



The interpersonal relationships of the Montana State University womens varsity basketball team
by Jane Lynn Henman

A thesis submitted in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE
in Physical Education

Montana State University

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Abstract:

The purpose of this study was to determine the interpersonal relationships of the 1980-81 Montana State University Women's Basketball team. Specifically three questions were being investigated; one if any significant correlations existed between player-sociometric ratings made by players, and the player-sociometric ratings made by coaches; two, what changes, if any, took place in those correlations from preseason to midseason to postseason and, three, if there was a relationship between both the players' and coaches' sociometric ratings and the coaches' rating of the skill-ability of players.

The study was delimited to the 15 members of the Montana State University Women's Varsity Basketball team. The respondents interpretation to each question on the sociometric questionnaire was identified as a limitation of the study.

A sociometric questionnaire was given to the team to collect data for indicating relationships existing within the team. The questionnaire was administered to players and coaches on three separate occasions during the season: at preseason, midseason and postseason.

The data was tabulated and analyzed to determine if any significant correlations existed.

The data indicated that skill-ability of players made no difference to players and coaches in the sociometric ratings of players. When selecting preferred players for on and off the court association, players and coaches considered both skill and personality.

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THE INTERPERSONAL RELATIONSHIPS OF THE MONTANA STATE UNIVERSITY
WOMEN'S VARSITY BASKETBALL TEAM

by

JANE LYNN HENMAN

A thesis submitted in partial fulfillment
of the requirements for the degree

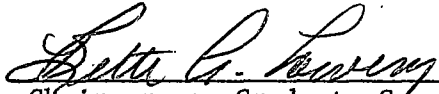
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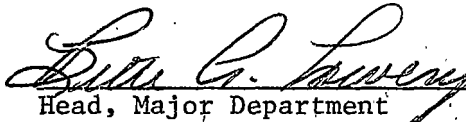
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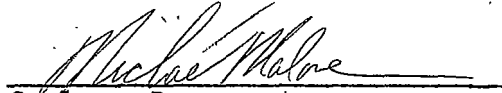
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Physical Education

Approved:


Chairperson, Graduate Committee


Head, Major Department


Graduate Dean

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ABSTRACT

The purpose of this study was to determine the interpersonal relationships of the 1980-81 Montana State University Women's Basketball team. Specifically three questions were being investigated; one if any significant correlations existed between player-sociometric ratings made by players, and the player-sociometric ratings made by coaches; two, what changes, if any, took place in those correlations from pre-season to midseason to postseason and, three, if there was a relationship between both the players' and coaches' sociometric ratings and the coaches' rating of the skill-ability of players.

The study was delimited to the 15 members of the Montana State University Women's Varsity Basketball team. The respondents' interpretation to each question on the sociometric questionnaire was identified as a limitation of the study.

A sociometric questionnaire was given to the team to collect data for indicating relationships existing within the team. The questionnaire was administered to players and coaches on three separate occasions during the season: at preseason, midseason and postseason. The data was tabulated and analyzed to determine if any significant correlations existed.

The data indicated that skill-ability of players made no difference to players and coaches in the sociometric ratings of players. When selecting preferred players for on and off the court association, players and coaches considered both skill and personality.

CHAPTER 1

INTRODUCTION

An athletic team is a social group composed of managers, players and coaches. The effectiveness of this athletic team is dependent upon many factors, one of which is the ability of its individual members to work together. As a coach studies the interrelations of a team, the framework for better understanding the sociology of that team can develop, thus enabling the coach to better guide and direct his/her team.

"By gaining a deeper insight into his players, a coach is taking a big step toward winning games. But even more important, as a leader of youth, he is better able to help the members of his team toward a better adjusted adolescence and a more successful adulthood" (13:48).

For many years coaches have assumed the most effective team is not necessarily made up of the most highly skilled members. It is the ability of the members as individuals to work together for the benefit of the team that has been recognized as a major contributing factor to team effectiveness (4, 8, 11, 13, 18). Since this study is concerned with the organized sport of basketball, it will discuss the purpose for the application of a sociometric technique to a given team and the importance of the results to a coach in determining the interrelations that exist within that team.

Statement of the Problem

The general problem of this study was to determine the interpersonal relationships of the 1980-81 Montana State University Women's Varsity Basketball team.

The Subproblems

1. The first subproblem. The first subproblem was to determine if any significant correlations existed between the player-sociometric ratings made by the players, and the player-sociometric ratings made by the coaches.
2. The second subproblem. The second subproblem was to determine what changes, if any, took place in those correlations (players' and coaches' sociometric ratings of players) from preseason to midseason to postseason.
3. The third subproblem. The third subproblem was to determine if there was a relationship between both the players' and coaches' sociometric ratings, and the coaches' rating of the skill-ability of players.

The Delimitations

This study was delimited to fifteen members of the Montana State University Women's Varsity Basketball team during the 1980-81 season. It was further delimited to the data collected by the investigator's sociometric questionnaire.

The Limitations

This study was limited by the interpretation of the respondents to each question on the sociometric questionnaire. The subjects could refuse to answer some or all of the fixed-answer questions, which limited the amount of information that could be obtained, but made the responses easier to qualify.

The Definitions

1. Interpersonal relationships. Interpersonal relationships refers to the internal structure of the group at a given time. It includes the association of members in the group, as well as an individual's social status in the group.
2. Sociometric questionnaire. The sociometric questionnaire was the instrument used to provide information about the social structure of the group.
3. Sociometric rating. A reflection of an individual's group status as measured by the number of "desirable" and/or "undesirable" choices on the sociometric questionnaire converted to a point value; taken to be a measure of personality.
4. Social status. The individual's sociometric rating.
5. Skill-ability rating. The coaches' subjective assessment of a player's skill level and performance on a scale of one to ten, with one being least proficient and ten being most

proficient.

