AN ANALYSIS OF THE AGGRESSIVE AND NON-AGGRESSIVE BEHAVIOR OF A COLLEGE BASKETBALL COACH

By

JANET K. REUSSER

Bachelor of Science
Kansas State University
Manhattan, Kansas
1976

Master of Education
University of Nebraska-Lincoln
Lincoln, Nebraska
1980

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Thesis Approved:

Steven W. Edwards
Thesis Adviser

Sandra K. Gangstead

Betty M. Edgley

John J. Gardiner

Norman N. Durham
Dean of Graduate College

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I dedicate this manuscript to those who hold the future, the youth, specifically my nephews and nieces, Brent Ernest, Eric Adam and Ella Alyson Reusser and Andrea Rae and Leslie Ann Bennett.

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CHAPTER I

INTRODUCTION

Aggressive behavior in the world of sports and athletics seems to have increased recently. Aggressive behavior can be seen in all of the main participants in the athletic arena; 1) the athlete who is directly involved with the competition, 2) the fan who is an indirect participant of the event and 3) the coach who possesses an intermediate position (Freischlag and Schmidke, 1979). It is evident that the outcome of competition can directly affect the coach as a person as well as the coach's occupational stability.

The pressure to succeed often manifests itself in frustration and anger which may be transmitted to aggressive overt actions by the coach. If winning and/or an acceptable performance is not achieved, then coaches may experience frustration. The infamous "Lombardi ethic" rings clearly in lockerrooms, gymnasia and football stadia; i.e. winning isn't everything, it's the only thing. This implies that if winning is not achieved, players and coaches alike will be replaced (Vandyke, 1980).

Throughout the years athletic coaches have been depicted in many ways. Observers have labeled coaches as being authoritarian, dogmatic, flamboyant, egocentric and aggressive (Ryan, 1981). Along with these descriptors, the coach is viewed as being a "significant other", father-figure and/or counselor. At times coaches have been able to use their personal qualities and characteristics to influence their athletes to obtain desired goals. Often coaches are portrayed as pillars of moral integrity and virtue and instill positive attributes that produce upstanding citizens of their associated athletes (Cratty, 1983). Since the coach in many instances is significant in directing a young person's emotional and social development, behaviors which may be influential should be identified. Few empirical studies have investigated the behavior of the athletic coach during coaching situations and even more specifically, aggressive and non-aggressive behavior during these times.

With regard to the paucity of studies conducted in game-like situations, it is obvious that few studies have attempted to identify specific behaviors, (e.g. aggression) during competitive situations. Most aggressive outbursts have been documented by situational occurrences. According to Slear (1981), there have been increasing incidents of assaults directed toward officials by coaches. It has been detected that no level of competition is immune to the

contagion of hostile behavior. There have been reported incidents where the safety of officials, umpires and referees have been in jeopardy. During an intercollegiate womens' basketball game, the head coach of Morehead State assaulted a referee. The male referee who was dropped to the floor by the coach's blow considered filing assault charges. Feigley (1983) reported a gymnastics coach attacked a cameraman who apparently ventured too close to the apparatus where the coach's athlete was performing. Evidently the coach felt that the cameraman caused the athlete to become distracted, which resulted in a fall from the balance beam. These are only two examples of hostile acts directed toward individuals by coaches. There are many incidents that occur but are never reported.

Although the identification of specific coaching behavior appears to be difficult, several observational instruments have been developed to clearly define and categorize behavior differences. The utilization of systematic observation instruments for assessment and evaluation of coaching behavior is relatively new. It has been within the last 10 years that systematic attempts have been made to analyze coaching behavior. Initial studies conducted, focused on the coaching behavior of a particularly successful coach and employed a systematic observation instrument to determine the percentage of behaviors displayed in specified categories (Tharp and

Gallimore, 1976, and Williams, 1978). These early studies helped to stimulate interest in the systematic observation of coaching behavior (Model, 1983). These studies, however, centered around coaches during practices. Game situations were not observed.

In the 1970's, Flanders developed and introduced an interaction analysis system designed to be used to study teacher-student interactions in the classroom. Since then this observation system has gained popularity among educational researchers and has been subject to numerous revisions and modifications. Cheffers' Adaptation of Flanders' Interaction Analysis System (CAFIAS) expanded the Flanders' system to include nonverbal interaction, different varieties of teacher behavior and pupil responses (Cheffers, 1972).

Several studies have used CAFIAS in the area of assessment and observation of coaching behavior. Research using CAFIAS has focused around physical education teaching and athletic practice sessions. Competitive situations were not utilized as observational settings for these studies (Agnew, 1977 and Staurowsky, 1979).

It appears that valuable information has been gained by viewing coaches during practice sessions. Perhaps information obtained from game situations could provide a more broad and general understanding of athletic coaches' overall behavioral patterns. If educators are to prepare

quality coaches by using sound educational techniques, then game and practice behaviors should be systematically analyzed. The utilization of systematic observation instrumentation provide a solid approach to behavior analysis in coaching.

Statement of the Problem

The purpose of this study was to observe and identify aggressive and non-aggressive behavioral patterns exhibited by a female collegiate basketball coach while coaching female athletes during competitive conditions. A subpurpose of this study was to determine if differences existed among behavioral patterns exhibited during home and away games, during winning and losing efforts, during first and second halves of games and during early, middle and late season games.

Delimitations

1. This study was delimited to the investigation of aggressive and non-aggressive behavior as measured by Cheffers' Adaptation of Flanders' Interaction Analysis System (CAFIAS and CAFIAS II).

2. This study was delimited to the investigation of aggression and hostility as measured by the Buss-Durkee Hostility Inventory.

3. This study was delimited to one female coach who was coaching female basketball players within the National Association of Intercollegiate Athletics during the 1985-86 season.

Limitations

The results of the study may have been affected by the following limitations:

1. The investigator's acceptance of the aggressive behavior exhibited by the coach as instrumental aggression and not reactive aggression.

2. The resultant information pertaining to coaching behavior may only be valid when CAFIAS and CAFIAS II are used for coding.

3. The utilization of the case study methodology wherein the exhibited responses might be unique to the individual investigated at selected times.

Assumptions

The following assumptions were established in relation to this study:

1. Behavior patterns exhibited were genuine and authentic and were not contrived by the subject.

2. The subject was concerned with win-loss records as an incentive to maintain her coaching position.

3. Responses made on the self-report inventory were genuine and not falsified or untrue.

4. The presence of the researcher did not affect the coach during the taping sessions.

5. The observer was objective when recording and coding data during the observational analysis.

6. Six games throughout the season provided sufficient data which reflected the entire season.

Pertinent Questions

Specifically, the study attempted to answer the following questions:

1. Did the coach exhibit different overall non-aggressive behavior while losing as opposed to winning?

2. Did the coach exhibit different non-aggressive behavioral patterns in critical circumstances?

3. Did the coach display different overall non-aggressive behavior while coaching at home when compared to coaching at the opponent's court?

4. Did the coach display different non-aggressive behavioral patterns during first and second halves of games?

5. Did the coach exhibit more or less aggressive behavior while losing as opposed to winning?

6. Did the coach become more or less aggressive in critical circumstances?

7. Did the coach exhibit more or less aggressive behavior while coaching at home when compared to coaching at the opponent's court?

8. Was the perceived aggression of the coach similar to the exhibited aggressive behavior?

Definitions

For the purpose of this study the following terms are defined as either conceptual or functional definitions. Conceptual definitions include those terms defined by authorities. Functional definitions include those terms which relate specifically to this study.

Conceptual Definitions

1. Cheffers' Adaptation of the Flanders' Interaction Analysis System referred to as CAFIAS is an interaction analysis system developed for use in physical activity settings to objectively describe both verbal and nonverbal teacher-pupil interaction, classroom teaching agents and class structure (Cheffers, 1983).

2. Cheffers' Adaptation of the Flanders' Interaction Analysis System II referred to as CAFIAS II isolates the emotional aspect of CAFIAS, and includes extreme emotional verbal and nonverbal teacher and student actions (Mancini and Cheffers, 1983).

3. Hostility is a personality characteristic or disposition which conveys the negative connotation desired in reference to the tendency to aggress (Martens, 1975).

4. Instrumental aggression is a person's intention to cause injury or bodily harm to another, however, the major reinforcement for the behavior is to acquire some ulterior reward such as victory, money or prestige (Silva, 1980).

5. Reactive aggression is an overt action that is displayed resulting in injury to the target and the primary reinforcement is from actually seeing the pain or injury inflicted upon the target (Silva, 1980).

Functional Definitions

1. Aggressive behavior refers to verbal or nonverbal statements or actions overtly exhibited toward animate and/or inanimate objects with the intent to injure either psychologically or physically and as measured by the CAFIAS category of Criticism.

2. Athletic coach is one who trains athletes intensely by instruction, demonstration and practice.

3. Coaching behavior refers to the particular actions or style of communication emitted by a coach between animate and/or inanimate objects either verbally or nonverbally.

4. Event recording is a behavioral research procedure for collecting data in which an accumulated record of the number of defined events within a specific time is kept (Siedentop, 1976).

5. Intercollegiate athletics refers to colleges competing against one another in athletic events.

6. National Association of Intercollegiate Athletics (NAIA) is a national organization for small universities and colleges.

7. Non-aggressive behavior refers to positive verbal or nonverbal statements or actions overtly exhibited and as measured by CAFIAS categories of Praise, Questions, Lecture, Direction, Accepts Ideas and Silence.

8. Nonverbal behavior is communication through body, facial expression, or any behavior not expressed verbally.

9. Verbal behavior is communication or interaction orally conveyed.

CHAPTER II

REVIEW OF LITERATURE

Systematic observations in recent years have provided valuable information regarding teacher and coaching behavior in physical activity settings. There appears to be a small amount of research that deals specifically with the analysis of coaching behavior during competitive situations. Flanders (1970) popularized the systematic observation of behaviors during educational settings. Even more obscure in the literature are empirical studies which elucidate the aggressive and non-aggressive behavior of female coaches while coaching their teams during competition.

The review of literature in this chapter consists of five sections. The sections are categorized as follows: a) theories of aggression; b) aggression assessment; c) basic instrumentation used in teacher/coach behavior observation; d) studies conducted on coaching behavior and e) a summary.

Theories of Aggressions

In the literature, there appears to be some discrepancy regarding the underlying theory of aggression and aggressive behavior. Dollard et al. (cited in Martens, 1975) purports

that a chain of actions stimulates aggressive behavior. This frustration-aggression hypotheses is based on four major concepts; aggression, frustration, inhibition and displacement. Frustration is a condition that exists when a goal response is hindered. Aggression is elicited by an interference of the individual's typical response. The frustration resulting instills the intent to injure the organism or object that is interferring with the desired response. Due to frustration, energy is accumulated. In accordance with this theory, if the aggressive feelings are allowed to be expelled and thereby release the energy, it is believed that the aggressive actions are reduced. In competitive coaching situations, the coach may experience frustration accompanied by an accumulation of energy. However, by releasing this energy, it is questionable that the aggressive "feelings" are totally eliminated or remain latent only to emerge periodically. The frustration-aggression theory is also referred to as the cathartic or purge theory.

Another theory of aggression found in the literature is based upon instinct theory. The instinct theory implies that people are unchangeable (Martens, 1975). The theory claims that aggression is a biological instinct of people, that is, people are destined to be aggressive creatures throughout life. According to Lorenz (cited in Martens, 1975), the aggressive instinct has had significant survival

value in human development. The instinctive behavior expression, however, has been stifled by technological changes which have made it virtually impossible for humans to express this innate behavior in a civilized society. Advocates of the instinct aggression theory have concluded that individuals should have more competitive sports, particularly sports that are vigorous and allow aggressive behavior. According to Lorenz, aggression can never be totally eliminated but must be channeled appropriately.

