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EXPECTANCY EFFECTS IN AN ATHLETIC SETTING: EFFECTS OF COACH EXPECTATIONS ON FEEDBACK BEHAVIORS, ATHLETE PERCEPTIONS AND SPORT-CONFIDENCE

by

SHERYL HOO

A THESIS

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Date Aug. 31, 1992

ABSTRACT

This case study investigated one advanced level coach and his 9 elite team athletes. The purpose of this study was to examine how differential expectations affected coach feedback behaviors, athlete perceptions, and sport-confidence.

At the early, middle and end of the season, the coach ranked athletes in order of expected athletic achievement. Four videotaped practices were analyzed for coach feedback behaviors. A modified version of the Feedback Analysis Profile (Sinclair, 1985) was used to analyze feedback. Two questionnaires identified athletes' perceptions of coach feedback toward themselves and their peers. The Trait Sport-Confidence Inventory (Vealey, 1986) measured sport-specific self-confidence.

Results indicated that coach expectations were stable over the season for the high- and low-expectancy athletes. Rankings for the remaining athletes varied over the season. Differences in observed feedback toward high- and low-expectancy athletes were noted. High-expectancy athletes received more negative and descriptive feedback; low-expectancy athletes received more positive and prescriptive feedback. Only the high-expectancy athletes reported the perception of a differential feedback provided by the coach to their peers. The feedback patterns that high- and low-

expectancy athletes perceived towards high and low ability athletes as well as themselves were incongruent with observed patterns. High-expectancy athletes had higher sport-confidence scores than low-expectancy athletes. High sport-confidence was associated with increased frequencies of evaluative feedback and lower frequencies of prescriptive feedback. High sport-confidence athletes perceived low levels of positive feedback whereas low sport-confidence athletes perceived high levels of positive, evaluative and prescriptive feedback.

The coach's expectations appeared to influence feedback which differentiated between high- and low-expectancy athletes. The high-expectancy athlete perceived differential feedback cues accorded to others. This perception fosters an environment where expectation effects are more likely to function. High-expectancy athletes had higher sport-confidence scores which may have reflected observed and self-perceived feedback. Observed feedback was incongruous with high- and low-expectancy athletes' perceived feedback. Athletes' perceptions may have been a stronger predictor of sport-confidence and ultimately of achievement. These findings support an athlete-mediated model of coach expectation effects.

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CHAPTER ONE

INTRODUCTION AND STATEMENT OF THE PROBLEM

Introduction To The Study

Expectations can act as a stimulus for dyadic interactions which cause the original expectation to come true (Martinek, Crowe, & Rejeski, 1982). Teachers expect certain levels of achievement from different students and in accordance with their beliefs, teachers behave differently towards different students. This differentiating behavior can affect and shape students' aspirations, self-concept and achievement. High-expectation students will be led to achieve at high levels; low-expectation students will decline in achievement. Even if teacher expectations and behaviors do not create differences in student performance, existing differences can be sustained. Nonetheless, students can influence this process by actively accepting or rejecting the teacher's expectations (Good, 1981).

Rosenthal (1974; cited in Cooper & Baron, 1977) suggests that teacher behavior provided to students for whom high-performance expectations are held differ from behavior provided to students of low-performance expectations. He asserts that high-expectancy students receive more reinforcing behavior in response to their performance. The

provision of a greater amount of information to the student increases the probability of correct responses in the future. Rosenthal proposes that this is one of the processes by which teachers' expectations are fulfilled.

The study of expectations is of interest because of its evident implications for instruction in the classroom and gymnasium. Instructors in the classroom and motor learning context can benefit from knowledge about how their expectations might function to affect their students' performance. Good and Brophy (1987) assert that this knowledge will assist teachers to hold expectations and adcpt behaviors which are more appropriate to successful student learning. An understanding of the effects of expectations will assist coaches and teachers in physical education to monitor and examine their behavior in their daily interactions with athletes and students in the gym (Martinek, et al., 1982). A cognizance of differential behaviors that teachers exhibit as a possible result of their expectations can be helpful in maximizing instructional effectiveness (Martinek, et al., 1982).

Studies have shown that expectations are influential in the teaching-learning environment of the classroom as well as in the gymnasium (Brophy & Good, 1970, 1974; Cooper, 1979; Good, Cooper, & Blakely, 1980; Horn, 1984a; Rosenthal, 1973). The existence of expectation effects have been found in both process measures (eg., teacher-student interaction

such as behavior and communication) and product measures (eg., student outcomes such as self-concept, motivation, and performance) (Baker & Crist, 1971; Brophy & Good, 1970, 1974; Good & Brophy, 1987; Martinek & Karper, 1982). The importance of expectation effects in the academic and motor learning environment lies in the theorized functional relationships between instructor expectations, instructor behavior and student performance.

Studies in both classroom and physical education settings have documented that certain instructional behaviors (eg., skill feedback, praise, etc.) are associated with expectations (Good & Brophy, 1987; Martinek & Johnson, 1979; Martinek & Karper, 1982). Researchers have also explored the theory that expectations ultimately affect student psychological growth (eg., self-concept, student expectations, etc.), academic achievement and motor performance (Brophy, 1983; Good, 1981; Martinek & Johnson, 1979). More recently, researchers have investigated the role of student thought (ie., student perceptions, interpretations and attributions of instructor behavior and treatment) in mediating the effects of instructor expectations in the classroom and in the gym (King, 1979; Martinek, 1988, 1989; Weinstein, 1983).

Research has distinguished between two types of expectation effect: self-fulfilling prophecy effect and sustaining expectation effect (Cooper, 1979; Cooper & Good,

1983; Good & Brophy, 1987). The self-fulfilling prophecy effect was originally introduced by Merton (1948). This term refers to an expectation (which is initially false) that leads to behavior that causes the original erroneous predication to become true. In an instructional context, self-fulfilling prophecy effects serve to enhance or increase existing student differences. This involves treating students more differently than they actually are. Unrealistic and inflexible expectations act as precursors for the operation of the self-fulfilling prophecy (Martinek, et al., 1982).

Brophy and Good (1974) extensively reviewed numerous investigations on expectancy effects and concluded that expectations can function as a sustaining mechanism as well as a self-fulfilling prophecy. The sustaining expectation effect involves the maintaining or sustaining of established behavior patterns. Teachers expect existing student differences in potential to be sustained to the extent where they accept these behaviors as unchangeable and fail to see and act upon changes in student potential (Good & Brophy, 1987).

Self-fulfilling prophecy effects can significantly alter student behavior. However, they can only be scientifically demonstrated in experiments which involve induced expectations. Research investigating naturally occurring expectations might involve expectations that are

based upon real differences in student potential and therefore these would act as accurate predictors rather than erroneous expectations that become actual causes of student outcomes (Good & Brophy, 1987). In summary, self-fulfilling prophecies create changes in performance whereas sustaining expectation effects prevent change in performance (Cooper & Good, 1983).

This study deals with sustaining expectation effects. The role of expectations in sustaining performance is a phenomenon of interest because sustaining expectation effects occur much more frequently than self-fulfilling prophecy effects (Good & Brophy, 1987). The sustaining of below-average performance through expectation effects could retard student progress and damage self-image (Cooper, 1979).

Expectation effects have been postulated in various theoretical models (Braun, 1976; Brophy & Good, 1970, 1974). These models postulate the origins of teacher expectations, the interactions between the instructor and students (process effects), and the reactions of the students to the expectations (product effects) (Brophy & Good, 1974; King, 1979).

Process expectation effects refer to the nature and extent to which instructors vary their behavior when relating to individual students. Process measures refer to the interactions between the teachers and students during

the course of the study (Brophy & Good, 1974). Product expectation effects refer to the differential student outcomes which result from instructor expectations. Product results concern only the learner and refer to the products or results of expectation effects (Brophy & Good, 1974).

Process expectation effects have been the primary focus of many studies. In exploring process expectation effects, investigators attempt to identify mediating factors responsible for the functioning of expectations (Brophy & Good, 1974). For example, research investigating process expectation effects have examined teacher-student interactions and revealed that teacher expectations for students influence instructional decisions such as: the way students are grouped, how material is presented, the way feedback and evaluation are provided, and even access to learning experiences (Anderson, Vogel, & Reuschlein, 1991). Dyadic interaction between the student and the teacher has been found to be affected by teacher expectations in both physical education and classroom studies (Brophy & Good, 1974; Martinek, et al., 1982).

Product measures are essential to establish whether instructor expectations affect student achievement, personality, or other product outcomes. Measures of product effects include achievement tests and measures of student personality traits or behavior which allow analyses of the individual student's progress over time (Brophy & Good,

1974). Research investigating product expectation effects in physical education have examined student constructs such as self-confidence, perceived competence, student expectancy for success and athletic achievement (Horn, 1985; Martinek, 1981; Martinek & Johnson, 1979; Sinclair & Vealey, 1989).

Researchers have found evidence of the effects of teacher expectations on students' social, cognitive and psychological perceptions in both the classroom and the gymnasium (Brophy & Good, 1974; Martinek, et al., 1982; Martinek & Johnson, 1979). The psychological perception of self-confidence in sport has been studied to attempt to predict its effects upon behavior in sport. In studying self-confidence in sport, researchers have measured performance expectancies, perceived competence and efficacy expectations in an attempt to predict subsequent sport achievement (Vealey, 1986). Vealey (1986) conceptualized a sport-specific model of self-confidence which could provide consistent predictions of behaviors across various sport situations. This model provides the measure of sport-specific self-confidence, or "sport-confidence", which is the product expectation effect of interest in this study. Sport-confidence is "the belief or degree of certainty individuals possess about their ability to be successful in sport" (Vealey, 1986, p. 222).

Product expectation effects can function to reinforce or perpetuate the original expectations held by the

instructor through behaviors that are consistent with the instructor's initial expectations (Cooper & Good, 1983). For instance, if the original expectation for the student is one of poor performance, the instructor might provide the student with fewer opportunities and more criticism in comparison to his/her peers. If the student perceives and internalizes these expectations, the student might develop personal expectations in accordance with those of the teacher. These personal expectations might strongly influence the student's performance so that the initial expectations of the instructor are strengthened (King, 1979).

Researchers recognize a two-way nature of expectation influence (King, 1979). Recent expectation studies have begun to examine the contributions of the learner. In the educational setting, research is currently exploring the roles student perception and interpretation of teacher behavior play in the expectation process (Brattesani, Weinstein, & Marshall, 1984; Good, et al., 1980; Weinstein, Marshall, Brattesani, & Middlestadt, 1982). Students are aware of differential treatment provided to their peers. Students can easily identify favorite students through the differential treatment they receive (Weinstein, et al., 1982). Weinstein, et al. (1982) found that students believed that low achievers received more negative feedback, structured activities and monitoring while high achievers

received more opportunities and choice of activities. If differential expectations are perceived by the students, the perceived nature of the expectations can indirectly affect self-image, performance expectations, and motivation. What students think about teacher behavior, the learning environment and themselves mediate the performance outcome (Good, 1981). These potential mediating perceptions and interpretations (ie., what the athletes think about the instructional feedback behavior, the learning environment provided by the coach and their performance related self-confidence) are of interest in this study.

Little research has been done in the realm of physical education to examine the role of student processes in expectation effects (Martinek, 1989). Additional research is needed to explore the role that athlete perceptions play in the mediation of expectancy effects. Research exploring the role of the athlete as a mediator of expectation effects will help to fully understand the expectation process in a physical education environment. Expectation effects can explain some of the variance in coach and athlete behaviors found in the gymnasium (Martinek, et al., 1982). Indeed, the functioning of expectation effects may provide explanation for more of the variance in physical performance than actual ability (Martinek, 1989).

Though expectation theory has been well-documented in educational settings, the exploration of expectancy theory

in physical activity settings is relatively new. The investigation of expectation effects in a sport setting could provide much needed insight into the influence of coaching expectations upon instructional behavior, coach-athlete interactions and subsequent outcomes (Martinek, 1988, 1989).

The case study approach could be appropriate for conducting such an investigation into athlete perceptions and coach expectations. A case study involves the gathering of detailed data to construct an in-depth understanding of a single subject, group or phenomenon (Borg & Gall, 1983). The case study is an appropriate method of investigation in the educational field where few laws have been validated (Stake, 1978). Its use can "increase understanding of the variables, parameters and dynamics of the problem being investigated" (Macdonald & Walker, 1975, p. 9). It is suitable for use in exploratory hypothesis-generating studies as well as for hypothesis testing. The case study can provide description, explanation, interpretation or evaluation in naturalistic settings. It is well-suited for research at the theory building stage (Mireau, 1980).

The dynamic process of teaching and learning in the physical education environment necessitates multiple definitions of the situations encountered (Martinek, et al., 1982). Research investigating expectations in the physical education environment is still at its neophyte stage and

needs to be addressed in an exploratory and descriptive manner. Contingency relationships observed in realistic and natural settings need to be established in order to further understand the dynamics involved in ectation research. A case study approach is well-suited for these purposes.

Purpose of the Study

This case study examined the expectation process of a coach and team as it occurred over the course of one athletic season. The coach's performance expectations for the athletes were examined over the length of the season. Relationships between differential expectations and observed feedback were noted. Athlete perceptions of feedback provided to the team were compared to perceptions of feedback towards themselves as well as observed feedback. Finally, trait sport-confidence was examined in relation to expectations, observed and perceived feedback.

This study varied from most other expectation investigations because it focused on athlete perceptions as a mediator of performance expectations. The study investigated the perceptions of the athletes concerning the environment of their practice sessions, the nature of the feedback provided by their coach, and their performance related self-confidence. By combining observations of the feedback interactions between the coach and individual

athletes with information about individual athletes' perceptions, some insight will be gained as to how performance expectations held by the coach were communicated and perceived, and how these may or may not have influenced the athletes' sport-confidence.

The central purpose of this study was to investigate the extent to which a single coach's performance expectations are associated with observed feedback behaviors, athlete perceptions of feedback behaviors and learning environment, and athlete sport-confidence over the length of a season.

Research Questions

In carrying out the investigation of expectation effects in a physical education setting, a number of questions acted as guides for the development of the study:

1. Are the coach's performance expectations of the athletes stable over the length of a season?

2. Does the coach provide differential feedback to high- and low-expectancy athletes during practice sessions?

3.a) Do all athletes on a team perceive a differential feedback environment?
   b) Do high- and low-expectancy athletes perceive a differential feedback environment?
   c) Are there differences between the observed feedback environment and the environment that is perceived by high- and low-expectancy athletes?

4.a) Do high- and low-expectancy athletes' self-perceptions of feedback differ?

b) Are there differences between the observed coach feedback behaviors and the feedback behaviors that are perceived by the high- and low-expectancy athlete toward themselves?

5. Do high- and low-expectancy athletes differ in sport-confidence?

6.a) What is the relationship between observed coach feedback and sport-confidence of high- and low-expectancy athletes?

b) What is the relationship between self-perceived coach feedback and sport-confidence of high- and low-expectancy athletes?

Importance of the Study

Expectations are worthy of study because they are an important element in instructional behavior in academics and physical education. Instructors who hold expectations that are both realistic and flexible can prove to be more effective (Brophy & Good, 1974). This in turn should exert a positive influence on the quality of learning (King, 1979).

The optimization of the teaching-learning process in physical education should include consideration of the influence expectations and student perceptions have upon knowledge acquisition and performance. There is a demand for the study of mediating student processes in the gymnasium in order to explore the relevant relationships as they pertain to teaching and coaching effectiveness (Martinek, 1988).

Effective instruction in the realms of sport,

recreation and leisure is important because of the high value that children and adolescents place upon their achievement in these areas (Anderson, et al., 1991; Horn, 1985). Research needs to be broadened to investigate factors which enhance, sustain or suppress high and low levels of learning and performance in physical activity. Hence, this study could have implications for improving the quality of instruction and performance in physical education. This study will help to satisfy the need for work in a wide scope of educational environments in order to further verify relationships and findings in expectancy theory (Horn, 1984a, 1985).

The majority of research investigating expectation theory in physical education has been focused upon differences in instructional behavior which occur with teaching expectations (Martinek, 1988, 1989). Few studies have been undertaken in a sports environment to explore the athlete's thoughts as a mediating factor in the expectancy process (Martinek, 1989). In an attempt to investigate the role of athlete perceptions in the expectation process, this study examined athlete perceptions of coach feedback interaction and sport confidence in relation to expectation theory. This research attempted to identify the perceived environment in which expectations for athletes were theorized to exert their influence. By examining covert

athlete thought processes, this study may provide useful information on the theory of expectancy effects.

As an exploratory study it is hoped that a greater understanding of the dynamics underlying expectancy effects in a natural athletic environment will be gained. The reported findings are not intended to be generalizable except in reference for further research.

Definition of Operational Terms

In this study the following definitions of major terms were used:

Expectations: are inferences and predictions that instructors and coaches make about their students' or athletes' behavior, performance, and achievement potential (Brophy & Good, 1974).

Expectation Effects: refer to functional relationships between expectations and subsequent instructor or coach behavior, student or athlete thought processes, student or athlete performance and achievement potential (King, 1979).

Student Perceptions: refers to the thought process by which the student attributes significance to his/her surroundings as influenced by personal and environmental factors (Marsh, 1970).

Dyadic Interaction: refers to verbal interaction between the instructor or coach and an individual student or athlete in an instructional environment (Mireau, 1980).

Other major terms used during the study are defined in the context of this study.

Delimitations

1. The sampling of subjects was delimited to the athletes and coach of a single elite female volleyball team in the Edmonton Volleyball Club. This study is to be viewed as an exploratory case study. The sample is not a random one. Generalization of results is limited beyond the scope of this study.
2. The study was restricted to the 1991 club volleyball season which was twelve weeks in duration. The season was divided into equal thirds for data collection.
3. Analysis of the possible influence of gender (male coach with female athletes) on the results was not be conducted as part of this study.
4. Even though precautions were taken to avoid it, the use of a videotape and wireless microphone as research tools might have affected the subjects' natural behavior.

