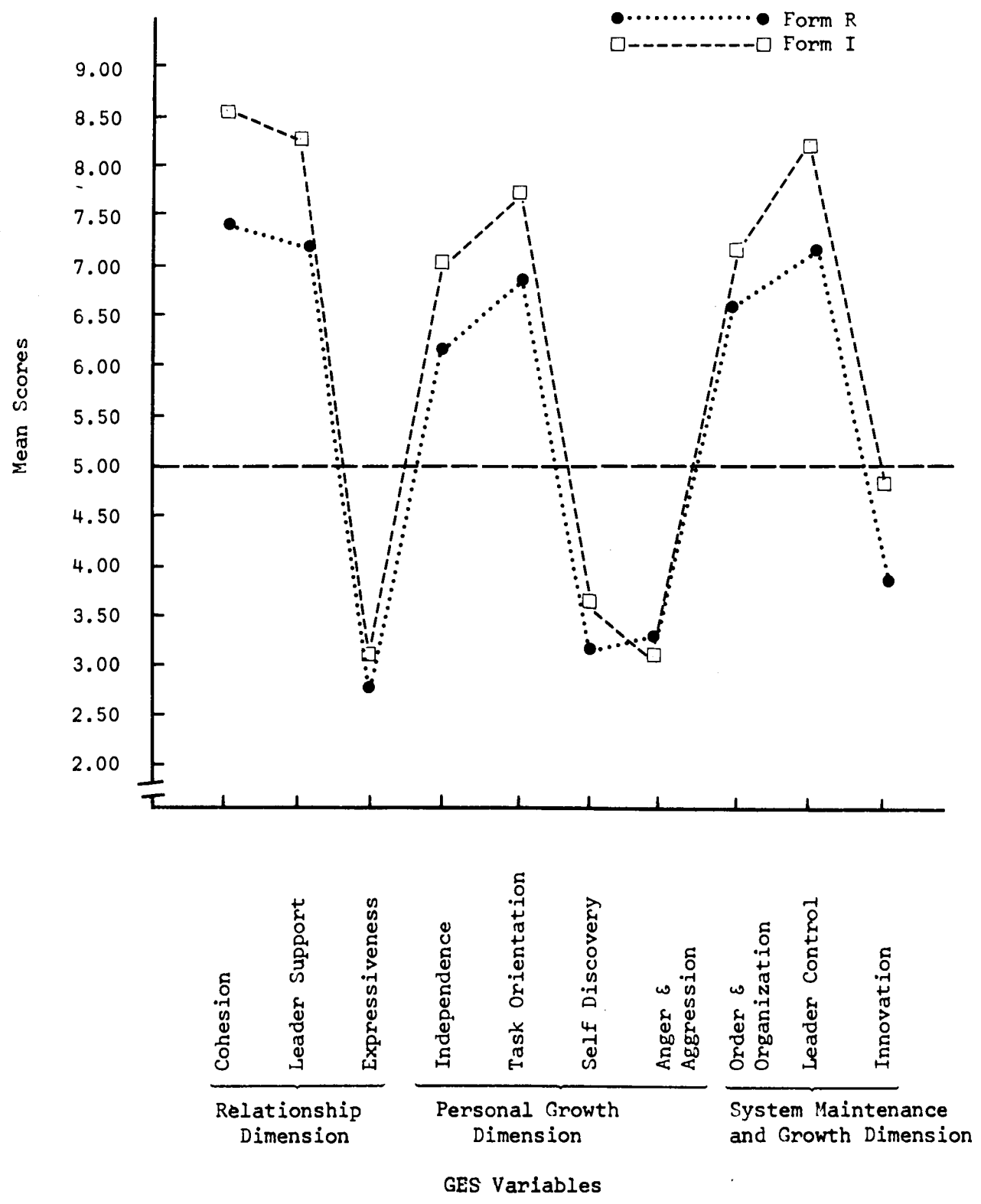


Figure 11. GES (Form R & I) for Team J.

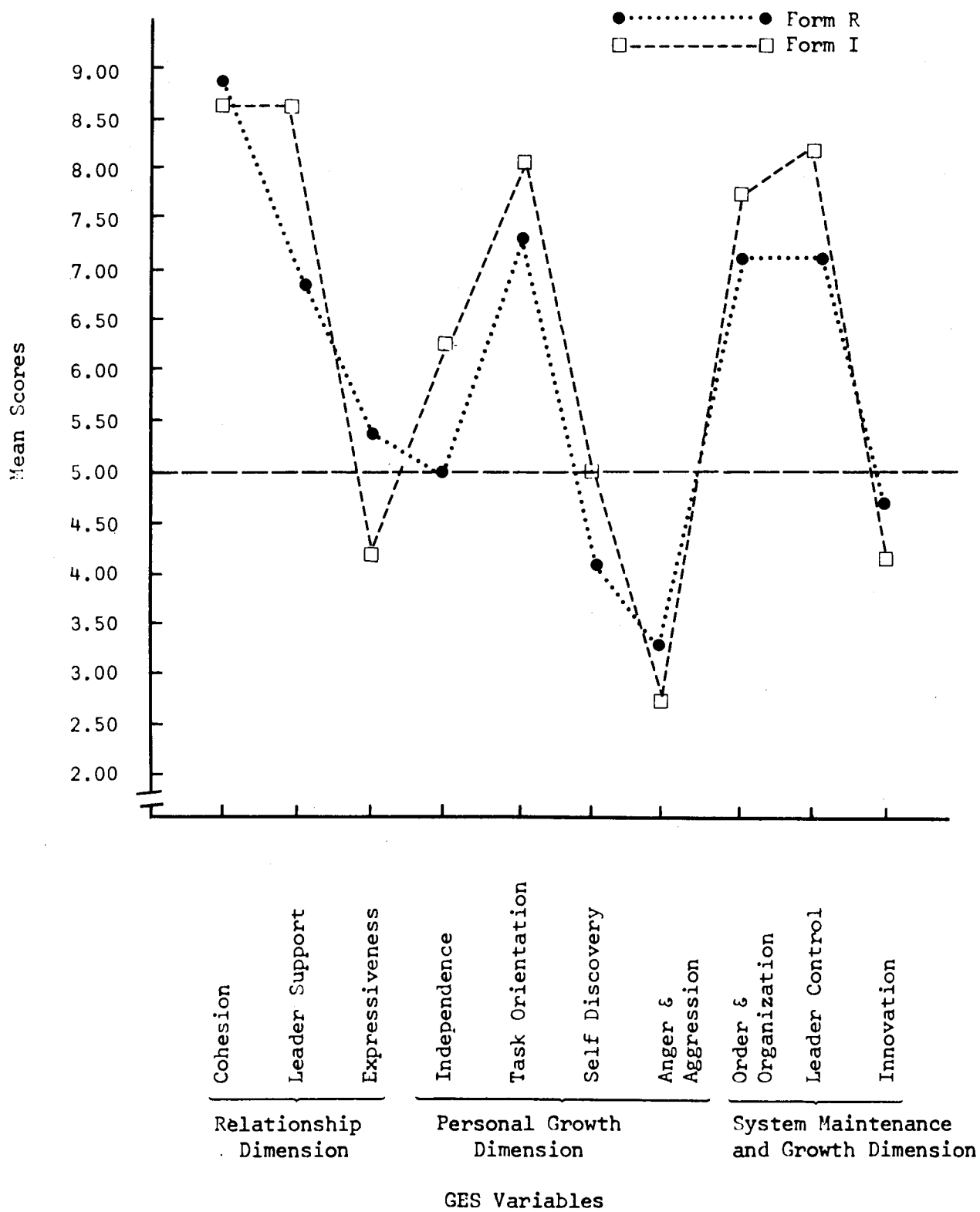


Figure 12. GES (Form R & I) for Team K.

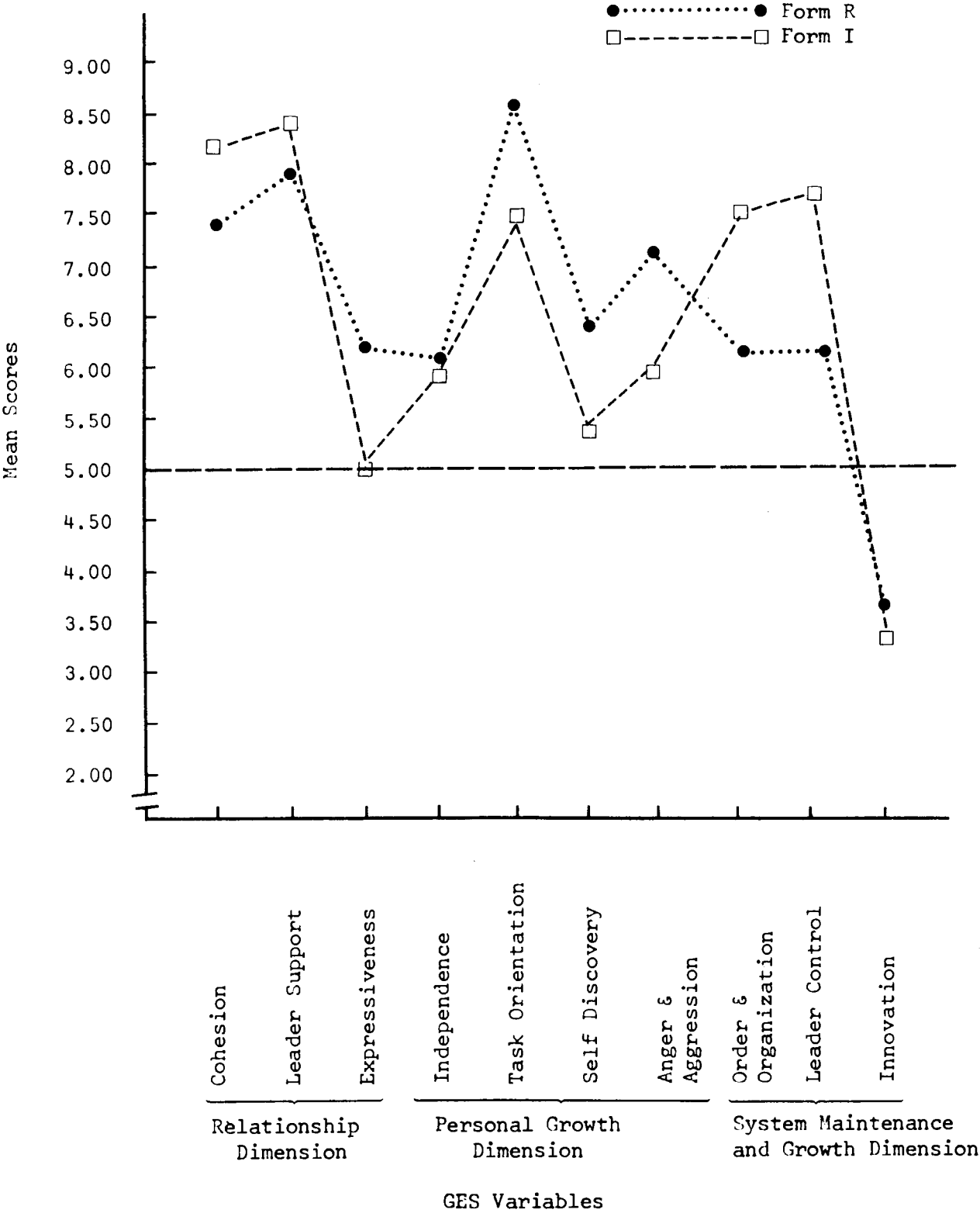


Figure 13. GES (Form R & I) for Team L.

include Team L in the less satisfactory group. Team members depicted an ideal situation in which they would relinquish some degree of expressiveness and anger and aggression for an increase in leader support and leader control.

Team M's group profile, as seen in Figure 14, described a social climate that was well organized with good leadership interaction. Team M, as a member of the less satisfied group, had a cumulative mean score of 11.25. Members identified that a moderate degree of task orientation was not sufficient for their team, indicating that improvement was needed on that variable. Further significant differences existed on the variables of expressiveness, anger and aggression, and innovation.