An opposing view to the instinct theory is supported by Bandura and Walter (1963) and Martens (1975) who have revealed that learning can alter responses to frustrations. They contend that aggression is not innately predetermined, but is learned behavior. Berkowitz (1965) supported the position that learning and an innate predisposition of aggression can coexist in people. Berkowitz (cited in Fisher, 1976) suggested that aggression tends to beget aggression and is a contagious aspect of behavior. Once the aggressive behavior or violent behavior has been witnessed by onlookers, the same behavior is reinforced and instigates a circular effect pattern.

In conclusion, the literature reveals that there are several theories underlying aggression. The origin of aggression and aggressive behavior according to the respective proponents stems from the frustration-aggression theory, the instinct theory and the social learning theory.

Aggression Assessment

Assessment problems exist in attempting to conduct research on athletic aggression. Several studies have been conducted in naturalistic settings while others have been designed for a restricted laboratory environment. Most of these studies have used athletes as subjects rather than coaches. According to Leith (cited in Straub, 1980) there is little congruency between field and laboratory studies and among different dependent measures of aggression.

Bredemeier suggested (cited in Straub, 1980) that most aggression assessment instruments have been unable to accurately assess and predict the effects of athletic aggression on direct or vicarious sport participation. A possible reason for this inaccuracy may be because a number of aggression instruments have been constructed to assess either aggression exhibited in an experimental laboratory or centered around aggression which was pathological in nature.

According to Bredemeier, another area of weakness in aggression behavior assessment is the paucity of research focused on females. Since competitive sports experiences for females are increasing, it lends credence to the claim that there is a need to design studies of athletic aggression assessment using female athletes and coaches.

According to Cratty (1983), the most successful means of aggression assessment is to utilize a combination of

observational, projective and objective tests and inventories. It is believed that this approach to the research process will increase the concurrent validity of paper and pencil tests. The combination of self-reporting inventories and observational (videotape) data will allow the coach to indicate levels of aggressive reactions and, at a later time, discover actual behavior patterns which may parallel the inventory responses. One of these such self-report inventories was devised by Buss and Durkee (1957) which estimated different kinds of hostility. The self-report inventory included 75-items with seven subclasses of hostility, namely, assault, indirect hostility, irritability, negativism, resentment, suspicion and verbal hostility. Responses to the inventory items are partially determined by the subject's need to place himself/herself in a socially desirable light. Since the hostility inventory centers around behaviors that are viewed as unfavorable in a social setting, this supports the idea that these behaviors and tendencies should be identified.

Goldstein and Arms (1971) found that hostility increased significantly after observing a football game and the increase in hostility did not reflect the subject's preferred outcome for the game. The Buss-Durkee Inventory was used to measure hostility as one index of overt aggression. Conversely, it was also found that no increase

in hostility was evident for individuals observing a gymnastics meet.

Turner (1970) investigated the effects of viewing three college athletic contests, a football, basketball game and a wrestling match, upon the written aggressive responses of fifty-two freshman and sophomore college male spectators. It was revealed that the frequency of aggression increased when pre-test and post-test responses on a Thematic Apperception Test were compared. Intensity of aggression did not significantly change from pre-contest testing for the football, basketball and wrestling contests. Turner contends that the specific college wrestling match used for the study was not exciting enough to arouse the aggressive behavior of the subjects. The results of this particular aggression assessment study does not support the cathartic or purge theory of aggression. It appears from the results of this study that the significant increase in the number of aggressive responses after the football and basketball contests supports the notion that the viewing of violent or aggressive acts tends to increase the aggressiveness of the spectator.

The investigator concluded that: a) there is little congruency between field and laboratory studies and between different dependent aggression measures, b) the most meaningful procedure of aggression assessment in a combination of observation, projective and objective tests

and c) the viewing of some contact sports may produce more frequent aggressive behaviors in spectators.

Basic Instrumentation Used in Teacher/Coach Behavior Observation

Several attempts have been made to assess teacher behavior during teaching situations. Researchers have systematically approached observations in order to describe the learning environment of students' and teachers' verbal and nonverbal behavior.

Anderson (1975) utilized videotaping to collect raw data in order to accrue descriptive information about the learning environment involving student and teacher behavior. Information about the environment and the learning process activity was obtained. In Anderson's attempt to document student and teacher behavior the results indicated that teachers rarely keep quiet for periods of five seconds or more. A contrast was found between physical education and classroom teachers in terms of patterns of communications. The results of this study showed that classroom teachers exhibited repetitive cycles of "teacher-talk, student-listen", followed by "student-talk, teacher-listen". The physical education data from the physical activity environment showed that the characteristic cycle was "teacher-talk, student-listen", followed by "student-move, teacher-watch." This same cycle can be seen during coaching

situations where the "coach-talks, athlete-listens" followed by "athlete-move, coach-watch."

Event recording of teaching was utilized by Quarterman (1980) by making a tally of predefined, observable behavior as the behaviors were being viewed. From the coding process a rate per minute could be obtained. According to Siedentop (1976) and Quarterman (1980) a valid measure of teacher behavior can be obtained by implementing event recording for a short period followed by a short period of no coding. Quarterman recorded teacher behavior by observing five three-minute and one five-minute rest session. A total of two thirds or twenty minutes of the total teaching session was recorded. The total session was thirty minutes. The data obtained was then converted to rates per minute by dividing the total by twenty. By utilizing such a pattern, the total teaching session need not be recorded because an overall view of teaching behavior could be detected in the randomly selected coding points during the session. Quarterman claimed that even though Flanders' Interaction Analysis System is one of the most popular classroom observation instruments, it is at a disadvantage because it does not include a category for nonverbal behavior.

Much of the instruction in physical education and coaching environments relies heavily on nonverbal behavior elicited by the teacher/coach. These nonverbal expressions

involve facial expression, hand gesturing, eye contact, positive and negative hand and arm movement, body contact and close proximity in order to relay information to students/athletes.

Studies Conducted On Coaching Behavior

Recent research centered around coaching behavior assessment has identified certain distinctive categories exhibited by coaches/teachers during teaching and practice sessions. Observational checklists have been developed and used to specifically define behaviors demonstrated by coaches. Behaviors have been categorized according to their content and intention.

John Wooden of UCLA was part of an extensive case study in which his behavior was analyzed during practice session. It was indicated that Wooden became less the "friendly grandfather type" and more the "Marine sergeant" during practices. The Wooden study has stimulated much interest in observational analysis of coaching behavior (Tharp and Gallimore, 1976). The authors developed a ten category system for observing Wooden's behavior. It was shown that 50% of Wooden's communications were categorized as instructions. Praise was a very minor portion of Wooden's total communications. Positive reinforcement, both verbal and nonverbal, constituted approximately 8% of the

total behavior. Scolds or reinstruction comprised 15% of Wooden's behavior.

Williams (1978) attempted to replicate the study conducted by Tharp and Gallimore by studying the coaching behavior of a successful high school coach of a male basketball team. Williams modified the instrument to be more congruent for a high school environment. It was indicated that the results of both studies showed that both coaches strongly emphasized instruction, however, differences were shown in the Praise category. The high school coach praised his athletes during 25% of the total communication time in contrast to Wooden's praise comments which occupied 8% of the total communication time. It should be noted that this study was primarily a replication and a comparison of two successful coaches.

Cratty and Pigott (1984) discussed the importance and role that the coaches play in regard to their teams. Less effective coaches are at times described as sarcastic and insensitive when dealing with team members. Some coaches may be totally oblivious to the behavior which they exhibit during practices, however, the athletes' perceptions of coaching behavior are rather accurate when behaviors are actually recorded and then compared to the observation of the team members. Nonverbal communication, posture and gestures elicited by the coach during a practice or team

meeting may impart important influence and significance to the entire team or individual athlete.

Smith et al. (1977) developed the Coaching Behavior Assessment System (CBAS) which consisted of 12 behavioral categories. The investigators divided the behavior categories into two major classes, reactive and spontaneous behavior. It was described that reactive behaviors are responses to immediate preceding player or team behaviors. Spontaneous behaviors are behaviors that are initiated by the coach and are not reflective of preceding events. The CBAS is similar to the observational instrument utilized by Tharp and Gallimore (1976).

Wandzilak, Ansorge and Potter (1986) investigated selected coaching behaviors of youth soccer coaches in game and practice settings. The study also provided information about the coaches' ability to estimate their own behaviors. The Coaching Behavior Assessment Inventory was used to assess coaching behavior. Seventeen youth sport coaches for teams of male and female players were the subjects. Results showed that coaches used instructional/organizational comments 45% of the time followed by an equal amount of encouraging and positive remarks of 19% and 18% respectively. During game situations, encouraging comments represented 30% of the total behavior and instructional organizational remarks represented 33% of the total coded remarks. Winning or losing was found not to be related to

coaching behavior in the game. It was concluded that team record was not a factor in changing or determining coaching behavior.

As a result of a systematic coaching observation analysis, an attempt was made by Rushall and Smith (1979) to modify the quality and quantity of behavior categories of a swimming coach. Cheffers (1978) claimed that teachers/coaches can obtain feedback from systematic observations to become "better" coaches/teachers. The subject in this study solicited help to improve and modify behavior in order to increase effectiveness. A multiple baseline design was used for empirical validation. The subject's total behavior patterns were evaluated using the Coach Observation Schedule (COS) (Rushall, 1977) on four separate occasions before and after experimental phases. The COS included categories of (1) correcting, (2) attending and monitoring, (3) managerial activities, (4) questioning, (5) feedback, (6) rewarding and (7) directing, explaining and informing. The feedback and total process of the behavior modification procedure with reinforcement indicated an overall increase in the subject's repertoire of verbal rewards. The presence of reinforcement yielded a persistent change in the scope and quantity of behavior. Results of pre- and post-experimental behavior analysis indicated that the affected changes also produced carry over changes in other behavioral categories.

Cheffers (1983) designed an adaptation of Flanders' Interaction Analysis System (Flanders, 1970) which specifically relates to physical activity settings. The CAFIAS was the forerunner of another interaction analysis system which was CAFIAS II which elucidates the emotional dimensions of teacher and student behavior. The emotional component of CAFIAS encompasses extreme emotional verbal and nonverbal teacher and student responses. By the addition of the emotional aspect to CAFIAS, a greater degree of sensitivity can be provided throughout an observational analysis system (Mancini and Cheffers, 1983).

Using CAFIAS, Agnew (1977) investigated the differences in the behavioral patterns of female secondary physical educators while teaching and coaching. Significant differences in behavior existed between teaching and coaching practice situations. Female instructors used more praise and acceptance, both verbal and nonverbal, during the coaching setting as opposed to the teaching settings.

Staurowsky (1979) utilized female coaches and athletes from twenty secondary school teams in the Central New York area to compare and analyze coaching behavior in two different athletic environments. The Group Environment Scale (GES) was used to classify teams as either satisfied or less satisfied with their athletic environments. The coaches and athletes were videotaped at two different times during the basketball season and during practice sessions.