Limitations

1. The validity of the questionnaires depends upon the accuracy of reporting by the subjects. There is no way to ensure accurate representation of the subjects. For example, despite the concise and simple nature of the questionnaires and ranking form, some respondents might have misinterpreted some areas and thus provided inaccurate or incorrect information.
2. The study was limited by the possibility of the investigator's own expectations functioning. Precautions were taken to avoid this. The knowledge of the specific high- and low-expectancy athletes were kept unknown to the investigator until the completion of data analysis.
3. The procedure of measuring coach expectations through rank ordering forces athletes into an ordinal scale, whereas the coach may perceive the athletes as being grouped in categories.
4. The study was limited by the accuracy of the investigators' coding of feedback behaviors.
5. It is always possible that unobserved variables are responsible for the results found to be associated with the independent variables.

Summary

This chapter has established the framework and direction of the research. It has presented the purpose of the study and provided the research questions pertinent to the study. In addition, it also defined terms used in the study and identified the importance of the study. The major limitations and delimitations have been discussed. Chapter two provides a review of the literature pertinent to the study.

CHAPTER TWO

LITERATURE REVIEW

This chapter provides a review of recent and past literature in physical education, classroom and sport research relative to expectation theory in teaching and coaching. This review of related literature presents the theory and research relevant to the study. It also provides some rationale for the research direction that has been taken. Consideration is given to the varying methods of research and models available for the investigation of expectation theory. Emphasis is given to the effects of expectations upon instruction, student behavior and teacher/student interaction. Mechanisms that mediate expectation effects are discussed in terms of how they differentiate between high- and low-expectancy students. In addition, attention is given to the relationship of instructor/coach expectations to student/athlete psychological and perceptual behaviors.

The belief that expectations can function to the advantage or detriment of student performance is becoming more accepted (Mireau, 1980). Interest in expectations has been stimulated by studies which have reported that expectations often play a role in student behavior, teaching effectiveness, teacher-student interaction, physical and

academic achievement and psychological growth (Anderson, et al., 1991; Cooper, 1979; Good & Brophy, 1987; Muttart, 1977).

The study of expectations possesses many implications for education. Research has shown that teacher's expectations of individual students can lead them to treat the students differently. Depending upon the extent of differential treatment, self-fulfilling prophecy effects might be produced. Expectations can also affect teacher perception and interpretation of events. Expectations may cause teachers to be more aware of occurrences they expect and less likely to notice occurrences they do not expect. Expectations might also cause teachers to interpret events so that they are consistent with their own expectations. In this manner, expectations can tend to be self-sustaining (Good & Brophy, 1987).

Experimental and Naturalistic Research

There are two types of research that have been used to investigate expectancy theory: (1) experimental studies and (2) naturalistic studies. Experimental research involves the control and manipulation of the independent variable in order to infer causality (Martinek, et al., 1982). In experimental studies, researchers create expectations; usually by raising teachers' achievement expectations for

individual students. The lowering of expectations by the experimenter would introduce questions of ethical concern.

The controversial "Oak School" experiment is the most widely cited experimental study investigating the expectation phenomenon (Rosenthal & Jacobson, 1968). Much of the literature on teacher expectation studies points to Rosenthal and Jacobson's (1968) Pygmalion in the Classroom as the critical study from which many of the later studies are derived. However the notion of the self-fulfilling prophecy, which was the primary phenomenon under investigation in the study, was introduced by Merton (1948) who suggested that predictions or prophecies can become important factors in the situation and thus affect subsequent developments.

Rosenthal and Jacobson's (1968) pioneering study tested the hypothesis that teacher expectancy effects for student achievement would function as self-fulfilling prophecies. Subjects for the study were teachers and students in a public elementary school in a urban lower class community. Three teachers in each of the six grade levels participated in the study. Early in the school year, the researchers administered a test to every student. The test was purported to identify students who could be expected to show unusually high academic achievement gains during the next eight months of school. The test that was administered was called the "Harvard Test of Inflected

Acquisition". In actuality, the test that was given was "Flanagan's Test of General Ability (TOGA)". This test was chosen because it was not routinely administered by the educational system nor was it likely to be familiar to the teachers involved. The teachers were given a list of the students who had scored high on this test for intellectual blooming and thus led to believe that these students would make large gains in the upcoming school year. In reality, these potential "late bloomers" were chosen randomly rather than on the basis of the test scores. This experimental group was formed from approximately 20 percent of each teacher's classroom. After eight months the investigators readministered the TOGA in order to compare the gains of the treatment group with those of their classmates. The data revealed that the treatment group scored higher than the other students on the achievement tests. Results indicated that the "late bloomers" had gained only slightly in verbal IQ over the control group. However the treatment group made considerable gains in the reasoning IQ and the total IQ test in comparison to the children in the control group. These differences were mainly accountable by the large differences the first two grades. Also, more gains were made by girl bloomers than boy bloomers.

These results were interpreted by Rosenthal and Jacobson (1968) to indicate the prophetic nature of expectations. They reasoned that the manipulation of

teacher expectations somehow caused the teachers to treat the "bloomers" differently so that they achieved unusually high gains. These findings were interpreted by some enthusiasts as the answer to eliminating educational inequities. It seemed that as long as teachers were trained to have high expectations for the students, all students would begin to achieve at high levels (Brophy, 1983).

Reviewers such as Elashoff and Snow (1971) and Thorndike (1968) criticized the experimental design and statistical methods of the study. They suggested that the procedures used were not sufficiently rigorous to justify the generalizations that were made about teacher expectations. Nonetheless these criticisms had little effect on investigators' fervent attempts to continue or replicate the research.

A number of researchers commenced studies to try and replicate Rosenthal and Jacobson's (1968) findings. These studies typically varied from the original in one or more ways (eg. subjects' grade level, length of experiment treatment, method of induction, etc.). Claiborn (1969) attempted the first quasi-replication study with subjects from grade one classrooms only. Though Claiborn (1969) used the same expectancy induction procedures and the same ability test, he did not initiate the expectancy treatment until the second semester. In addition, the post-tests were administered only two months later. This weaker treatment

led the investigator to find no effects of teacher expectations upon student IQ. In summary, Claiborn (1969) suggested that Rosenthal and Jacobson's (1968) positive findings were based on difference scores which were not corrected for known pretest differences. He also suggested that their findings were partially attributable to regression effects. Fielder, Cohen and Feeney (1971) also attempted a quasi-replication of the Rosenthal and Jacobson (1968) study. They used thirty-six classrooms in three schools. The procedures and measurements used were similar to those that Rosenthal and Jacobson had used. However, the study failed to provide any evidence of expectancy effects functioning.

Other investigators have researched the effects of experimentally induced expectations with the use of other research paradigms. Fleming and Antonnen (1971) conducted an experimental study involving 900 second-grade students and their teachers. Students were randomly assigned to treatment groups which determined the kind of IQ information that would be given to their teachers. It was hypothesized that students whose IQ's had been inflated would show higher gains on measures of IQ, self-concept, and school achievement. However, no evidence of teacher expectation effects appeared in the post-test measures taken in February and spring. Post-experimental interviews revealed that most teachers did not believe the inflated IQ's and therefore

discounted the information. This indicates a strong weakness of studies involving induced expectations: there is no guarantee that the teachers will acquire the expectations that the experimenter wishes them to acquire.

Many of the experimental studies involved teachers who forget or refuse to believe the expectation information. This may be due in part to the lack of credibility of false information provided to induce teacher expectations. It has been suggested that the procedures used in creating the false expectations in the replication studies were less credible than those used in the original study. Therefore the teachers do not accept the false information and do not act upon it (Brophy & Good, 1974). However, Brophy (1983) asserts that teacher's unmanipulated expectations are generally accurate, based upon reality, and open to new information. This limits the extent to which they accept false information provided by the experimenter. Also, the considerable publicity and controversy generated by the Rosenthal and Jacobson (1968) study might have increased teachers' awareness of the expectancy phenomenon and reduced their inclination to accept information provided about their students by the experimenter (Brophy, 1983). Even the teachers who do accept such information initially would likely modify their expectations as a result of being open to corrective feedback and new information (Brophy, 1983).

Researchers currently favor the naturalistic method of investigation (Martinek, et al., 1982). In contrast to experimental manipulation of teacher expectations, researchers use a naturalistic approach where they allow the teacher to describe their expectations and then study the consequences. In this type of research, teachers' expectations are assessed early on in the term before much interaction has occurred between the teachers and the students. Instructors are usually asked to rank or rate their students on current achievement or expected potential achievement over the term. Outcome data and process measures are then examined for differences between the highly rated students versus the lower rated students.

Naturally formed teacher expectations have been related to both differential instructional behavior as well as student achievement. Brophy and Good (1970) investigated the relationship between teacher expectations and teacher-pupil interaction in the classroom. Grade one teachers in four classrooms were asked to rank order their pupils according to expected achievement. Six high-expectancy and six low-expectancy students in each classroom were observed on four occasions. Analysis revealed that high-expectation students received significantly more praise and less criticism than the low-expectation students.

Palardy (1969) investigated the effects of differential gender beliefs on the potential reading

achievement of first grade students. Ten teachers were selected who held significantly contrasting views concerning the relative ability of boys and girls to achieve in reading. Evidence indicated that boys who were instructed in reading by teachers who expected no sex differences achieved as well as the girls. However, boys who were taught by teachers who thought that boys could not perform as well as girls, did indeed have lower achievement scores.

In comparison to induced expectation studies, naturalistic studies do not present the problem of questioning the reality of the teachers' expectations. Also the ethical issues of inducing negative expectations in students are avoided. These studies have greater generalizability or external validity than induced experiments. These studies occur in a naturalistic environment where the teacher and students are acting under normal circumstances. Therefore positive results obtained from naturalistic research can be more generalizable to other environments as opposed to experiments conducted in a laboratory or a manipulated environment (Brophy & Good, 1974).

Naturalistic research raises questions of causal ambiguity (Brophy & Good, 1974). Relationships found between the expectations and measures of teacher-student interaction or student outcomes could possibly represent the effects of student behavior and achievement on teacher

expectations rather than the opposite (Brophy, 1983). Recent literature suggests that a cyclical process of mutual influence exists (Brophy, 1983; Cooper, 1979; King, 1979). The expectation process is dynamic; however it cannot explain all of the variance in instructor or student behavior. Student behavior can effect a reversal or strengthening of first impressions or ongoing expectations. Student behavior can also cause a change in interaction patterns between the instructor and student. These factors promote the concept of reciprocal causation and mutual influence which contributes to the explanation and prediction of expectancy effects (Martinek, et al., 1982).

Models of Expectation Theory

Brophy and Good (1970) developed a model to suggest how expectations are communicated and how they might influence performance in the classroom. The model suggests how the expectation process might work in the classroom environment. It indicates that beyond the mere existence of differential expectations, the effects of expectations are dependent upon the behaviors they produce (Good & Brophy, 1987).

The model indicates:

(i) Teachers form initial differential expectations for student academic performance.

(ii) In accordance to the differential expectations, the teacher provides differential treatment to the students.

(iii) The treatment communicates to the students how they are expected to behave in the classroom and perform on academic tasks.

(iv) The students in turn will respond differently to the instructor because of the differential treatment they receive.

(v) If the teacher treatment remains consistent over time and the student does not actively resist it, then the differential treatment will likely affect self-concept, achievement motivation, teacher interaction, conduct in the classroom and levels of aspiration. The student plays a part in determining the impact of teacher expectations and behavior (Good, 1981).

(vi) These effects will generally tend to provide support for the teacher's expectations. As a result, student achievement will be affected. The academic performance of some students will be enhanced whereas the performance of other students will be depressed in the direction of the teacher's particular expectations.

Brophy and Good (1970) assert that teacher expectations can function as self-fulfilling prophecies only if all the elements in the model are present. Often one or more of the factors are missing. For instance, the teacher may not have stable or distinct expectations for each student. The teacher's expectations might not be communicated to the student through consistent behavior. Ultimately, students may counteract or resist the expectations so that the teacher changes them (Good & Brophy, 1987).

Martinek (1981) developed an expectancy model to provide a framework and guide for research in the area of physical education. The model illustrates how expectations are formed, how they are communicated and how they sustain high and low performances.

The model indicates:

(i) Physical education instructors or coaches develop expectations of their students from a number of impression cues (eg. sex, age, physical attractiveness, etc.).

(ii) These expectations affect the quantity and quality of interactions between the instructor and student. These interactions occur and are communicated in various verbal and nonverbal patterns.

(iii) The expectations and interactions then can influence the social-psychological and physical outcomes of the student.

(iv) The resulting student outcomes may serve to perpetuate the instructor's initial expectations and their provision of differential treatment.

Several studies have attempted to validate various steps of Martinek's (1981) model in order to confirm the existence of expectation effects in physical education and sport (Markland & Martinek, 1988; Martinek, 1980a; Martinek & Karper, 1982). Though many of these studies indicate a relationship between teacher expectations and differential teaching behaviors towards high and low achieving students, not all of the students are affected in the same way by the teacher's interactions with them (Brophy, 1983). Martinek (1989) suggests that the rationale for this lies in the variability in the way that students actually perceive and interpret events occurring in the learning environment. In order to conceptualize the role of student interpretations of teacher treatment in physical education, Martinek (1989) expanded his previous model.

Martinek's expanded model (1989) illustrates the student's perceptual and interpretive processes that potentially act as mediators of teacher expectancy effects. With this model, Martinek (1989) addresses the possibility

of disparity between observed teaching behaviors recorded by trained observers and what is perceived by the students. Martinek's expanded model (1989) investigates student interpretation and evaluation of teacher behaviors through the exploration of student causal attributions (ie., self, teacher, environment and complex) ascribed to the particular teaching behaviors.

The current study attempts to examine various stages of Martinek's model (1989) in a sport environment. Attention will be given to aspects of coach and athlete dyadic interaction, athlete perceptions and athlete outcomes.

Mediating Factors of Expectation Effects

Rosenthal and Jacobson's (1968) pioneering study provided product data concerning the teacher expectancy effect hypothesis. However, no process data was collected to indicate the mechanisms underlying the expectancy effects. Attempts are now being made to explain the various factors that cause expectation effects (Brophy & Good, 1974; Martinek, 1981).

Some potential mechanisms underlying teacher expectation effects are revealed upon closer examination of dyadic interactions between the instructor and the individual students. Researchers investigating expectancy

effects in the classroom as well as physical education environments have consistently discovered differences in the way instructors interact with perceived high- and low-expectancy students. Based on accumulated findings on the mediation of expectation effects, Rosenthal (1973) summarized four relevant factors associated with teacher expectations: climate, input, output, and feedback. Rosenthal (1973) asserts that teachers display a warmer social-emotional instructional atmosphere for perceived high achievers (climate). Chaikin, Sigler, and Derlega (1974) videotaped tutors of a twelve year old boy who was either described as being bright or dull. It was found that the tutors who believed that they were with a bright pupil smiled more, nodded their heads more, and held more eye contact in comparison to the tutors who thought their pupil was dull.

Verbal input refers to the quality and kind of presentation of new and difficult material to students (King, 1979). According to Rosenthal (1973), teacher's verbal inputs to students are associated with differing levels of expectation. High-expectancy students are presented with a higher quantity of information and a higher frequency of difficult material. Brophy and Good (1974) revealed that less difficult material was given to low-expectancy students. In addition, it was found that

teachers expected and demanded less of low-expectancy students.

Verbal output pertains to teacher interaction behaviors which provide active opportunities for students to respond and ask questions (King, 1979). Rosenthal's (1973) findings suggested that teachers show more willingness to pursue interactions with high achievers than lows. In other words, high achievers are given more opportunity to respond and ask questions. Brophy and Good (1974) reported that low- expectancy students received fewer teacher contacts. Good and Brophy (1987) found that teacher encouragement of student output was higher for the high achieving students. Good and Brophy (1987) found that teacher encouragement of student output was higher for the high achieving students. Teachers would wait longer for answers from the high achievers. They would provide helpful hints, prompt and rephrase questions as well as ask harder questions of the high achieving students.

The final factor Rosenthal (1973) found to be relevant to teacher expectations was feedback. Feedback seems to be closely related to student achievement. High-expectancy students are provided with more performance feedback and praise while low-expectancy students are criticized more. Cooper and Baron (1977) asserted that teachers tended to reward inappropriate behavior of low-expectancy students in addition to criticizing low-expectancy students more than

high-expectancy students in the situation. Brophy and Good (1974) similarly suggested that bright students receive more praise while low achieving students receive more criticism, especially in failure situations.

Rosenthal's (1973) four-factor model is useful but not inclusive of all potential mediating mechanisms. Teachers can communicate their expectations in a variety of more subtle ways than the direct ways outlined by Rosenthal's (1973) model (Good & Brophy, 1987). By reviewing numerous studies of the expectation process, Good and Brophy (1987) have summarized some teaching behaviors that often occur with achievement expectations. Each behavioral difference was reported by at least two articles in the educational research reviewed by Good and Brophy (1987). The researchers suggest that certain behaviors sometimes signify differential treatment of high- and low-expectation students. These behaviors include treatment such as seating low-expectancy students farther away from the teacher and differential administration or marking of tests or assignments where highs but not lows are given the benefit of the doubt in borderline cases. It is suggested that low-expectancy students are praised less frequently and criticized more often. Good and Brophy (1987) also report that the teachers often wait less time for the low-expectancy students to respond, call on them less often and demand less from them. Teachers criticize low-expectancy

students more often for failure and praise them less frequently for success. Also, the instructors tend to reward inappropriate behavior of perceived low achievers and do not provide feedback for their public responses as frequently as they do for perceived high achievers. There is less friendly interaction and nonverbal communication of attention and responsiveness towards low-expectation students (Good & Brophy, 1987).