6. Sociogram. A method of analyzing data from the sociometric questionnaire. It is a chart that gives a visual presentation of the data, identifying social patterns which could include friendship pairs, cliques, stars and isolates.

The Importance of the Study

A primary objective of any training program is to move athletes as quickly as possible from performance potential to performance realization.

"The speed of that transition depends on how well the coach manages the practice environment: physical conditioning, skills training, techniques and strategies and the avenues of communication between him and the athletes" (22:155-156).

Since people learn skills differently, learning can suggest different approaches toward reinforcement, evaluation, skill sequence, motivation and training design. The primary factors in team learning are the development of team morale, cooperation, leadership and an understanding of group dynamics. Individual and group productivity, besides reflecting personal skills and abilities, is influenced by the personal and social climate of the team (22).

McWhirter studied a boy's freshman high school basketball team to determine the interrelations of the team members and their effect on team performance. It was his firm belief that for teams to achieve success, coaches must know their teams and be able to open up lines of

communication within the team (13). One way for a coach to gain such insight is by sociometric testing. Through the use of a sociometric questionnaire, information about the group and the individual's position in that group can be provided (13). This information is invaluable to the coach as he/she attempts to guide the group toward common goals. Lindvall reinforces this concept by stating that the ability to fit in as a member of a group and to work with others is essential for group success (10). Therefore, it can be very advantageous for a coach to know the team structure--more precisely, who the leaders and followers are. "The greater agreement between leaders and members, the more effective the group" (24:3).

As Fielder wrote in 1954,

"Small groups of individuals, working as teams, committees or crews, conduct the overwhelming proportion of the nation's civic, industrial and military business. The effectiveness with which these groups function is, thus of practical as well as of theoretical concern in our society (4:381).

Fielder, through his investigation, summarized that group effectiveness was related to the personal perceptions which members of the group have toward one another (4).

Both Noll (19) and Jennings (7) concluded that observation and hearsay are limited as to the amount of insight they provide into team structure. The interactions and relationships among group members are not always apparent on the surface. Therefore, a tool to measure these interrelations will help the coach gain a better understanding of

his/her players. This information may enable the coach to become a more effective leader, thus having a positive effect on group success.

The sociometric questionnaire in this study is designed to obtain a measurement of team interrelations which will, in turn, provide the coach with the necessary framework to achieve optimum team success (performance).

CHAPTER 2

REVIEW OF LITERATURE

This chapter is concerned with the findings of various authors who have researched sociometry in the field of sport. It will include numerous paragraphs describing sociometric studies in sport. The basic concepts of sociometry will be presented along with a brief history and background.

Sociometry

"Throughout history, man's relations with others and with groups of others have been recognized as the source of his most profound experiences. Only during recent years, has he had the methodological tools and theoretical foundation with which to translate his natural curiosity into productive activity" (9:1).

Sociometry is a very broad and interesting field and has been defined by many over the years. According to Jennings, sociometry is "the study and measurement of interpersonal relationships in a group of people" (7:11). The major lines of communication or the pattern of attraction and rejection in its full scope, are made readily comprehensive at a glance. Moreover, sociometry is concerned with the psychological components of the group, its method of looking into the group structure, analyzing it and working with the group to make the best possible working conditions for the group (7). Simply stated, sociometry "provides information about an individuals' position in a group" (6:353).

Wrightstone describes sociometry as "a means of presenting simply and graphically the entire structure of relations existing at a

given time among members of a given group" (26:199).

Bonney describes sociometry as being:

"concerned with the measurement of interpersonal preferences among the members of a group. It is multidimensional in the sense that it includes not only measurement technique, but also methods and principles to be followed in making groups more effective in pursuit of their goals and more personally satisfying to their members" (1:60).

History of Sociometry

The first major work in sociometry was done by the founder and promoter, Moreno (17). Along with Jennings (7), he pioneered the field and adapted it for many situations, such as informal groups, school classes, prisons, organizations and industry (5). Much work was reported in the field of sociometry following World War I, when "there was an increasing interest in combatting the lag between technological advances and knowledge in human relationships" (25:23). However, "most of the work in sociometry has been in the academic field and the classroom, with the purpose of setting up ideal seating arrangements or committees" (25:23). It has also been used to analyze social structure of complete communities and reorganize groups so that they will function efficiently (3).

The main instrument in sociometry, the sociometric test discloses the feeling which individuals have regarding one another in respect to membership in the group they are involved in at a given moment, along with measuring the amount of organization shown by a

social group (17). Jennings reached the conclusion that observation and hearsay are limited, providing only a small degree of insight (7). He felt that the use of observation in place of sociometric analysis does not map the cross current and overall interlocking of relations.

Sociometric Studies

In the field of sports, few studies have concerned themselves with the social-psychological aspects. "The serious study of sport has only recently become a reality" (24:3). The following paragraphs are descriptive of social-psychological studies dealing with sport.

Whyte, 1943, did an extensive study of the social structure of a gang. As part of his study, he examined the group's social ranking in relationship to outcomes of bowling matches. He found, "it becomes necessary to consider a man's relation to his fellows in examining his bowling record" (25:17). There was a close connection between a man's bowling and his position in the group. Whyte further described the plight of a lower ranking member who was unable to bowl well when he was competing against the leader or other members of his group. It was found that one's position in the group alters his expected ability group-performance relationship (25).

For his investigation of the relationships of interpersonal perception of team effectiveness, Fielder, 1952, first used 14 high school basketball teams and then a second group of 12 high school basketball teams (4). Interpersonal perception scores were obtained by

giving each player three successive forced choice questionnaires. In addition to these tests, players named the three team members with whom they could cooperate best and the three with whom they could cooperate least during games (not necessarily best players). Group effectiveness was then measured by the number of games won in proportion to the number played. Fielder found that "members of effective teams prefer highly task-oriented persons, while ineffective teams list as their most preferred co-workers the more accepting, relationship-oriented team members" (4:387). It is thus possible that the most preferred team worker is a reflection of the entire team's attitude.