Team N, with a cumulative mean score of 11.63, is characterized by a high level of anger and aggression and expressiveness, both variables that athletes would like to have reduced. As is seen in Figure 15, these attributes may be accountable for the less than desirable level of cohesion perceived by the athletes. Team members are satisfied with the amount of task orientation and leader support but express a lack of both order and organization and leader control.

As shown in Figure 16, Team O possessed almost ideal levels of leader support and leader control, indicating a desirable amount of leader interaction. The athletes perceived large discrepancies on the variables of independence, task orientation, anger and aggression, and innovation. Team O, with a cumulative mean score of 12.78, was designated as less satisfied.

Figure 17, displaying Team P's profile, indicated that the athletes perceived the necessity for an increase on all 10 GES variables. Team members were relatively satisfied with the variables of anger and

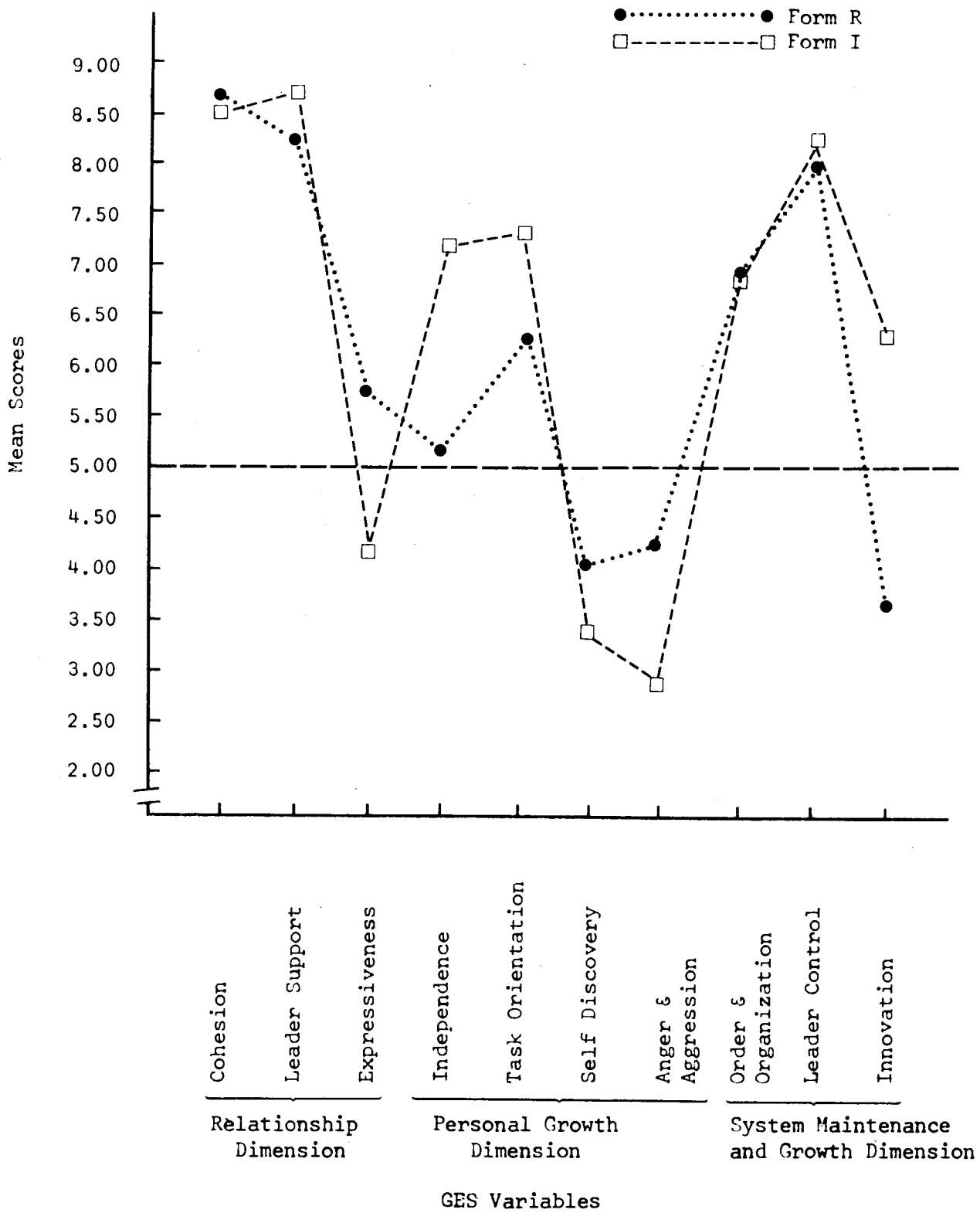


Figure 14. GES (Form R & I) for Team M.

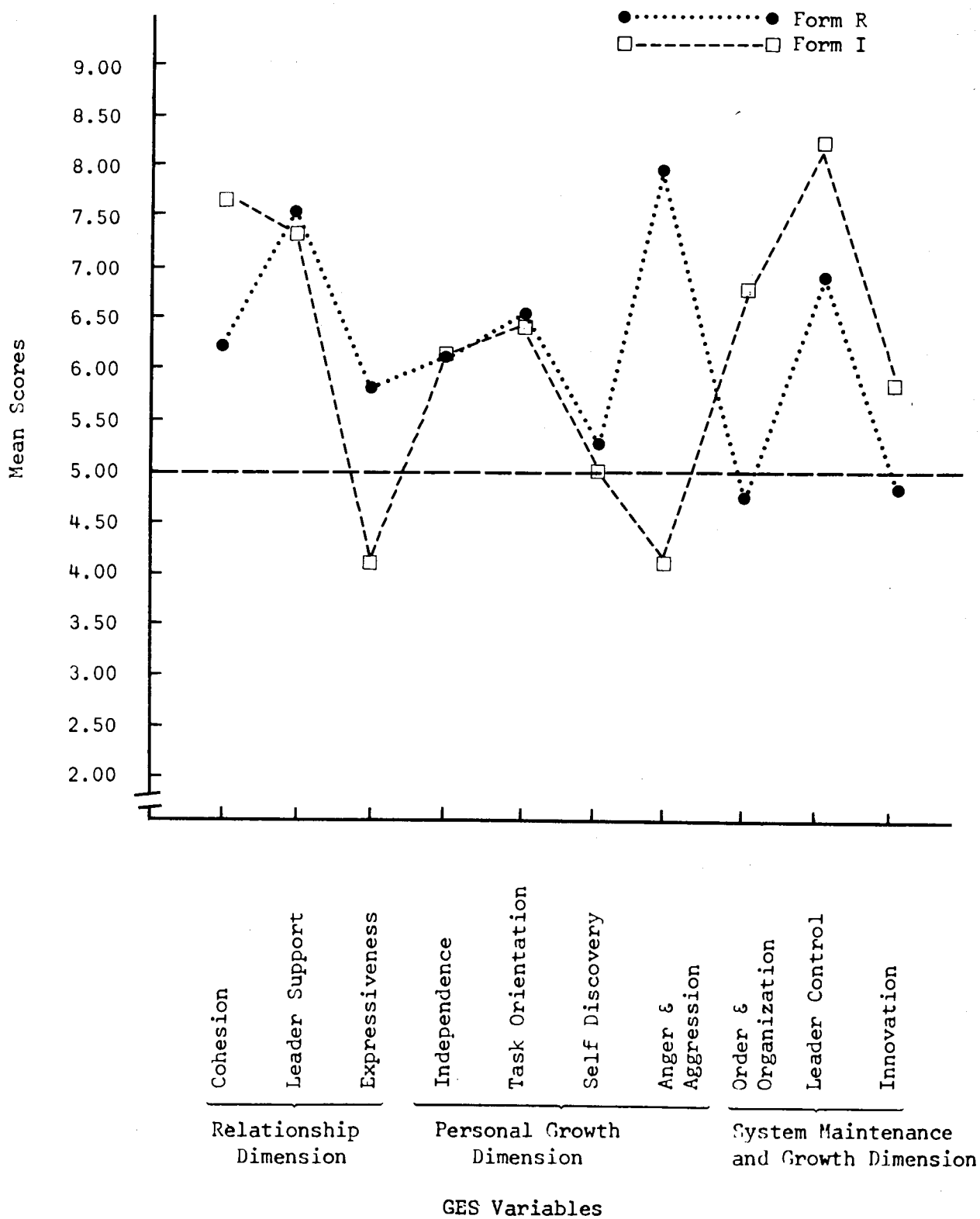


Figure 15. GES (Form R & I) for Team N.

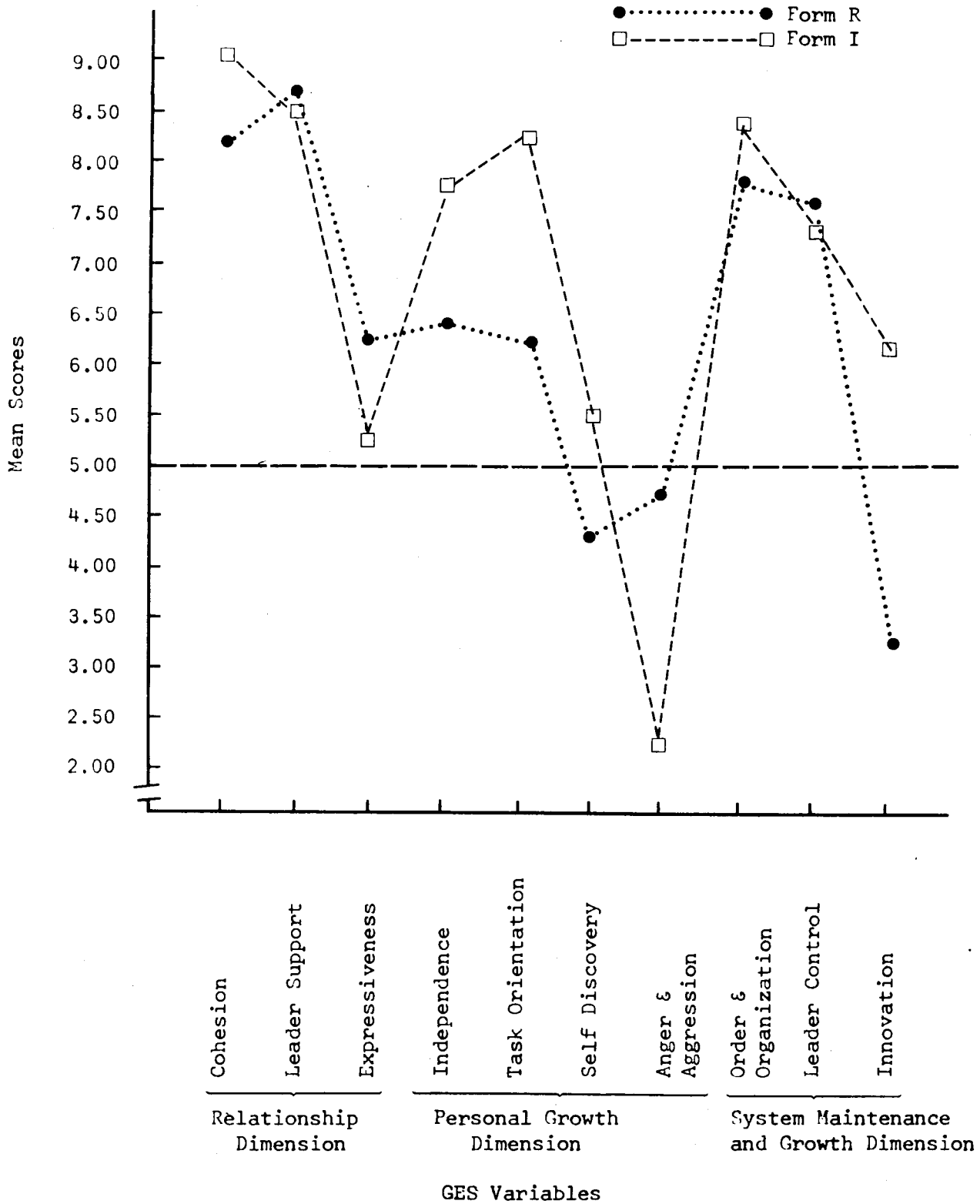


Figure 16. GES (Form R & I) for Team 0.