Teachers demonstrate differences in the way they express expectation effects. Some teachers will criticize lows more frequently per incorrect answer than highs. These teachers will also praise lows less often per correct response than is the case for highs. Dissimilarly, other teachers will reward marginal or even incorrect responses given by lows (Good, 1981).

Teacher expectation effects are mediated not only by teacher behavior but also by student reaction to that behavior. Other potential mediators of teacher expectation effects are: teachers' beliefs about teaching and learning and teachers' personal characteristics (eg. need for control, sense of efficacy, general intelligence, etc.) (Reshef, 1987).

All forms of differential treatment are not inappropriate indications of favouritism of highs or bias against lows (Cooper & Good, 1983). More research is needed to identify the connection between teachers' behaviors and

student learning before differential patterns of teacher-student interaction can be interpreted (Reshef, 1987).

Expectations and Dyadic Interaction

Researchers investigating expectancy effects in the classroom as well as physical education environments have consistently discovered differences in the way instructors interact with perceived high- and low-expectancy students (Brophy & Good, 1974; Cooper & Good, 1983; Martinek & Johnson, 1979; Martinek & Karper, 1982).

Martinek and Johnson (1979) found that high-expectancy elementary school students received more encouragement, acceptance of ideas, analytic-type questions and directions from their physical education teachers. The observational tool used to identify teacher-student behaviors was the Dyadic Version of Cheffers Adaptation to the Flanders Interaction Analysis System (Martinek & Mancini, 1979) which is a well-known system for observing and describing verbal and nonverbal teacher-student interactions in physical activity settings.

Similar findings were expressed by Crowe (1977; cited in Martinek, 1981) who investigated Rosenthal's (1973) four factors that were suggested to mediate expectations. The Brophy and Good Dyadic Interaction Analysis System (Brophy & Good, 1974) was used to identify the dyadic interactions

between the physical education teacher and high- and low-expectancy students. This instrument was designed to answer questions on teacher expectations relating to the quantity as well as the quality of the interactions. The system allows for the separation of effects due to the student versus effects due to the teacher (Brophy & Good, 1974; Martinek,et al., 1982).

Four physical education activity classes participated in Crowe's study (1977; cited in Martinek, 1981). The students were ranked by their teachers in order of their physical achievement or skill potential. Forty-eight students were specified by their teachers as high achievers and the remaining forty-eight students were designated as low achievers. The study showed that high achievers were provided with more attention, asked more questions and given more opportunities to respond. The high-expectancy students were treated more warmly and given more affirmation and praise.

Martinek and Karper (1982) investigated the relationship of specific types of expectations to specific types of teaching behaviors in the instruction of physical activity. Four teacher expectancy variables were correlated with teacher and student dyadic interaction patterns; these were social relations, physical performance, cooperative behavior and the ability to reason. All of the expectancy variables were found to be positively related to the amount

of teacher praise and encouragement, acceptance and use of ideas as well as amount of behavior correction given to the students. This indicates that overall instructor expectations influence teacher behaviors that are intended to encourage and motivate the student (Martinek & Karper, 1982).

Horn (1984a) also reported the existence of differential patterns of coaching behavior towards high- and low-expectancy athletes. Horn (1984a) used an adaptation of the Coaching Behavior Assessment System (Smith, Smoll & Hunt, 1977) to classify coaching behaviors. In contrast to previously mentioned studies, it was revealed that in game situations, low-expectancy athletes received more praise for successful performances and more general and corrective instruction in comparison to high-expectancy athletes.

Evidence accumulated from research in a physical education context reveals that instructors exhibit different behaviors towards high- and low-expectancy students or athletes. Educators can benefit from awareness of the varying ways in which they are communicating their expectations through differential treatment of their students (Martinek, et al., 1982).

Expectations and Feedback Behaviors

Both quantitative and qualitative differences in verbal feedback communication have been found in expectation research to differentiate between high- and low-expectancy students (Brophy & Good, 1970; Good, 1981). In the classroom environment, feedback is important for things such as time on task and for providing the student with information necessary for goal-directed behavior (Smith & Luginbuhl, 1976). Harter (1981) suggests that evaluative feedback provided by significant adults in combination with performance success or failure affect children's perceptions of their competence in achievement such as the cognitive, social and physical domains.

In physical education, feedback is one of the most important elements in learning a skill (Markland & Martinek, 1988). It is essential information that informs the athlete about their performance or the movement which produced that performance (Sinclair, 1985). Feedback can greatly influence the learning process by providing information to direct the correction of errors, by motivating the athlete, or by reinforcing correct or almost correct responses (Schmidt, 1982, cited in Sinclair, 1985). The type, frequency and timing of feedback can affect the acquisition and learning of motor skills (Markland & Martinek, 1988; Vallerand, 1983).

Research has also shown that different types of coaching feedback are related to differences in student self-perceptions such as self-confidence. Horn (1985) found that over the course of a season, performance-contingent feedback was significantly correlated to increases in self-confidence of young athletes. Since feedback is strongly linked to learning, achievement and psychological constructs, it is crucial to discover existing relationships between expectations and the provision of differential feedback.

Expectancy studies have indicated different types of feedback behaviors to be salient in discriminating between high- and low-expectancy students (Martinek, 1981; 1988; Martinek, et al., 1982; Sinclair & Vealey, 1989). Martinek and Johnson (1979) and Crowe (1977; cited in Martinek, 1981) reported that students who were perceived to possess high skill received more praise from their teachers. Sinclair and Vealey (1989) reported that high-expectancy athletes received more specific and evaluative feedback than low-expectancy athletes. Low-expectancy athletes were also provided with less individual communication and more overall prescriptive feedback. Martinek and Johnson (1979) provided evidence indicating that teachers gave more praise and supportive encouragement to the perceived high achievers than to the expected low achievers. These findings are consistent with the predictions of the expectation theory

which assert that high-expectancy students will receive more effective and positive instruction.

In contradiction, Horn (1984a) found that it was actually the low-expectancy athletes who were provided with more technical instruction and feedback. These perceived low ability athletes also received more reinforcement after a successful performance. Horn (1984a) reported that the high-expectancy athletes received less reinforcement for successful performances and were ignored more often after a positive performance than were the low-expectancy athletes. Horn (1984a) suggested that the findings indicated that the coaches were trying to provide more information to those who in their opinion needed it the most. These findings may have reflected the instructional tenets of the coaches to enhance the performance and motivation of their low ability athletes. The educational orientation of the program (junior high interscholastic softball league with trained teachers as coaches) may also have accounted for the lack of predicted expectancy effects (Horn, 1984a).

Martinek (1988) found that the most frequent type of feedback directed to high-expectancy students were for the purposes of correcting behavior. The teacher behaviors directed to the low-expectancy students were mainly teacher praise and encouragement. Martinek and Karper (1982) also showed that high-expectancy children in physical education classes received more teacher criticism while the children

with perceived less motor ability received more praise and encouragement. Research in the educational context has also recorded findings of the same nature. Cooper and Good (1983) found that teachers reported providing low-expectancy students with more praise than high-expectancy students.

It is not known whether greater amounts of feedback given to low-expectancy students are conducive to gains in performance, attitude or self-perceptions (Horn, 1984a, 1985). Though research implies that giving praise and encouragement to a student will increase their levels of motivation, not all students will interpret praise as a direct indication that they are perceived as being highly skilled (Martinek, 1989; Meyer, 1982). Weiner and Kukla (1970) reported that particular teaching behaviors such as praise, help-giving and empathy communicate to some students that the teacher perception of their ability is low. Also, in some cases criticism does not communicate to the student that they are lacking in skill (Brophy, 1983; Meyer, 1982). Weiner and Kukla (1970) indicated that blame, reprimand and indifference tended to suggest to the students that their ability was high. Indifference from the instructor might also encourage the student to try harder and to become an autonomous learner (Brophy, 1983; Weiner & Kukla, 1970).

Meyer (1982) suggests that the perceived difficulty of the task for which the student is being praised or criticized contributes to the formation of self-perceptions,

expectations and performance. For instance, the instructor may assign tasks to a student that are very easy, praise the student for succeeding at exceedingly easy tasks or express empathy for struggling with difficult tasks. This treatment may inform the student that the instructor thinks that he or she is not very skilled. This is an example of how apparent positive behaviors might provide negative consequences. Meyer (1982) also indicated that relative neglect, blame and anger communicated that the recipient's ability was high. These indirect communications of ability may influence the student's self-perception of ability. In order to properly describe the implications of demonstrated differential patterns of feedback, research must be done to investigate the significance of students' perceptions of teacher feedback behaviors (Horn, 1984a; Martinek, 1988).

Expectations and Different Environments

Different settings and contexts provide for differing opportunities for dyadic interaction between the teacher and student. The varying interaction patterns consequently provide different opportunities for expectation effects to occur (Good & Brophy, 1987).

In the educational environment, it has been suggested that contextual factors such as grade level will affect interaction patterns and the communication of expectations

(Good & Brophy, 1987). For instance, different patterns of interaction are in evidence between the teacher and student in elementary and secondary grades. In the earlier grades, students are likely to spend the entire day with their teacher. Here, total contacts between high- and low-expectancy students and the teacher will probably reveal few differences since the teacher will likely interact frequently with all the students. Expectations in the elementary grades are likely to be communicated by qualitative aspects of interaction where the teacher may treat the high- and low-achieving students differently. Secondary grade differentiation is more likely to occur with quantitative aspects of teacher-student interaction. High-expectation students are likely to receive a greater amount of total teacher contacts since they are more likely to involve themselves in discussions, activities, and interactions with their teacher than lows (Good & Brophy, 1987).

Context as an intervening variable in the expectancy process in physical education has not been explored extensively. In one study, Martinek and Karper (1982) investigated the effects of students' motor ability on specific teacher expectations and dyadic interaction within three phases of physical education instruction: individualized, competitive and cooperative contexts. The results indicated that the instructor's expectations for the

students were related to the students' motor ability and varying instructional settings. During the individual phase, high ability students were provided with more technical information than the low ability students. The researchers suggest that the instructors believed that these students were more capable of utilizing the informative feedback. During the cooperative instructional phase, low ability students received more attention than high ability students. Here, instructors encouraged the use of the low ability students' ideas and the low ability students were asked more questions. It was suggested that high ability students may have been perceived as unable to deal with the cognitive demands of the cooperative activities. Non-competitive instructional environments are suggested to provide increased opportunity for interaction and encouragement for low ability students. Cooperative instructional climates are indicated to foster the provision of equal distribution of teacher behaviors to all students regardless of their skill level (Anderson, et al., 1991; Martinek & Karper, 1982).

It has been established that the greatest potential for expectation effects exists in environments that emphasize achievement rather than effort, a competitive atmosphere and public performance (Good & Brophy, 1987). These elements are inherent in many physical education environments. Learning environments that feature norm-

referenced achievement standards, uniform as opposed to multiple goals and frequent public displays of differential treatment towards high- and low-expectancy students are also prone to expectation effects (particularly low or undesirable expectations) (Good & Brophy, 1987). These findings provide implications for the research of expectation effects at the varying levels of physical education and sport participation.

Horn (1984a) found that the degree and type of expectancy effects were specific to the situational context of games as opposed to practices. Low-expectancy athletes were reported to have received more praise for success in general and corrective instruction than did the high-expectancy athletes. It was suggested that the educational focus and philosophy of the athletic program might have accounted for the lack of predicted expectancy effects. Horn (1984a) asserts that more research is needed to identify whether observed differences in coaching behaviors in differing contexts are specific to a particular type of program (eg., beginning vs elite levels, instructional vs. competitive philosophy). If a particular athletic program is specifically designed and administered for purposes of instruction rather than competition, the coaches involved may not exhibit biased instructional behavior.

Weinstein, et al. (1982) conducted a study to investigate student perceptions of teacher behavior towards

high and low achieving students. The study examined the extent of agreement among students about the "climate" for highs and lows. It was found that students do perceive differential teacher treatment towards high and low achievers. The existence of perceived environments may reflect differing role demands and expectations. Weinstein and Middlestadt (1979) had elementary aged children describe the teacher treatment that they felt were typically aimed to high and low achievers. The students perceived that the teacher accorded high achievers higher expectations and academic demand as well as special privileges. Low achievers were perceived to receive fewer chances and greater teacher concern and care. The perceived public nature of differential teacher treatment towards others may function to influence student expectations towards themselves and subsequently their performance (Weinstein, et al., 1982).

Educational literature proposes that student perceptions of the classroom environment can explain the variance in student learning outcomes beyond the variance which is accounted for by ability (Moos, 1979). Students' aggregate perceptions are usually used to measure perceived climate in the classroom. The methodology of collecting the "shared" perceptions of all members of a social setting has been used for research to discern perceived differential treatment accorded high and low achievers (Moos, 1979;

Weinstein, et al., 1982). This estimate of climate does not account for differences between subgroups of students. Moos (1979) reported that student achievement level differences affect perceptions of the environment of the classroom climate. Ability levels of students may affect their capacity to perceive classroom climate; or the actual classroom environments for high and low achievers may truly be different (Weinstein, 1983; Weinstein, et al., 1982).

Varied instructional settings and climates or their perceived equivalents influence interactions between the instructor and student. The influence of these factors should be considered in research dealing with the dynamics of expectation theory (Horn, 1984a; Weinstein, 1983).

Expectations and Psychological Growth

Expectations may exert indirect effects upon elements of student psychological growth such as self-concept, attributional inferences, motivational levels and performance expectations (Brophy & Good, 1970; Martinek, 1981; Martinek & Johnson, 1979). In the educational context, Cooper and Good (1983) have examined the relationships between teacher expectations, student perception of the teacher's use of feedback and student efficacy beliefs. They found student self-efficacy beliefs to be positively related to teacher expectations.

Recent studies in physical education have investigated the possibility that instructor expectations are associated with affective states which affect performance. Martinek (1980a) investigated the influence of teachers' expectations, students' self-concept and student gender on students' expectations of motor task performance. It was found that the teacher's expectations were a significant contributor to the variability of motor expectancy scores. Martinek (1980a) indicates that the student's performance expectations are related to and affected by the teacher's expectations and the student self-concept. These findings suggest that the expectations affect student decisions about future performance. Few studies have further investigated the relationship between the instructor's expectations and the individual's own expectations (Martinek, et al., 1982).

Instructor expectations have been found to influence self-concept in the gymnasium. Self-concept has been considered as an integral mediator of behavior (Martinek, 1980a). Martinek and Johnson (1979) administered the Martinek-Zaichkowsky Self Concept Scale for Children (Martinek & Zaichkowsky, 1977; cited in Martinek & Johnson, 1979) to determine if self-concept was influenced by the instructor's expectations. This instrument is a nonverbal scale which requires minimal reading ability. It is comprised of twenty-five items which measure various social, intellectual, physical and psychological components of a

child's self-concept. The researchers found that high-expectancy students had significantly higher self-concepts in comparison to the low-expectancy athletes. Teachers also gave the high-expectancy students more encouragement, acceptance and contact time (Martinek & Johnson, 1979).

There is a need to further examine the effects of expectations on specific psychological components and how these interact with instruction. The understanding of the dynamic process by which expectations can function to influence particular psychological parameters is crucial to maximizing teaching and learning effectiveness.

Expectations and Student Perceptions

Recently, attention has been drawn to the role of the student in mediating instructor expectations (Cooper, 1979; Martinek, 1988, 1989; Weinstein, et al., 1982). Students need to perceive and interpret communication behavior in order to integrate it into their self-perceptions (Martinek, 1988). The growing awareness that students affect instruction and its outcomes as much as teachers do has prompted studies investigating how student perceptions mediate the effects of teacher expectancy effects (Brattesani, et al., 1984; Weinstein, et al., 1982).

Whether or not the student perceives differential behavior directed toward themselves may be an integral

mediating factor in the expectancy process that should be explored. If the student does perceive differential treatment toward the self, the student will act accordingly regardless of whether the differences actually exist. If the differential treatment is real and the student does not perceive it, the differential behavior might not produce effects (Martinek, 1989).

Little research has explored the role that student interpretations of teacher treatment play in the effects of teacher expectations. Most investigations assume that the behaviors recorded by objective observers are perceived by all students. These coded instructor behaviors are assumed to exert an impact upon subsequent student performance (Martinek, 1988). However, this conclusion might be in error. It has been suggested that student perceptions of teacher behavior are more significant in mediating the effects of teacher treatment than the observed coded teacher behaviors (Stayrook, Corno & Winne, 1978). Cooper and Good (1983) compared student perceived behaviors of teacher treatment to observed coded behaviors. They discovered significant correlation frequencies on only one of the nine behaviors examined. The actual observed coded behaviors were in the same direction but not as extreme. This suggests that students perceive differential teacher treatment to an exaggerated degree. Brattesani, et al. (1984) indicated that the discrepancies between high and low

achievers in their perceived treatment and observed behaviors were most pronounced in classrooms where students were actually treated the same way by the instructor. The influence of differential treatment is partially affected by the student's perceptions and interpretations of teacher behaviors as well as how the behaviors are incorporated into the student's own expectations for performance. Student perceptions influence instruction and its outcomes just as much as the objectively recorded teacher behaviors (Brattesani, et al., 1984).

Studies which use the averaged perceptions of all members of a particular setting should exercise caution since perceived environments vary with different characteristics of the population (Brattesani, et al., 1984; Martinek, 1989; Weinstein, et al., 1982). High and low achievers might each perceive different instructional environments in a single classroom setting. Weinstein and her colleagues (1982) found that regardless of the target student rated, low achievers were found to perceive more overall negative feedback and teacher direction than high achievers. Students see these differences in applying to their own personal treatment in addition to the treatment of others (Brattesani, et al., 1984). Weinstein et al. (1982) stress the usefulness of studying student perceptions in order to identify environments as they are perceived by students.