In 1954, Morehouse did a sociometric analysis of two high school basketball teams using a sociometric test (16). Twenty-three varsity and junior varsity basketball players were administered a test which established friendship choices during the opening game of the season and again at the conclusion of the season. The players were also rated according to skill ability by three of their basketball coaches. Sociograms were developed which visually represented the results of the sociometric test. The sociogram showed an increase in group integration on both squads during the season. The comparison between the skill-ability rating and the sociogram seemed to indicate a significantly high relationship between a player's ability and his being preferred as a teammate by the other members of the team.

Myers, 1962, investigated what effect intergroup competition had on an individual's psychological well-being and his interpersonal

relations with others in the group (18). He formed 60 three-man rifle teams from a pool of 180 ROTC students to use as subjects for his study. Perceived acceptance scores were figured as the sum of the subject's responses to five 16-point questionnaire items. The items were designed to assess how comfortable and accepted the subject felt in his group. The results indicated that better team adjustment was generated by greater success in the task they were asked to perform. The data also demonstrated that an individual's interpersonal perception of his group members is significantly affected by the level of success enjoyed by the group (18).

The study of his freshman boys' basketball team convinced McWhirter, 1963, that sociometric testing enabled him to gain insight into the network of relationships on his team (13). McWhirter used a sociometric questionnaire to help him understand the hierarchy of his freshman team and the reasoning behind the hierarchy. Each member of the team was asked to write down the names of members with whom he would most like to play and those with whom he would least like to play. A series of situations or questions were then given, and each player was asked to write down the names of all individuals on the team who best met the descriptions. A chart called a sociogram was then made up to illustrate the data collected. In McWhirter's opinion, "Sociometric technique, a device that is generally overlooked, is an excellent method for a coach to acquire a better understanding of his team" (13:32).

In a study of two top performing basketball teams, Klein and Christiansen, 1966, analyzed the relationships of cohesion and team performance (8). They studied the degree of the relationships between a number of group attributes and team success. A short sociometric questionnaire was administered before each game. Three-man teams were organized and members rated teammates according to basketball ability. The most successful teams were not those composed of players ranked one, two or three, but those composed of players ranked two, five and eight. The question appeared to be whether it was the skill abilities of the players or the combination of abilities that dictated group success (8). The researchers concluded that in groups with a common goal and clear role differentiation with regard to this goal, cohesion facilitates effectiveness of the group (8). It was also evident that communication patterns, such as passes to teammates, correspond to friendship patterns during easy competition but followed the ability hierarchy during the more difficult competition. Lastly, "the sociometric structure of the team has an immediate influence upon the communication pathways during the game situation and, consequently, an indirect influence upon success" (8:407).

In 1971, Martens and Peterson conducted a study of "Group Cohesiveness as a Determinant of Success and Member Satisfaction in Team Performance" (11). Twelve hundred male university students, divided into 144 intramural basketball teams, were administered a questionnaire to assess each team's level of cohesiveness. It was administered one

day before the first league game and again at the end of the season. The number of games won was the measure of effectiveness. It was found that highly cohesive teams (teams that valued their membership most) won significantly more games than teams that valued their membership least. The results suggested a circular relationship. In other words, the teams with the most cohesion are more successful, and teams which are more successful have greater satisfaction from participation than do unsuccessful teams.

Vander Veldon, 1972, did a social-psychological inquiry on relationships among basketball teams. Within the inquiry, he identified situational variables which included cohesion, status consensus, leadership and group sentiment. The investigation examined both the degree of association and the nature of the relationship between the situational variables. Twenty-five senior high boy's basketball teams were used to acquire data from questionnaires which were administered before, during and after the season. Vander Veldon found, "The greater the members' consensus, the more effective the group," and "the most cohesive teams are the most effective groups" (24:126).

In a more recent study, 1974, modeled after the Martens and Person research, Melnick and Clemens investigated the effects of group social structure on the success of basketball teams (15). Twenty-one university intramural teams completed a pretournament questionnaire designed to measure the group structural variables, status consensus and cohesion. The results showed that team performance was not

significantly related to either status consensus or cohesion. Thus, the questions were posed, did the degree to which a player valued his team membership directly contribute to his team winning more games, and was the level of competition a variable to take into account (15)?

Even more recently in a study conducted by Pace, 1975, a format was designed which paralleled the format developed by McWhirter in 1963 (20). A similar questionnaire was administered to a university women's basketball team and the data analyzed by placing it in sociograms. This enabled her to understand the hierarchy of the team and gain a better insight into the network of relationships.

Summary

Sociometry is "the study and measurement of interpersonal relationships in a group of people" (7:11). It is concerned with the psychological components of the group, method of looking into the group structure, analyzing it and working with the group to make the best possible conditions. The field of sociometry has been adapted to fit a variety of group situations. The use of this type of study in the area of sport has dealt primarily with group cohesion and team performance, and the interpersonal relationships which exist within a team. The resulting data has provided valuable information to coaches, giving them a better understanding of their team and a greater opportunity for increased team success.

These studies deal mainly with group cohesion and the relationship between cohesiveness and team performance. The findings seem to be contradictory. Several investigators reported a positive relationship between the cohesiveness of teams and team effectiveness (11, 8, 18, 24). Furthermore, the most successful teams were not composed of the best skilled players (18). In contrast, other studies found that a high degree of cohesiveness interfered with effective team performance suggesting that highly cohesive teams may be more concerned with maintaining good interpersonal relations than with effective team performance (15:4).