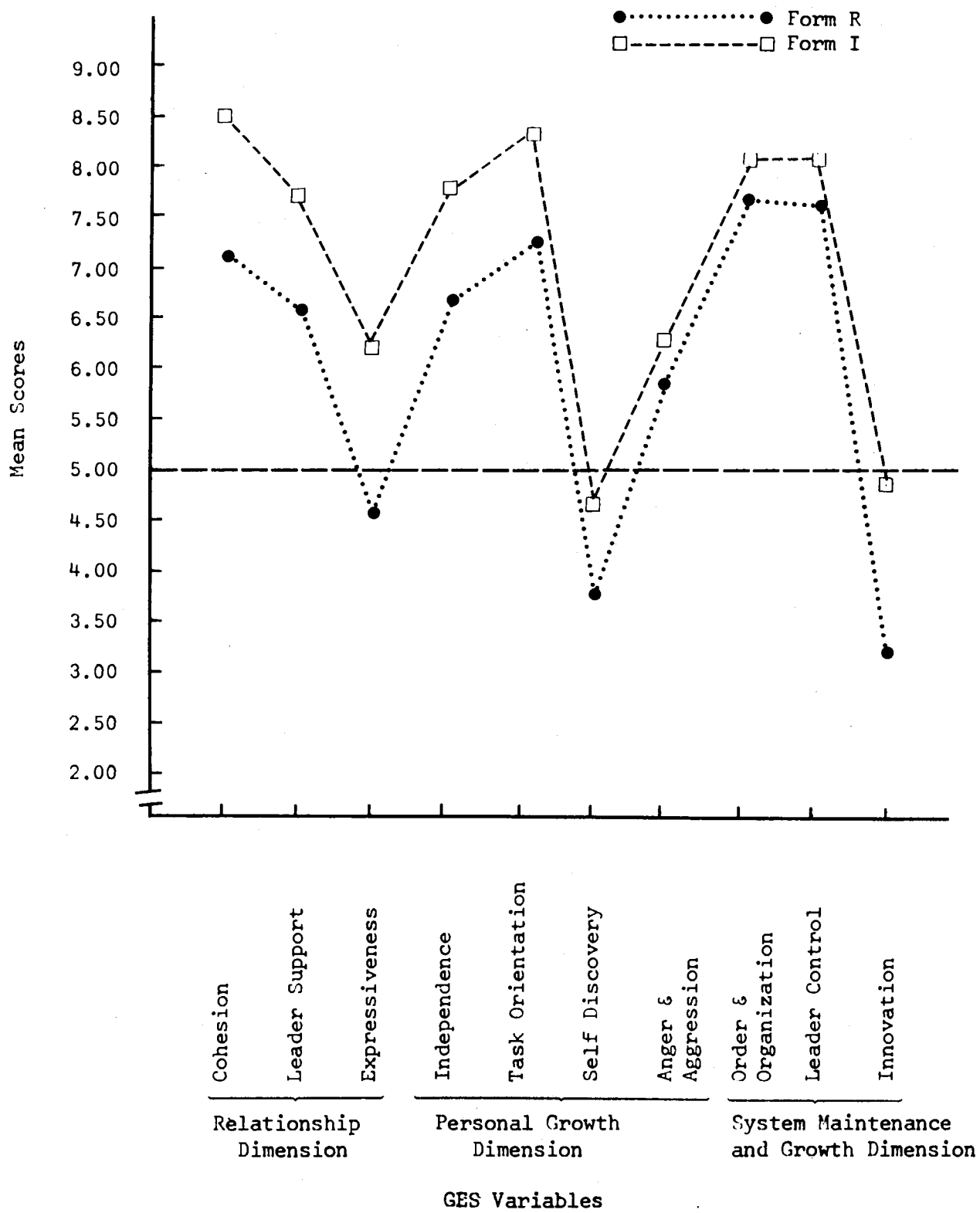


Figure 17. GES (Form R & I) for Team P.

aggression, order and organization, and leader control. The areas needing greatest improvement were expressiveness and innovation. As a less satisfied team, Team P had a cumulative mean score of 13.

Team Q, with a cumulative score of 13.13, is a member of the less satisfied group. According to Figure 18, significant differences existed on the variables of cohesion, leader support, task orientation, and innovation. Those variables, in addition to independence and order and organization, were identified by athletes as needing an increase in order to meet ideal levels.

Figure 19, depicting the group profile of Team R, portrays a team possessing much lower levels of cohesion, leader support, anger and aggression, independence, and order and organization than is desirable. In contrast to the great discrepancy on those five variables, there is very little disagreement on the variables of task orientation, self-discovery, and leader control. Team Q had a cumulative mean score of 14.

Figure 20 indicated that Team S had seven rather significantly different variables. Anger and aggression was the variable that showed the greatest difference. Group members desired improvement on leader support, independence, task orientation, self-discovery, order and organization, and innovation. Athletes did perceive the level of team cohesion as being ideal. Team S had a cumulative mean score of 15.8.

Team T, with a cumulative mean score of 18.4, displays dissatisfaction on all 10 of the GES variables, indicating improvement was needed on all but anger and aggression, which the athletes felt should be reduced. These results are portrayed in the group profile as illustrated in Figure 21. The group atmosphere suggests Team T lacks cohesion. Athletes also felt that the amount of leader support,

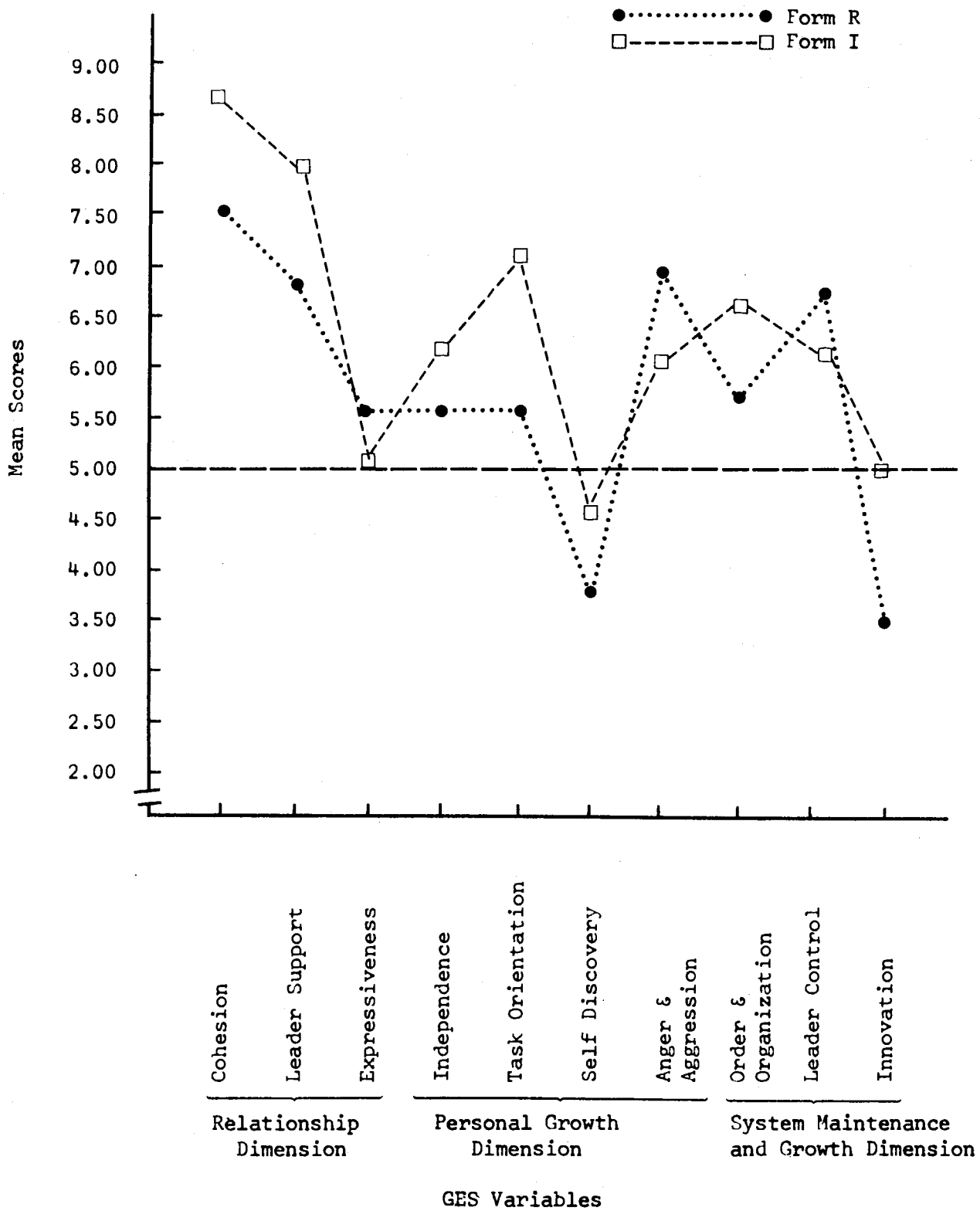


Figure 18. GES (Form R & I) for Team Q.

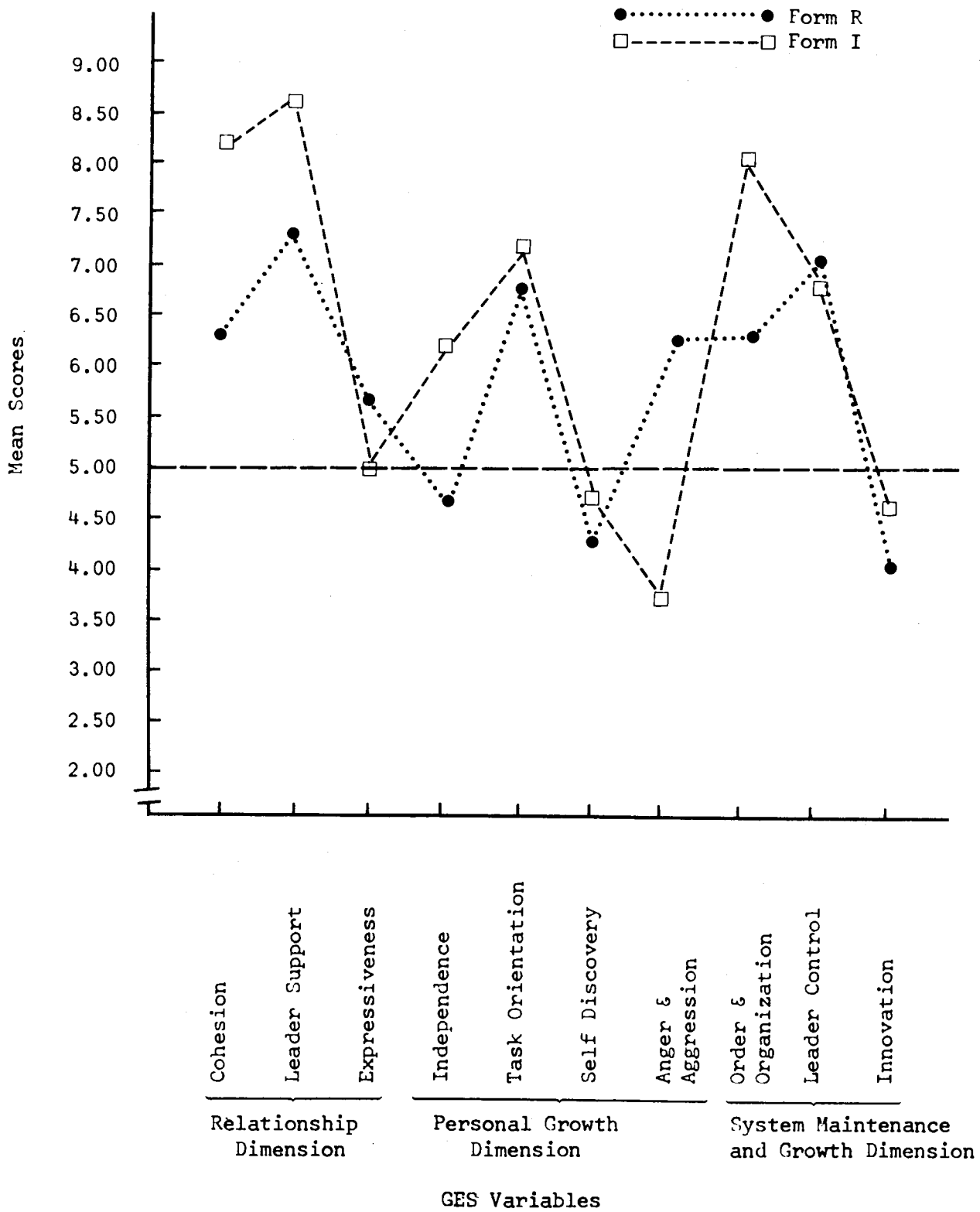


Figure 19. GES (Form R & I) for Team R.