Martinek (1988) investigated the patterns of observed and perceived teacher behaviors. He described how the students attributed the teacher behaviors directed to them. It was found that high-expectancy students tended to attribute corrective behavior to the teacher's characteristics. Low-expectancy students were more likely to attribute corrective behavior to personal causes. It was concluded that both objective and student-perceived instructor behaviors influence student outcomes (Martinek, 1988; 1989).

Research has provided support for the existence and functioning of expectation effects. The body of knowledge of expectation theory in the physical education context is still in its early stages of growth. The role of student perceptions in mediating expectancy effects on learning and performance outcomes has only recently drawn attention in the physical education research. Further investigations are needed in order to develop a full understanding of expectancy theory in a motor learning context.

Summary

This chapter presented a review of literature pertinent to the study. The two types of research used to investigate expectancy theory were examined. Two models were suggested; one by Brophy and Good (1970) in a classroom

environment and the other by Martinek (1981, 1989) in a physical education setting. Mediating factors associated with expectation effects were discussed in the hopes of attaining an understanding of the mechanisms and dynamics underlying the expectancy phenomenon. The functioning of expectations in varying contexts was examined to gain further insight into the influence of situational variables upon expectation effects. Attention was given to research investigating relationships between expectations and differential treatment, feedback behaviors, student perceptions and psychological growth.

Examination of the thought processes of students should help in understanding the relationships between expectations, teacher behavior and students' perceptions of teacher behaviors. This study is one of the few researches undertaken in the physical education setting to examine students' perceptions of the processes thought to underlie the expectancy effect.

Chapter three describes the methods and procedures used in this study.

CHAPTER THREE

METHODS AND PROCEDURES

This chapter presents a description of the design of the study, the methodology adopted and the data collection procedures. A description of the subjects and the research instruments used are provided and the subsequent treatment of the data is outlined.

Research Design

The major purpose of the study was to investigate the relationship between naturally formed coach expectations and the provision of feedback in a practice environment. A secondary purpose was to explore the relationship between coach expectations and athletes' perceptions of feedback provided. The research project was a case study which explored and described the expectancy phenomenon in a sport environment. The case study method has been used in previous research to investigate expectation effects in the classroom as well as in a physical education context (King, 1979; Mireau, 1980; Reshef, 1987).

A case study approach was considered to be appropriate for the investigation of the expectancy phenomenon. This rationale was centred on the fact that the research was

carried out in the naturalistic setting of an athletic environment for the duration of a season. The case study approach was deemed appropriate in order to provide the complex and holistic descriptions that are necessary to investigate the naturalistic setting (Stake, 1978). The case study approach also was appropriate for investigation of the phenomenon over a period of time. Athletes' perceptions of coaching feedback and coaching climate are relatively unknown. The case study approach provides description of variables and the relationships involved. The case study provides depth and insight into the understanding of the case as well as assisting in establishing a data base so that more precise and rigorous hypothesis testing can be performed in the future (Kerlinger, 1973).

Systematic observation techniques were used to obtain quantitative feedback data from videotapes made in the naturalistic setting. Questionnaires were used to obtain quantitative data on coach expectations and athletes' perceptions.

Research questions were developed to guide the observations and data collection. A series of hypotheses were not proposed and tested. The primary focus of the study was to explore and to describe the effects of expectations in the physical education environment.

Subjects

The size and nature of the sample were determined largely by the team's availability, cooperation, and willingness to pa· ·ipate. The coach and team used as subjects for th ·udy were selected from the college, club and university volleyball teams in Edmonton. An elite team with an experienced coach was chosen for the sample. The athletes were regarded as numbering among the best in their province. The elite nature of the team promised a high level of competition and a high number of practices. The coach and team members volunteered for this study and provided informed consent. See Appendix A for letters provided to the subjects and Appendix B for the consent form.

This case study involved a sample of one coach and one team. The coach was a 27 year old white male who has competed for two universities in the sport of volleyball for a combined total of five years. Having actively coached volleyball for ten years, he has attained the second level in the National Coaching Certification Association program and was currently working on the third level; each level consists of a technical, theory and practical component.

The original athlete sample consisted of a single team of ten female athletes aged between sixteen and eighteen years (mean age 16.9). It was necessary to exclude one

female athlete since she withdrew from the team due to other time constraints.

High- and low-expectancy athletes were selected for comparison. The coach's rankings of expected ability were used to classify the athletes as high- and low-expectancy. See Appendix C for the coach ranking form. The top two athletes ranked on the coach-rated performance expectancy scale were designated as the high-expectancy sample and the bottom two ranked athletes were designated as the low expectancy sample. To avoid researcher bias, the actual rankings of high- and low-expectancy athletes were only known to the coach and were unknown to the researcher until the completion of the data collection.

Data Sources

The study required the collection of six types of data to investigate the research questions. The sources and/or procedures used to obtain the data are outlined and described below.

Coach Performance Expectations For Athletes

The instrument used to measure the coach's performance expectations for his athletes was a rank-order questionnaire. The rankings were utilized as a measure of the coach's expectations for the individual athlete's

performance. The rank-order questionnaire was completed by the coach at the start, middle and end of the competitive season. This provided an estimate of the degree to which the coach's expectations were modified over the season. It is important to obtain rankings at three different points during the season to examine the stability or rigidity of the coach's expectations over time. The rank-order questionnaire used was based on the instrument used by Horn (1984a) to assess coach expectations. The questionnaire asks the coach to "rank order all the players on the team from highest to lowest according to your expectations concerning their potential volleyball ability". A copy of the instrument appears in Appendix C. The use of a rank-order questionnaire is consistent with past expectancy research in both educational settings (Brophy & Good, 1974; Cooper & Good, 1983) and physical education environments (Horn, 1984a; Sinclair & Vealey, 1989).

Research in physical education has shown that instructors' expectations are relatively stable over time (Martinek & Johnson, 1979). Martinek (1980b) investigated the stability of teacher expectations of six elementary physical education specialists. At the beginning of the fall term, the teachers were asked to rate their students on a scale to indicate their expectations for their students on four variables: overall physical performance, social relations, cooperative behavior and reasoning ability. The

rating was repeated after eight weeks. Product-moment correlation calculations showed that each teacher exhibited a high degree of stability for all four expectancy variables.

However, literature from educational research indicates that teachers' initial expectations are revised or modified over the school year as more information concerning the students' abilities becomes available (Brophy & Good, 1974). Instructors' expectations influence student achievement and performance when they are rigid, inflexible, and unable to incorporate new information regarding the students' abilities. Therefore, the stability of an instructor's expectations over the course of time is important when investigating the functioning of expectations in a specific environment.

The measure of coach expectations was not assessed for its accuracy. No assessment was performed to measure the potential disparities between the coach expectations and objective athlete performance. Coach expectations were not manipulated. Therefore, the focus of this study pertains more to sustaining expectation effects rather than to self-fulfilling prophecies.

Videotapes of Practice Sessions

Coach-athlete interactions during practice sessions were recorded with the use of a videorecorder and a wireless

microphone. Four volleyball practice sessions of 90 to 120 minutes in duration were videotaped. The practices were videotaped to allow for repeated examination of the interactions. Practices were videotaped from the early, middle and end of the season: one practice was recorded at the beginning, two practices were videotaped in the middle, and one practice was recorded at the end. These tapes were used as a data source for coding feedback communication between the coach and athletes.

After the videotaped practices, an observer prepared typewritten transcripts of the feedback events provided by the coach to individual athletes. All feedback events were numbered to facilitate easy reference and ease of coding. The transcript in turn provided the base from which the feedback events were coded and classified. Every dyadic event was coded with the exception of coaching instructional comments concerning the format and structure of drills. The resulting data of coach-athlete interactive overt feedback behavior contributed to the attempted analysis and explanation of the expectancy phenomenon.

Coach Feedback Behaviors

The observational coding system that was used to record and classify coach feedback behaviors was a modification of the Feedback Analysis Profile (FAP). This instrument was developed by Sinclair (1985). This system is

designed to monitor the coach's feedback operating in the practice setting of athletic environments. The purpose of the FAP is to identify "the coach's instructional style as specifically related to the athletes' motor skill acquisition" (Sinclair, 1985, p. 61). See Appendix D for a summary of the feedback behaviors and their definitions.

Each coaching feedback response was recorded as an event reflecting the presence of a single or number of the FAP-defined characteristics. Three main categories identify global categories of feedback types. Each main category contains a number of sub-categories identifying a further breakdown of feedback elements. The individual athlete involved in each interaction was identified. In this manner it was possible to determine the amount and kind of verbal interaction specific to the individual athlete in comparison with other athletes or with the entire team. In analysis, percentages of frequency counts can be summarized for each sub-category or for the individual athlete.

The original FAP system included categories that were considered superfluous for the nature of this study. The researcher selected key categories from the instrument for the purpose of studying the stated problems. In most instances, categories were eliminated based on the videotaped observations of the coach's feedback behaviors towards the athletes as well as the demands of the

investigation. The modified categories of feedback elements that were coded are summarized in Table 1.

An original category identifying group oriented feedback was omitted since individual interactions between the coach and the individual athlete were the focus of this study. Videotapes revealed no instances of the coach providing feedback for the purposes of correcting the athletes' behavioral conduct. Therefore the category aimed at behavior was not included. It is speculated that the age group and elite nature of the athletes being investigated precluded behavior of a nature that would need to be commented upon by the coach. Every feedback behavior exhibited by the coach was of a terminal nature (ie., provided immediately upon conclusion of the action). This may have been due to the structure of the drills, the coach's instructional style or the nature of the sport. Therefore, the sub-category which identified the timing of the provision of feedback was not included in analysis.

Based on the expectation research review, a category which identifies the direction of the feedback to be directed to the correct or incorrect segment of the skill was not used because it was not found to be relevant in discerning expectation effects. The "On-Task" category indicates whether feedback refers to an aspect of an action that was cued previous to its initiation. This feedback element was omitted because it has not been found to be

Table 1

Description of Categories in Feedback Analysis Profile

CATEGORY	QUESTION	SUB-CATEGORY
Focus	Does the feedback provide usable information specifically related to the task?	Task-Specific
	Or was it a general non-informative comment?	General
Character	Is the nature of the feedback positive (eg. praise) or negative (eg. criticism)?	Positive Negative
Intent	What was the intent of the feedback?	
	This provides an assessment or value judgement.	Evaluative
	Feedback informs the athlete what was done.	Descriptive
	This identifies the changes that are needed for improved performance.	Prescriptive
	Feedback that is used to motivate, encourage or reinforce.	Affective

pertinent in expectancy research. The public or private nature of communications was not recorded since the small number of players and limited playing area ensured that interactions between the coach and athlete could always be heard by all those in the vicinity. The "Specific" category was retitled "Focus"; it indicates whether feedback is task-specific or general.

The revised instrument included coach feedback communication events in three main categories; "Focus", "Character" and "Intent". Within each category are smaller sub-categories. "Focus" categorizes feedback as "task-specific" or "general". "Task-specific" events refer to whether the feedback is specifically related to a particular task or skill (eg., "you need to bring your elbow higher when you hit"; "don't run with your hands together"). "General" indicates whether the feedback is a general uninformative comment (eg., "you missed"; "that was out"). "Behavior" refers to whether the feedback is directed to the athlete's conduct. "Character" categorizes feedback communication as positive or negative. "Positive" refers to whether the interaction is positive in nature (eg., "that was a good hit"). "Negative" refers to whether the interaction is negative in nature (eg., "you're not bringing your leg around fast enough"). "Intent" categorizes feedback communications as evaluative, descriptive, prescriptive, or affective. "Evaluative" alludes to a

communication which is a value judgement (eg., "Very good", "Nice try"). "Descriptive" refers to a communication which informs the athlete about what was done (eg., "that set was high", "you are approaching at an angle to the net"). "Prescriptive" indicates the prescription of alternate strategy to improve performance (eg., "next time, don't cheat up so far", "higher"). "Affective" refers to coaching behaviors aimed at motivating or encouraging the athlete (eg., "keep going").

Each feedback event is categorized in each of the three main categories. The sub-categories in the first two groups are mutually exclusive. However, the feedback event may possess a number of elements that may be categorized in more than one sub-category in the third main category of "Intent". A copy of the instrument appears in Appendix E.

The FAP has been used with the British Columbia Judo, Synchronized Swimming teams and the Canadian Ski Coaches Federation (Sinclair, 1989). This instrument has also been used in expectancy research to examine the effects of coaching expectations and the connection of feedback upon athletes' perceived competence, self-esteem and self-confidence (Sinclair & Vealey, 1989). In the Sinclair and Vealey (1989) study, a modification of the FAP was used to analyze the qualitative aspects of feedback given to female field hockey players from three Canadian provincial teams. The type and frequency of communications provided by the

coaches served to discriminate between the high- and low-expectancy athletes. It was found that high-expectancy athletes received more specific and evaluative feedback from coaches than low-expectancy athletes. Low-expectancy athletes received more prescriptive feedback and a lower amount of overall feedback from coaches.

Reliability of coding using FAP. Intercoder reliability was calculated for representative sections of two videotaped volleyball practices. A student who possessed advanced technical volleyball knowledge was trained to use the modified version of the FAP. She experienced a four-hour training period during which the categories of the system were discussed and clarified using videotaped practices from the pilot study. The coding process was practised for two weeks using videotaped sessions from the pilot study and transcripts of videotaped sessions from the present study. Intercoder reliability checks were undertaken a month later with transcript segments of the second and fourth volleyball practices. These practices were not used during coding training. The reliability checks were performed, using sample segments from the feedback transcripts of all students on two occasions. The formula proposed by van der Mars (1989) for the purpose of conducting a reliability check was:

$$\frac{\text{Agreements}}{\text{Agreements + Disagreements}} \times 100$$

Percentage agreement = number of coding decisions made by both coders and agreed upon, divided by itself plus the number of codings which were disagreed upon by both the first and second coders.

According to Hartmann (1977), acceptable levels of reliability are 80%-85%. Reasonable figures of reliability in interobserver coding were obtained and these figures suggest researcher stability in coding the data. Table 2 contains a summary of the results of the reliability checks.

Athlete Perceptions

Two perception questionnaires were developed by this researcher, based upon the original Feedback Analysis Profile (Sinclair, 1985) defined characteristics of feedback. The initial questionnaires were comprised of fifteen questions each; each question referring to a sub-category of the original FAP instrument. Upon deletion of various categories of the Feedback Analysis Profile (Sinclair, 1985), corresponding questions from both perception questionnaires were omitted. After modifications, each of the resulting questionnaires

Table 2

Intercoder Measures of Reliability in the Use of the Feedback Analysis Profile

Session	Percent of Observer Agreement
2 (50 events)	89
4 (50 events)	81

contained eight questions. Both questionnaires were administered to all of the athletes in the middle of the season.

The first questionnaire investigated the individual athlete's perceptions of the frequency of certain coaching feedback behaviors towards athletes they thought were high and low skilled athletes. This information was gathered to provide an index of the amount of differential feedback treatment perceived to exist in the practice environment under study. It was also used to compare differences in perceptions of high- and low-expectancy athletes. In addition, the high- and low-expectancy athletes' perceptions of coach treatment toward others was compared with the

observed frequencies of coach treatment. See Appendix F for the perceived environment questionnaire.

The perceived environment questionnaire is comprised of eight questions; each investigating an element of feedback that was identified in the modified Feedback Analysis Profile. A question targeting the "general" feedback category was omitted because of athlete expressed concerns regarding its interpretation. A question which identified the variable of behavior-oriented feedback was retained even though the corresponding behavior-oriented category in the FAP instrument was deleted. This category was retained because behavior-oriented feedback perceptions have been reported in expectation research to distinguish between high- and low-expectancy students (Martinek, 1988).

Responses are made in two columns beside the question. The columns represent comparative treatment towards a high and low skilled athlete. The athletes responded to each question by marking a number from one to five for each column. The numbers which ranged from one to five corresponded to: "Never", "Rarely", "Sometimes", "Usually", "Always".

The second questionnaire parallelled the original but was phrased in the first person. On the questionnaire, athletes indicated how often their coach directed feedback

towards them in the ways described. See Appendix G for the self-perceptions of feedback questionnaire.

This format was based on the Teacher Treatment Inventory and Teacher Treatment Inventory Self-Rating which were created by Weinstein, et al. (1982). Both of these instruments have been used to investigate student perceptions of instructional events in the classroom and their role in the mediation of teacher expectancy effects (Brattesani, et al., 1984).

Athlete Sport-Confidence

The tool used to measure sport specific self-confidence was the Trait Sport-Confidence Inventory (TSCI). This instrument was developed from an interactional, sport-specific model of self-confidence. It measures the amount of certainty an individual generally possesses about their ability to be successful in sport (Vealey, 1986).

The TSCI asks subjects to respond in terms of how self-confident they usually feel when competing in a sport. The TSCI consists of thirteen questions which ask the subject to compare one's own confidence level in varying elements of athletic performance to the confidence level of the most confident athlete one knows. A range of numbers from 1 (low) to 9 (high) can be chosen in response to each question. Scoring is additive; the total score is the sum

of all the item responses. The TSCI is presented in Appendix H.

Internal consistency, test-retest reliability, content validity and concurrent validity have been reported for the TSCI instrument (Vealey, 1986). In further investigation, Gayton and Nickless (1987) found that thirty-five marathon runners scores' on the TSCI were significantly correlated with predicted and actual finishing times. The TSCI has been used in previous physical education research investigating expectation effects, coach feedback and athlete self-perceptions (Sinclair & Vealey, 1989).