Other studies described the interpersonal relationships which existed within teams. These findings provided insight into player social status, thereby giving the coach a better understanding of team interactions (16, 20, 13). There was a high relationship between being preferred as a teammate and player ability (16).

Of the cited research, only one dealt with female athletes (20). The majority of research has been done with male subjects in high school at a variety of competitive levels with the emphasis in the area of basketball (4, 16, 24, 13).

CHAPTER 3

PROCEDURE

A sociometric questionnaire was given to the Montana State University Women's Basketball team to provide data for indicating relationships existing within the team. The questionnaire was given to each member three times during the season--at the beginning, in the middle and at the end. The data was tabulated and analyzed to determine if any significant correlations existed.

Population

Fifteen members of the Montana State University Women's Basketball team comprised the population of this study. The subjects were full-time students ranging between the ages of 18 and 22 years and were of varying backgrounds. Due to injury, the population decreased to 14 at midseason and 13 at postseason.

Design of Questionnaire

In this study, the sociometric questionnaire was the tool used for data collection and consisted in part of questions taken from studies conducted by McWhirter (13) and Pace (20). Questions were also developed by the investigator, following the suggestions made by McWhirter (13) in a telephone interview on November 5, 1980. He suggested the concept of using both "desirable" and "undesirable" questions which would be specifically adapted to the investigator's particular situation. The questionnaire was designed to establish sociometric

ratings indicating relationships that existed in the women's varsity basketball team.

The sociometric questionnaire consisted of two types of sociometric questions: basic sociometric questions and "guess-who" questions (Appendix A). The basic sociometric questions (1-7) asked each member of the team to write down the names of the three other members of the team with whom she would like to do a certain activity. Although each player was asked to write down three other teammates for each question, the players were not required to respond. Appendix B was used to tabulate the responses to the sociometric questions. Of these seven questions, two were of major importance. Question 3 asked the subjects to list in order of preference three team members with whom they would like to play basketball giving consideration to skill ability. They were also asked to list three undesirable choices on the same basis. Question 7 asked that the subjects list in order of preference three team members with whom they felt most at ease off the court. Again, three undesirable choices were listed as well. An analysis of question 3 and 7 was made to help clarify the study's findings.

The "guess-who" questions were used only as a subjective aid to the investigator in viewing the results of the sociometric ratings. In these questions, the players were asked to write the names of all individuals on the team who best met the descriptions of a series of situations. These questions or situations were relevant to the group situation and included both "desirable" and "undesirable" traits.

Administration

A pilot test was conducted on November 18, 1980 on the 12 graduate students in the field of physical education to familiarize the investigator with the administration, makeup and construction of the questionnaire. It was administered to these students in their graduate research class in physical education at Montana State University. The test results showed no changes were necessary and aided the investigator in determining that the length of time needed for administration of the questionnaire was approximately 12 minutes.

The questionnaire was administered to each member of the women's basketball team on three separate occasions during the 1980-81 season. The first administration was the day before the opening game (December 1, 1980), the second administration was at midseason (January 14, 1981) and the final administration was at the end of the season (March 10, 1981). Twelve games were played during the six and one-half week period between the first administration and the second. Thirteen games were played during the seven and one-half week period between the second and final administration.

Procedures for administering the questionnaire were constant. Each questionnaire was coded, handed out and turned in by the players. By not requiring the subjects to identify themselves by name, the investigator hoped to alleviate any anxiety that might be present in answering the negative questions. Prior to administration, a short explanation was given to acquaint the subjects with the purpose of the

questionnaire. They were asked to read the instructions carefully. The investigator emphasized the fact that all answers would be strictly confidential and would have no bearing on player status with the coaches. Players were asked not to discuss their answers with anyone. No mention of a later questionnaire was made at the preseason administration. The same directions were given at the midseason and post-season administrations with the added explanation that the purpose of these follow-up questionnaires was to note any changes that might have occurred.

The head coach, assistant coach and the athletic trainer independently filled out the questionnaires. The two coaches also independently rated each player according to the following criteria: skill, consistency and intensity.

Skill was defined as the technically correct performance of the fundamentals of basketball. Consistency included performance of those skills on a daily basis. The intensity rating involved the coach's assessment of the player's ability to push themselves mentally and physically during every practice and every game. The players were rated at the time the questionnaire was administered on a scale of one to ten. Ten was considered most proficient and one was least proficient.

Treatment of Data

The results of each of the first seven questions were tabulated by the investigator (Appendix B). On each form, the names of all the

players were set up to record the questionnaire choices. The players were listed across the top in a row and down the side in a column. The side list represented the choices made by a player and the top list represented the choices received by a player. For each question, a player could list three "desirable" choices and three "undesirable" choices. In order to qualify the results, the investigator established a scale equating a point value for each choice, as shown in Table 1.

Table 1

A Scale of Point Values
To Questionnaire Choices

Desirable First Choice	= 7 points
Desirable Second Choice	= 6 points
Desirable Third Choice	= 5 points
No Response	= 4 points
Undesirable Third Choice	= 3 points
Undesirable Second Choice	= 2 points
Undesirable First Choice	= 1 point

The point values for each player were then transferred to a computer coding form. The same scale and method were used to tabulate the coaches' sociometric ratings. Each player's one to ten skill-ability rating was also transferred onto the computer coding form. The data was then compiled into three groups: 1) the players' sociometric ratings, 2) the coaches' sociometric ratings and 3) the coaches' ratings of each player's skill-ability at the time of each administration. Appendix D represents all three groupings.