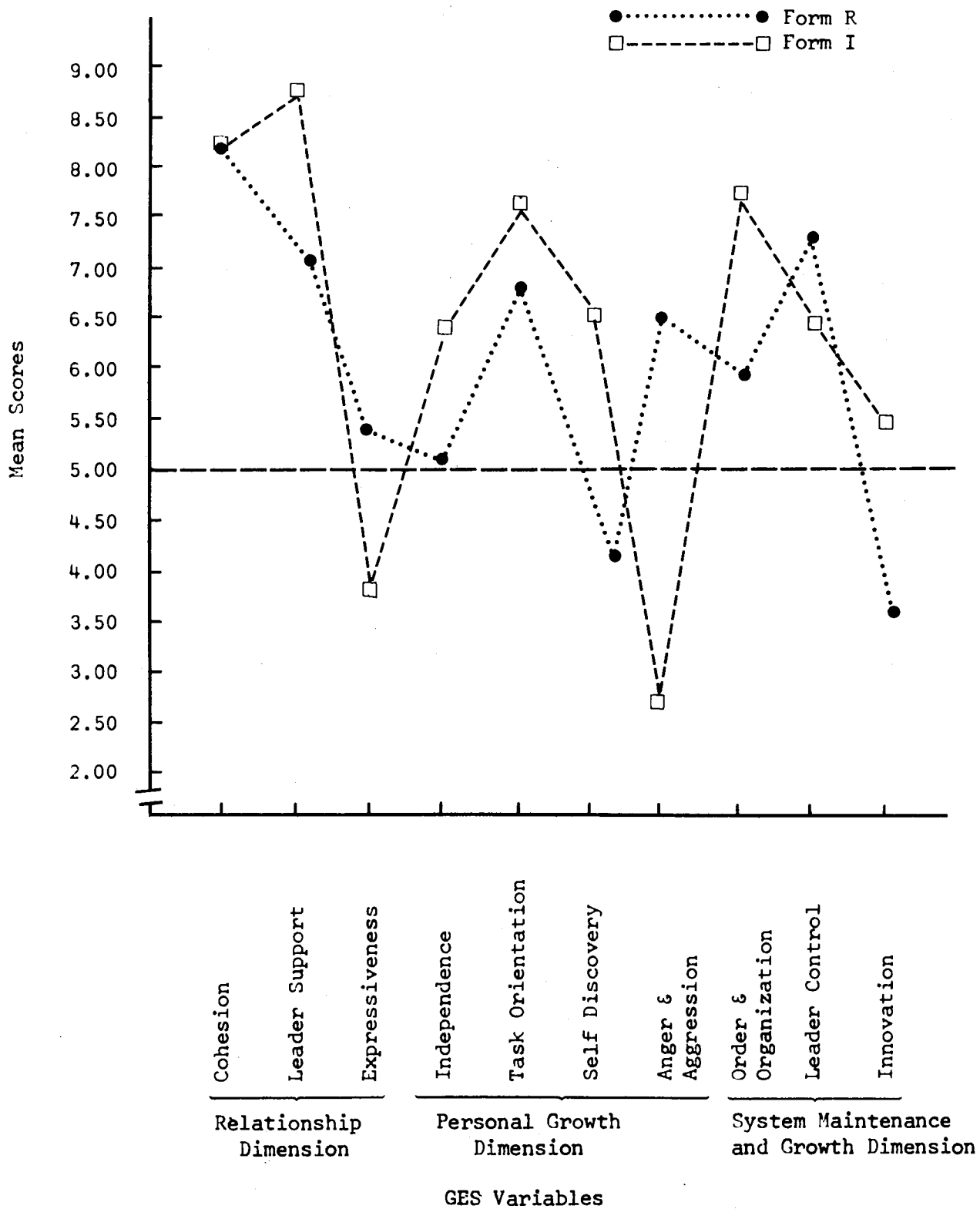


Figure 20. GES (Form R & I) for Team S.

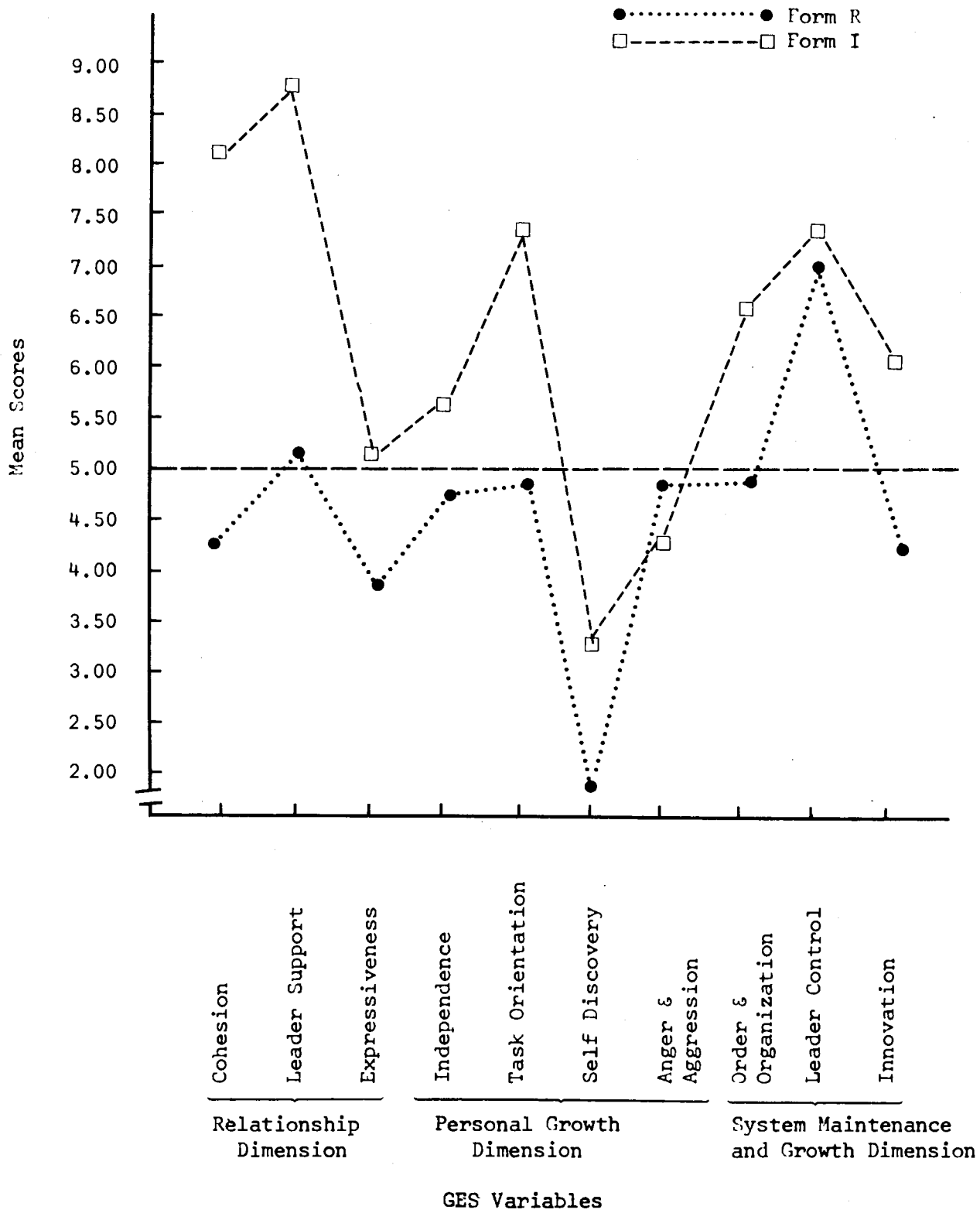


Figure 21. GES (Form R & I) for Team T.

expressiveness, independence, task orientation, order and organization, and innovation need to be increased considerably. Athletes indicated that the team was in need of overall change.

Comparisons of Athletes' and Coaches' Perceptions
of Real and Ideal Athletic Environments

Figure 22 displays the way in which athletes perceived a real environment (as measured by the Form R) in contrast to the way in which coaches perceive a real environment. The satisfied and less satisfied group results were combined showing all the athletes' perceptions versus all of the coaches' perceptions. On 7 of the 10 GES variables coaches felt that the athletic environment was better than what the athletes perceived it to be. The most significant differences were in the leader support, self-discovery, and innovation. There was close agreement between coach and player perceptions on the variables of cohesion, task orientation, order and organization, and leader control. Figure 22 led to the acceptance of the second hypothesis that there would be a significant difference between the perceptions of coaches and athletes of a real environment. Coaches generally perceived the group environment more favorably than did athletes.

Athletes' perceptions of what their actual environment is as compared to the way in which they perceive an ideal environment is presented in Figure 23. Again the satisfied and less satisfied groups were combined to provide an overall picture of all the athletes' perceptions. Of the 10 GES variables, seven were identified as being less than ideal. The most significant differences existed in cohesion, leader support, and anger and aggression. There was close agreement, however, on the variables of task orientation, self-discovery, and leader control. The third