The videotaping provided an account of the coaching behavior displayed during each practice session. A multivariate analysis was performed on the CAFIAS variables to determine whether differences in coaching behavior existed between the satisfied and less satisfied groups. It was concluded that the satisfied environment contained more interaction between the coach and athletes than the less satisfied environments and that coaches in the satisfied group used more praise and acceptance both verbally and nonverbally. This study is an indication of the versatility that CAFIAS provides for systematic observation of teachers/coaches and students in physical activity settings.

Fisher et al. (1982) utilized CAFIAS to code interaction patterns between coaches and athletes from fifty high school basketball teams. The study investigated the relationship between coach-athlete perception of team climates. The GES, an inventory designed to characterize and assess the psychosocial qualities of differing environments, was used to assess team climate. Videotaping was used to gather the needed information during the basketball practices. A distinct difference was revealed in the quantity, quality and sequence of coach-athlete interactions between satisfied and less satisfied teams. Athletes satisfied with their environment initiated more interaction with their coaches.

According to Fisher, the coaches' usage of acceptance and praise was important in the satisfied environment group as it was noticeably absent in the less satisfied group. Satisfied group coaches were more responsive to their athletes in the Praise category in contrast to the less satisfied group in which the coaches were more directive and critical.

In conclusion, Smith et al. (1977) suggested that utilization of an observation system yields valuable information, but may still hold potential problems. A major problem may be that of reactivity, in which behavior change occurs as a result of being observed. Steps must be taken to eliminate or at least reduce the reactivity effects. Another potential source of error lies in the observers expectations about what will be observed. These biases and expectations can cause observers to selectively attend to certain aspects and mistakenly disregard other behavior.

It was concluded that: a) comparative studies utilizing similar instruments have been conducted, b) several attempts have been made to systematically account for teacher and coaching behaviors, c) CAFIAS is a valid instrument for the observing of verbal and nonverbal behavior during physical activity settings and d) potential problems need to be accounted for when conducting observation research.

Summary

After reviewing the literature the following conclusions were made: a) several theories of the origin of aggression and aggressive behavior are prevalent, specifically, the frustration-aggression theory, the instinct theory and the social learning theory, b) the most meaningful procedure of aggression assessment is a combination of observational, projective and objective tests and c) the viewing of some contact sports may elicit aggressive behavior within the spectators viewing the event. It was also concluded that: a) several attempts have been made to analyze teacher/coach behavior, b) CAFIAS is a valid and useful tool for the recording of verbal and nonverbal behavior of teachers/coaches during physical activity situations and c) there needs to be more research conducted in the area of coaching behavior, specifically, aggressive behavior of females during competitive coaching situations.

CHAPTER III

PROCEDURES

The procedures utilized in this study are described in this chapter. The following procedures are discussed: a) preliminary procedures and b) operational procedures. The preliminary procedures are described and grouped into the following categories: a) selection of the subject, b) selection of the instruments and c) selection of the specific data collection points. The operational procedures are described in sections entitled: a) collection of data, b) interobserver agreement and c) data analysis.

Preliminary Procedures

Selection of the Subject

A female women's collegiate basketball coach was selected as the subject of this study by the investigator. The subject was Jerrianne John who coached at Phillips University, an NAIA institution, in Enid, Oklahoma for the year of 1985-86. A cover letter and informed consent form explaining the purpose and procedures of the study were sent to the subject (See Appendix A and B). A cover letter was

also sent to the athletic director of Phillips University for permission and approval for videotaping the subject during home games (See Appendix C). A consent letter was sent to the athletic directors of the schools in which the subject's team was to be participating as guests (See Appendix D). The consent letters were returned to the investigator and a confirmation follow-up telephone call was made to each respective athletic director to remind him/her of the observation time and place.

Selection of Instruments

The camera selected to videotape the subject was a Canon video camera, VC-39A. A JVC 1/2 inch VHS recorder and Panasonic video camera were used to tape the game continually. A NADY 49VR wireless microphone system was used to record the subject's verbal responses and comments. The system included a 49VR minireceiver and a 49LT wireless lavalier microphone transmitter.

Hostility was assessed by using the Buss-Durkee Hostility Inventory (Buss and Durkee, 1957) (See Appendix E). The self-report inventory contained 66 items for hostility and 9 for guilt. The subject responded to the Hostility Inventory by indicating true or false to each statement provided. Seven subclasses were devised for a total of 75 items including a class for guilt. Buss-Durkee (1957) utilized a factor and item analysis to determine

subclass grouping and factorial validity. Internal consistency was measured by the correlation of an item with the score of the scale in which it was categorized. A biserial correlation coefficient was used since the items were scored dichotomously.

Cheffers' Adaptation of the Flanders' Interaction Analysis System (Cheffers, 1983) was utilized to code verbal and nonverbal behavior during competitive situations (See Appendix F). The emotional dimensions of the subject's behavior were coded in accordance with CAFIAS II (Mancini and Cheffers, 1983) (See Appendix G).

Cheffers (1972) conducted a study to determine the validity and reliability of CAFIAS. CAFIAS was evaluated against the performance of Flanders' Interaction Analysis System (FIAS) by comparing trained interpreter scores on a common instrument, Physical Activity Questionnaire, (PAQ). CAFIAS and FIAS matrices derived from six selected physical activity classes were presented to trained interpreters. The responses of the interpreters, who were evaluating the lessons from information provided by the matrices or "blind" interpretations were compared with an outside criterion. The outside criterion was fellow students interpreting the same lesson from information obtained by observing videotapes of these lesson or "live" interpretations.

Face, content and construct validity were obtained by the presence of the "live" interpretation groups which was

the control group. Comparisons were also drawn between the scores recorded on the PAQ by the two experimental groups. A two-factor analysis of variance with repeated measures on one factor was utilized on the PAQ scores of the interpreters. By comparing the matrices developed for each lesson, interobserver reliability was determined by trained observers. Kendall's Coefficient of Concordance was used to determine agreement among observers and the level of confidence chosen was .05.

Thirty-three graduate students enrolled in the College of Education at Temple University in Philadelphia were the observers for this validation study. Of these subjects, twenty-four were taught to code and interpret using both the FIAS and CAFIAS. The control groups was made up of the remaining nine subjects who had not previously used either system.

The analysis yielded the following findings. In all lessons the control groups produced significantly higher scores on the PAQ than either of the experimental groups. The CAFIAS group scored significantly higher scores on the total PAQ than the FIAS for all videotapes. All matrices developed by the main observers for both systems were found to be reliable at or beyond the .05 level of significance when compared with matrices developed by six volunteers. Cheffers concluded that observers were able to more accurately interpret physical activity classroom behaviors

when given a CAFIAS matrix than a FIAS matrix. From the validation of CAFIAS, it was concluded that CAFIAS is a suitable instrument to use when systematically observing verbal and nonverbal behavior in a physical activity setting. CAFIAS is considered to be reliable when comparing cell rankings which indicated consistency in cell patterns for descriptions of physical activity classroom behavior (Cheffers, et al., 1980).

Selection of the Specific Data Collection Points

Six games were randomly selected from twenty-eight games and were categorized as either early, middle or late season games. Three games were at home and three were away. Each category, early, middle and late, contained one home game and one away game for a total of six observational points across the season.

Early season games included two games between December 1 and January 18. The middle season segment of the schedule extended between January 19 to February 4. The two games for the late season segment were between the dates of February 5 and February 26.

Operational Procedures

Collection of Data

In order to observe and preserve coaching behavior for further analysis, a videotape camera was used to view the

subject continually during competitive game situations. Concurrently, another camera was used to videotape the actual game.

Prior to the game, the telemetered microphone was placed on the subject's shirt. With the wireless microphone, the verbal responses of the subject as well as noise in the proximate area to the subject were recorded. Both cameras were in place thirty minutes prior to the beginning of each game. Testing of the equipment took place during the warm-up activities of the teams. Malfunctions and problems were remedied before the games started. The camera which focused on the subject was placed approximately 50 feet across from the subject and team bench. The game camera was located behind the subject approximately 50 feet away from the team bench. Both cameras operated continually from the tip-off to the completion of the half. Videotaping continued throughout free throws, time-outs and dead ball situations. The cameras operated continually so that the game events and subject's responses and behavior could be synchronized and preserved for further study at another time. The taping sessions spanned seventy-five to ninety minutes, which did not include warm-up activities during pregame and half-time intermission.

Two occurrences during the season warranted deviation from the original randomly selected data collection points. During the early season away game, a major malfunction occurred with the telemetered microphone. The next available away game was utilized in its place. Another change in plans occurred when one of the late season home games was postponed due to inclement weather. The next home game was used for the final data collection point.

The subject completed the Buss-Durkee Hostility Inventory at courtside approximately 30 minutes prior to the competition, at three different points in the season, early, middle and late.

Interobserver Agreement

In order to establish the accuracy of the behavior observations for this study, interobserver agreement checks were made throughout the analysis of the data. The higher the percentage of agreement the greater the confidence that the instrument is reliable; thus the percentage of agreement is also considered to reflect objectivity (Model, 1983). According to Siedentop (1976), observations must be conducted by independent observers and must obtain an agreement of at least 85% on what has been observed and recorded. Percent of agreement for the observation system utilized was calculated on the differences between the observation of two observers for each category recorded. In order to secure

the percentage of agreement, calculations were made by subtracting the total of disagreement percentages from 100 (Rink, 1985).

Percentages of Agreement = 100 - Number of Disagreements

To determine reliability for this study interobserver checks were made from randomly selected five, two minute segments for each game. The reliability coding consisted of a total of 10 minutes per game for a total of approximately 60 minutes since there were six different observations of the subject. The independent observer followed the same pattern of coding which the investigator utilized for the analysis of the data. Specifically, the approach used was the coding of behavior for two minutes followed by three minutes of no coding. Since the observations were videotaped, the independent observer was able to view and code the events at a separate and convenient time.

Data Analysis

Frequencies and percentages of nonverbal and verbal behavior were determined by utilizing the Cheffers' Adaptation of the Flanders' Interaction Analysis System. Six coaching behavior categories were observed and recorded by videotaping the subject. Since verbal and nonverbal behavior outlined by CAFIAS were utilized combined with the verbal and nonverbal emotional dimensions, CAFIAS II, there

were a total of 24 possible behaviors that were coded. The categories included were Praise, Use of Ideas, Questioning, Lecture, Direction and Criticism. CAFIAS and CAFIAS II both possess a category for Silence or Chaos. This category was also included in the observational analysis approach for this study.

A spontaneous event recording system was implemented in which numerical symbols of the appropriate behavior were recorded in order of occurrence. A time limitation of three seconds was utilized. The total number of categories for each behavior was tallied in order to determine the percentage of total behavior exhibited in each specific category. A rate per minute was determined by dividing the number of behaviors that occurred by the total number of minutes which were coded.

The observation process entailed coding of behavior for two minutes followed by three minutes of no coding. This approach continued throughout all six games. The starting points for coding differed for the games. For two games coding began at the tip-off of the first and second halves. A delay of one minute after the tip-off of first and second halves was the initial point for the observation of two more games. A two minute delay marked the starting point for the remaining two games. The different starting points allowed for a representation of the subject's behavior across all aspects of the game.

CHAPTER IV

RESULTS AND DISCUSSION

This chapter has been arranged to aid in the presentation of the results and the following sections are included: a) interobserver agreement, b) analysis of data of all games; general categories, c) analysis of data of all games; CAFIAS, d) analysis of data of all games; CAFIAS II, e) comparison between first and second half behavior, f) comparison between home and away game behavior, g) comparison between winning and losing effort behavior, h) comparison between early, middle and late season game behavior, i) comparison of aggressive behavior between first and second halves, j) comparison of aggressive behavior between home and away games, k) comparison of aggressive behavior between winning and losing efforts, l) comparison of aggressive behavior between early, middle and late season and m) perceived aggression compared to exhibited aggressive behavior.