Analysis of Data

For each player, a total score was computed by summing the choices as converted to point values. This summation was computed for each player for each of the basic sociometric questions (1-7). Appendix D was used to classify each player's data. Players' sociometric ratings were compared to coaches' sociometric ratings, thereby answering subproblem one, "Do the sociometric ratings made by the players relate to those made by the coaches?". The comparisons of these variables at the preseason, midseason and postseason administrations of the questionnaire answered subproblem two. Due to the small "N" (less than 30), the Spearman Rho method of correlation was used to compare these variables.

The players' sociometric ratings were compared to the coaches' skill-ability ratings at preseason, midseason and postseason administration of the questionnaire, which addressed the first aspect of subproblem three. The final aspect of subproblem three was to compare the coaches' sociometric ratings to the coaches' skill-ability ratings for all three administrations of the questionnaire. A comparison was made between skill ratings and sociometric scores. Therefore, the Pearson "r" method of correlation was utilized. This method was also used to compare the two sociometric questions, 3 and 7, to each other on both the players' and the coaches' sociometric responses. The skill-ability ratings by the coaches were also compared to player and coach responses to sociometric questions 3 and 7, again by the Pearson "r" method.

All correlations were determined at the .05 level of significance. When comparing one variable to another, such as players' sociometric rating to coaches' sociometric rating on questions 3 to 7, an "N" of 15 was utilized for the preseason comparison, 14 for the midseason comparison and 13 for the postseason comparison. An "N" of the 13 subjects present throughout the season was utilized when comparing the preseason results to midseason results to postseason results.

CHAPTER 4

RESULTS AND DISCUSSION

Results

In order to determine if any relationship existed between player-sociometric ratings made by players and player-sociometric ratings made by coaches (subproblem one), the ratings were compared after each administration of the questionnaire. To determine if any changes took place in this relationship during the season (subproblem two), preseason data was compared to midseason and postseason data, and midseason data to postseason data. The third subproblem was to determine if there was a relationship between the sociometric ratings made by both players and coaches and the skill-ability rating of players made by the coaches. These comparisons were made for each administration of the questionnaire.

The computed sociometric ratings were statistically analyzed by the Spearman Rho method, as displayed in Tables 2 and 3.

At the .05 level, no significant correlations were found when players' sociometric ratings were compared to coaches' sociometric ratings until the postseason comparison. This correlation (*.641) indicates that the way the players rated each other was in agreement with the way the coaches rated the players. The lack of significant correlations at the preseason and midseason comparisons show that this agreement was not present at those times. In fact, the negative preseason correlation, although not significant, does show a tendency, in

Table 2

The Relationship of Players' Sociometric Ratings
to Coaches' Sociometric Ratings

N		Preseason	Midseason	Postseason
15	Preseason	-.327		
14	Midseason		.106	
13	Postseason			.641*

Critical values for preseason = .524 (.05)

Critical values for midseason = .544 (.05)

Critical values for postseason = .566 (.05)

*Correlation significant at the .05 level

Table 3

The Relationship of Sociometric Ratings to Each Other

N	Administration	Players		Coaches	
		Midseason	Postseason	Midseason	Postseason
13	Preseason	-.367	-.121	.951*	.924*
13	Midseason		-.023		.988*

* = significant \pm .566 (.05)

this study, for players and coaches to rate players inversely; where one group rated a player high, the other group rated the player low. This shift from no agreement at the beginning of the season to agreement at the end might be expected, since the players and coaches became more familiar with each other, the program administration, coach expectations and team expectations as the season progressed. This increased group agreement follows the same pattern as that noted in previous literature (16).

The changes that took place between the sociometric ratings of players and coaches are further defined in Table 3.

When the players' sociometric ratings in preseason were compared to their midseason and postseason ratings, no significant correlations were found. The same was true for the midseason ratings as compared to the postseason ratings. This shows no agreement in the way players rated each other from preseason to midseason to postseason, suggesting that from one administration to the next, the way players rated each other changed. When these comparisons were made with the coaches' sociometric ratings, all three correlations were significant. This showed strong agreement in the way coaches rated the players from preseason to midseason to postseason. The coefficient of determination (R^2) explains the proportion of variance between each administration of the questionnaire. By calculating these coefficients of determination, we further strengthened the association that coaches' sociometric ratings of the players remained virtually the same throughout the season. The

following coefficients of determination were calculated: for the pre-season to midseason, 83.7%; the preseason to postseason coefficient, 85.4%; and the midseason to postseason coefficient, 97.6%. Obviously, the coaches criteria for sociometric rating of the players remained very much the same throughout the season, while the players' criteria underwent many changes as the season progressed. It would appear that at the time of the first administration, the coaches were more familiar with the players than the players were with each other. Since the coaches had the opportunity to learn more about the new players through recruiting and the old players through previous association, the familiarity indicated by the correlations is of no surprise. Because the coaches developed the questionnaire based on their criteria, it might also be expected that their ratings would follow those criteria and correlate very highly. It is difficult to determine why the players' sociometric ratings of each other did not agree throughout the season. However, such factors as changing friendship groups and team success must be considered. As the players came to know each other better and friendships developed, their sociometric ratings changed accordingly.

By referring to Table 2, we see that the players' sociometric rating of players and the coaches' sociometric rating of players did not agree until the end of the season. Since Table 3 shows that the coaches' sociometric ratings of players remained basically the same throughout the season, it was obviously the players' ratings of players that changed. This led to the postseason correlations which indicated

that their ratings at the end of the season coincided more closely to the way the coaches had rated the players during the season. Previous research had indicated that an individual's interpersonal perception of group members was significantly affected by the level of success enjoyed by the group (18). Therefore, as the team record fluctuated, so could have the players' sociometric ratings.

Table 4 represents the comparisons made in this study between the skill-ability ratings of players made by the coaches and the player sociometric ratings made by the players. None of these correlations were significant at the .05 level, which would indicate that the players used little or no consideration of skill when they made their sociometric ratings. This is contrary to the findings of Morehouse, where he found a high relationship existed between a player's ability and his being preferred as a teammate (16).