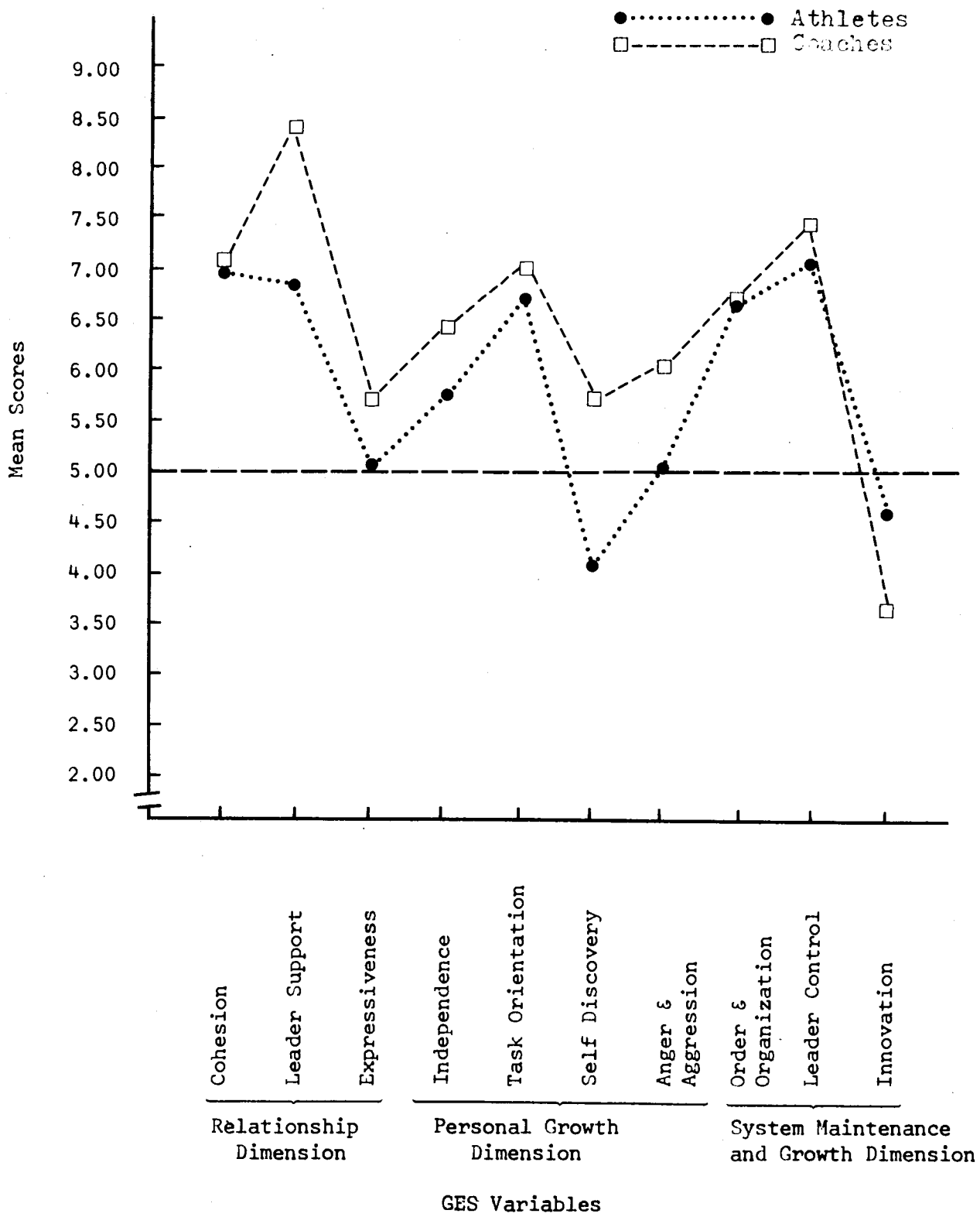


Figure 22. GES (Form R) for athletes & coaches.

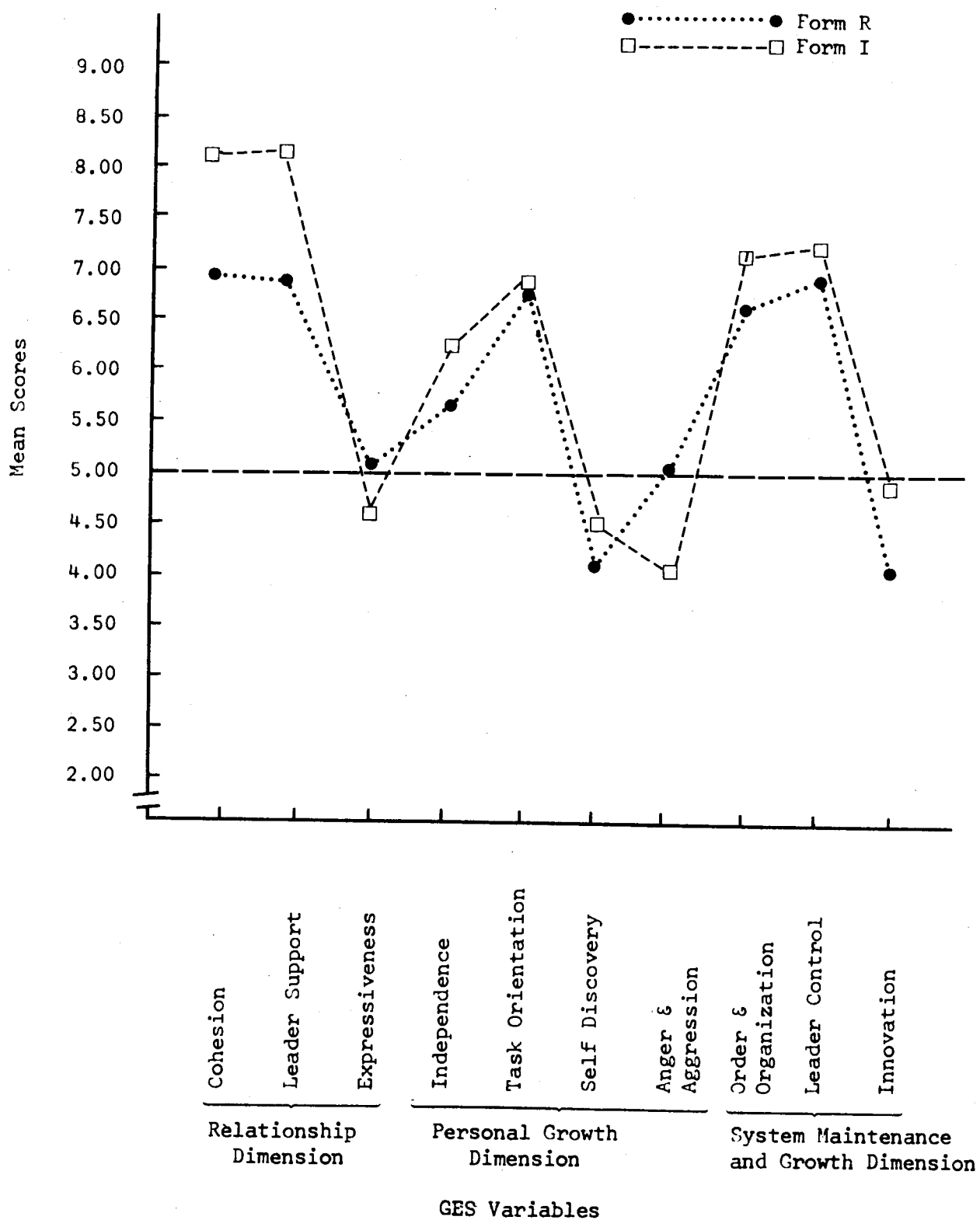


Figure 23. GES (Form R & I) for athletes.

hypothesis, stating that there would be a significant difference between athletes' perceptions of their environment in relation to an ideal environment, was accepted.

Figure 24 portrays coaches' perceptions of a real environment as compared to an ideal situation. Of the 10 variables coaches perceived seven as being less than ideal. The coaches indicated a strong preference for a reduction in the amount of anger and aggression exhibited by their teams. This information served to accept the fourth hypothesis that there will be a significant difference between coaches' perceptions of their environment and an ideal environment.

A representation of coaches' and athletes' perceptions of an ideal athletic environment is illustrated in Figure 25. Coaches perceived an ideal situation as containing higher scores on 8 of the 10 GES variables when compared to athletes' perceptions of an ideal environment. Anger and aggression and innovation were the only variables that athletes perceived higher than coaches. On the basis of the information presented, the fifth hypothesis, stating there will be a significant difference between athletes' and coaches' perceptions of an ideal environment, was accepted.

Summary

Significant differences between satisfied and less satisfied groups across 10 GES variables were revealed by multivariate analysis of variance (MANOVA).

Seven GES variables were identified by analysis of variance as being statistically significant. These included cohesion, leader support, independence, task orientation, anger and aggression, order and organization, and innovation. Discriminant function analysis identified innovation, leader support, and cohesion as variables significantly

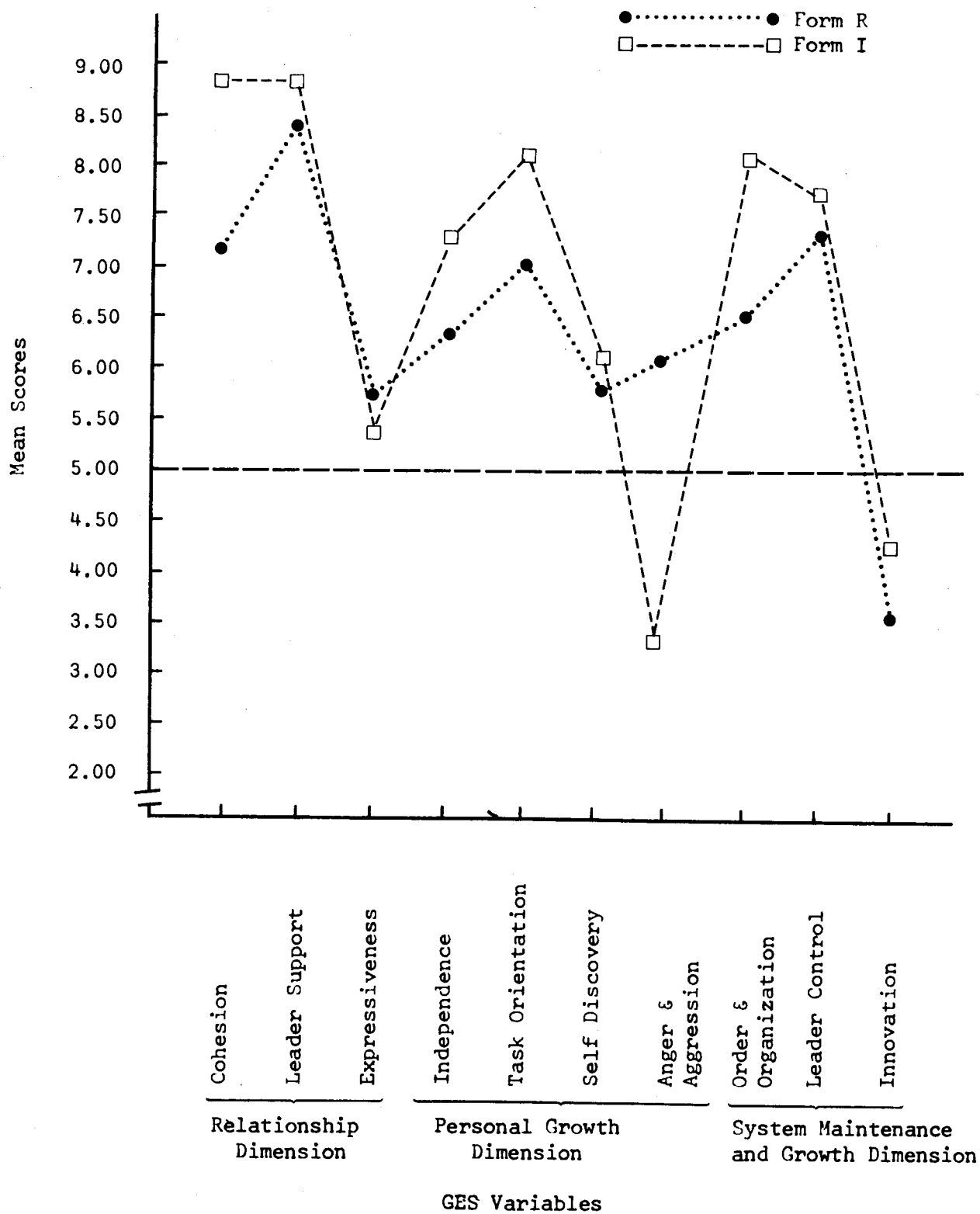


Figure 24. GES (Form R & I) for coaches.