Interobserver Agreement

In order to ensure the accuracy of the behavior observation for this study, an independent observer was utilized to conduct interobserver agreement checks. The

independent observer randomly selected five, two minute segments for each game which constituted a total of sixty minutes of coded behaviors. The overall accumulated percentage of agreement for the six observation checks was 95% (See Appendix H). This important value lends credibility to reliability and consistency of the overall behaviors that were coded by the investigator. Values of 85% are recommended in order to lend objectivity to observational analysis studies (Siedentop, 1976).

Analysis of Data of All Games

General Categories

In Cheffers' Adaptation of Flanders' Interaction Analysis System, a total of eleven categories are included which deal with teacher behavior, student behavior and which also can generate information about interaction patterns between the teacher and student. For the purpose of this study six behavior categories were investigated which focused on the coach specifically. These categories according to CAFIAS and CAFIAS II are subdivided into nonverbal and verbal behaviors coupled with the emotional dimensions of verbal and nonverbal behaviors. Cheffers utilized the Silence category as an indicator or the amount of time which the coach or teacher was not interacting with students.

Results

Presented in Table I are the total number of behaviors, the rates per minute and percentage of behaviors occurring in each general category. The coding process followed a pattern of two minutes of coding followed by three minutes of no coding through six games. The total number of behaviors observed was 3523. The total amount of coding time utilized was 152 minutes. For all categories including Silence the data showed that the subject emitted 23 behaviors per minute, thus producing the largest rate per minute (rpm) of 10. Direction represented 23% of the total time and occurred at a rate of 5 times per minute.

Praise and Criticism were responsible for 12% and 10% of the total behaviors and were close to one another in rpm with 3 and 2 behaviors respectively. Almost 7% of the subject's behaviors were elicited from a Lecture mode and occurred nearly 2 times per minute. The subject's Acceptance of Ideas and Questioning behavior accounted for only 2% and 3% of the total behavior time and occurred less than 1 time per minute for each category.

TABLE I

ANALYSIS OF DATA OF ALL GAMES
GENERAL CATEGORIES

Behavior Category	Number of Occurrences	Rate Per Minute	Percentage of Behaviors
Praise	412	2.71	11.69
Accepts Ideas	85	.54	2.35
Questions	95	.62	2.69
Lecture	246	1.61	6.98
Direction	816	5.36	23.16
Criticism	350	2.30	9.99
Silence	1519	9.99	43.11
TOTAL	3523	23.13	99.97
TOTAL MINUTES	152		

Discussion

The results have shown that the subject spent a large portion of the total time watching or bench setting. Throughout the entire games, the coach provided information to the players by a Directive mode. The coach provided more positive reinforcement and Praise when compared to Critical

comments and remarks. The coach also disseminated information to the players by Lecture, which primarily occurred during time-outs or when the coach instructed players individually on the sidelines.

Analysis of Data of All Games

CAFIAS

Cheffers initially constructed the CAFIAS to systematically observe teacher and student interactions and behaviors during physical activities. CAFIAS included nonverbal behavior categories which was a distinct difference when CAFIAS and other instruments are compared.

Results

Number of occurrences, rates per minute and percentage of behaviors for CAFIAS are presented in Table II. The coach Directed the players through verbal and nonverbal Directions 10% and 6% of the total coded time. Praise both verbally and nonverbally represented 5% of the total time. The coach expressed Criticism verbally and nonverbally 4% and 3% of the total behavior time, which yielded rates of approximately one occurrence per minute. The coach Accepted ideas and Questioned both verbally and nonverbally 2% of the total coded time. Verbal and nonverbal Lecture behaviors were emitted at a rate of 1 and 0.5 behaviors per minute and represented 5% and 2% of the total behavior time.

TABLE II

ANALYSIS OF DATA OF ALL GAMES

Behavior Category	Number of Occurrences	Rate Per Minute	Percentage of Behaviors
Praise			
Verbal	184	1.21	5.22
Nonverbal	176	1.15	4.99
Accepts Ideas			
Verbal	50	.32	1.41
Nonverbal	33	.21	.93
Questions			
Verbal	67	.44	1.90
Nonverbal	21	.13	.59
Lectures			
Verbal	159	1.04	4.51
Nonverbal	63	.41	1.78
Direction			
Verbal	349	2.29	9.90
Nonverbal	207	1.36	5.87
Criticism			
Verbal	152	1.00	4.31
Nonverbal	111	.73	3.15
Silence	1519	9.99	43.11
TOTAL	3523		
TOTAL MINUTES	152		

Discussion

The coach displayed equal percentages of verbal and nonverbal behaviors of Praise. Most of the nonverbal Praise behaviors were those of clapping and patting the players on the back. The coach usually Directed the players by pointing or waving the hands. The coach spent very little time either Accepting Ideas or Questioning the players.

Analysis of Data of All Games

CAFIAS II

Emotional dimensions of behavior were found to be influential in the teaching/coaching process. Cheffers constructed CAFIAS II to include extreme emotional aspects of verbal and nonverbal behavior. By supplementing CAFIAS with the emotional categories, CAFIAS has become a more sensitive observation instrument.

Results

Table III shows the total usage of extreme emotional behavior of the coach. The extreme emotional behavior occupied 12% of the total behavior and occurred at a rate of 3 behaviors per minute. It appeared that Directions given by the coach in an emotional manner occurred 7% of the time. Outbursts of Criticism occurred 0.5 times per minute while exclamations of Praise were observed at a rate of 0.3 times per minute.

TABLE III

ANALYSIS OF DATA OF ALL GAMES
CAFIAS II

Behavior Category	Number of Occurrences	Rate Per Minute	Percentage of Behaviors
Praise			
Nonverbal	14	.09	.39
Verbal	38	.25	1.07
Total	52	.34	1.46
Accepts Ideas			
Nonverbal	0	0.00	0.00
Verbal	0	0.00	0.00
Total	0	0.00	0.00
Questions			
Nonverbal	3	.01	.08
Verbal	6	.03	.17
Total	9	.04	.25
Lectures			
Nonverbal	1	.00	.02
Verbal	23	.15	.65
Total	24	.15	.67
Direction			
Nonverbal	42	.27	1.19
Verbal	218	1.43	6.18
Total	260	1.70	7.37
Criticism			
Nonverbal	33	.21	.93
Verbal	54	.35	1.53
Total	87	.56	2.46
TOTAL	432	2.79	12.21
TOTAL MINUTES	152		

Discussion

The coach exhibited no emotional outbursts of Acceptance of Ideas during the coded segments. Emotional displays of Lecture and Questioning by the coach occurred minimally. It is believed, that the coach exhibited short outbursts of behavior categories which instigated athlete behavior that was influential and positive toward the game effort. Most of the exhibition of emotion occurred for a short period and subsided quickly. The coach did not exhibit emotional outbursts for extended periods of time.

Comparison Between First and Second Half Behavior

Results

In Table IV the data of the first and second halves of all games are shown. The emotional dimensions increased from 10% in the first halves to 14% of the total behavior in the second halves. Silence decreased slightly from the first halves to the second halves, with percentages of 44% to 43% respectively. The Direction behavior exhibited by the coach was present almost one-fourth of the total behavior for both halves with values of 24% and 22%. Praise for the first and second halves was exhibited 11% of the time. Critical behaviors, verbal and nonverbal Direction behaviors declined from first half to second half, with 17% to 14% of the total behavior.

TABLE IV

ANALYSIS OF DATA BETWEEN FIRST AND SECOND HALVES

Behavior Category	Number of Occurrences		Rate Per Minute		Percentage of Behaviors	
	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half
Praise						
Verbal	97	87	1.31	1.11	5.66	4.80
Nonverbal	86	90	1.16	1.15	5.02	4.96
Emotional						
Nonverbal	5	9	.06	.11	.29	.49
Verbal	13	25	.17	.32	.75	1.37
Accepts Ideas						
Verbal	23	27	.31	.34	1.34	1.49
Nonverbal	11	22	.14	.28	.64	1.21
Emotional						
Nonverbal	0	0	0.00	0.00	0.00	0.00
Verbal	0	0	0.00	0.00	0.00	0.00
Questions						
Verbal	35	32	.47	.41	2.04	1.76
Nonverbal	9	12	.12	.15	.52	.66
Emotional						
Nonverbal	1	2	.01	.02	.05	.11
Verbal	2	4	.02	.05	.11	.22
Lectures						
Verbal	71	88	.95	1.12	4.14	4.85
Nonverbal	29	34	.39	.43	1.69	1.87
Emotional						
Nonverbal	1	0	.01	0.00	.05	0.00
Verbal	5	18	.06	.23	.29	.99
Direction						
Verbal	193	156	2.60	2.00	11.27	8.60
Nonverbal	103	104	1.39	1.33	6.01	5.73
Emotional						
Nonverbal	14	28	.18	.35	.81	1.54
Verbal	100	118	1.35	1.51	5.84	6.51

TABLE IV (Continued)

Behavior Category	Number of Occurrences		Rate Per Minute		Percentage of Behaviors	
	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half
Criticism						
Verbal	79	73	1.06	.93	4.61	4.02
Nonverbal	59	52	.79	.66	3.44	2.86
Emotional						
Nonverbal	9	24	.12	.30	.52	1.32
Verbal	19	35	.25	.44	1.11	1.93
Silence	747	772	10.09	9.89	43.65	42.60
TOTAL	1711	1812			99.85	99.89
TOTAL MINUTES	74	78				

Discussion

When analyzing the overall behaviors of the first and second halves, it was found that the non-emotional dimension percentages compared favorably with one another. By viewing the emotional dimensions, it was obvious that the coach became more emotional during the second halves of the six games. Perhaps as game time expired, the coach became more concerned with the outcome and results of the game and expressed this concern by displaying more emotional outbursts toward the end of the game. The results showed that the coach exhibited fewer Directive behaviors in the combined second halves.

Comparison Between Home and Away Game Behavior

Results

In Table V a comparison of data is made between home and away games. Forty-four percent of the coach's behavior during away games was spent either watching or setting, as opposed to 41% for home games. The coach exhibited 311 emotional behaviors at home for a percentage of 17% and at a rpm of 4 behaviors. During away games, the coach was clearly not as emotional with only 7% of the total behavior constituting extreme emotional expressions and at a rpm of 2 behaviors.

The coach expressed more positive Praise comments during away games with values of 13% compared to 10% during home games. While at home, Directions occupied 25% of the total coded behavior. In contrast, during away games, Directions were given 20% of the total time.

Criticism emitted by the coach at home occurred at a rate of 3 behaviors per minute and represented 11% of the total behavioral time. This value is in contrast to the away Critical behaviors which occurred 143 times for a percentage of 8% of the coded behavior and at a rpm of 2 behaviors.