Phases of the Study

This research project was conducted in three phases. The first, a preparatory phase, was devoted to one pilot study period. Prior to the pilot study, the instruments for use in the study were selected and their formats modified to suit the purposes of the study. The first phase was used by the researcher to develop technical competency with the audiovisual equipment, finalize decisions regarding the research design, and to acquire experience with instrument administration, subject relations and research procedure. During the pilot study, videotaped practice sessions were collected for the purpose of training coders in the use of

the Feedback Analysis Profile (Sinclair, 1985). In addition, two perception questionnaires were developed based upon the variables identified in the Feedback Analysis Profile (Sinclair, 1985). Phase two was the period of familiarization in which the researcher performed a number of pre-observation tasks. Phase three was the period of observation in which data was collected.

Pilot Study

A pilot study of one week duration was undertaken in August 1990 at a summer volleyball camp held at the University of Alberta. A female coach and her twelve athletes agreed to participate as subjects for this phase of the research. The athletes ranged in age from 15-17 (the mean age being 16.2). This stage of the study was undertaken to fulfil a number of certain functions.

1. Familiarization with a videorecorder and wireless microphone in a gymnasium required some field experimentation and testing in order to attain the best visual and audio recordings.
2. The researcher needed to acquire a working knowledge of the procedures and protocol involved in research implementation (eg., ethical considerations, consent

letters, department and administration approval, etc.).

3. The researcher solicited feedback regarding the format, content and design of the two perception questionnaires.

From the pilot study, the researcher gained valuable experience in using the videotape recording equipment. Audio problems were dealt with sufficiently to secure effective recordings.

This stage of the study was essential for the researcher to become skilled in using the instruments and gain confidence in relating to the subjects for the purpose of collecting data. In addition, the videotapes collected were used for practice and training in the use of the FAP. The pilot study indicated that elite athletes in grades 10, 11 and 12 were able to express thoughts and feelings about coaching feedback behavior and differential availability of feedback cues to high and low ability athletes. The athletes were able to comprehend the nature of the influence of perceptions upon coaching behavior.

As a result of the pilot study, minor alterations were made on the FAP and perception questionnaires resulting in more concise coding and data collection. The research procedures and instruments were found to meet the

requirements of the Ethics Committee for research to be conducted with human subjects.

Phase Two

In the next phase of the study the researcher obtained a volunteer to participate in the study. The coach had consented to participate before the study was introduced to the athletes. The researcher spoke to the athletes about coach-athlete interactions, athlete perceptions and sport-confidence. Informative letters detailing the aims and requirements of the study were handed out to the coach and athletes (Appendix [illegible]). Subjects were not informed that coach feedback patterns and perceptions would be related to expectations. Prior information revealing differences in the style of the players or awareness of the monitoring of effects of coach expectations upon subsequent coaching behaviors might have altered normal practice behavior and coach-athlete interactions.

The researcher oriented the coach and the athletes to the roles they would play during the process of the study. The use of videotape recordings and questionnaires was explained prior to the distribution of consent forms (Appendix B). Participants were guaranteed anonymity and full confidentiality as well as the opportunity to withdraw at any time.

A period of three practices were allowed in order to learn athletes' names, identify demographical information (eg., grade level, volleyball experience, age, etc.) and become knowledgeable about the coach's practice formats. A familiarization period of videotaping was not performed since the coach reassured the researcher that the athletes were comfortable with the process. The researcher was informed that city highschool and club volleyball programs frequently used videotaping to review game tactics and strategies.

Data Collection Phase

The study extended over a three month period, February 1 to April 30, 1991. The majority of the data was collected in February and March. Following the familiarization phase the researcher was involved in the following activities:

1. Four volleyball practice sessions were videotaped. The warm-up and scrimmage portions of the practices were not included. Videotaping occurred in the afternoons or evenings. The researcher videotaped all the sessions alone. For maximal visual coverage, the recording camera was located away to one side and as far away from the court as space would allow. By panning the camera as the situations demanded, all

dyadic feedback interactions between the coach and athlete were recorded.

2. Coach expectation data was collected. This information was collected at the beginning, middle and end of the season. The coach was asked to rank order the players from highest to lowest according to potential volleyball ability (Appendix C).
3. Each athlete was given the Trait Sport-Confidence Inventory (Appendix H) at the beginning and middle of the season. The athletes were assured that their answers would remain confidential.
4. In the middle of the season, the athletes completed the perceived environment questionnaire (Appendix F) and the self-perceptions of feedback questionnaire (Appendix G). These were administered in the above-mentioned sequence to allow the athletes to form a global frame of reference from which to relate themselves.

Data Preparation and Analysis

Varied forms of data resulted from the data collection procedures utilized in this study. The differing types of data obtained are described and the methods of analyses are outlined.

Coach Performance Rankings

The Kruskal-Wallis test was used to determine whether the differences between the separate ranking occasions signified genuine differences or whether they represented mere chance variations. This test requires at least ordinal measurement of variables. The Kruskal-Wallis test is a nonparametric technique used for comparing more than two probability distributions that requires no assumptions concerning the population probability distributions.

The stability of the extreme high and low ranking athletes was also examined. Descriptive techniques were used to describe coach's rankings. The Kruskal-Wallis test was not used here since one of the assumptions underlying the test is that there must be at least 5 scores in each sample to use the probabilities given in the table of Chi-Square (Pagano, 1986).

Coach's Feedback Behaviors

Based on the feedback given to the athlete two percentages were computed for each athlete: a frequency percentage and a type percentage. A frequency percentage was calculated by dividing the number of total communications received by the athlete by the total number of communications given to all of the athletes. This resulted in a feedback frequency percentage for each athlete

relative to the team. This data was used to determine if there were differences in the overall frequency of feedback provided to high- and low-expectancy athletes in relation to the overall frequency of feedback provided to the other athletes.

Eight type percentages were calculated representing the eight sub-categories used in the modified FAP observational coding system. Each feedback type (eg., task-specific, positive, evaluative, etc.) was converted to a proportion. The three main categories were treated separately. Within each main category, feedback type percentages were computed for each sub-category. Percentages were derived by dividing the number of feedback communications received from the coach in that sub-category by the total number of feedback elements tallied for that main category. For example, an athlete's score in the sub-category of evaluative feedback represents the proportion of evaluative feedback she received in relation to the intent-oriented feedback communications she received from the coach. This data was used to determine if there were differences in the type of observed feedback communications athletes received based on coach ranking of high- and low-expectancy.

Designation of High- and Low-expectancy Athletes

The top two and bottom two coach ranked athletes were classified as the high- and low-expectancy athletes. All three rank-order forms identified the same two athletes as the top two high-expectancy athletes and the same two athletes as the low-expectancy athletes. The order within the rankings alternated though the athletes in the groupings remained the same.

Perception Questionnaires

A questionnaire comprised of eight questions was used to determine whether differential coach treatment was perceived to occur in the practice environment. The responses of all team members were averaged for each question to determine whether team members overall perceived differential coach treatment in each of the eight categories. The mean of the high-expectancy athletes' responses were recorded for each question. The mean of the low-expectancy athletes' responses were also calculated for each question.

For each of the eight questions used, the mean response given for the high skilled athlete was subtracted from the mean response given for the low skilled athlete. This provided an index of perceived differential treatment for each feedback category-related question.

These indices were used to compare the team's perceptions of coaching environment to the perceptions of the high- and low-expectancy athletes. Research has suggested that the ability levels of students may affect their capacity to perceive dimensions of instructional climate (Weinstein, et al., 1982). Averaged team responses may mask perceptual differences that function as a result of ability or expectancy.

By examining the athletes' perceptions of treatment towards targeted types of athletes (such as high and low skilled athletes), agreements and disagreements between the perceptions of high- and low-expectancy athletes were identified. These perceived feedback trends were also compared to the data determined by the Feedback Analysis Profile.

The amount of perceived differential coach treatment provided to the self was determined for the high- and low-expectancy athletes. Each of the responses to the eight questions provided a number ranging from 1 to 5. This index indicated the frequency of elements of coaching feedback that was perceived to be directed towards the self in the practice environment (1-never, 2-rarely, 3-sometimes, 4-usually, 5-always). The responses of the high-expectancy athletes were compared to those of the low-expectancy

athletes. The data was also compared to the frequencies reported by the Feedback Analysis Profile.

Trait Sport-Confidence Inventory

Response to each of the 13 questions on the instrument is on a 9-point Likert scale, ranging from low to high. A score of 1 is low and a score of 9 is high. The resulting data is a summation score of all 13 items. Thus, the highest possible score on the TSCI is 117 and the lowest score is 13. A medium range score would be approximately 65. The scores for the athletes in this study ranged from 68 to 95 (mean 85.67). High scores indicate a high level of trait sport-confidence while a low score corresponds to a low level of trait sport- confidence.

Means of sport-confidence scores were compared to identify the differences in sport-confidence between high- and low-expectancy athletes. Descriptive statistics were used to assess whether observed or perceived coach feedback influenced high and low scores of sport-confidence. Comparisons were made between the observed and perceived coach feedback frequencies for high-expectancy/high confidence and low-expectancy/low-confidence athletes.

A stepwise regression was used to determine the most important feedback variables in the influence of trait sport-confidence for the entire team. Stepwise selection of

independent variables is a procedure in which the first variable considered for entry into the multiple linear regression model is the one with the largest correlation with the dependant variable. If the first variable meets the criteria for entry and does not meet removal criteria, the next step is to examine variables not in the equation for possible entry. The process continues until no more variables meet entry and removal criteria. Stepwise regression is an objective screening procedure that retains only the independent variables with the largest t-values. The SAS statistical program package was used for this regression analysis.

Summary

In this chapter the design of the study and the instrumentation used were described. The phases in the research were outlined. The procedures used during each phase were presented. The ways in which the various data sources were prepared and analyzed were also described.

Chapter four presents the findings of the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

The study had three purposes. The first purpose was to investigate the coach's performance expectations of athletes over a season and their relationship with the observed coach-athlete feedback interactions in physical education. The second purpose was to examine the relationship between coach performance expectations and athlete perceptions of coach feedback given to athletes generally as well as to themselves personally. The third purpose was to explore the relationship between differential coaching behavior and athlete sport specific self-confidence. Six specific research questions addressing each purpose were presented in Chapter one.

In this chapter, the results of the investigation of each research question are reported and discussed in turn. Due to the small size of the sample, any tests of statistical significance that are reported must be viewed with appropriate caution. The researcher will provide descriptive analysis and interpret the findings based on trends in the data.

Stability of Coach's Rankings

In this section, information is presented in response to Research Question 1 - Are the coach's performance expectations of the athletes stable over the length of a season? The coach was asked to rank the athletes according to how well they were expected to perform in the sport of volleyball. Rankings were obtained from the coach on three separate occasions during the season. The top two athletes ranked by the coach were identified as the high-expectancy athletes. The bottom two athletes indicated on the rankings were identified as the low-expectancy athletes.

To assess the stability of coach expectations, the Kruskal-Wallis Test was used to compare coach rankings of team athletes at the beginning with rankings given at the middle and end of the season. The results of this analysis indicated the coach's rankings of the total sample of players did not remain stable over the season ($H = 23.689$, $p < .05$).

However, because the analyses for investigation of expectancy effects was to be conducted only with the high- and low-expectancy athletes, the stability of these groups from beginning to end of the season were also examined. The Kruskal-Wallis test was not utilized for analyses here because it requires at least 5 scores in each sample to use the probabilities given in the table of Chi-Square.

Comparison of the three rank-order forms show that the grouping of the top two high-expectancy athletes remained the same over time. The two athletes that were perceived to be high-expectancy athletes at the start of the season were similarly designated as high in the middle and end of the season. Within the sample of the top two athletes, the subject ranking alternated but provided the same sample group of target high-expectancy athletes. Similarly, the grouping of the two low-expectancy athletes were identical over the three instances of ranking. Again, the low-expectancy athletes alternated ranking positions over the course of the three solicited rank-order forms.

Table 3 presents each of the rankings for the high- and low-expectation groups over the three instances of expectation rankings. The rankings appear in numerical form; a 1 indicates the highest ranking and a 9 indicates the lowest ranking.

These results indicate that the coach's expectations remained stable over time for the extreme samples of high- and low-expectancy target athletes. The composition of the high- and low-expectancy groups did not change over the season.

The athletes' position in the rankings of the coach expectation form serves as the independent variable of the study. In other words, the independent variable of the

Table 3

Rankings of High- and Low-expectancy Athletes Over the Length of a Season

Subject	Rankings		
	February	March	April
High-expectancy athletes (n=2)			
1	1	2	1
2	2	1	2
Low-expectancy athletes (n=2)			
8	8	8	9
9	9	9	8

study is "expectations in sport" while the dependent variables are the nature and frequency of feedback provided, athlete perceptions of feedback to others and to themselves, and sport-confidence.

Expectancy Effects and Differential Feedback

The results for Research Question 2 address the following: Does the coach provide differential feedback to high- and low-expectancy athletes during practice sessions?

Relationships between coach expectations and coach-athlete interaction were investigated using 8 variables derived from the Feedback Analysis Profile developed by Sinclair (1985). The variables categorize 8 elements of feedback grouped under three categories.

The occurrence of 1,545 feedback elements were recorded over the four sessions. See Table 4 for the breakdown of frequencies for each feedback category. The average number of feedback communications received by each player across all four observations was 171.67.

Expectancy Effects and Frequency of Feedback

Percentages were calculated to examine the differences between high- and low-expectancy athletes in relation to the number of communications each received from their coach. Figure 1 illustrates the overall percentages of feedback that high- and low-expectancy athletes received relative to the total feedback events provided to the team.

The results for this physical education environment show a definite trend with regards to total frequency of feedback interaction. Athletes for whom high performance

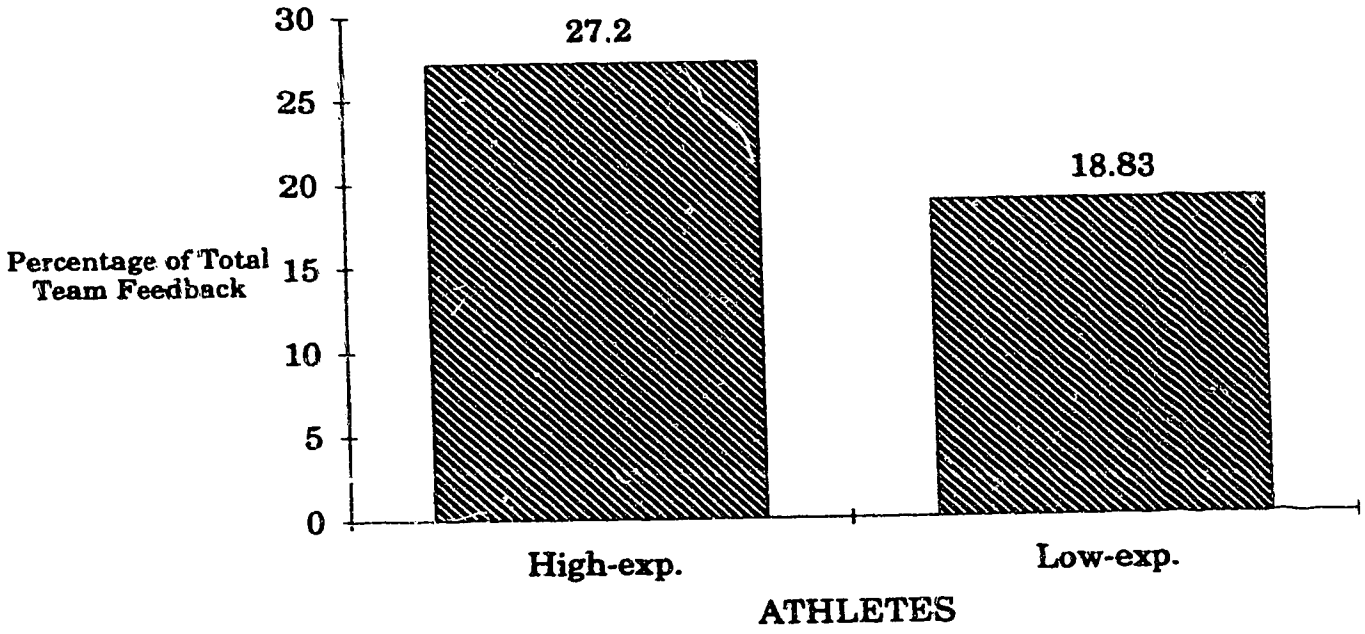
Table 4

Total Frequencies for Variables of Feedback Analysis Profile

Group	Sub-Category	Frequencies
Focus	Task-specific	325
	General	151
Character	Positive	207
	Negative	269
Intent	Evaluative	200
	Descriptive	182
	Prescriptive	177
	Affective	34
	Total:	1,545

expectations were held experienced more total feedback contact with the coach than did those who were considered to have less performance potential. The high-expectancy athletes received more feedback (27.20%) than the low-expectancy athletes (18.83%).

Figure 1. Percentages of total feedback for high- and low-expectancy athletes



Expectancy Effects and Type of Feedback

Percentages were calculated to examine differences between high- and low-expectancy athletes in relation to the categories of feedback they received from the coach. Percentages were calculated for each of the three main

categories. The number of observed feedback events for each sub-category within a single main category was divided by the total feedback events for the main category and multiplied by 100.

Table 5 presents the percentage of feedback events for the three categories provided to high-and low-expectancy athletes. Figure 2 illustrates the percentage of feedback events for high- and low-expectancy athletes. Investigation of trends in the data indicate a tendency for high- and low-expectancy athletes to have received differential feedback from the coach.

Examination of the Focus sub-category indicates that there was a tendency for the coach to provide slightly more task-specific information for high-expectancy athletes (72%) as compared to low-expectancy athletes (69%). In contrast, low-expectancy athletes received more general feedback (31%) than the high-expectancy athletes (28%).