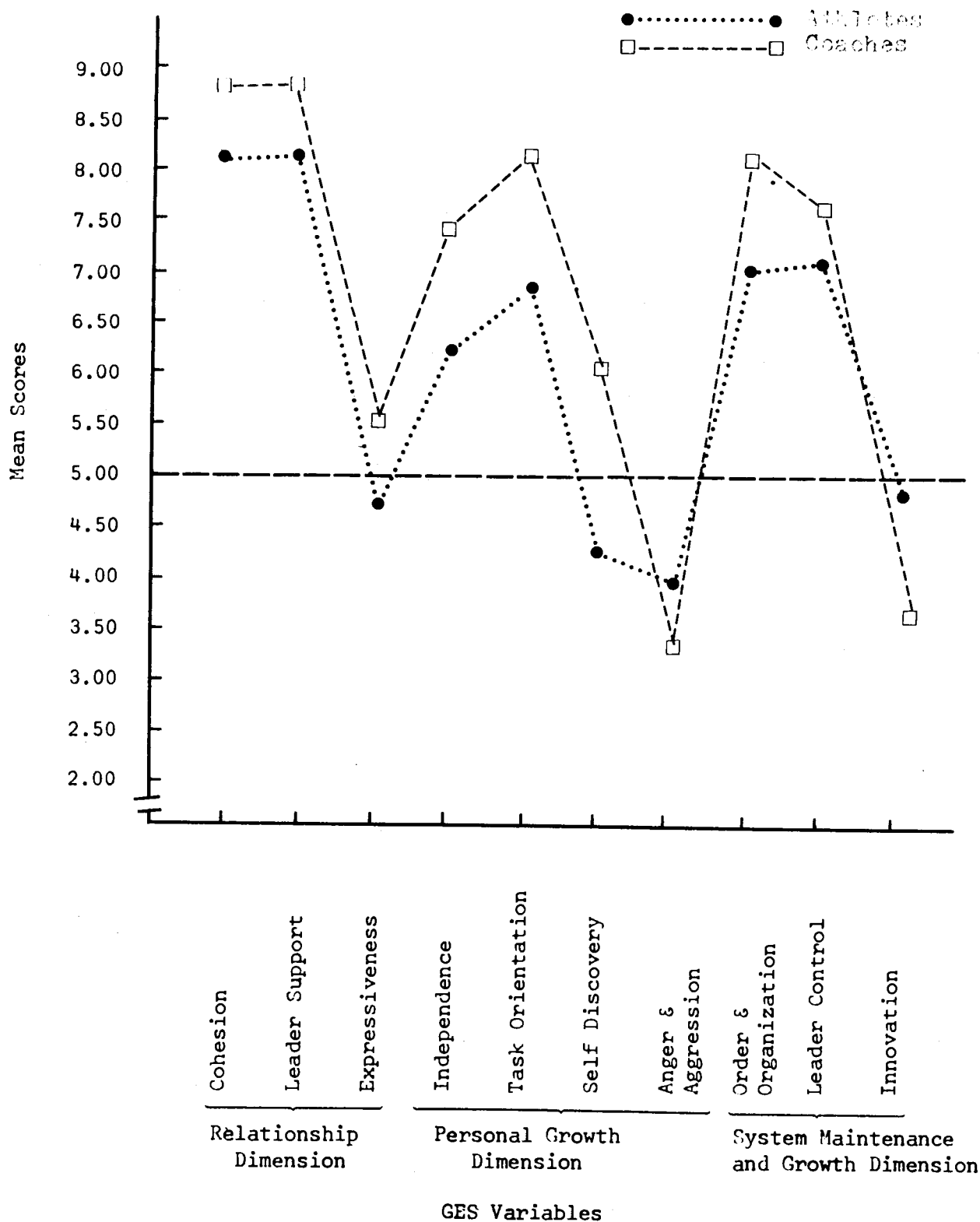


Figure 25. GES (Form I) for athletes and coaches.

contributing to the shared variance.

Multivariate analysis of variance was used to reveal that significant differences on the eight CAFIAS variables existed between the satisfied and less satisfied groups. The major hypothesis that there will be a significant difference in behaviors of coaches from different environments as measured by eight variables identified through the use of CAFIAS was accepted.

The effect each of the eight CAFIAS variables had independent of one another was assessed using analysis of variance. Results indicate coach use of acceptance and praise, nonverbal; athlete verbal initiation, coach suggestion; and athlete nonverbal initiation, coach suggestion were significant variables. According to information furnished by discriminant function analysis, the two highest contributing factors were coach use of acceptance and praise, verbal; and athlete initiation, athlete suggestion.

The GES data from Form R and Form I provided the cumulative mean scores for designating teams into either the satisfied or less satisfied group. Teams with a low cumulative mean score were labeled satisfied with their athletic environment while the less satisfied group had a higher cumulative mean score. Figures 2-21 illustrated each team's group profile of both Forms R and I.

Figure 22 displayed the way in which athletes perceive a real environment in contrast to the way in which coaches perceive a real environment. On 7 of the 10 GES variables coaches felt their environment was better than the athletes perceived it to be. The second hypothesis that there will be a significant difference in the way the coaches perceive the environment as compared to the way in which the athletes perceive the environment was accepted.

A comparison of a real and ideal environment as perceived by athletes is presented in Figure 23. Athletes indicated that 7 of the 10 GES variables were less than ideal. The third hypothesis that there would be significant differences between athletes' perceptions of their environment in relation to an ideal environment was accepted.

The fourth hypothesis that there will be a significant difference between coaches' perceptions of their environment and an ideal environment was accepted. Of the 10 variables coaches perceived 7 as being less than ideal.

In contrast to athletes' perceptions, coaches perceived an ideal situation as containing higher ideal scores on 8 of the 10 GES variables. On the basis of the information presented, the fifth hypothesis that there will be a significant difference between athletes' and coaches' perceptions of an ideal environment was accepted.

Chapter 5

DISCUSSION OF RESULTS

A discussion of the results concluded from this investigation is presented in this chapter. This study was initiated in an attempt to determine if the behaviors of coaches vary in two different athletic environments. In addition to coaching behaviors, athletes' and coaches' perceptions were compared along different parameters. Athletes satisfied with their environment were compared with athletes whose environments were deemed less satisfying. A comparison was also drawn between athletes' and coaches' perceptions of their environments, athletes' perceptions of their environment in relation to an ideal environment, coaches' perceptions of their environments compared to an ideal environment, and athletes' versus coaches' perceptions of an ideal environment.

The two different athletic environments were determined as being satisfied or less satisfied based on the cumulative mean differences on Form R and Form I of the Group Environment Scale (Moos, Insel, & Humphrey, 1974). Cheffers' Adaptation of Flanders' Interaction Analysis System, known as CAFIAS (Cheffers, 1972), was the testing instrument used to determine if there were behavioral differences between the two groups.

In this study, multivariate analysis of variance indicated that significant differences existed in coaching behaviors between the satisfied and less satisfied groups. Of the eight CAFIAS variables analyzed independently from one another, five were found to be statistically significant as identified by analysis of variance. These variables were

coach use of questioning, verbal; coach use of acceptance and praise, verbal; athlete verbal initiation, coach suggestion; and athlete nonverbal initiation, coach suggestion in favor of the satisfied environment.

These results coincide with those found by Hirsch (1978); however, the current study found that the variables of coach use of questioning, verbal was also significant.

The eight CAFIAS variables were subjected to discriminant function analysis to determine the amount of shared variance. Two variables, coach use of acceptance and praise, verbal (65.12%) and athlete verbal initiation, athlete suggestion (21.80%) were indicated as highly significant discriminators. The high percentage of coach use of acceptance and praise, verbal suggests that coaches in the satisfied group respond to their athletes in a more accepting, praising, and empathetic manner; whereas, those coaches in the less satisfied environment more likely exhibited behaviors that were directive and critical. It appears that coaches in the satisfied environment treated their athletes as more mature individuals, allowing for athlete behavior that was more interpretative than mechanical in nature. This is borne out by the high occurrence of athlete verbal initiated behavior, athlete suggestion. This finding implies that coaches permitted athletes the freedom to interact with them verbally, encouraging athletes to initiate responsibility for their actions, and reinforcing their actions with acceptance and praise. These interactions between coach and athletes implied that the athletic environment was an educational one for the athlete.

These remarks are lent support by a comparison drawn from the mean percentage of CAFIAS behaviors between the satisfied and less satisfied groups. Coach praise, verbal and athlete to athlete interaction were the

prominent behaviors in the satisfied group. The less satisfied group was characterized by greater mean percentages of information giving, verbal and nonverbal; coach direction giving, verbal and nonverbal; athlete narrow behavior, nonverbal; and student to student interaction, nonverbal.

Whereas the current study found two variables that significantly discriminated between groups, Hirsch (1978) identified athlete nonverbal initiation, athlete suggestion (34.90%), coach use of questioning, verbal (32.40%), and athlete verbal initiation, athlete suggestion (21.50%) as significant discriminators. Hirsch (1978) reported coach use of acceptance and praise, both verbal and nonverbal, to contribute less than 4% to the discriminant function. This is indeed a large difference as contrasted to the occurrence of coach use of acceptance and praise, verbal reported in the current study. The key to the differences that existed between the two studies may be athlete experience. Male athletes generally have a greater exposure to team sports by the time they have reached the high school level, with a resultant familiarity with their particular sport that would facilitate athlete questioning and athlete initiated behaviors. In contrast, female athletes at the secondary level are very often participating in organized athletics for the first time. Female athletes may require more acceptance and praise because of their inexperience.

The top 10 ranked cell frequencies and their percentage of occurrence were determined and found to be different for the satisfied and less satisfied group. According to Table 6, certain behavior patterns did occur in both environments, however, their percentage of occurrence was different. Extended interpretative drills or scrimmage by the athletes, as the dominant behavior pattern for the satisfied groups, occurred 31.02% as

compared to the same behavior pattern occurring in the less satisfied group 20.12%. The dominant behavior pattern exhibited in the less satisfied group was that of extended athlete narrow response indicating that practices in the less satisfied environment consisted of drills more mechanical than interpretative in nature. Extended information giving by the coach was 7.72% in the satisfied group; whereas, in the less satisfied group extended information giving by the coach occurred a greater percentage of time at 12.07%. There is a conspicuous lack of acceptance and praise exhibited by coaches in the less satisfied group. This suggests that the satisfaction of athletes might be dependent upon the amount of praise and acceptance given by the coach, especially in regard to those athletes who depend upon the response of the coach as a means of gauging performance. If a situation should arise in which coaches constantly elicit noncommittal or negative responses to athletes' performance, it seems likely that these kinds of athletes who require more praise and acceptance will become frustrated with their athletic experience. This may have several effects on the athletes, including a lowering of athlete self-esteem, or a resentment or lack of respect for the coach by the athlete.

As can be seen in Table 4, two behavior patterns, interpretative athlete behaviors followed by coaches' praise (8\2) and coach praise followed by athlete interpretative behaviors (2-8\) occurred more frequently in the satisfied group. Apparently, it is not sufficient for a coach to randomly furnish athletes with praise. In order for coaches to produce positive effects from praising, the coach must praise selectively. It appears that athletes respond favorably to praise given by the coach and are more likely to repeat similar types of behavior

patterns. Coaches from the satisfied environment seem to have a better grasp of the athletic situation in that they know the athletic behaviors that they should praise.

In an investigation by Tharp and Gallimore (1976), the coaching behavior of John Wooden, basketball coach of UCLA, was researched using a traditional observer system that consisted of categories such as reinforcement, punishment, modeling, and instruction. Results indicated that a majority of Wooden's coaching behaviors were instructionally oriented, portraying Wooden as a disseminator of information. In the current study coaches from both the satisfied and less satisfied groups were found to rely on extended information giving, indicating that such behavior is an integral part of the coaching repertoire. In contrast to the current study, Wooden used very little outright praise in treating his athletes. This disagreement might be attributed to the type of athlete with whom Wooden was dealing. There are several factors that distinguish Wooden's athletes from those athletes used in the current study. First consider the fact that the athletes Wooden coached were highly skilled individuals. It might be possible that these athletes, having had perhaps a more mature perspective of the athletic environment and their performance, did not require a coach to be accepting and praising to any great extent. There are also the motivational factors that affected Wooden's athletes, including the issuance of athletic scholarships, the hope of a national championship, and the possible recognition leading to a professional contract. Because of the maturity of the athletes, as well as their own particular motivations, it appears that Wooden, in dealing with his athletes, relied heavily on organization and communication rather than motivation, thus explaining the slight

occurrence of acceptance and praise in his coaching behaviors.