Table 4

The Relationship of Players' Sociometric Ratings
To Coaches' Skill-Ability Ratings

N		Preseason	Midseason	Postseason
15	Preseason	.471		
14	Midseason		.120	
13	Postseason			.002

Pearson "r" method of correlation

Critical values for preseason = .482 (.05)

Critical values for midseason = .497 (.05)

Critical values for postseason = .514 (.05)

However, since the skill-ability rating of the players was that of the coaches, it might be assumed that players perceived skill differently. Although not significant, the change from a higher correlation to almost no association at the end of the season, shows an interesting pattern. It may be that as friendships formed, possibly cliques, those friendships, rather than skill, became the focal point for a player's team status.

At the .05 level of significance, no relationship was found between the coaches' sociometric ratings and their skill-ability ratings (Table 5). The skill-ability of players made no difference to the coaches in their ratings of players. This was encouraging in that the coaches were separating skill and personality in their evaluations. Therefore, a coaches' rating of skill was not based on personality factors, and their sociometric ratings were not based solely on skill.

Table 5

The Relationship of Coaches' Sociometric Ratings
To Coaches' Skill-Ability Ratings

N		Preseason	Midseason	Postseason
15	Preseason	-.053		
14	Midseason		-.271	
13	Postseason			-.089

Pearson "r" method of correlation

Critical values for preseason = .482 (.05)

Critical values for midseason = .497 (.05)

Critical values for postseason = .514 (.05)

An analysis of sociometric questions 3 and 7 helped to clarify the findings of the comparisons of sociometric ratings to skill-ability ratings. Question 3 asked the subjects to list in order of preference the three team members with whom they would like to play basketball giving consideration to skill-ability and to list three "undesirable" choices on the same basis. Question 7 asked that the subjects list in order of preference three team members with whom they felt most at ease off the court and three members they felt least at ease with off the court (Table 6).

Table 6

The Relationship of Questions 3 and 7 to the
Coaches' Skill-Ability Rating

N	Administration	Question	Players	Coaches
15	Preseason	Q3	.841*	-.237
		Q7	.199	-.310
14	Midseason	Q3	.030	-.120
		Q7	.175	-.269
15	Postseason	Q3	.114	-.057
		Q7	.140	-.262

Pearson "r" method of correlation

Critical values for preseason = .482 (.05)

Critical values for midseason = .497 (.05)

Critical values for postseason = .514 (.05)

Only one correlation between players' responses to questions 3 and 7 and the coaches' skill-ability rating proved to be significant at the .05 level. This was on the preseason comparison between their question 3 responses and the coaches' skill-ability rating (.841*). Giving consideration to skill, the players chose three team members who were rated as being skilled by the coaches. It would appear that since friendship groups had not been formed by the time the preseason questionnaire was administered, skill-ability was the primary factor used when players chose teammates. In contrast, the midseason and postseason comparisons found that no relationship existed between the coaches' skill-ability rating and the players' choice of teammates. This would suggest that players were looking at qualities other than skill, quite likely personality, when choosing their teammates on or off the court, and/or that the players' perception of skill was not the same as that of the coaches. The correlations between the coaches' responses to questions 3 and 7 and their skill-ability ratings were nonsignificant. There was no association, therefore, between the coaches' skill-ability rating and their choice of players on the court and those they felt most at ease with off the court. This lack of significance indicates that while the coaches did separate skill and personality in their ratings of players (Table 5), it was a combination of these two factors which affected their choices of who played and who they preferred off the court. This would tend to support the literature reviewed which stated that the most successful teams are not necessarily composed of the

best-skilled players (8). It appears, then, that coaches are looking for a pattern of ability and personality which provides a cohesive group and improves team performance (8, 11, 18, 24). Table 7, comparing questions 3 to 7, appears to support these conclusions.

Table 7
The Relationship of Question 3 to Question 7

N	Administration	Players	Coaches
15	Preseason	.577*	.553*
14	Midseason	.806*	.721*
13	Postseason	.594*	.811*

Pearson "r" method of correlation

Critical values for preseason = .482 (.05)

Critical values for midseason = .497 (.05)

Critical values for postseason = .514 (.05)

*Correlation significant at the .05 level

All three correlations between the players' responses to questions 3 to 7 were significant at the .05 level. There was an agreement between the players chosen in question 3 (players preferred on the court), and those chosen in question 7 (players preferred off the court). This indicates that players were not separating skill from personality,

which supports the pattern shown in Table 6; that is, when choosing teammates on or off the court, the players were considering both skill and personality. It is evident, then, that when players assess skill, personality is a factor, and when they assess personality, skill is also a factor. From earlier correlations (Table 4), no relationship was found between the players' sociometric ratings and the coaches' skill-ability ratings. Since Table 7 indicates that players were relating personality with skill, it could be assumed that the players' perception of skill was different from that of the coaches'. It is possible that such factors as becoming a starter, having more playing time and making the traveling team, were interpreted as indicators of playing ability. Regardless of whether the players and the coaches perceived skill and personality differently, the players' perception of one influenced the other.

The correlations between the coaches' responses to questions 3 to 7 were also significant at the .05 level. It showed there was an agreement between the players that coaches chose as preferred on the court (question 3) and those preferred off the court (question 7). From this, it is evident that coaches also did not separate skill from personality when choosing players on or off the court, and supports the contention made earlier that coaches choose players according to a combination of skill and personality. They are apparently looking for the most cohesive group to improve team performance (8, 11, 18, 24). It was the same cohesive group, not necessarily the most highly-skilled

players, that coaches felt most comfortable with off the court.