Within the Character category, the results indicate that the low-expectancy athletes received a higher amount of positive feedback (50%) than the high-expectancy athletes (44%). High-expectancy athletes received more negative-oriented feedback (56%) as compared to the low-expectancy athletes (50%).

Examination of the Intent category indicates that both high- and low-expectancy athletes received similar amounts of evaluative feedback (low-expectancy athletes = 38% and

Table 5

Percentages for Three Main Feedback Categories for High- and Low-expectancy Athletes

	Athletes	
Feedback Category	High-expectancy	Low-expectancy
Focus		
Task-specific	72.31	68.89
General	27.69	31.12
Total:	100.00	100.00
Character		
Positive	43.85	50.00
Negative	56.15	50.00
Total:	100.00	100.00
Intent		
Evaluative	36.65	37.96
Descriptive	36.02	23.15
Prescriptive	22.98	32.14
Affective	4.35	6.48
Total:	100.00	100.00

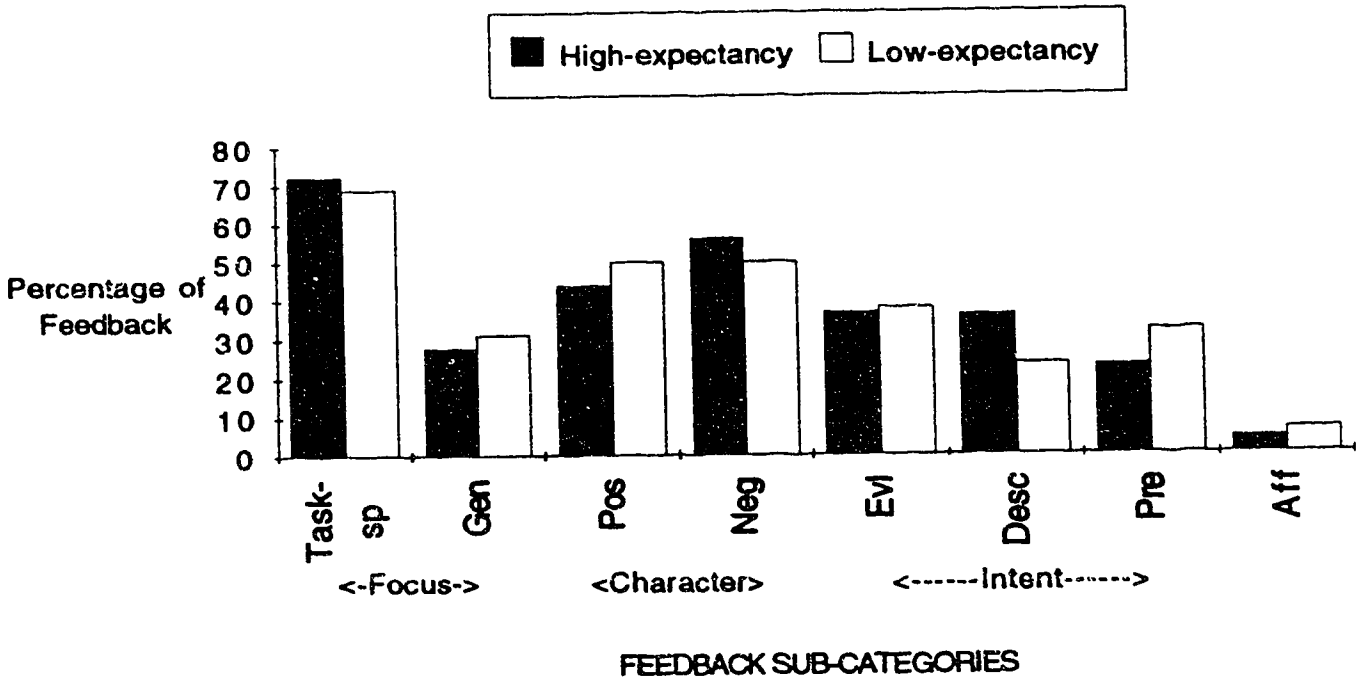
high-expectancy athletes = 37%). The trends in the data also illustrate that the high-expectancy athletes received more descriptive feedback (36%) than the low-expectancy teammates (23%). In addition, the data suggests a tendency of the coach to provide more prescriptive feedback to low-expectancy athletes (32%) compared to the high-expectancy athletes (23%). The high- and low-expectancy athletes received similar amounts of affective feedback (high-expectancy athletes = 4% and low-expectancy athletes = 7%).

The differences which exist among percentages have been discussed in terms of trends. However, owing to the fact that the researcher cannot apply significance tests with confidence, it is impossible to determine whether the noted differences for expectancy groups are statistically significant.

The data for this physical education environment shows a pattern with regard to frequency and type of feedback interaction. Athletes for whom high performance expectations were held experienced more total contact with the coach than did those who were considered to have less performance potential. The greater contact may have been a result of the athletes initiating contacts with the coach for the purposes of instructional assistance.

The largest differential coach behavior was observed for the positive or negative character of the feedback event

Figure 2. Percentages of feedback for three categories for high- and low-expectancy athletes



and for the descriptive or prescriptive intent of the feedback event. More negative communications were given to high-expectancy athletes whereas lows received more positive feedback. Descriptive feedback was mainly provided to the high-expectancy athletes while the low-expectancy athletes

received more prescriptive feedback in response to performance.

Perceptions of a Differential Feedback Environment

The results for Research Question 3 address the role of perceptions in expectation theory - or more specifically:

(a) Do all athletes on a team perceive a differential feedback environment?

(b) Do high- and low-expectancy athletes perceive a differential feedback environment?

(c) Are there differences between the observed feedback environment and the environment that is perceived by high and low-expectancy athletes?

Perceived Feedback Environment and Team Athletes

All of the athletes were asked to respond to a questionnaire in order to determine if they perceived differences in coach feedback for who they considered to be high and low ability players. Table 6 indicates the mean scores for perceived feedback towards high and low ability athletes by the team. The respondents answered questions referring to the feedback categories and indicated on a 5 point Likert scale how often they thought the coach provided that type of feedback to a low skilled athlete as well as to a high skilled athlete. The amount of difference perceived for each feedback category was determined for each

Table 6

Team Mean Scores for Perceived Feedback Towards High and Low Ability Athletes

	Athlete		
Feedback	High Ability	Low Ability	Difference
Focus			
Task-specific	4.14	4.00	.14
Character			
Positive	3.57	3.86	.29
Negative	2.71	2.86	.15
Intent			
Evaluative	3.57	3.86	.29
Descriptive	3.29	3.43	.14
Prescriptive	3.86	4.00	.14
Affective	3.57	3.86	.29
Behavior	2.71	3.00	.29

respondent. This difference was considered to be an index of the perceived differential coach feedback. The amount of difference for each feedback category was averaged for all

respondents to determine the team's perception of differential coach feedback.

The differences provide an index of how the team perceived differential feedback environment for high and low skilled athletes. The indices are very low, indicating that the team members did not perceive that the coach provided differential feedback for high and low ability athletes.

Expectations and Perceived Feedback Toward High and Low Ability Athletes

The responses of the high- and low-expectancy athletes to the perceived environment questionnaire were compared. This comparison was used to investigate whether individual ability level differences (as indicated by coach rankings) affected the perceptions of the feedback provided to different ability level athletes.

Table 7 and 8 present the high- and low-expectancy athletes' perceptions of a differential feedback environment for high ability athletes versus low ability athletes. Each score indicates the score for the expectancy group's perceived frequency of the occurrence of the categorized feedback elements. The difference score for high- and low-expectancy athletes was determined in the same way as for the team difference score.

The high-expectancy athlete's responses indicate that coach feedback was perceived to be different for high and

Table 7

Mean Scores for Perceived Feedback for High and Low Ability Athletes by the High-expectancy Group

	Athlete		
Feedback	High Ability	Low Ability	Difference
	High-expectancy group		
Focus			
Task-specific	3.0	4.0	1.0
Character			
Positive	3.0	4.0	1.0
Negative	4.0	4.0	0
Intent			
Evaluative	5.0	5.0	0
Descriptive	3.0	4.0	1.0
Prescriptive	4.0	5.0	1.0
Affective	2.0	4.0	2.0
Behavior	2.0	2.0	0

low ability athletes. These differences are apparent in all three categories of feedback. It would seem that the high-expectancy athlete perceived that low ability athletes generally received more feedback from the coach. The nature of the higher feedback accorded low ability athletes is

Table 8

Mean Scores for Perceived Feedback for High and Low Ability Athletes by the Low-expectancy Group

	Athlete		
Feedback	High Ability	Low Ability	Difference
Focus			
Task-specific	4.0	4.0	0
Character			
Positive	4.0	4.0	0
Negative	3.0	3.0	0
Intent			
Evaluative	4.0	4.0	0
Descriptive	3.0	3.0	0
Prescriptive	4.0	4.0	0
Affective	3.0	3.0	0
Behavior	3.0	2.0	1.0

reflected in more task-specific, positive, descriptive, prescriptive and affective feedback comments.

The low-expectancy athlete did not report perceived differences in the provision of feedback towards high and low ability athletes except in the area of behavior-oriented

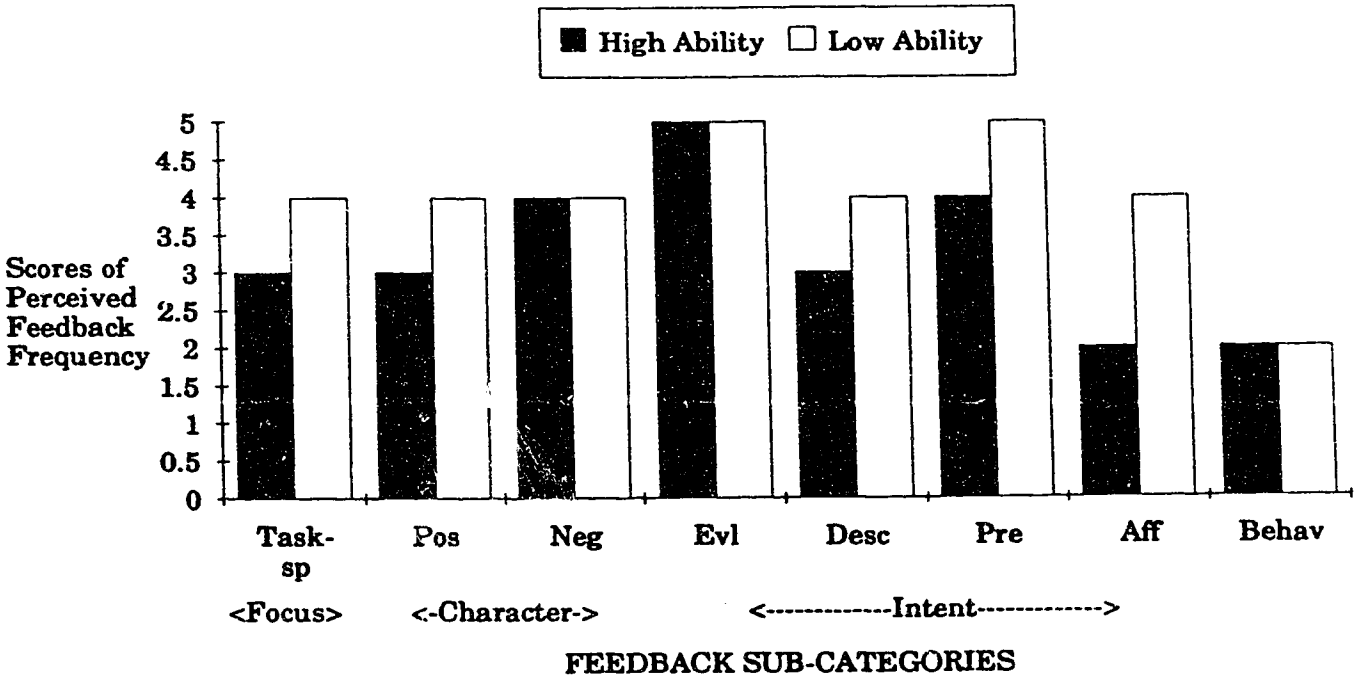
feedback. The data indicates that the low-expectancy athlete perceived that the coach provided more feedback to high ability athletes for the purpose of correcting behavior. Figures 3 and 4 graphically display perceived differential feedback for high and low ability athletes by the high- and low-expectancy groups.

Perceived Feedback Toward High and Low Ability Athletes and Observed Feedback for High- and Low-expectancy Athletes

Comparisons were made between the feedback trends observed towards high- and low-expectancy athletes (Table 5) and the feedback environment perceived by high- and low-expectancy athletes for high and low ability players (Tables 7 and 8). Due to one high- and one low-expectancy athlete being absent at the time of the questionnaire administration, the responses of only one high- and one low-expectancy athlete were examined. Though the accuracy of the coach's expectations was not measured, it was assumed that the coach ranked high- and low-expectancy players reflected to a large degree the actual ability of the athletes.

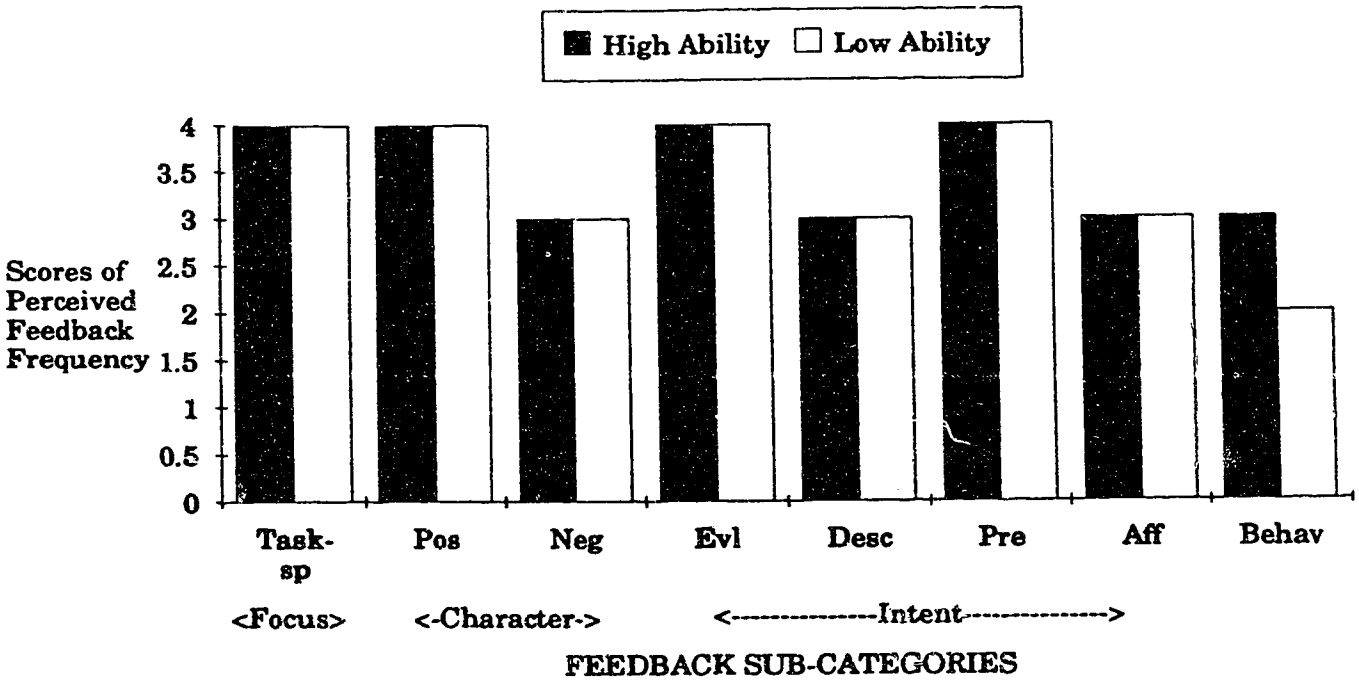
Within the main group of Focus, the high-expectancy athlete perceived task-specific feedback to be only moderately present in coach communications towards high and low ability athletes. She indicated the coach "sometimes" provided task-specific information to the high ability

Figure 3. High-expectancy athlete's perceptions of differential coach feedback



athlete and "usually" provided such feedback to the low ability athlete. However, the observed data shows task-specific feedback to be in evidence approximately 70 percent of the time for both high- and low-expectancy athletes. This could suggest that there are slight differences in the observed and perceived feedback trends for high-expectancy

Figure 4. Low-expectancy athlete's perceptions of differential coach feedback



athletes in that the coach provided them with slightly more task-specific feedback compared with low-expectancy athletes. However,the high-expectancy athlete perceived a slightly higher frequency of task-specific feedback being provided by the coach to the low ability athletes.

The perceptions of the high-expectancy athlete in the second main group of Character reflects the findings of the observed data. The high-expectancy player perceived the coach provided a greater frequency of negative feedback relative to positive feedback to high ability athletes. She perceived the coach "usually" provided the high ability athlete negative feedback and "sometimes" provided positive feedback. This was also the case in observed results with high-expectancy athletes receiving more negative feedback than positive. Low ability athletes were perceived to receive equal amounts of positive and negative feedback. The high-expectancy athlete indicated the coach "usually" provided such feedback. Systematic observations revealed this same trend. Thus, the high-expectancy athlete's perceptions and observed feedback were the same with regard to positive/negative feedback.