Agnew (1977) conducted a study in which behavioral patterns of female secondary physical educators and coaches were explored. The predominant behavior patterns elicited in the coaching setting included greater coach-athlete interaction and more athlete initiated behavior as a result of coach's suggestion. There existed a greater occurrence of praise and acceptance by the coach as well. These results seem to be in accordance with results found in the current study. In both environments there developed a pattern of either extended information giving by the coach or direction by the coach followed by an integrative or mechanical response by the athlete. The amount of acceptance and praise demonstrated in the satisfied environment concurs with that found in Agnew's (1977) study, although it must be reiterated that the less satisfied group showed no appreciable degree of such behavior.

Moos (1974), as an investigator of environmental determinants of behavior, cited social climate as a major identifiable characteristic of human environments. Kiritz and Moos (1974) further contended that perceived social climate reflects the general norms, values, and other psychosocial characteristics of diverse environments. Moos (1974) and his associates, prompted by a desire to accurately assess social climate, developed the Social Climate Scales, nine instruments designed to measure social climate in different settings. The Group Environment Scale (GES), one of the Social Climate Scales, was designed to assess social climate in social, task-oriented groups. Results obtained from the current study indicated that each of the 20 teams portrayed their environment as unique. These findings led to the acceptance of the major hypotheses that dealt with the coaches' and athletes' perceptions as recorded on Form R and

Form I of the GES.

Studies conducted by Baum and Nutter (1974), Duncan and Brill (1977), Hirsch (1978), Menard (1974), and Schroeder (1979) verify the effectiveness of the GES in describing social climates. GES assessment has also been effective in providing information about problem areas within groups. Through a comparison of results from Form R and I, areas that members are not satisfied with may be changed. The current study found the GES to be an effective tool in identifying specific areas in need of change. Information from the GES also served as the criterion for separating teams into satisfied and less satisfied groups.

Athletes' and coaches' perceptions were compared using the information provided by the GES. Figure 22 illustrates that on 7 of the 10 GES variables coaches felt that the athletic environment was more positive than what the athletes perceived it to be. These results led to the acceptance of the second hypothesis that there would be significant differences between the perceptions of coaches and athletes of a real environment. These findings are consistent with results reported by both Hirsch (1978) and Percival (Cratty, 1973), two sport researchers who also explored the perceptions of athletes and coaches. Hirsch (1978) conducted a study similar to the one currently being discussed. He too reported that coaches depicted their environments more positively than did their athletes. Percival (Cratty, 1973), in comparing the self-ratings of coaches with athletes' ratings of coaches, concluded that athletes' perceptions of coaches were significantly less than the perceptions coaches had of themselves. From the evidence furnished from these three studies it appears that athletes share a more negative perspective of the athletic environment than do their coaches. The negativism exhibited by the

athletes may perhaps be nothing more than a natural criticism of the group by the group members.

A comparison of athlete responses on Form R and I of the GES reflected significant differences between the athletes' perceptions of their environment in relation to an ideal environment. An ideal environment, as expressed by the athletes, is one in which the levels of cohesion and leader support are much higher than those levels found in the real environment, along with a decreased level in anger and aggression. This finding is further substantiated by Hirsch (1978) who also found significant differences along those same variables in comparing athletes' perceptions of real and ideal environments. From these results one might speculate that athletes, in expressing a desire for a high level of leader support, are essentially seeking both an assessment of their actions, in practice and acceptance of these actions by the coach. The athletes' desire for a highly cohesive group seems reasonable considering they are portraying an ideal environment, an environment in which the team will be able to work together to obtain the best possible performance. Athletes probably consider anger and aggression to be a detrimental influence to an athletic environment, thus explaining the desire for a decrease in this variable.

Coaches' perceptions of a real environment were compared to their perceptions of an ideal environment and once again significant differences were found. Coaches demonstrated discrepancies on a number of variables, the most evident being cohesion, task orientation, anger and aggression, and order and organization. It seems reasonable that coaches would single out those variables as factors that can most greatly influence environments either positively or negatively. According to the coaches used in the

current study, a high degree of cohesion is a necessity in creating an ideal environment, a finding very much in line with results found by other researchers who have reported that successful teams appear to have a high degree of cohesion (Bird, 1977; Klein & Christiansen, 1969; Martens & Peterson, 1976). The coaches' desire for greater order and organization is consistent with Hendry's (1973) description of the coach as having high organizational qualities. The findings from the current study are directly oppositional to those found by Hirsch (1978) who reported coaches' perceptions of their environment to be close to ideal. This disagreement might suggest that the coaches used in the current study are perhaps more practical in assessing their teams and identifying areas that are in need of improvement. This finding may be attributed to the fact that male and female coaches operate under somewhat different occupational guidelines. Consider first that male coaches are usually under a great deal of pressure to produce winning teams, being made responsible for creating athletic environments that will indeed enhance their chances for success. Might it not be possible that because of this pressure to which male coaches are subjected they are unable to assess the athletic environment realistically? In contrast, women coaches, although they may be highly motivated to produce winning teams encounter this type of pressure less in retaining their coaching status and may be better able to review their situation more realistically. There is also another possibility that might explain the differences found between the perceptions of the coaches in these two studies. At the present time, many of the coaches that comprise the female ranks are put into such roles not out of a desire to coach but out of necessity to comply with federal legislation designed to equalize athletic opportunities for females. In

many instances coaching serves as an additional burden to teachers who may not want the responsibility or who lack the professional preparation to perform adequately. Such a situation may produce coaches who, lacking both enthusiasm and expertise, have no barriers to prevent them from assessing their environments realistically.

From a comparison of athletes' and coaches' perceptions of an ideal environment, coaches were found to perceive an ideal situation generally higher than did their athletes. This result, which is in agreement with Hirsch (1978), portrays an image of the coach that is consistent with the ideal of the coach as a group-centered leader, responsible for creating an atmosphere that is conducive to the attainment of team goals. Because of this responsibility it seems likely that coaches would naturally depict an ideal environment more highly than athletes.

From the figures constructed to represent team climate (Figures 2-21), it appears that teams categorized as having satisfied environments generally scored higher than did those teams less satisfied with their environments on the variables of leader support, independence, and order and organization. This information suggests that the satisfaction of team members might well be dependent upon a high degree of support and order initiated by the coach, with the environment being flexible enough to allow for athlete independence. Those teams classified as less satisfied with their environments, as illustrated in Figures 12-21, were characterized by somewhat lower levels on the variables of leader support and organization, with a greater individual emphasis on expressiveness and self-discovery. Teams that were typically less satisfied with their environments lacked a sufficient amount of leader support and order and organization. The absence of a more structured environment may have

facilitated the detrimental levels of anger and aggression and expressiveness.

These discrepancies between the satisfied and less satisfied groups may indicate that coaches in the satisfied group have a more comprehensive grasp of their athletes' needs, enabling them to structure the environment in such a way as to allow for greater athlete satisfaction. These results seem consistent with the CAFIAS findings that coaches in the satisfied environment were more sensitive to their athletes' needs, allowing for greater athlete verbal interaction and encouraging athletes to bear responsibility for their actions.

From the GES results it seems apparent that the two factors that athletes identified as essential for a satisfactory environment were leader support and order and organization. This emphasis of leader support seems consistent with concepts espoused by Fiedler (1967). Fiedler (1967) stated that the performance of a group depends on both the nature of the group and the leader's style of interaction with the group members. He pointed out that leader effectiveness bears directly upon group output, its morale, and the satisfaction of its members.

In accordance with the findings identifying a positive level of order and organization as also contributing to team satisfaction, Hendry's (1973) analysis of coaching behaviors produced similar results. In studying behaviors of coaches along personality and social orientation dimensions, Hendry depicted good coaches as those possessing high organizational abilities.

Summary

Results from the CAFIAS data were subjected to multivariate analysis of variance and resulted in the conclusion that significant differences

existed in coaching behaviors between the satisfied and less satisfied groups. This led to the acceptance of the major hypothesis that there will be significant differences in coaching behavior in two different athletic environments. Of the eight CAFIAS variables used in this study, five were found to be statistically significant as identified by analysis of variance.

Of the eight CAFIAS variables, two were found to discriminate between groups. These included coach use of acceptance and praise, verbal; and athlete verbal initiated behavior, athlete suggestion. These results imply that coaches in the satisfied group permitted their athletes the freedom to interact with them verbally, encouraging athletes to initiate responsibility for their actions. These results are further explained by the results of the top 10 ranked cell frequencies and their percentage of occurrence. The behavior patterns that occurred most frequently in the satisfied environment included extended interpretative drills or scrimmage; whereas, the less satisfied group was characterized by extended narrow athlete response. This indicated practices in the less satisfied environments consisted of drills more mechanical rather than interpretative in nature.

Comparisons of the GES reflected several findings concerning the perceptions of coaches and athletes. In exploring the perceptions of coaches and athletes of a real environment, evidence from the current study along with similar findings from Hirsch (1978) and Percival (Cratty, 1973) indicated that athletes perceive the athletic environment in a more negative perspective than do their coaches.

A comparison of athlete responses on Form R and I of the GES reflected significant differences between the athletes' perceptions of their

environment in relation to an ideal environment. An ideal environment, as expressed by athletes, is one in which the levels of cohesion and leader support are much higher than those levels found in the real environment, along with a decreased level of anger and aggression.

Coaches' perceptions of a real environment were compared to their perceptions of an ideal environment and once again differences were found. Discrepancies were noted on the variables of cohesion, task orientation, anger and aggression, and organization.

In yet another comparison between athletes' and coaches' perceptions of an ideal environment, coaches generally perceived the ideal situation higher than did their athletes. It is possible that, due to coaches' leadership role, it is natural that coaches would depict an ideal environment more highly than athletes.

One final comparison was made between the satisfied and less satisfied teams. Satisfied environments were characterized by a high degree of leader support, independence, and order and organization; whereas, less satisfied teams had lower levels of leader support and order and organization, with a greater emphasis on expressiveness and self-discovery. These discrepancies between the satisfied and less satisfied groups may indicate that coaches in the satisfied group have a more comprehensive grasp of their athletes' needs enabling them to structure their environments to allow for greater athlete satisfaction.

Chapter 6

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER STUDY

Summary

This study analyzed and compared the behavior which coaches exhibited in two distinct athletic environments. Using information from the Group Environment Scale (GES), teams were designated as either satisfied or less satisfied according to how athletes rated their environment in comparison to an ideal environment. The allocation of teams into two groups was done using a median-split technique. This procedure was followed by multivariate analysis of variance to determine overall differences between satisfied and less satisfied groups across the 10 GES variables. Significant differences were subjected to analysis of variance to group differences and to discriminant function analysis to determine the amount of shared variance.

Twenty female secondary school basketball teams and their coaches from the Central New York area served as subjects. These coaches and athletes were videotaped during two practice sessions. Form R and Form I of the GES were completed by the athletes and coaches at the conclusion of the first and second taping sessions respectively. The videotaped practice sessions were coded using CAFIAS. Results from multivariate analysis of variance of the eight CAFIAS variables revealed significant group differences. Analysis of variance identified five variables that were statistically significant. These variables were coach use of questioning, verbal; coach use of acceptance and praise, verbal; coach use of acceptance and praise, nonverbal; athlete verbal initiation, coach suggestion; and

athlete nonverbal initiation, coach suggestion.

Of the eight CAFIAS variables two were found to be significant discriminators as identified by discriminant function analysis. The two variables were coach use of acceptance and praise, verbal (65.12%) and athlete narrow behavior, athlete suggestion (21.80%). These results suggest several things about the behavior of the coaches used in this study. [From the occurrence of coach use of acceptance and praise, it appears that coaches in the satisfied group tended to respond to their athletes in a more praising and accepting manner, while coaches in the less satisfied teams exhibited behaviors that were more directive and critical. Coaches in the satisfied group were also likely to allow for athlete behaviors that are interpretative rather than mechanical in nature. The high occurrence of athlete verbal initiated behavior, athlete suggestion substantiates these findings and implies that coaches allowed and encouraged the athletes to interact with them verbally, permitting the athletes to share the responsibility for their own behaviors. In comparing the mean percentage of CAFIAS behaviors the satisfied group, consistent with findings already reported, was characterized by coach praise, verbal; and athlete to athlete interaction. The prominent behaviors occurring in the less satisfied group included information giving, verbal and nonverbal; coach direction giving, verbal and nonverbal; athlete narrow behavior, nonverbal; and athlete to athlete interaction, nonverbal.