Together, these findings bring out some interesting points. It was to be expected that an increase in familiarity between players and coaches would occur as the season progressed. Since the coaches' ratings remained basically the same throughout the season, it was the players' sociometric ratings that changed from the time of the first administration to the final administration of the questionnaire. The coaches' skill-ability rating of players did not influence the way in which the players rated each other on the sociometric questionnaire, nor did it influence the way in which the coaches rated the players on the questionnaire. Moreover, neither players nor coaches separated skill and personality when choosing preferred players for on and off the court association. Obviously, both players and coaches chose players that they felt had a combination of skill and personality. This does not mean that they arrived at their choices in the same way. The players' awareness of skill and personality may have been quite different from that of the coaches.

As a coach, it is encouraging to find evidence that more and more coaches are selecting players, not on skill alone, but on the basis of a combination of skill and personality. Since this is also true of the players, it is obvious that both players and coaches see cohesiveness as an integral part of team performance.

In this investigator's opinion, the knowledge gained from reading the responses after each administration of the questionnaire was of

more practical value than the statistical analysis of the data at the end of the season. The subjective information gained by tabulating the "guess-who" questions provided an immediate feedback which furnished a better understanding of the conditions that existed within the team.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter will include a summary of the study along with findings and recommendations for further studies.

Summary

The purpose of this study was to determine the interpersonal relationships of the 1980-81 Montana State University Women's Basketball team. Specifically, three questions were being investigated: one, if any significant correlations existed between player-sociometric ratings made by players, and the player-sociometric ratings made by coaches; two, what changes if any, took place in those correlations from pre-season to midseason and from midseason to postseason and, three, if there was a relationship between both the players' and coaches' sociometric ratings and the coaches' rating of the skill-ability of players.

The study was delimited to the 15 members of the Montana State University Women's Varsity Basketball team. Limitations involved the subjects refusal to answer some or all of the fixed-answer questions.

A sociometric questionnaire was given to the team to collect data for indicating relationships existing within the team. The questionnaire was administered to players and coaches on three separate occasions during the 1980-81 season. The first administration was the day before the opening game (December 1, 1980), the second administration was at midseason (January 14, 1981) and the final administration

was at the end of the season (March 10, 1981). The data was tabulated, computerized and analyzed to determine if any significant correlations existed.

Conclusions

Within the limitations of this study, the results led the investigator to the following conclusions.

1. There was no significant relationship between the player-sociometric ratings made by the players and the player-sociometric ratings made by the coaches at preseason and midseason. The postseason administration of the questionnaire showed an agreement and significant relationship between the player-sociometric ratings made by the players and the player-sociometric ratings made by the coaches. This showed a shift from no agreement between players and coaches sociometric ratings at the beginning of the season to agreement at the end of the season.

2. The sociometric ratings made by players when compared to each other varied from preseason to midseason to postseason administration, showing no significant relationship. This variance indicated that the manner in which players rated players changed throughout the season. These comparisons made with the coaches' sociometric ratings were all significant, showing an agreement in the way coaches rated the players from preseason to midseason to postseason. The postseason administration of the sociometric ratings made by players when compared to the sociometric ratings made by coaches was the only rating to agree,

indicating it was the sociometric ratings made by the players that varied throughout the season, which agreed with the sociometric ratings made by coaches at postseason.

3. The skill-ability ratings of players made by coaches had no significant relationship to the player-sociometric ratings made by the players. The players had little or no consideration of skill when they made their ratings.

4. The skill-ability ratings of players made by coaches had no significant relationship to the player-sociometric ratings made by coaches. The skill-ability of players made no difference to the coaches in their sociometric ratings of players.

5. When a comparison was made between the players chosen as preferred teammates with whom to play basketball, giving consideration to skill, and those preferred as teammates with whom one felt most at ease with on or off the court, both players' and coaches' responses were found to have a significant relationship. Players and coaches were considering both skill and personality when selecting preferred players for on and off the court association.

Recommendations

The investigator would make several recommendations for future studies.

1. Investigators are reminded that for future research of this type, the sociometric questionnaire should be modified to fit the needs

of each investigator's situation. The questions on the questionnaire should emphasize areas of importance to each investigator. Such areas of emphasis could include sportsmanship, attitude and skills specific to each investigator's particular sport.

2. A similar study could be conducted using sociograms as an alternate method of analyzing the questionnaire to determine interpersonal relationships on the team. This method would give a visual presentation of the team, identifying social patterns which could include friendship pairs, cliques, stars and isolates.

3. By combining this investigator's method of statistical analysis of information and previous authors' use of sociograms, a more complete perspective into team interrelationships might be provided. The use of a sociogram would provide a subjective, visual presentation of the team's social groupings, whereas the statistical analysis provides more objective information concerning the social interactions between players and coaches.

4. A study comparing the sociometric ratings of players to the team record at various intervals throughout the season might aid in determining the relationship of team success and failure to player sociometric ratings.

5. The author strongly suggests that a study of this nature be done by coaches who would also assume the role of investigator. The subjective information gained would provide immediate feedback and a

better understanding of what is happening on the team.

6. A final recommendation of the investigator is that further studies of female athletes need to be conducted. In the field of sport, few studies have concerned themselves with the social-psychological aspects of female athletes. The lack of information on female athletes is indicative of the void in research on women's athletes in general.

APPENDIX A

Date _____

Number _____

Fill in the name or names of the team members that in your opinion best fit the description. Be honest; if no one fits the description, do not answer the question. Do not use your own name on any of the answers. Your answers will be confidential, and you are asked not to discuss your answers with anyone.

1. A. Who stands out to you as the players who encourage team play and "fire" when the team is "down" or behind in points?

Choice 1 -
2 -
3 -

- B. Which players do not stand out as players who encourage team play and "fire" when the team is "down" or behind in points?