In the last group of Intent, the high-expectancy athlete perceived evaluative feedback as the most frequently provided feedback for high ability athletes followed by prescriptive feedback. She indicated that the coach "always" gave high ability athletes evaluative feedback and "usually" provided them with prescriptive feedback. The high-expectancy athlete perceived the coach gave high ability athletes descriptive feedback "sometimes" and affective feedback "rarely". In comparison, observational data recorded evaluative and descriptive feedback most

frequently provided to high-expectancy athletes. The high-expectancy athletes received less prescriptive and little affective feedback from the coach. The high-expectancy athlete perceived that low ability athletes "always" received evaluative and prescriptive feedback from the coach and "usually" received descriptive and affective feedback. The low-expectancy athletes received evaluative and prescriptive feedback the most. These perceptions were reflected in the trends revealed by observed results. The low-expectancy athletes received less descriptive feedback and little affective feedback from the coach. Here, high-expectancy athletes' perceptions of intent feedback to high ability athletes differed from observed coach feedback patterns. This was especially noticed for the evaluative, descriptive and prescriptive feedback categories perceived for high achieving athletes and observed for high-expectancy athletes. The high-expectancy athlete's perceptions of feedback intent to low achievers was the same as observed coach feedback patterns. The only noticeable difference was that the high-expectancy athlete perceived low achieving players "usually" received affective feedback but observed results indicated little affective feedback was provided to low-expectancy athletes.

Within the main category of Focus, the low-expectancy athlete perceived task-specific feedback was "usually" provided by the coach to both high and low ability athletes.

This perception corresponded to observed data even though the observed frequency of task-specific feedback was slightly less for the low-expectancy athletes than for high-expectancy athletes.

The low-expectancy athlete's responses in the Character category indicated she perceived the coach "usually" provided positive feedback for high and low ability athletes and "sometimes" provided negative feedback to these athletes. In comparison, observations indicated the coach provided equal amounts of negative and positive feedback to low-expectancy athletes and higher amounts of negative feedback to high-expectancy athletes. Thus, the low-expectancy athlete's perceptions of positive/negative feedback provided by the coach differed from the observed pattern.

In the category of Intent, the low-expectancy athlete perceived that the coach "usually" provided evaluative and prescriptive feedback to both high and low ability players. The low-expectancy athlete also perceived the coach "sometimes" provided descriptive and affective feedback to both high and low ability players. Similarly, observations revealed that high amounts of evaluative feedback were provided to high- and low-expectancy athletes. However, high amounts of prescriptive feedback were only observed towards low-expectancy athletes and high-expectancy athletes received more descriptive feedback from the coach.

In summary, low-expectancy athlete's perceptions of task-specific feedback provided to both high and low ability players were the same as observed coach feedback patterns. The high-expectancy athlete's perceptions of positive and negative feedback provided to both high and low ability players were the same as observed coach feedback patterns. The low-expectancy athlete perceived different trends in the amount of positive and negative feedback provided to high and low ability players. She perceived that both high and low ability players received more positive feedback than negative, whereas the observed data indicated equal amounts of positive and negative feedback provided to the low-expectancy athletes and more negative feedback than positive provided to high-expectancy athletes. Both high- and low-expectancy athletes perceived the same trend in provision of evaluative feedback to high and low ability players as was observed. However, there were several differences noted for the perceived and observed amounts of descriptive, prescriptive and affective feedback provided to high and low ability athletes.

These results suggest that although there was differential feedback observed for high- and low-expectancy athletes, primarily for the character and intent feedback categories, the athletes often did not perceive the same trends for the high and low ability players. The high-expectancy athlete perceived similar trends to observed data

for positive and negative feedback given to high and low ability players but the low-expectancy athlete perceived different trends for this type of feedback given to the high and low ability athletes. Evaluative feedback to high and low ability players was perceived in the same way as observed data indicated but high- and low-expectancy athletes perceived the other types of feedback given to high and low ability players in a different way than was observed.

Expectations and Self-Perceptions

This next section presents the results of the investigation into high- and low-expectancy athletes' self-perceptions of feedback. Research Question 4 queries:

(a) Do high- and low-expectancy athletes' self-perceptions of feedback differ?

(b) Are there differences between the observed coach feedback behaviors and the feedback behaviors that are perceived by the high- and low-expectancy athletes toward themselves?

Athletes were asked to respond to a 5 point Likert scale questionnaire to determine whether they perceived differing types of feedback provided to them by the coach. Table 9 reports the perceived feedback towards the self by high- and low-expectancy athletes. The difference score was determined by subtracting the lower score from the higher. The amount of difference is considered to be an index of the

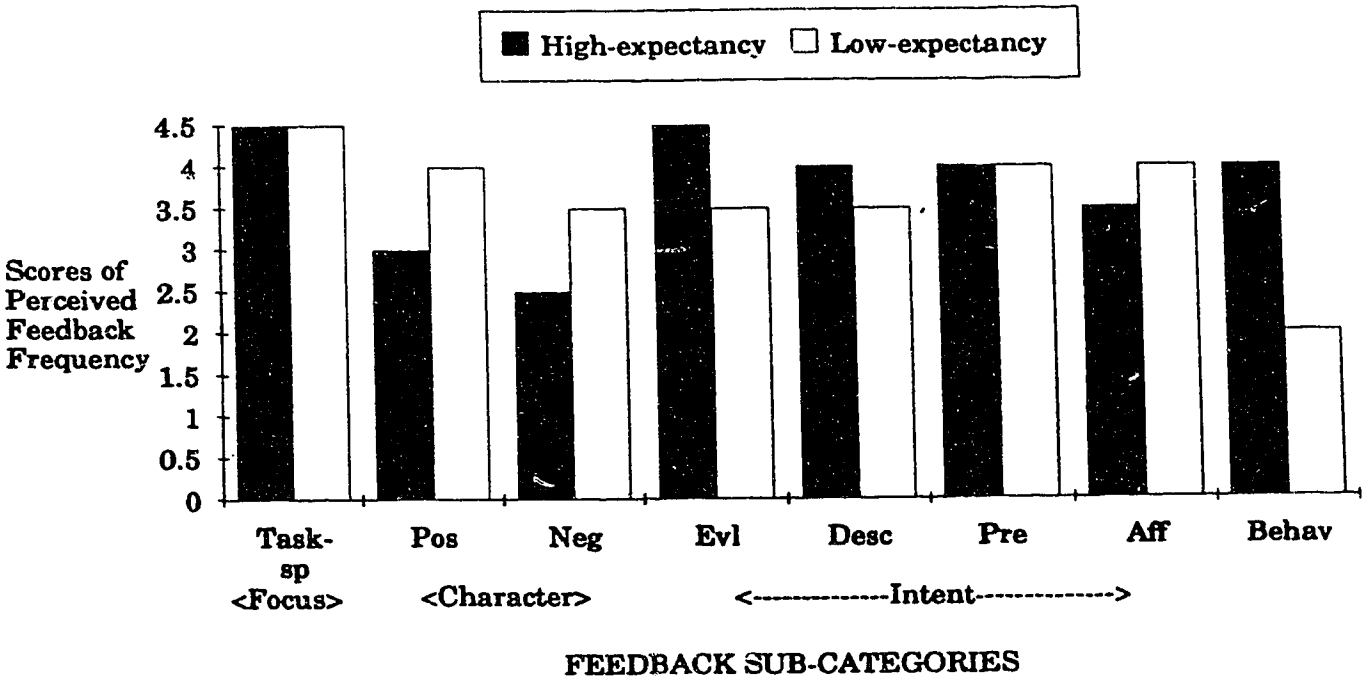
Table 9

Mean Scores for Perceived Feedback Towards the Self by High- and Low-expectancy Athletes

	Athletes		
Feedback	High-expectancy	Low-expectancy	Difference
Focus			
Task-specific	4.5	4.5	0
Character			
Positive	3.0	4.0	1.0
Negative	2.5	3.5	1.0
Intent			
Evaluative	4.5	3.5	1.0
Descriptive	4.0	3.5	0.5
Prescriptive	4.0	4.0	0
Affective	3.5	4.0	0.5
Behavior	4.0	2.0	2.0

perceived differential feedback with a 4.5 being the highest amount of difference possible. Figure 5 graphically displays the perceptions of coach feedback to self by high- and low-expectancy athletes.

Figure 5. Perceptions of coach feedback to self by high and low-expectancy athletes



The results indicate that the high- and low-expectancy athletes differ slightly in their perceptions of feedback given to themselves by the coach. The amount of difference is not extreme for any of the feedback categories. Differences were noticed for the amount of positive and

negative feedback. Low-expectancy athletes perceived the coach "usually" provided them positive feedback and "sometimes" or " usually" provided them with negative feedback. High-expectancy athletes perceived the coach "sometimes" provided them with negative feedback. High-expectancy athletes perceived the coach "sometimes" provided them with positive feedback and "sometimes" or "rarely" provided negative feedback. Some differences were noticed for evaluative, descriptive, affective and behavior feedback. High-expectancy athletes perceived the coach "usually" or "always" provided them evaluative feedback. Low-expectancy athletes perceived the coach "usually" or "sometimes" provided them evaluative feedback. Slight differences were noticed for descriptive and affective feedback categories. High-expectancy athletes perceived the coach "usually" provided them with behavior feedback, whereas low-expectancy athletes perceived the coach "rarely provided them with behavior feedback.

Expectations, Self-Perceived Feedback, and Observed Feedback

The high- and low-expectancy athletes perceived they received high frequencies of task-specific feedback and this trend was found in the observed data as well. Both high- and low-expectancy athletes perceived they received more positive than negative feedback. However, observational data indicated high-expectancy athletes received more

negative than positive feedback and the ratio was equal for low-expectancy athletes. Also, the low-expectancy athletes perceived the coach provided them with positive or negative feedback more often ("usually" or "always") than was perceived by the high-expectancy athletes ("sometimes" or "usually").

In the Intent category, high-expectancy athletes perceived that the coach "usually" provided them with evaluative, descriptive an prescriptive feedback. This trend was also reported in the observed coach feedback data. The low-expectancy athletes perceived that the coach "sometimes" or "usually" provided them with all four types of feedback. The observed coach feedback trend for low-expectancy athletes was slightly different for these four categories. Both of the high- and low-expectancy athletes' self-perceptions were slightly different for these four categories. Both high- and low-expectancy athletes perceived the coach "sometimes" or "usually" provided them affective feedback. The observed coach feedback data suggest that affective feedback was rarely provided.

In summary, high- and low-expectancy athletes were found to differ slightly in their perceptions of feedback provided to themselves for the character (positive or negative) and intent (evaluative, descriptive, and affective) feedback categories. They did not differ in their self-perceptions for the feedback categories relating

to task-specific and prescriptive coach feedback. Also, when self-perceptions of athletes were compared to observed coach feedback patterns both high- and low-expectancy athletes perceived the same trends as observed for coach task-specific feedback. There were slight differences in self-perceptions and observed coach feedback patterns for both character and intent feedback categories (especially so for affective feedback).

Expectancy Effects and Trait Sport-Confidence

This section presents information to explore the relationship of trait sport-confidence to expectation theory. Research Questions 5 and 6 will be dealt with here:

5. Do high- and low-expectancy athletes differ in sport-confidence?

6. (a) What is the relationship between observed coach feedback and sport-confidence of high- and low-expectancy athletes?
   (b) What is the relationship between perceived coach feedback and sport-confidence of high- and low-expectancy athletes?

Table 10 illustrates the mean scores of the high-and low-expectancy athletes for the Trait Sport-Confidence Inventory. In contrast to the low-expectancy group, the high-expectancy group received higher scores in trait sport-confidence. Responses to the 13 question TSCI were made on

Table 10

Mean Scores for Trait Sport-Confidence by High- and Low-expectancy Athletes

	Trait Sport-Confidence
High-expectancy athletes	90.0
Low-expectancy athletes	80.5

a 9 point Likert scale. The response scores ranged from 1 (low) to 9 (high). The highest possible total score for the TSCI was 117 and the lowest possible total score was 13.

Observed Feedback and Trait Sport-Confidence

A stepwise regression was used to identify the variables of feedback that were related to trait sport-confidence in this sport environment. This analysis was performed using all of the feedback and sport-confidence data of every athlete on the team. The results are reported in Table 11.

A stepwise regression found the independent variable of evaluative feedback to be significant using the criterion

Table 11

Significant Observed Feedback Variables Related to Trait Sport-Confidence as Determined by Stepwise Regression

Feedback	Parameter Estimate	F Value	Prob > F
Evaluative	.4863	8.40	.0339
Prescriptive	-.8351	27.46	.0034

Note. Coefficient of Determination (R-square) = .8467, $p < .05$.

for inclusion with a probability of the F statistic less than or equal to $p < .05$. Evaluative feedback is positively related to trait sport-confidence. The variable of prescriptive feedback was also found to be significant. Prescriptive feedback is inversely related to trait sport-confidence. This suggests that the provision of evaluative feedback contributed to athletes' higher sport-confidence scores and the provision of prescriptive feedback contributed to athletes' lower sport-confidence scores.

However, because the investigation of expectancy effects is of primary concern, the observed coach feedback provided to the high- and low-expectancy players who differed in sport-confidence was also examined.

The high-expectancy athletes who reported high levels of sport-confidence received higher frequencies of task-specific, negative, and descriptive feedback relative to the low-expectancy athletes. The low-expectancy athletes who reported low levels of sport-confidence received higher frequencies of general, positive, and prescriptive feedback than the highs. Table 12 illustrates the mean frequencies of observed feedback provided to the high-expectancy athletes who scored high in sport-confidence and the low-expectancy athletes who scored low in sport-confidence. Differences in observed feedback types were found to be associated with high-expectancy athletes who scored high in sport-confidence and low-expectancy athletes who scored low in sport-confidence. These differences were apparent in three main categories: Focus, Character and Intent. Results seem to suggest that higher amounts of task-specific, negative, and descriptive feedback are associated with high-expectancy athletes' high scores of sport-confidence. Higher amounts of positive and prescriptive feedback are associated with low-expectancy athletes' lower scores of sport-confidence.

Self-Perceived Feedback and Trait Sport-Confidence

The following analysis was performed using all of the self-perceived feedback and sport-confidence data of every athlete on the team. The self-perceptions of the two

Table 12

Mean Percentages for Observed Coach Feedback, Sport-Confidence and Expectancy

	Athletes	
Feedback	High-expectancy and High Confidence	Low-expectancy and Low Confidence
Focus		
Task-specific	72.31	68.89
General	27.69	31,12
Character		
Positive	43.85	50.00
Negative	56.15	50.00
Intent		
Evaluative	36.65	37.96
Descriptive	36.02	23.15
Prescriptive	22.98	32.14
Affective	4.35	6.48

highest scoring athletes in sport-confidence and the two lowest scoring athletes in sport-confidence were compared.

Table 13 illustrates the mean scores for high and low sport-confidence athletes for self-perceived feedback categories.

In the Focus category, the low confidence athletes perceived a high frequency of task-specific communications. High confidence athletes' perceptions paralleled this finding. The results in the Character category revealed that low confidence athletes perceived they received more positive than negative feedback from the coach. High confidence athletes perceived they received more negative than positive feedback from the coach. The data in the Intent group showed that low confidence players perceived they received considerably high amounts of evaluative, prescriptive and affective feedback behaviors. The high confidence players perceived descriptive and affective feedback behaviors to be frequently provided to them.

Overall, the high confidence athletes perceived receiving relatively fewer amounts of all feedback elements than the low confidence athletes; with the exception of descriptive feedback (see Figure 6).

Results indicate that low frequencies of self-perceived positive and prescriptive feedback are associated with high scores of sport-confidence. High frequencies of self-perceived positive and prescriptive feedback are associated with low scores of sport-confidence.

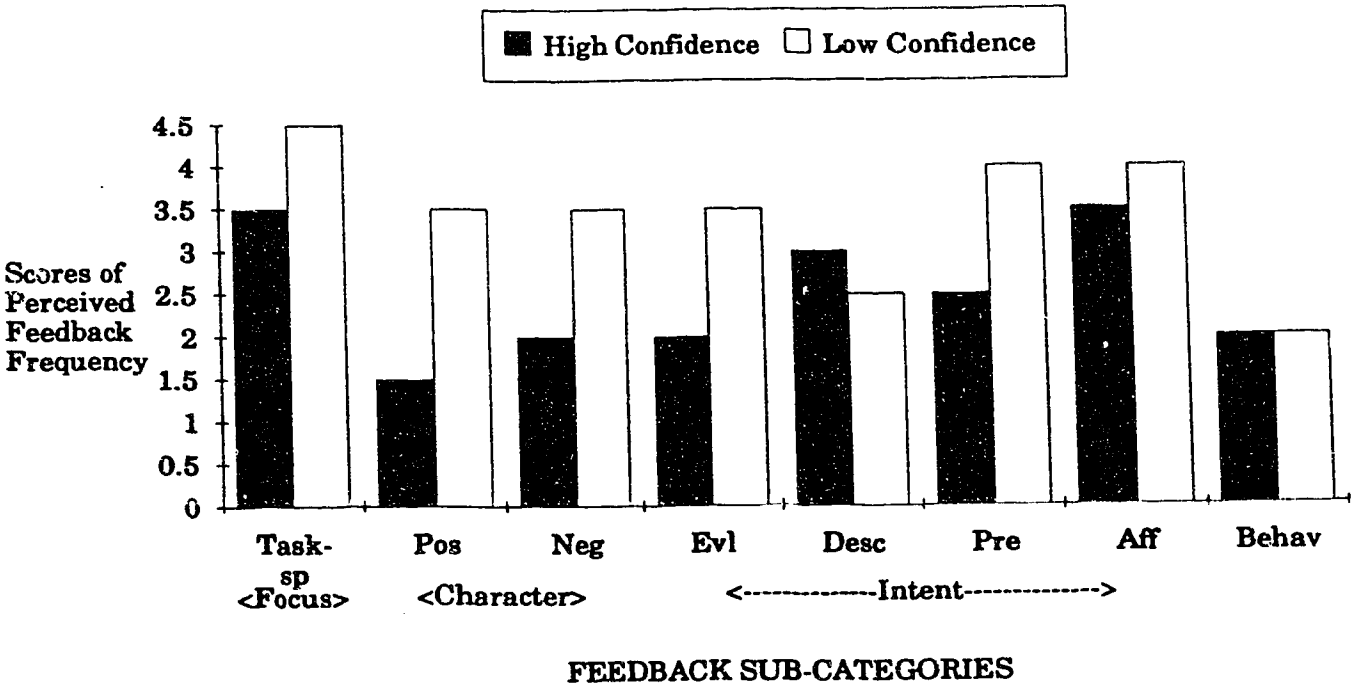
Table 13

Mean Scores for Self-Perceived Coach Feedback and Sport-Confidence

	Athletes	
Feedback	High Confidence	Low Confidence
Focus		
Task-specific	3.5	4.5
Character		
Positive	1.5	3.5
Negative	2.0	2.5
Intent		
Evaluative	2.0	3.5
Descriptive	3.0	2.5
Prescriptive	2.0	4.0
Affective	3.5	4.0
Behavior	2.0	2.0

However, because the investigation of expectancy effects is the focus of this study, the self-perceived feedback communications provided to the high- and low-expectancy players who differed in sport-confidence was also examined. See Table 14.