According to the top 10 cell frequencies and percentage of occurrence, extended interpretative drills or scrimmage by the athletes, as the dominant behavior pattern for the satisfied group with an occurrence of 31.02%; whereas, athlete narrow response was the major behavior exhibited in the less satisfied group. This suggests that practices in the less

satisfied environment consisted primarily of mechanical rather than interpretative drills. Extended information giving by the coach occurred 12.07% in the less satisfied environment while in the satisfied environment the same behavior occurred only 7.72%. There is a lack of praise and acceptance exhibited by coaches in the less satisfied environment.

The current study also reported results on the GES data, reflecting some interesting information about the perception of coaches and athletes of real and ideal environments. [Coaches' perceptions of their environment were compared with their athletes' perceptions and it was found that coaches maintain a more positive attitude toward their environment than do athletes.] Results from the current study concur with similar findings reported by both Hirsch (1978) and Percival (Cratty, 1973).

A comparison of athlete responses regarding perception of a real environment in relation to an ideal environment showed significant differences. An ideal environment, as expressed by athletes, is one in which the levels of cohesion and leader support are much higher than levels found in the real environment, and the level of anger and aggression is much lower.

A similar comparison was made using coaches' perceptions of the real and ideal environment. Differences were found along the variables of cohesion, task orientation, anger and aggression, and order and organization. [From these results it appears that coaches perceive an ideal athletic environment as being very structured and goal oriented, with a good rapport among team members.] Most likely, coaches view anger and aggression as a detriment to an ideal environment and would prefer a decrease in that variable.

It was also found that coaches generally perceived the ideal

situation higher than did their athletes. It seems probable that due to the coaches' leadership role it is natural that coaches would depict an ideal environment more highly than athletes.

One final comparison was made between the satisfied and less satisfied teams. Satisfied environments were characterized by a high degree of leader support, independence, and order and organization; whereas, less satisfied teams had lower levels of leader support and order and organization, with a greater emphasis on expressiveness and self-discovery.

Conclusions

The following conclusions were formulated from the results of this study:

1. The satisfied environment contained more interaction between the coach and athletes than the less satisfied environments.
2. More athlete initiated verbal and athlete initiated nonverbal behaviors, coach suggestion was observed in the satisfied group.
3. Coaches in the satisfied group used more praise and acceptance, verbal and nonverbal.
4. Coaches perceived their environment as being closer to ideal than their athletes in the same environment.
5. Athletes' perceptions of their actual environment and an ideal environment indicated that their present team environment was in need of change along the variables of leader support, order and organization, and innovation.
6. Satisfied teams were characterized by high levels of leader support, order and organization, and independence.

Recommendations

1. Investigate the effects of training coaches in CAFIAS on behaviors of coaches toward contributing to a positive athletic environment.
2. Compare and contrast male and female coaches in satisfied and less satisfied environments at the secondary level.
3. Conduct a similar study contrasting the behaviors of coaches with a physical education background and coaches without a physical education background.

Appendix A

THE CATEGORIES OF CHEFFERS' ADAPTATION OF
FLANDERS' INTERACTION ANALYSIS SYSTEM¹

Coding Symbols			
	Teacher		
	Environment (E)		
	Student (S)		
Categories	Verbal	Relevant Behaviors	Nonverbal
	2		12
2-12	Praises, commends jokes, encourages	Face: Posture:	Smiles, nods with smile (energetic) winks, laughs. Clasps hands, pats on shoulder, places hand on head of student, wings student's hand, embraces joyfully, laughs to encourage, spots in gymnastics, helps child over obstacles.
	3		13
3-13	Accepts, clarifies, uses, and develops suggestion and feeling by the learner	Face: Posture:	Nods without smiling, tilts head in empathetic reflection, sighs empathetically. Shakes hands, embraces sympathetically, places hand on shoulder, puts arm around shoulder or waist, catches an implement thrown by student, accepts facilities.

Appendix A (continued)

Categories	Verbal	Relevant Behaviors	Nonverbal
	4		14
4-14	Asks questions requiring student answer	<p>Face: Wrinkles brow, opens mouth, turns head with quizzical look.</p> <p>Posture: Places hands in air, waves finger to and fro anticipating answer, stares awaiting answer, scratches head, cups hand to ear, stands still half turned towards person, awaits answer.</p>	
	5		15
5-15	Gives facts, opinions, expresses ideas, or asks rhetorical questions	<p>Face: Whispers words inaudible, sings, or whistles.</p> <p>Posture: Gesticulates, draws, writes, demonstrates activities, points.</p>	
	6		16
6-16	Gives directions or orders	<p>Face: Points with head, beckons with head, yells at.</p> <p>Posture: Points finger, blows whistle, holds body erect while barking commands, pushes child through a movement, pushes a child in a given direction.</p>	

Appendix A (continued)

Categories	Verbal	Relevant Behaviors	Nonverbal
	7		17
7-17	Criticizes, expresses anger or distrust, sarcastic or extreme self-reference	Face: Posture:	Grimaces, growls, frowns, drops head, throws head back in derisive laughter, rolls eyes, bites, spits, butts with head, shakes head. Hits, pushes away, pinches, grapples with, pushes hands at student, drops hands in disgust, bangs table, damages equipment, throws things down.
	8		18
8-18	Students response that is entirely predictable, such as obedience to orders, or responses not requiring thinking beyond the comprehension phase of knowledge	Face: Posture:	Poker face response, nods, shakes, gives small grunts, quick smile. Moves mechanically to questions or directions, responds to any actions with minimal nervous activity, robot like.

Appendix A (continued)

Categories	Verbal	Relevant Behaviors	Nonverbal
	Eine (8\)		Eineteen (18\)
Eine (8\)	Predictable student responses requiring some measure of evaluation and synthesis from the student, but must remain within the providence of predictability. The initial behavior was in response to teacher initiation	Face: Posture:	A "What's more, Sir" look, eyes sparkling. Adds movements to those given or expected, tries to show some arrangement requiring additional thinking; e.g., works on gymnastic routine, dribbles basketball, all game playing.
	9		19
9-19	Pupil-initiated talk that is purely the result of their own initiative and that could not be predicted	Face: Posture:	Interrupting sounds, gasps, sighs. Puts hands up to ask questions, gets up and walks around without provocation, begins creative movement education, makes up own games, makes up own movements, shows initiative in supportive movement, introduces new movements into games not predictable in the rules of the game.

Appendix A (continued)

Categories	Verbal	Relevant Behaviors	Nonverbal
	10		20
10-20	Stands for confusion, chaos, disorder, noise, much noise.	Face:	Silence, children sitting doing nothing, noiselessly awaiting teacher just prior to teacher entry, etc.

¹Cited from Cheffers, Amidon, & Rodgers (1974).

Appendix B

Coder's Reliability* for Selected Subjects

Using Spearman's r_s

Team 20--Less Satisfied (Tape 2)

Top 10 Cells	Rank Observation One	Rank Observation Two	<u>d</u>	<u>d</u> ²
8-10	1	1	.00	.00
10-8	2	2	.00	.00
6-8	3	3	.00	.00
5-5	4	4	.00	.00
5-6	5	5	.00	.00
8-6	6	6	.00	.00
8-8	7	8	1.00	1.00
8-5	8	7	1.00	1.00
10-8\	9	9	.00	.00
8\5	10	10	.00	.00
Total				2.00

*.987

Top 10 cells listed refer to the order of coder's numerical frequency.

Rank observation one and observation two refer to the origin of the coding.

d refers to the difference between the ranks of each cell for observation one and observation two.

d² refers to the d column squared.

Appendix B (continued)

Coder's Reliability* for Selected Subjects

Using Spearmans' r_s

Team 19--Less Satisfied (Tape 1)

Top 10 Cells	Rank Observation One	Rank Observation Two	<u>d</u>	<u>d</u> ²
8-8	1	1	.00	.00
6-8	2	2	.00	.00
8-6	3	3	.00	.00
5-8	4	4	.00	.00
8-5	5	5	.00	.00
5-5	6	6	.00	.00
4-8	7	7	.00	.00
8\5	8	8.5	.50	.25
8-8\	9	8.5	.50	.25
8-4	10	10	.00	.00
Total				.50

*.985

Top 10 cells listed refer to the order of coder's numerical frequency.

Rank observation one and observation two refer to the origin of the coding.

d refers to the difference between the ranks of each cell for observation one and observation two.

d² refers to the d column squared.

Appendix B (continued)
 Coder Reliability* for Selected Subjects

Using Spearmans' r_s

Team 4--Satisfied (Tape 2)

Top 10 Cells	Rank Observation	Rank Observation	<u>d</u>	<u>d</u> ²
10-8\	1	1	.00	.00
8\-10	2	2	.00	.00
8\-2	3	3	.00	.00
5-8\	4	4	.00	.00
2-8\	5	5	.00	.00
6-8\	6	6	.00	.00
8\-5	7	7	.00	.00
5-5	8	8	.00	.00
8\-6	9	10	1.00	1.00
2-5	10	9	1.00	1.00
Total				2.00

*.987

Top 10 cells listed refer to the order of coder's numerical frequency.

Rank observation one and observation two refer to the origin of the coding.

d refers to the difference between the ranks of each cell for observation one and observation two.

d² refers to the d column squared.

Appendix B (continued)
 Coder's Reliability* for Selected Subjects
 Using Spearman's r_s
 Team 5--Satisfied (Tape 1)

Top 10 Cells	Rank Observation One	Rank Observation Two	d	d^2
8-10	1	1	.00	.00
10-8	2	2	.00	.00
10-8\	3	3	.00	.00
8\ -10	4	4	.00	.00
5-5	5	5	.00	.00
8\ -2	6	6	.00	.00
6-8	7	7	.00	.00
2-8\	8	8	.00	.00
7-2	9.5	9	.50	.25
8-5	9.5	10	.50	.25
Total				.50

*.99

Top 10 cells listed refer to the order of coder's numerical frequency.

Rank observation one and observation two refer to the origin of the coding.

d refers to the difference between the ranks of each cell for observation one and observation two.

d^2 refers to the d column squared.

Appendix C

INFORMED CONSENT FORM--COACH

The study you are being asked to take part in deals with coaching behavior and social environment. Data for coaching behavior will be collected through videotaping procedures. Two 30-minute videotapes will be made of your practice sessions. You will be asked to wear a microphone during these videotaping sessions. These tapings should interfere as little as possible with your practice. The Group Environment Scale is to be used as the data collection vehicle in measuring social environment. You and your players will be asked to complete two forms of this scale. These forms consist of true-false questions and each form is estimated to take 10 to 15 minutes to finish. These can be completed before or after your practice time depending on your schedule and preference.

The Group Environment Scale measures a team along 10 dimensions. These are cohesion, expressiveness, conflict, independence, achievement orientation, intellectual-cultural orientation, active-recreational orientation, moral-religious orientation, organization, and control. Your perceptions of these factors will be compared with those of your players.

The videotapes will be subjected to a widely used interaction analysis system. This interaction analysis system consists of 20 categories designed to describe behaviors exhibited in physical activity settings. The verbal and nonverbal interaction between coaches and players will be recorded.

All information in this study will be kept confidential. If you do not have any questions and agree to be a subject in this study, please sign your name on the line below.

Appendix C (continutd)

INFORMED CONSENT FORM--ATHLETE

The study you are being asked to take part in deals with coaching behavior and social environment. Data for coaching behavior will be collected through videotaping procedures. Two 30-minute videotapes will be made of your practice sessions. These tapings should interfere as little as possible with your practice. The Group Environment Scale is to be used to measure social environment. You and your coach will be asked to complete two forms of this scale. These forms consist of true-false questions and each form is estimated to take 10 to 15 minutes to finish.

All information in this study will be kept confidential. If you do not have any questions and agree to be a subject in this study, please sign your name on the line below.

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