TABLE V

ANALYSIS OF DATA BETWEEN HOME AND AWAY GAMES

Behavior Category	Number of Occurrences		Rate Per Minute		Percentage of Behaviors	
	Home	Away	Home	Away	Home	Away
Praise						
Verbal	65	119	.83	1.60	3.60	6.86
Nonverbal	77	99	.98	1.33	4.30	5.70
Emotional						
Nonverbal	13	1	.16	.05	.72	.01
Verbal	29	9	.37	.12	1.62	.51
Accepts Ideas						
Verbal	29	21	.37	.28	1.62	1.21
Nonverbal	14	19	.78	.25	.17	1.09
Emotional						
Nonverbal	0	0	0.00	0.00	0.00	0.00
Verbal	0	0	0.00	0.00	0.00	0.00
Questions						
Verbal	34	33	.43	.44	1.90	1.90
Nonverbal	11	10	.14	.13	.61	.57
Emotional						
Nonverbal	2	1	.02	.01	.11	.05
Verbal	5	1	.06	.01	.27	.05
Lectures						
Verbal	71	88	.91	1.18	3.97	5.07
Nonverbal	17	46	.21	.62	.95	2.65
Emotional						
Nonverbal	1	0	.01	0.00	.05	0.00
Verbal	6	17	.07	.22	.33	.98
Directions						
Verbal	158	191	2.25	2.58	8.83	11.01
Nonverbal	113	94	1.44	1.27	6.31	5.42
Emotional						
Nonverbal	35	7	.44	.09	1.95	.40
Verbal	153	65	1.96	.87	8.55	3.74

TABLE V (Continued)

Behavior Category	Number of Occurrences		Rate Per Minute		Percentage of Behaviors	
	Home	Away	Home	Away	Home	Away
Criticisms						
Verbal	83	69	1.06	.93	4.64	3.97
Nonverbal	47	54	.60	.72	2.62	3.11
Emotional						
Nonverbal	26	7	.33	.09	1.45	.40
Verbal	41	13	.52	.17	2.29	.74
Silence	748	771	9.58	10.41	41.83	44.46
TOTAL	1788	1734			98.69	99.90
TOTAL MINUTES	78	74				

Discussion

During away games the coach remained Silent more when compared with home games, the coach was clearly not as emotional when compared to games played at the home site. Positive comments and Praise occurred more frequently during away games. The coach gave more Directions to the players during away games. Clearly the coach was more Critical and exhibited more negative behavior while at home. It was believed that the coach possibly felt that the players needed more encouragement and less Criticism during away games.

Comparison Between Winning and Losing Effort Behavior

Results

Table IV shows the comparison of winning and losing efforts for each specific category. During losing efforts, the coach was Silent 45% of the coded behavior time. For wins the coach was Silent 41% of the behavior time. The coach utilized Praise and positive reinforcement 14% of the coded time and at a rate per minute of 3 behaviors during wins. For losing efforts, Praise comments and gestures constituted 9% of the coded behavior time and occurred 2 times every minute. Directive behavior during winning efforts represented almost one-fourth of the behavior time with a rpm of 6 behaviors. During losses the coach displayed 350 Directive behaviors which occupied 22% of the total coded behavior and occurred 5 times every minute.

There appeared to be no real difference between the percentages of Criticism for losing and winning efforts. Even though the actual number of Critical comments for wins was larger, the overall percentages compared favorably with values of 10% for wins and 9% for losses.

TABLE VI

ANALYSIS OF DATA BETWEEN WINNING AND LOSING EFFORTS

Behavior Category	Number of Occurrences		Rate Per Minute		Percentage of Behaviors	
	Wins	Losses	Wins	Losses	Wins	Losses
Praise						
Verbal	108	76	1.31	1.08	5.57	4.79
Nonverbal	115	61	1.40	.87	5.93	3.85
Emotional						
Nonverbal	13	1	.15	.01	.67	.06
Verbal	34	4	.41	.05	1.75	.25
Accepts Ideas						
Verbal	18	32	.21	.45	.92	2.02
Nonverbal	17	16	.20	.22	.87	1.01
Emotional						
Nonverbal	0	0	0.00	0.00	0.00	0.00
Verbal	0	0	0.00	0.00	0.00	0.00
Questions						
Verbal	31	36	.37	.51	1.59	2.27
Nonverbal	7	14	.08	.20	.36	.88
Emotional						
Nonverbal	1	2	.01	.02	.05	.12
Verbal	2	4	.02	.05	.10	.25
Lectures						
Verbal	74	85	.90	1.21	3.81	5.36
Nonverbal	34	29	.41	.41	1.75	1.83
Emotional						
Nonverbal	0	1	0.00	.01	0.00	.06
Verbal	18	5	.21	.07	.92	.31
Directions						
Verbal	178	171	2.17	2.44	9.18	10.79
Nonverbal	105	102	1.28	1.45	5.41	6.43
Emotional						
Nonverbal	28	14	.34	.20	1.44	.88
Verbal	155	63	1.89	.90	7.99	3.97

TABLE VI (Continued)

Behavior Category	Number of Occurrences		Rate Per Minute		Percentage of Behaviors	
	Wins	Losses	Wins	Losses	Wins	Losses
Criticism						
Verbal	81	71	.98	1.01	4.17	4.48
Nonverbal	69	42	.84	.60	3.56	2.65
Emotional						
Nonverbal	19	14	.23	.20	.98	.88
Verbal	31	23	.37	.32	1.59	1.45
Silence	801	718	9.76	10.25	41.33	45.32
TOTAL	1938	1584			99.94	99.91
TOTAL MINUTES	82	70				

Discussion

The results showed that the coach spent more time watching and bench setting during defeats when compared to victories. The coach gave more Directions both verbally and nonverbally during wins. Praise and positive comments occurred more often during wins than during losses. For winning efforts the coach interacted more with players and referees and was more overtly involved with the game. Since two of the losses were sound defeats, it was believed that the coach settled into behavioral modes of Direction, Lecture and extended periods of Silence. During losses the coach became a passive spectator.

Comparison Between Early, Middle and Late Season Game Behavior

Results

Table VII illustrates the data from the early, middle and late season segments of the schedule. During the two early season games the coach remained Silent or watched for 38% of the total behavior time. The early season games were in contrast to the middle season games where Silence represented 49% of the coded time. The Directive behaviors of the coach fluctuated in number of occurrences with values of 378, 150 and 258 for early, middle and late season segments. The percentages for Directive behaviors were 27, 19 and 23 for the three segments of the season.

Praise and positive comments and gestures appeared to decline throughout the total season with percentages of 15%, 9% and 10% for early, middle and late season games. The rates of positive behavior per minute for each segment were 4, 2 and 2 respectively.

By late season the Critical comments had decreased to a total percentage of 8% in contrast to early and middle season percentages of 10% and 12%. The rpm for Critical comments decreased from 3 behaviors in the early season games to 2 behaviors in the late season games.

TABLE VII

ANALYSIS OF DATA BETWEEN EARLY, MIDDLE AND LATE SEASON GAMES

Behavior Category	Number of Occurrences			Rate Per Minute			Percentage of Behaviors		
	Early	Middle	Late	Early	Middle	Late	Early	Middle	Late
Praise									
Verbal	73	45	66	1.25	.97	1.37	5.15	4.63	5.81
Nonverbal	88	38	50	1.51	.82	1.04	6.21	3.91	4.40
Emotional									
Nonverbal	13	0	1	.22	0.00	.02	.91	0.00	.08
Verbal	33	3	2	.56	.06	.04	2.33	.30	.17
Accepts Ideas									
Verbal	16	6	28	.27	.13	.58	1.12	.61	2.46
Nonverbal	16	6	11	.27	.13	.22	1.12	.61	.96
Emotional									
Nonverbal	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Verbal	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Questions									
Verbal	25	12	30	.43	.26	.62	1.76	1.23	2.64
Nonverbal	4	7	10	.06	.15	.20	.28	.72	.88
Emotional									
Nonverbal	1	1	1	.01	.02	.02	.07	.10	.08
Verbal	2	3	1	.03	.06	.02	.14	.30	.08

TABLE VII (Continued)

Behavior Category	Number of Occurrences			Rate Per Minute			Percentage of Behaviors		
	Early	Middle	Late	Early	Middle	Late	Early	Middle	Late
Lectures									
Verbal	42	58	59	.72	1.26	1.22	2.96	5.97	5.19
Nonverbal	20	18	25	.34	.39	.52	1.41	1.85	2.20
Emotional									
Nonverbal	0	0	1	0.00	0.00	.02	0.00	0.00	.08
Verbal	17	1	5	.29	.02	.10	1.20	.10	.44
Directions									
Verbal	122	99	128	2.10	2.15	2.66	8.61	10.19	11.27
Nonverbal	80	57	70	1.37	1.23	1.45	5.64	5.87	6.16
Emotional									
Nonverbal	28	2	12	.48	.04	.25	1.97	.20	1.05
Verbal	148	22	48	2.55	.47	1.00	10.45	2.26	4.22
Criticisms									
Verbal	48	67	37	.82	1.45	.77	3.38	6.90	3.25
Nonverbal	52	23	36	.89	.50	.75	3.67	2.36	3.17
Emotional									
Nonverbal	19	8	6	.32	.17	.12	1.34	.82	.52
Verbal	29	16	9	.50	.34	.18	2.04	1.64	.79
Silence	541	479	499	9.32	10.41	10.39	38.20	49.33	43.96
TOTAL	1416	971	1135				99.96	99.90	99.86
TOTAL MINUTES	58	46	48						

During the early season, Lecture represented 6% of the total coded time. Lecture behaviors increased to 8% of the total behavior for the middle and late season games. For all season segments, verbal Lecture behavior occurred twice as often as nonverbal Lecture gestures.

Discussion

When the three segments of the season were compared the coach was more actively involved during the early season games by displaying more observable behaviors, either verbally or nonverbally, from the seven categories excluding the Silence category. The two early season games were both wins with one of the wins against a team that the coaches' squad had never defeated previously.

As the season progressed the coach sat and watched for more extended periods of time. Perhaps the coach was more intent upon relaying information, Praising, Criticizing and Directing early in the season than during the late season games. It may be assumed that the coach expected the players to learn during the early season and facilitated the learning process by Direction and Lecture behavior. By the late season games, the coach may have expected the players to have already learned offenses and defenses and thus be able to execute the game plan.

Comparison of Aggressive Behavior Between First and Second Halves

Results

In Table VIII, aggressive or Critical behavior is compared on the basis of first and second halves of the six observed games. There was a total of 28 aggressive behaviors documented during the coded first halves and 59 aggressive behaviors for the second halves.

Aggressive behavior represented 2% and 3% of the total behavior for the first and second halves. The rate per minute of emitted aggressive behavior increased from values of 0.4 occurrences per minute to 0.7 behaviors per minute when first and second halves were compared.

TABLE VIII

ANALYSIS OF AGGRESSIVE BEHAVIOR OF FIRST AND SECOND HALVES

Behavior Category	Number of Occurrences		Rate Per Minute		Percentage of Behaviors	
	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half
Criticism						
Nonverbal	9	24	.12	.30	.52	1.32
Verbal	19	35	.25	.44	1.11	1.93
TOTAL	28	59	.37	.74	1.63	3.25

Discussion

As the games progressed from first half to second half, the coach became slightly more aggressive both verbally and nonverbally. Perhaps as the game time expired the coach became more frustrated or stressed thus yielding an increase of exhibited Critical behavior.

Comparison of Aggressive Behavior Between Home and Away Games

Results

A comparison of aggressive behavior at home and away games is shown in Table IX. It was revealed that the coach was more aggressive at home with 67 occurrences of aggressive outbursts as oppossed to 20 occurrences at the opponent's site. The coach emitted aggressive behavior once every minute at home games compared to a rate of 0.3 behaviors during away games.

Almost 4% of the total home game behavior was aggressive either verbally or nonverbally. During away games, the coach was less aggressive with a total of 1% of all behavior being categorized as extremely Critical.