Choice 1 -
2 -
3 -

2. A. Who exhibits the best sportsmanship on the team?

Choice 1 -
2 -
3 -

- B. Who exhibits the least sportsmanship on the team?

Choice 1 -
2 -
3 -

3. A. Giving consideration to skill, list in order of preference three team members with whom you would like to play basketball.

Choice 1 -
2 -
3 -

B. List the players with whom you would not like to play basketball.

- Choice 1 -
- 2 -
- 3 -

4. A. Who are the hardest workers on the team?

- Choice 1 -
- 2 -
- 3 -

B. Who does the least work on the team?

- Choice 1 -
- 2 -
- 3 -

5. A. Who are the most unselfish players who are interested in the team as a whole and who play most for the team?

- Choice 1 -
- 2 -
- 3 -

B. Who are the players who are not interested in the team as a whole and play mostly for themselves?

- Choice 1 -
- 2 -
- 3 -

6. A. Who are the best defensive players on the team?

- Choice 1 -
- 2 -
- 3 -

B. Who are the poorest defensive players on the team?

- Choice 1 -
- 2 -
- 3 -

7. A. In order of preference, list three team members you feel most at ease with when off the court.

Choice 1 -

2 -

3 -

- B. List the three members of the team you feel least at ease with when off the court.

Choice 1 -

2 -

3 -

8. Who will always help you if you need help?
9. Who is always getting her feelings hurt?
10. Who likes to laugh and have a good time?
11. Who always brags and boasts?
12. Who acts snobbish?
13. Who acts too young?
14. Who acts too old?
15. Who acts silly?
16. Who is so shy and quiet you cannot get to know her?
17. Who always tries to boss everyone?
18. Who isn't friendly?
19. Who shoots too much?
20. Who doesn't pass enough?

APPENDIX B

Tabulation Form

Sociometric Question # _____

Player

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Player 1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															

Total

APPENDIX C

APPENDIX D

Player	Test	Summation of Players' Data							Summation of Coaches' Data							Coaches' Skill Rating
		Questions							Questions							
		1	2	3	4	5	6	7	1	2	3	4	5	6	7	
1	1	40	40	47	43	43	44	43	12	12	12	12	12	15	12	7
	2	53	61	55	62	57	61	54	9	12	10	12	12	12	10	5
	3	52	59	52	51	57	56	56	6	12	10	10	9	12	10	0
2	1	41	40	47	53	50	52	54	19	12	18	13	17	16	17	5
	2	57	53	56	53	52	52	60	17	12	21	14	17	14	20	6
	3	57	54	64	51	49	53	51	18	14	21	15	15	15	19	6
3	1	56	52	63	52	55	60	54	9	12	14	12	12	12	11	9
	2	51	43	50	52	52	52	60	12	12	12	12	12	12	12	10
	3	47	52	62	58	54	52	63	10	12	12	12	11	12	12	10
4	1	54	52	51	52	52	49	57	12	16	13	18	18	15	12	4
	2	67	56	74	52	65	55	62	12	17	16	19	19	16	12	5
	3	51	60	62	68	61	62	58	12	18	15	20	18	17	12	8
5	1	72	69	66	73	73	78	60	12	12	4	12	12	5	7	7
	2	44	50	26	52	52	40	34	7	12	3	11	12	7	7	7
	3	49	52	39	52	52	47	44	12	12	3	13	13	7	7	8
6	1	54	55	57	59	59	58	48	12	12	12	14	12	7	10	6
	2	50	53	54	59	53	52	52	12	14	8	13	9	6	11	5
	3	47	52	48	54	52	48	61	12	12	9	12	12	10	9	6
7	1	65	58	77	63	58	69	54	14	21	12	18	17	17	12	10
	2	51	58	52	52	52	52	53	14	19	12	17	16	19	12	8
	3	61	72	60	66	69	77	59	15	20	14	15	15	15	13	9
8	1	69	60	43	52	52	48	54	14	12	15	12	12	15	17	2
	2	73	59	51	54	56	53	49	14	12	14	12	12	16	12	3
	3	47	43	50	55	49	35	52	12	8	12	12	12	15	15	3
9	1	51	54	42	55	53	45	52	18	15	12	12	15	12	13	2
	2	41	47	47	35	43	47	48	20	17	11	12	13	12	16	2
	3	69	54	51	56	52	54	54	17	15	12	14	16	13	14	2
10	1	54	58	50	51	52	51	49	12	13	12	14	12	12	17	5
	2	71	76	61	73	73	87	61	12	13	12	15	12	12	17	0
	3	61	54	56	54	57	54	62	14	12	12	12	12	12	16	0
11	1	51	57	46	52	55	52	53	12	10	17	12	12	12	10	3
	2	48	52	45	58	52	50	53	12	10	15	12	12	12	12	4
	3	73	62	70	59	73	66	60	14	9	14	12	11	13	11	4
12	1	48	52	53	56	52	51	52	8	12	9	6	8	12	12	4
	2	55	62	61	69	71	62	56	13	9	11	5	14	12	6	8
	3	48	52	52	43	47	46	49	6	5	11	3	4	9	9	8
13	1	52	56	60	52	58	54	58	12	12	12	12	9	12	12	6
	2	59	55	77	53	56	64	58	12	12	12	12	12	12	12	6
	3	50	55	52	55	52	52	57	11	12	8	11	12	12	12	5
14	1	59	74	71	81	70	64	59	4	3	9	3	6	11	12	6
	2	52	52	55	50	52	52	55	7	6	12	6	9	9	12	9
	3	52	52	52	52	52	52	52	12	12	12	12	12	12	12	8
15	1	53	54	23	55	58	43	46	12	11	12	12	12	12	12	1
	2	52	52	52	52	52	52	52	12	12	12	12	12	12	12	1
	3	52	52	52	52	52	52	52	12	11	12	12	12	12	12	1

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