Discussion

The coach was less aggressive during away games than at home games. Primarily the aggressive behaviors were

directed toward the referees who at times made rulings that were contrary to the coaches' perceptions of specific situations. Many of the aggressive outbursts occurred in rapid fire coupled with nonverbal gestures such as stomping the floor and extreme clapping. The coach may have felt less threatened at home games and that extreme outbursts of Criticism could be exhibited in familiar environs. The coach may have stifled aggressive behaviors when surrounded by unfamiliar spectators during away games.

TABLE IX

ANALYSIS OF AGGRESSIVE BEHAVIOR OF HOME AND AWAY GAMES

Behavior Category	Number of Occurrences		Rate Per Minute		Percentage of Behaviors	
	Home	Away	Home	Away	Home	Away
Criticism						
Emotional						
Nonverbal	26	7	.33	.09	1.45	.40
Verbal	41	13	.52	.17	2.29	.74
TOTAL	67	20	.85	.26	3.74	1.14

Comparison of Aggressive Behavior Between Winning and Losing Efforts

Results

Aggressive behavior was calculated for winning and losing efforts and is summarized in Table X. There was little disparity of percentages and rpm of aggressive behavior between wins and losses. During wins aggressive behavior accounted for 3% of the total coded behavior, which compared favorably to the 2% exhibited during losses. The rpm for the two different situations was 0.6 and 0.5 behaviors.

TABLE X

ANALYSIS OF AGGRESSIVE BEHAVIOR OF WINS AND LOSSES

Behavior Category	Number of Occurrences		Rate Per Minute		Percentage of Behaviors	
	Wins	Losses	Wins	Losses	Wins	Losses
Criticism						
Emotional						
Nonverbal	19	14	.23	.20	.98	.88
Verbal	31	23	.37	.32	1.59	1.45
TOTAL	50	37	.60	.52	2.57	2.33

Discussion

Even though the scores of the three wins were considerably close 76-73, 73-67 and 68-56 for two of the wins, the coach's team had defeated the opponents previously and were perceived by the coach as "expected wins."

Two of the three losses were decisive with scores of 90-56 and 88-69. These two losses were decided rather early in the game, with half-time scores of 44-29 and 37-14 with the opponents possessing a comfortable lead. Perhaps the coach may have resolved early in the game that the contest was out of reach and thought that aggressive outbursts would be futile. The other loss was close with only one point separating the two teams and was decided by a last second shot.

Comparison of Aggressive Behavior Between Early, Middle and Late Season

Results

A comparison of aggressive behavior between early, middle and late season games is illustrated in Table IX. Aggressive behavior of the coach during the early season segment occurred 48 times which represented 3% of the total behavior time and occurred at a rate of 0.8 behaviors per minute. The aggressive behavior began to decline as the season progressed. For the middle season segment aggressive

behavior was viewed only 2% of the total coded time and occurred 24 times. By the time of the late season games, the coaches' aggressive behavior had decreased to 15 occurrences which occupied 1% of the total coded behavior.

Discussion

The first observation game was a home game and a win. At this time, the team had already accumulated a record of 6-2. The second game of the first segment was an away win. The team's record at this time was 9-5.

As the season progressed the coach became less aggressive. It was believed that the team followed a pattern of early wins which were perceived by the coach as "big wins" and then failed to win "important, crucial" games as the season progressed. When the final middle season game was observed, the team record was 10-7. There appeared to be a shifting of a winning trend to a losing trend as the season continued. By the time of the last observation, the team record had slipped to 11-14. The team completed the season with an 11-17 record.

TABLE XI

ANALYSIS OF AGGRESSIVE BEHAVIOR OF EARLY, MIDDLE AND LATE SEASON GAMES

Behavior Category	Number of Occurrences			Rate Per Minute			Percentage of Behaviors		
	Early	Middle	Late	Early	Middle	Late	Early	Middle	Late
Criticism									
Emotional									
Nonverbal	19	8	6	.32	.17	.12	1.34	.82	.52
Verbal	29	16	9	.50	.34	.18	2.04	1.64	.79
TOTAL	48	24	15	.82	.51	.30	3.38	2.46	1.31

Perceived Aggression Compared to Exhibited Aggressive Behavior

According to the limited norms that have been accumulated, the subject's perceived hostility and aggression as expressed on the Buss-Durkee Inventory were below those reported norms. Of the highest hostility subclasses reported, indirect hostility and verbal hostility responses were the most comparative to the norms. The verbal and indirect hostility subclasses decreased as the season progressed. The indirect hostility scores indicated for early, middle and late were 6, 5 and 4, which paralleled reported norms of 5. The indicated verbal hostility scores for the three season segments were 5, 4 and 3 which were below reported norms of 7. The overall reported perceived aggression scores for early, middle and late were 2, 5 and 2 which were considerably below reported norms of 16.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

In the preceding chapters, the problem was introduced, related literature was reviewed, the procedures were discussed and results and discussion were presented. This chapter includes á summary of the study, findings obtained from the analysis of the data, conclusions and recommendations for further study.

Summary

The purpose of this study was to observe and identify aggressive and non-aggressive behavior patterns exhibited by a female collegiate basketball coach while coaching female athletes during competitive conditions. A subpurpose was to determine if differences existed among behavioral patterns exhibited during home and away games, first and second halves, during early, middle and late season games and during wins and losses.

An intercollegiate female basketball coach selected by the investigator was videotaped six times during the 1985-86 basketball season. The basketball schedule was divided into early, middle and late segments and two home and away games

were randomly selected from each segment. From the games selected it occurred that there were three losses and three wins. The data was systematically analyzed by using Cheffers' Adaptation of Flanders' Interaction Analysis System and also the emotional dimension of Cheffers' system, CAFIAS II (Mancini and Cheffers, 1983).

Reliability was determined by an independent interobserver agreement procedure. The percentage of agreement between two observers for the coded behaviors according to the standards implied by Siedentop (1976) reflected a high percentage of agreement. The high agreement percentage suggested objectivity and consistency for the behavior analysis.

The subject was videotaped for six entire games and verbal comments were recorded by telemetered microphone on the subject. The behavior was analyzed by coding for two minutes and followed by three minutes of no coding. Different starting coding points were used for the coding process.

Findings

The data collected in this study were analyzed and yielded the following findings.

1. The subject did not become more aggressive while losing as opposed to winning.

2. The subject was more aggressive while coaching at home when compared to away games.

3. The subject became more emotional in all behavior categories when first and second halves were compared.

4. The subject became more aggressive when first and second halves were compared.

5. The subject displayed more observable behavior during the early season games compared to middle and late season games.

6. The subject exhibited more Directive behavior during the early season when compared to middle and late season games.

7. The subject was Silent for more extended periods of time as the season progressed.

8. The subject became less aggressive as the season progressed.

Conclusions

Based upon the findings and limitations of this study it was concluded that systematic observation instruments were effectively employed in a coaching situation for the purpose of categorizing coaching behavior. It was also concluded that CAFIAS and CAFIAS II are versatile instruments for behavior observation and provide sufficient behavioral categories for the identification of coaching behavior.

Recommendations

The results of this study suggest the following recommendations for further study:

1. Further research is necessary to expand the number of subjects for observation during competitive game situations.

2. Study should be conducted to compare coaches' game behavior and practice behavior.

3. More empirical studies should focus on aggressive behavior of coaches during game situations.

4. A study could be conducted to analyze verbal and nonverbal coaches' behavior during time-outs.

5. Studies are needed to determine differences between the home court and opponent's court during competition.

6. Additional studies are needed to compare coaching behaviors of female coaches and male coaches.

7. Further research is necessary to compare practice and game behavior of winning and losing coaches.

8. Interaction patterns and contextural influences need to be investigated regarding coach-athlete behavior in competitive situations.

9. Additional studies are needed to investigate the Silence category and determine specific implied Behavior.

REFERENCES

Agnew, M. M. (1977). Comparisons of Female Teaching and Coaching Behavior In Secondary Schools. Unpublished Masters thesis, Ithaca College.

Anderson, W. G. (1975). Videotape DataBank. Journal of Physical Education and Recreation, 46, 31-34.

Bandura, A. and R. H. Walters. (1963). Social Learning and Personality Development. New York, NY: Holt, Rinehart, Winston.

Berkowitz, L. (1965). The Concept of Aggressive Drive: Some Additional Considerations. Advances in Experimental Social Psychology, 2, 301-329.

Berkowitz, L. (1976). Experimental Investigations of Hostility Catharsis. In A. C. Fisher (Ed.). Psychology of Sport. (pp. 253-264). Palo Alto, CA: Mayfield.

Bredemeir, B. (1980). Applications and Implications of Aggression Research. In W. F. Straub (Ed.). Sport Psychology An Analysis of Athlete Behavior (2nd ed.). (pp. 203-213). Ithaca, NY: Mouvement Publ.

Buss, A. H. and A. Durkee. (1957). An Inventory for Assessing Different Kinds of Hostility. Journal of Consulting Psychology, 21, 343-349.

Cheffers, J. T. F. (1972). The Validation of an Instrument Designed to Expand the Flanders' System of Interaction Analysis to Describe Nonverbal Interaction, Different Varieties of Teacher Behaviour and Pupil Responses. Unpublished Dissertation, Temple University.

Cheffers, J. T. F. (1978). Systematic Observation: Scales, Systems and Techniques of Observation. Proceedings of the National College Physical Education Association for Men and National Association for Physical Education of College Women. (pp. 124-131). Denver, CO: Publication Services.

Cheffers, J. T. F. (1983). Cheffers' Adaptation of the Flanders' Interaction Analysis System (CAFIAS). In P. W. Darst, V. H. Mancini, D. B. Zakrajsek (Eds.). Systematic Observation Instrumentation for Physical Education, (pp. 76-95). West Point, NY: Leisure Press.

Cheffers, J. T. F., V. H. Mancini and T. Martinek. (1980). Interation Analysis: An Application to Nonverbal Activity, (2nd ed.). St. Paul, Minn: Paul S. Amidon and Associates.

Cratty, B. (1983). Psychology in Contemporary Sport: Guidelines for Coaches and Athletes. (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

Cratty, B. and R. E. Pigott. (1984). Student Projects In Sport Psychology. Ithaca, NY: Mouvement Pub.

Feigley, D. A. (1983). Is Aggression Justifiable: Journal of Physical Education and Recreation, 54, 63-64.

Fisher, A. C. (1976). Psychology of Sport. Palo Alto, CA: Mayfield.

Fisher, A. C., V. H. Mancini, R. L. Hirsch, T. J. Proulx and E. J. Staurowsky. (1982). Coach Athlete Interactions and Team Climate. Journal of Sport Psychology, 4, 388-404.

Flanders, N. A. (1970). Analyzing Teaching Behaviors. Reading, MA: Addison- Wesley.

Freischlag, J. and C. Schmidke. (1979). Violence In Sports: Its Causes and Some Solutions. Physical Educator, 34, 83-90.

Goldstein, J. H. and R. L. Arms. (1971). Effects of Observing Athletic Contests on Hostility. Sociometry, 34, 83-90.

Mancini, V. H. and J. T. F. Cheffers. (1983). Cheffers' Adaptation of the Flanders' Interaction Analysis System II (CAFIAS II). In P. W. Darst, V. H. Mancini and D. B. Zakarajsek (Eds.). Systematic Observation Instrumentation for Physical Education, (pp. 96-99). West Point, NY: Leisure Press.

Martens, R. (1975). Social Psychology and Physical Activity. New York, NY: Harper and Row.

Model, R. L. (1983). Coaching Behavior of Non-Winning High School Football Coaches In Arizona. Unpublished Dissertation, Arizona State University.

Quarterman, J. (1980). An Observational System for Observing the Verbal and Nonverbal Behaviors Emitted by Physical Educators and Coaches. Physical Educator, 37, 15-20.

Rink, J. E. (1985). Teaching Physical Education for Learning. St. Louis, MO: Mosby College Publishing.

Rushall, B. S. (1977). Two Observation Schedules for Sporting and Physical Education Environments. Canadian Journal of Applied Sport Sciences, 2, 15-21.

Rushall, B. S. and K. C. Smith. (1979). The Modification of the Quality and Quantity of Behavior Categories in a Swimming Coach. Journal of Sport Psychology. 1, 138-150.

Ryan, F. (1981). Sports and Psychology. Englewood, NJ: Prentice-Hall.

Siedentop, D. (1976). Developing Teaching Skills in Physical Education. Boston, MA: Houghton-Mifflin.

Silva, J. (1980). Understanding Aggressive Behavior and Its Effects Upon Athletic Performances. In W. F. Straub (Ed.). Sport Psychology An Analysis of Athletic Behavior, (2nd ed.). (ppp 177-186). Ithaca, NY: Mouvement Pub.

Slear, T. (1981). Assault. Referee, 6, 26-30.

Smith, R. E., F. L. Smoll and E. Hunt. (1977). System for the Behavioral Assessment of Athletic Coaches. The Research Quarterly, 48, 401-407.

Staurowsky, E. J. (1979). A Comparison of Female Coaching Behavior In Two Athletic Environments. Unpublished Masters thesis, Ithaca College.

Straub, W. F. (1980). Sport Psychology An Analysis of Athlete Behavior (2nd ed.). Ithaca, NY: Mouvement Pub.

Tharp, R. G. and R. Gallimore. (1976). What A Coach Can Teach A Teacher. Psychology Today, 19, 74-78.

Turner, E. T. (1970). The Effects of Viewing College Football, Basketball and Wrestling on the Elicited Aggressive Responses of Male Spectators. Medicine and Science In Sports, 2, 100-105.

Vandyke, R. R. (1980). Aggression in Sports: Its Implication for Character-Building. Quest, 32, 201-208.

Wandzilak, T., C. J. Ansorge and G. Potter. (1986, April). Comparison of Selected Behaviors and the Perceptions of Behaviors of Youth Sport Coaches Between Practice and Game Settings. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance, Cincinnati, OH.

Williams, J. K. (1978). A Behavioral Analysis of a Successful High School Basketball Coach. Unpublished Masters thesis, Arizona State University.

APPENDIXES

APPENDIX A

SUBJECT COVER LETTER

November 11, 1985

Ms. Jerrianne John
University Station
Enid, Oklahoma 73701

Dear Ms. John:

In order to fulfill the requirements for the Doctoral Degree in Higher Education at Oklahoma State University in Health/Physical Education and Leisure, I am in the process of the doctoral dissertation phase. I have proposed a study to investigate the coaching behavior of a NAIA women basketball coach in Oklahoma. The study you are being asked to participate in deals with behavior exhibited while coaching at home and away games.

Data for observing coaching behavior will be collected through videotaping procedures. Three home and three away games will be videotaped. Since verbal responses are important while observing physical educators/coaches, you will be asked to wear a small innocuous telemetered microphone during these videotaping sessions. Verbal responses will not be recorded during pregame, half-time or postgame activities. Two cameras will be utilized for the study. One camera will be used to videotape you, while the other camera will videotape the game. The camera focused on you will be across from the team bench.

One self-report inventory also will be given to you in order to establish some emotional dimensions. The inventory must be completed the same day as the observation session and returned.

Since very few studies have used female coaches in actual coaching situations, this study may serve as an important addition to the area of women in athletic coaching positions. Your interest and cooperation will be appreciated for the completion of this study. Since this is an intensive study using only one individual, your consent to use your name in the study and manuscript would be appreciated.

Enclosed is an informed consent form. If you should decide to participate in this study, your signature is needed on the form.

Sincerely,

Janet K. Reusser

enc.

APPENDIX B

SUBJECT INFORMED CONSENT FORM

INFORMED CONSENT FORM

Objectives of the Study

The study you are asked to participate in focuses on behavior exhibited while coaching during home and away basketball games.

Procedures of the Study

Data for coaching behavior will be collected by videotaping procedures. Three home and three away games will be videotaped. Two cameras will be utilized for the study. One camera will be used to tape you, while the other camera will be focused on the game. Since verbal responses are important while observing physical educators/coaches, you will be asked to wear a small innocuous telemetered microphone during the videotaping sessions. You will not be videotaped during pregame, half-time or postgame activities.

You will be given the Buss-Durkee Inventory and a demographic questionnaire before the first home game. The self-report inventory will be utilized to establish some emotional dimensions of the personality.

The videotapes will be subjected to a widely used interaction analysis system. The interaction analysis consists of 20 categories designed to describe behavior exhibited in physical activity settings. The verbal and nonverbal behaviors will be analyzed according to their defined categories.

Since this is an intensive study, your permission to use your name in the manuscript is requested.

Benefits

By participating in this study you will be able to review your verbal and nonverbal behaviors while coaching. By knowing this information you may be better able to evaluate your particular coaching style during specific situations. This behavioral study may serve as a source of important information for those entering the coaching profession.

Denials and Withdraw

If you should at any time decide to withdraw from this study, you may do so at your descretion and without prejudice toward you. If for any reason you should deny answering specific items on the self-report inventory and demographic questionnaire, you may do so without penalty or prejudice.

Consent

I have read the above and I understand it. I understand I may withdraw from and discontinue this study at any time. I understand that the data collected will be used for research purposes. I grant permission to use my name in this study.

Date_____Subject's signature_____

APPENDIX C

ATHLETIC DIRECTOR'S COVER LETTER

November 11, 1985

Mr. Bob Cleeland
University Station
Phillips University
Enid, Oklahoma 73071

Dear Mr. Cleeland:

In order to fulfill the requirements for the Doctoral Degree in Higher Education at Oklahoma State University in Health/Physical Education and Leisure, I have proposed a study to investigate the coaching behavior of a female basketball coach as my dissertation topic. I have chosen Jerrianne John to be the subject of this intensive case study.

Since this study will include viewing Ms. John at home and away games, your help and permission for this study is important. Ms. John has completed a consent form granting permission for the study to occurr.

Two videotape cameras and recorders will be used. All of the equipment will be provided by Oklahoma State University. Ms. John will be videotaped throughout three home games and three away games. One camera will focus on the game and the other on Ms. John. The camera focused on Ms. John will be directly across the floor from the Phillips University bench. The game camera will be in the usual videotaping area. Dr. Sandy Gangstead, a professor at Oklahoma State University and myself will collect the data and operate the equipment. All of the equipment will be in place approximately 1 hour before the game starts.

The dates I will be visiting Phillips University are: December 7, January 25 and February 15. December 6 may be used as an alternative dates.

If you have any questions please notify me as soon as possible, so that I may respond promptly. You may reach me at (405) 624-5493 or at 103 Colvin Center, Oklahoma State University, Stillwater, Oklahoma 74078.

Your cooperation and permission will certainly be appreciated for the completion of this study.

Sincerely,

Janet K. Reusser

APPENDIX D

ATHLETIC DIRECTOR'S CONSENT LETTER

November 12, 1985

I am a graduate student in Health, Physical Education and Leisure at Oklahoma State University. In order to fulfill the requirements for the higher Education program, I am in the process of the dissertation requirement. I have proposed a study to investigate the coaching behavior of a NAIA women basketball coach while coaching. This research involves an intensive study of one coach, Jerrianne John of Phillips University. Since this study would include viewing Ms. John at home games as well as away games, your help and permission for this study is important. Ms. John has completed a consent form granting permissiion for the study to occur. The anonymity and confidentiality of your school will be assured for the purpose of this study.

Two videotape cameras and recorders will be used. All of the equipment will be provided by Oklahoma State University. Ms. John will be videotaped throughout the and Phillips game. Dr. Sandy Gangstead, a professor at Oklahoma State University and myself will collect the data and operate the equipment. It is my request to secure your permission to use a portion of the videotaping area at your gymnasium and permission to conduct this study at your institution. One camera will view the game and the other camera will be focused on Ms. John. The camera focused on Ms. John will be placed directly across the floor from the team bench.

The date I am planning to visit your school is when your women's basketball team plays Phillips University. We will plan to arrive approximately 1 hour before game time to arrange the equipment.

If you have any questions please notify me as soon as possible, so that I may respond promptly. I will telephone you to confirm and remind you of the taping date. You may reach me at (405) 624-5493, or at 103 Colvin Center, Oklahoma State University, Stillwater, Oklahoma 74078.

Your cooperation and permission will certainly be appreciated for the completion of this study. Please complete the form enclosed and return.

Sincerely,

Janet K. Reusser

enc.

I grant permission to Janet Reusser to conduct the study on observation of coaching behavior. I understand that this institution will remain anonymous.

_____

(Name)

_____

(Institution)

Return to:

Janet K. Reusser
103 Colvin Center
Oklahoma State University
Stillwater, Oklahoma 74078

APPENDIX E

BUSS AND DURKEE HOSTILITY INVENTORY

Assault

1. Once in a while I cannot control my urge to harm others. (9)
2F. I can think of no good reason for ever hitting anyone. (17)
3. If somebody hits me first, I let him have it. (25)
4. Whoever insults me or my family is asking for a fight. (33)
5. People who continually pester you are asking for a punch in the nose. (41)
6F. I seldom strike back, even if someone hits me first. (1)
7. When I really lose my temper, I am capable of slapping someone. (49)
8. I get into fights about as often as the next person. (57)
9. If I have to resort to physical violence to defend my rights, I will. (65)
10. I have known people who pushed me so far that we came to blows. (70)

Indirect Hostility

1. I sometimes spread gossip about people I don't like. (2)
2F. I never get mad enough to throw things. (10)
3. When I am mad, I sometimes slam doors. (26)
4F. I never play practical jokes. (34)
5. When I am angry, I sometimes sulk. (18)

6. I sometimes pout when I don't get my own way. (42)

7F. Since the age of ten, I have never had a temper tantrum. (50)

8. I can remember being so angry that I picked up the nearest thing and broke it. (58)

9. I sometimes show my anger by banging on the table. (75)

Irritability

1. I lose my temper easily but get over it quickly. (4)

2F. I am always patient with others. (27)

3. I am irritated a great deal more than people are aware of. (20)

4. It makes my blood boil to have somebody make fun of me. (35)

5F. If someone doesn't treat me right, I don't let it annoy me. (66)

6. Sometimes people bother me just by being around. (11)

7. I often feel like a powder keg ready to explode. (44)

8. I sometimes carry a chip on my shoulder. (52)

9. I can't help being a little rude to people I don't like. (60)

10F. I don't let a lot of unimportant things irritate me. (71)

11. Lately, I have been kind of grouchy. (73)

Negativism

1. Unless somebody asks me in a nice way, I won't do what they want. (3)
2. When someone makes a rule I don't like I am tempted to break it. (3)
3. When someone is bossy, I do the opposite of what he asks. (19)
4. When people are bossy, I take my time just to show them. (36)
5. Occasionally when I am mad at someone I will give him the "silent treatment." (28)

Resentment

1. I don't seem to get what's coming to me. (5)
2. Other people always seem to get the breaks. (13)
3. When I look back on what's happened to me, I can't help feeling mildly resentful. (29)
4. Almost every week I see someone I dislike. (37)
5. Although I don't show it, I am sometimes eaten up with jealousy. (45)

6F. I don't know any people that I downright hate. (21)

7. If I let people see the way I feel, I'd be considered a hard person to get along with. (53)
8. At times I feel I get a raw deal out of life. (61)

Suspicion

1. I know that people tend to talk about me behind my back. (6)
2. I tend to be on my guard with people who are somewhat more friendly than I expected. (14)
3. There are a number of people who seem to dislike me very much. (22)
4. There are a number of people who seem to be jealous of me. (30)
5. I sometimes have the feeling that others are laughing at me. (38)
6. My motto is "Never trust strangers." (46)
7. I commonly wonder what hidden reason another person may have for doing something nice for me. (54)
8. I used to think that most people told the truth but now I know otherwise. (62)

9F. I have no enemies who really wish to harm me. (67)

10F. I seldom feel that people are trying to anger or insult me. (72)

Verbal Hostility

1. When I disapprove of my friends' behavior, I let them know it. (7)
2. I often find myself disagreeing with people. (15)
3. I can't help getting into arguments when people disagree with me. (23)

4. I demand that people respect my rights. (31)

5F. Even when my anger is aroused, I don't use "strong language." (39)

6. If somebody annoys me, I am apt to tell him what I think of him. (43)

7. When people yell at me, I yell back. (47)

8. When I get mad, I say nasty things. (51)

9F. I could not put someone in his place, even if he needed it. (59)

10. I often make threats I don't really mean to carry out. (59)

11. When arguing, I tend to raise my voice. (68)

12F. I generally cover up my poor opinion of others. (63)

13F. I would rather concede a point than get into an argument about it. (74)

Guilt

1. The few times I have cheated, I have suffered unbearable feelings of remorse. (8)

2. I sometimes have bad thoughts which make me feel ashamed of myself. (16)

3. People who shirk on the job must feel very guilty. (24)

4. It depresses me that I did not do more for my parents. (32)

5. I am concerned about being forgiven for my sins. (40)

6. I do many things that make me feel remorseful afterward. (48)
7. Failure gives me a feeling of remorse. (56)
8. When I do wrong, my conscience punishes me severely. (64)
9. I often feel that I have not lived the right kind of life. (69)

APPENDIX F

CHEFFERS' ADAPTATION OF THE FLANDERS' INTERACTION ANALYSIS SYSTEM

CAFIAS

THE CATEGORIES OF CHEFFERS' ADAPTATION OF

FLANDERS' INTERACTION ANALYSIS SYSTEM

Coding Symbols	The Categories of CAFIAS
	Categories 2-17 Teacher Behaviors
Teacher	Categories 8-19 Student Behaviors
	Categories 10 Confusion
Environment (E)	Categories 20 Silence
Student (S)	

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

Categories	Verbal	Relevant Behaviors	Nonverbal
	4		14
4-14 Questions	Asks questions requiring student answer	Face: Posture:	Wrinkles brow, opens mouth, turns head with quizzical look. 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.
	5		15
5-15 Lectures	Gives facts opinions, expresses ideas, or asks rhetorical questions.	Face: Posture:	Whispers words inaudible, sings, or whistles. Gesticulates, draws, writes, demonstrates activities, points.
	6		16
6-16 Directing	Gives directions or orders	Face: Posture:	Points with hand, beckons with head, yells at. Points finger, blows whistle, holds body erect while barking commands, pushes child through a movement, pushes a child in a given direction.

Categories	Verbal	Relevant Behaviors	Nonverbal
	7		17
7-17 Citicizes	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.

Categories	Verbal	Relevant Behaviors	Nonverbal
	Eine (8)		Eineteen (18)
Eine (8) Eineteen (18)	Predictable student responses requiring some measure of evaluation and synthesis from the student, but must remain within the province of predictability. The initial behavior was in response to teacher initiation.	Face: Posture:	A "What's more, Sir" look, eyes sparking. 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.

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.

Source: Cheffers, John T. F., V. H. Mancini and T. Martinek. (1980). Interaction Analysis: An Application to Nonverbal Activity (2nd ed.). St. Paul, Minnesota: Paul S. Amidon & Associates, Inc.

APPENDIX G

CHEFFERS' ADAPTATION OF THE FLANDERS' INTERACTION ANALYSIS SYSTEM CAFIAS II

THE CATEGORIES OF CHEFFERS' ADAPTATION OF FLANDERS' INTERACTION ANALYSIS SYSTEM (CAFIAS II)

The same as in CAFIAS	The Categories of CAFIAS	
	Catagories 2-17	Teacher Behaviors
	Catagories 8-19	Student Behaviors
	Categories 10	Confusion
	Categories 20	Silence

Emotional Dimensions

2 and 12 Praise	22 (nonverbal): excited, jumps all over people, energetically embraces people, lifts student in excitement, praises student by parading him around the classroom or gymnasium, rewards student's action by putting name on blackboard or gives with a prize. 22 (verbal): emotional encouragement, praise, enthusiasm, may have increased volume in voice; makes such comments as "That's terrific!" "Great job," "Come on Billy," "That's great--keep it up," calls to another teacher to notice the fine job or performance of student.
3-13 Uses Ideas	23 (nonverbal): embraces really sympathetically with tremendous emotion, receiving another person with sympathetic feelings, shakes as they accept the emotions of a person, engrossed in play with the class. 23 (verbal): uses student's ideas enthusiastically, emotionally clarifies student feelings and emotions.

4-14 Questions	24 (nonverbal): upset or quizzical looks, holds hands out sidewards with palms up, brows raised. Shakes with emotion as question is asked. 24 (verbal): shaky voice and fluctuating tone and/or volume while questioning; questions with tremendous feeling and emotions; emphasizes key words to draw out student responses; shows frustration while questioning, "What can I do to help you understand?"
5-15 Lectures	25 (nonverbal): tremdous gesturing, moves about energetically while conversing or demonstrating, may be so involved in material that fails to notice action within class, great acting, has everyone's attention, is charismatic. 25 (verbal): speeches, emotional story teller, enthusiastic presentation of material, varying intonation and inflection, the teacher with "charisma", strong acting.
6-16 Directing	26 (nonverbal): forceful or unusual methods of directing, physically moves student to spot, appears agitated while directing, blows whistle sharply while directing which implies direction without judgement. 26 (verbal): hushed-rushed direction not punitive, "fire director" type -- "Over here quickly -- over there quickly," "OK get that here," "Come on -- come on," "Hurry to your places, quick, quickly," gives direction in a hurry as when injury occurs, uses higher than normal tone of voice while directing or ordering, "Get going," "Move."
7-17 Criticizes	27 (nonverbal): shakes out of control, flushed, throws an object at someone in anger, slams door, stares piercingly, hits a student. 27 (verbal): projects criticism or authority forcefully, loses self-control and blasts off at student, deliberately belittles a student, uses unnecessary harsh criticism.

8-18	28 (nonverbal): upset but does what is expected, is flushed or pale in appearance during response, performs tasks sluggishly, performs energetically and enthusiastically performance. 28 (verbal): fire in voice, uses high pitched tone during predictable response, shouts out after being called on, whispers or mumbles answer when called on (predictable), responds mechanically as in counting during calisthentics, "1-2-3."
8 -18	28 (nonverbal): enthusiastic involvement in activity or assignment with some creativity, shows emotion in a game, signals others to gather around to work together, emotion as at the end of a game or contest, "Hurry up series, etc." 28} (verbal): reads plays with spirit, calls out in excitement of game or routine, urges others to do well.
9-19	29 (nonverbal): student demonstrates, is out of control, hugs people, jumps up and down happily, runs around, behavior is exhilarating, has temper tantrum, unsafe acts by students, hits someone deliberately, points out behavior of others. 29 (verbal): unpredictable, extreme expressions of anger, fear, new ideas, "I hate this" or "Look what I can do," uses profanity, expresses joy, ecstasy, fury, etc.
10-20 Silence/ Chaos	30 (verbal and nonverbal): chaos, situation is out of control, (fighting, jumping up and down cheering someone on, loud clapping), noise which results from positive use of humor (which does not offend anyone in the class).

Source: Mancini, V. H. and J. Cheffers. (1983). Cheffers' Adaptation of the Flanders' Interaction Analysis System II (CAFIAS II). In P. W. Darst, V. H. Mancini and D. B. Zakarajsek (Eds.) Systematic Observation Instrumentation for Physical Education (pp. 96-99). West Point, NY: Leisure Press.

APPENDIX H

INDEPENDENT INTEROBSERVER AGREEMENT

TABLE XII

INTEROBSERVER AGREEMENT

Behavior Category		Observer 1 No.	Observer 1 %	Observer 2 No.	Observer 2 %	Percent Difference
Praise						
	2	75	5.47	80	6.00	.53
	12	76	5.54	76	5.70	.16
	22	3	.21	4	.30	.09
	22	12	.87	12	.90	.03
Accepts Ideas						
	3	15	1.09	14	1.05	.04
	13	10	.72	10	.75	.03
	23	0	0.00	0	0.00	0.00
	23	0	0.00	0	0.00	0.00
Questions						
	4	26	1.89	27	2.02	.13
	14	7	.51	11	.82	.31
	24	1	.007	1	.007	0.00
	24	2	.14	2	.15	.06
Lecture						
	5	56	4.08	52	3.90	.18
	15	15	1.09	18	1.35	.26
	25	0	0.00	0	0.00	0.00
	25	3	.21	2	.15	.06
Direction						
	6	150	10.94	152	11.41	.47
	16	86	6.27	80	6.00	.27
	26	14	1.02	16	1.20	.18
	26	65	4.74	59	4.42	.32
Criticism						
	7	61	4.44	61	4.57	.13
	17	38	2.77	37	2.77	0.00
	27	10	.72	8	.60	.12
	27	24	1.75	26	1.95	.20
Silence						
	0	622	45.36	584	43.84	1.52
Total		1371	99.83	1332	99.85	5.04

Pencentage of Agreement = 100 - 5.04 = 94.96

Percentage of Agreement = 94.96

VITA

Janet K. Reusser

Candidate for the Degree of

Doctor of Education

Thesis: AN ANALYSIS OF AGGRESSIVE AND NON-AGGRESSIVE BEHAVIOR OF A COLLEGE BASKETBALL COACH

Major Field: Higher Education

Minor Field: Health, Physical Education and Recreation

Biographical:

Personal Data: Born in Wichita, Kansas, November 6, 1954, the daughter of Rae A. and Athol E.

Education: Graduated from Clearwater High School, Clearwater, Kansas, in May, 1976; received Bachelor of Science Degree from Kansas State University in December, 1976; received Master of Education degree from the University of Nebraska-Lincoln in July, 1980; completed requirements for the Doctor of Education degree at Oklahoma State University in July, 1986.

Professional Experience: Physical Education Instructor, Concordia High School, Concordia, Kansas, August, 1977, to May, 1979; Teaching Assistant, Department of Physical Education, The University of Nebraska-Lincoln, Lincoln, Nebraska, August, 1979, to July, 1980; Physical Education Instructor, Winfield High School, Winfield, Kansas, August, 1980, to May, 1984; Teaching Assistant, Department of Physical Education, Oklahoma State University, Stillwater, Oklahoma, August, 1984, to May, 1986.

Professional Organizations: American Alliance for Health, Physical Education, Recreation and Dance; American College of Sports Medicine; Phi Epsilon Kappa.