Figure 6. Perceptions of feedback to self by high and low sport-confidence athletes



The high-expectancy athletes who rated high in sport-confidence perceived they received lower amounts of positiveand negative feedback than low-expectancy athletes who rated low in sport-confidence. In addition, the high-expectancy/high confidence athletes perceived that they received more evaluative, descriptive and behavior-oriented

Table 14

Mean Scores for Self-Perceived Coach Feedback, Sport-Confidence and Expectancy

	Athletes	
Feedback	High-expectancy and High Confidence	Low-expectancy and Low Confidence
Focus		
Task-specific	4.5	4.5
Character		
Positive	3.0	3.5
Negative	2.5	2.5
Intent		
Evaluative	4.5	3.5
Descriptive	4.0	2.5
Prescriptive	4.0	4.0
Affective	3.5	4.0
Behavior	4.0	2.0

feedback than the low-expectancy/low confidence athletes.

The self-perceptions of the high-expectancy athletes who rated high in sport-confidence differed from the self-perceptions of the low-expectancy athletes who rated low in

sport-confidence. These differences were in evidence in the categories of Character, Intent, and Behavior. Higher frequencies of self-perceived evaluative, descriptive and behavior-oriented feedback were associated with the high-expectancy athletes who had higher levels of sport-confidence relative to the low-expectancy athletes.

Summary

In this chapter, the findings relating to the purposes of the study were reported and discussed. The first part investigated the stability of the coach's performance expectations over the season. It was found that the coach rated the high-expectancy athletes and the low-expectancy athletes in a consistent manner over the season.

The second part investigated whether the coach provided differential feedback to high- and low-expectancy athletes. Briefly, the analysis revealed that high-expectancy athletes received more total feedback interactions with the coach. In addition, the type of the feedback interactions differed for the two expectancy groups. The differential behavior observed for high-expectancy athletes indicated they received more task-specific, negative and descriptive feedback from their coach. The low-expectancy athletes received slightly less task-specific feedback, equal amounts of positive/negative

feedback, more prescriptive and less descriptive feedback. Little affective feedback was provided to either group of athletes.

The third part dealt with the perceptions of the athletes. The data indicated that the team members did not perceive a differential feedback environment for high ability athletes versus low ability athletes. The high-expectancy athlete reported the perception of minor differences in perceived differential feedback behavior toward high and low ability athletes. The low-expectancy athlete did not perceive differential feedback behavior toward high and low ability athletes. The comparisons of perceived feedback toward high and low ability players with the observed feedback patterns suggest that the high- and low-expectancy athletes often did not perceive the same trends for the high and low ability athletes as the observed patterns indicated. High- and low-expectancy athletes indicated minimal differences in perceptions of feedback given to themselves by the coach. The comparisons of self-perceptions of feedback and observed feedback patterns also suggest minimal differences.

The final part of the chapter investigated relationships between sport-confidence, differential performance expectations and feedback elements. High-expectancy athletes measured higher on sport-confidence than the low-expectancy athletes. High confidence athletes

received more task-specific, negative and descriptive feedback than did low confidence athletes. Low confidence athletes received more general, positive and prescriptive feedback. High-expectancy/high confidence athletes perceived they received less positive and negative feedback and more evaluative, descriptive and behavior-oriented feedback from the coach than did low-expectancy/low confidence athletes. Thus, there were differences noted when observed feedback and perceived feedback was compared for athletes who were high-expectancy and high confidence or low-expectancy and low confidence.

Chapter five will summarize the study and present conclusions and recommendations based on the findings.

CHAPTER FIVE

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

This chapter is presented in three sections. The first section presents the summary of the study. The second section focuses on conclusions which have been drawn from the findings. The final section makes recommendations for future research.

Summary of the Study

Purpose

The case study explored performance expectations a male coach had for nine elite female volleyball players in practice sessions over a season. The coach ranked athletes according to expected performance potential at three times over the season. The coach's expectations were examined to determine their stability over the length of the season (a total of three months). The study examined expectation effects for high- and low-expectancy athletes and differential overt feedback behaviors exhibited towards the athletes, the athletes' perceptions of differential feedback for other players, athletes' perceptions of differential

feedback provided to themselves, and levels of sport-confidence.

Methodology

The coach was requested to rank the athletes in order of expected sport performance. High expectancy athletes were identified as those ranked as the top two athletes. Low expectancy athletes were identified as those ranked as the bottom two athletes.

Four practices of sixty to ninety minutes in duration were videotaped in the gymnasium for data recording purposes. The frequency of the coach's verbal feedback communication events toward each athlete were coded using the FAP instrument (Sinclair, 1985). These data were analyzed to determine the quantity and type of verbal contacts between the coach and athletes.

Athlete perception data was obtained using questionnaires. The athletes completed two questionnaires indicating their perceptions of the feedback provided to high and low ability athletes as well as towards themselves. In addition, data was obtained to determine the athletes' sport specific self-confidence. This data was gathered with the use of the TSCI questionnaire (Vealey, 1986).

Analysis

Coach expectations were determined by the coach's rankings of the athletes. The Kruskal-Wallis test was used to determine the stability of the coach's expectations for all the athletes over the playing season. Descriptive techniques were used to further examine the stability of coach's expectations for the top two and bottom two ranked athletes.

Coach feedback communications were coded by using a modified version of the Feedback Analysis Profile (Sinclair, 1985). This instrument identified and categorized eight categories of feedback. Frequencies were generated for individual athletes for the various categories of feedback behavior. These were converted to percentages to indicate the amount and type of feedback communications for the high- and low-expectancy athletes under study. Descriptive statistics were used to describe interaction patterns in the gymnasium.

Two questionnaires were used to measure the athletes' perceptions of feedback. The purpose of the first questionnaire was to identify athletes' perceptions of a differential feedback environment towards high and low ability athletes. To compare the extent of athletes' perceptions of a differential feedback environment, the score for the perceived feedback towards a low achieving athlete was subtracted from the score for a high achieving

athlete. This resulted in a difference score which was used to indicate the relative amount of perceived difference in feedback environment for each feedback type.

The purpose of the second questionnaire was to identify athletes' perceptions of feedback frequencies towards themselves. The scores between high- and low-expectancy athletes were discussed and compared in a descriptive manner.

The trends revealed by both perceived feedback questionnaires were compared to those revealed by systematic observation of observed coach feedback. Descriptive techniques were used in this phase of the study.

Scores were obtained on a sport-confidence inventory (Trait Sport-Confidence Inventory) (Vealey, 1986). Scores obtained here were used to indicate sport specific self-confidence. The scores were used to compare high- and low-expectation athletes relative to their levels of sport-confidence. In further analysis, a stepwise regression was used to determine the relative contribution of each feedback element to the sport-confidence scores of all the athletes. Finally, descriptive techniques were used to describe the feedback trends associated with the athletes who attained the highest and lowest levels of sport-confidence as well as high- and low-expectancy athletes who had high and low levels of sport-confidence.

Conclusions

This case study was limited to one coach's behaviors and one team's perceptions as they occurred in one sport setting. The sample used in the study was small and voluntary in nature. The findings of the study were based on trends in the data that did not necessarily imply statistical significance. Generalization beyond the limits of the study itself is therefore precluded. Certain tentative conclusions can be suggested concerning the operation of expectancy effects in this particular physical education environment.

The following conclusions are based on findings presented and discussed in Chapter 4. The conclusions are presented as answers to the research questions that guided the direction of the study and the data collection procedures.

1. Are the coach's performance expectations of the athletes stable over the length of a season?

The coach's performance expectations of all players in the present study were not consistent over time. The comparison of the three sets of rankings evidenced discrepancies in the composition of the early, mid-, and postseason groups. This implies that the coach's expectations of all the players were modified somewhat over

the season as information about player' abilities became available.

Comparison of the two high-expectancy and two low-expectancy athletes revealed stability for early, mid- and postseason designations. This suggests that the coach's initial perceptions of the high- and low-expectancy athletes did not change as a result of observations of these athletes over time. It is possible that the coach formed extremely accurate expectations during the early stages of team formation. However, Horn (1984b) emphasizes the need for coaches to form expectations that are contingent to or as a result of athletes' continuing performance. These performance expectations should remain flexible throughout the season. Performance expectations need to be modified as new information resulting from the athletes' continuing performance and behavior becomes available (Horn, 1984b). Self-fulfilling prophecy effects operate when performance-based expectations are inflexible, inaccurate and not contingent upon athlete behavior (Sinclair & Vealey, 1989).

An elite and competitive team may consist of all high potential athletes. Though the coach consistently ranked the same players as high- and low-expectancy, the coach's inconsistency in ranking the other five athletes may reflect strong similarities in their athletic potential. Brophy (1983) asserts that teachers' unmanipulated expectations are generally accurate and open to new information. It is

possible that accurate observations were made for the high- and low-expectancy athletes while new information about the other five athletes made it possible for the coach to modify their rankings. The behaviors of the five athletes may have effected a change in the coach's expectations. Similarly, the high- and low-expectancy athletes' behaviors may have strengthened the coach's expectations. Student behavior can effect a reversal or strengthening of expectations. The factor of mutual influence and reciprocal causation assist in the explanation of expectancy effects (Martinek, et al., 1982).

2. Does the coach provide differential feedback to high- and low-expectancy athletes during practice sessions?

Differing amounts and types of feedback behaviors were observed to be provided to high- versus low-expectancy athletes. These results are supportive of past research in both classroom and physical education environments which have indicated that differential feedback is provided to high- and low-expectancy athletes (Brophy & Good, 1974; Good & Brophy, 1987; Martinek & Johnson, 1979; Martinek & Karper, 1982).

The high-expectancy athletes received more total feedback communications from the coach than low-expectancy athletes. These findings are similar to other studies which indicated that coaches focused on the performance of the

high-expectancy athletes by providing them with more information (Horn, 1984a; Martinek, 1981; Sinclair and Vealey 1989). Research in physical education has indicated that high-expectancy students have been offered more encouragement, acceptance of ideas, praise, and opportunity to respond (Crowe, in Martinek, 1981; Martinek, & Johnson, 1979). However in this study, it is possible that the athletes created this advantage for themselves through the initiation of contacts with the coach. The feedback coding system utilized did not monitor the origin or direction of dyadic interactions.

High-expectancy athletes received more descriptive communications while the low-expectancy athletes received more prescriptive information. The coach provided more feedback communications telling how to perform a skill or what to do next time to low-expectancy athletes than to high-expectancy athletes. This is consistent with Horn's (1984a) research which reported low-expectancy athletes receiving more technical instruction and feedback. In this study, the coach may have provided high-expectancy athletes with more descriptive feedback about their performance with the assumption that they would have been able to independently integrate and process that information for improved results whereas low-expectancy athletes were assumed to have need more prescriptive information for improved results. The coach may have been providing more

information to the athletes who they thought needed it more. The coach might have felt that low-expectancy athletes would need further "how-to" information in order to improve an incorrect performance. This indicates that the coach felt the low-expectancy players needed more error correction and guidance. These results support Sinclair and Vealey's (1989) findings that high-expectancy students received more specific and evaluative feedback as well as less prescriptive feedback than low-expectancy students.

Furthermore, the results of this study found it was the low-expectancy players who received more positive feedback than high-expectancy athletes. This obtained difference in coaching behavior is not consistent with expectation theory which assumes that high-expectancy athletes will receive more positive instruction (Horn, 1984a). Typically in classroom research, high-expectancy students receive more praise and low-expectancy students receive more criticism (Brophy & Good, 1970, 1974; Cooper & Baron, 1977; Rosenthal, 1973). Similarly in physical education, high-expectancy students have been reported to receive more praise and positive instruction (Crowe, in Martinek, 1981; Martinek & Johnson, 1979; Martinek & Karper, 1982).

The obtained differences in coaching behavior were not consistent with the predictions of the self-fulfilling prophecy theory which assumes that high-expectancy athletes

will receive more positive and effective instruction. However, these results support Horn's (1984a) study which indicated that low-expectancy athletes received more reinforcement after successful performances than did high-expectancy athletes. Martinek (1988) noted that the highest frequency of feedback provided to high-expectancy athletes in physical education classes was for the purpose of correcting behavioral conduct. Martinek and Karper (1982) also reported that high-expectancy students received more criticism than the low-expectancy students in physical education classes.

Since the low-expectancy players are assumed to possess a lower skill level, some of the positive feedback may have been inappropriate and thus noncontingent to actual performance. The coach's use of inappropriate praise might have induced negative self-perceptions in the athletes regarding their skill competence (Horn, 1984a). Previous research has shown that excessive praise given to a performer for success at an easy task (in comparison to neutral feedback given to a peer who exhibits an identical level of performance) leads to perceptions of lower ability for the performer. Criticism given after failure at a task (in comparison to a peer who received neutral feedback for the same performance) leads to perceptions of higher ability for the criticized performer (Meyer, 1982). The differential feedback patterns found in this study are

consistent with the theory and research discussed by Meyer (1982). The positive feedback or praise in this study may have been a negative coaching behavior because it was not given in an appropriate and contingent manner. This in turn would inform certain players that their coach held lower expectations for them. Players who received more criticism may have perceived such feedback to be an indication that their coach expected them to perform at a higher level, thus facilitating higher perceptions of ability in these athletes (Brophy, 1983; Weiner & Kukla, 1970). Students' perceptions of instructional feedback behaviors are crucial in describing the implications of differential feedback patterns and expectations (Horn, 1984a; Martinek, 1988).

It is important to relate these findings to the particular influence of the contextual situation (Horn, 1984a). In this study, the coach was working with provincial elite players in a competitive season with the objective of attaining national-level qualification. Therefore, the program was oriented towards elite competition rather than instruction and development. This might account for the biased behavior towards high-expectancy athletes. The feedback behavior patterns of the coach might have differed if he were observed coaching a highschool team where development and improvement were emphasized.

3. a) Do all athletes on a team perceive a differential feedback environment?

The mean of scores for the team indicated few differences were perceived in the degree of feedback accorded to high and low achieving athletes. Athletes did not perceive differential coach treatment toward high and low ability athletes. These findings did not replicate previous research which have showed that students do perceive differences in the ways that instructors work with high and low achievers (Brattesani, et al., 1984; Weinstein, et al., 1982; Weinstein & Middlestadt, 1979).

Differential treatment accorded high and low achievers may indirectly inform students about expected behavior and thereby be incorporated into students' self-image and motivation (Brattesani, et al., 1984). The finding that the team perceived the coach to have exhibited little differential feedback toward high and low ability athletes may reflect the methodology of averaging all team members' perceptions without considering that athletes of different achievement levels might have different perceptions of climate. The possibility also exists that the administered questionnaire (a five point Likert scale) of differential coach treatment was not adequately sensitive to identify the differentiating behaviors.

3. b) Do high- and low-expectancy athletes perceive a differential feedback environment?

When perceptions of coach feedback behavior toward high and low achievers were obtained, individual differences in expectancy level were found to influence perceptions of feedback. This is contrary to previous findings (Weinstein, et al., 1982).

The high-expectancy athlete perceived differential treatment by the coach toward the high and low ability athletes. The high-expectancy athlete appeared to be aware of the greater coach attention, help, and guidance (task-specific, descriptive and prescriptive feedback) accorded low achievers in contrast to the more autonomous learning context provided to high achievers.

The high-expectancy player's perceptions of differential treatment favouring high achievers might influence self-expectations for performance as well as self-perceptions of status (Weinstein, et al., 1982). The low-expectancy athlete did not perceive notable differences in the treatment provided to high and low ability athletes. She did not appear to be aware of differences in the coach treatment of peers.

Perceptions may not be entirely accurate representations of the environment and other factors may play a part in what is perceived. Achievement level in particular may be related to differences in perceptions

(Moos, 1979). The expectancy level of athletes may alter their capacity to perceive dimensions of instructional climate, or the actual environments for high and low achievers may actually be different (Weinstein, et al., 1982). Research has frequently measured environments through the assessment of the averaged perceptions of all members of a particular setting (Moos, 1979). However, these findings of systematic differences in perceived feedback for subgroups of athletes in sport suggest that research would benefit from examining perceived environments within the setting. The perceived differences in evidence may reflect within-setting climate differences due to differing role demands and expectations (Weinstein, et al., 1982).

How students perceive instructional feedback events is of interest because of the growing awareness that students mediate expectancy effects in the instructional environment. The influence of expectations is affected by students' perceptions and interpretations of the meaning of differential instructor behaviors (Brattesani, et al., 1984).

3. c) Are there differences between the observed feedback environment and the environment that is perceived by high- and low-expectancy athletes?

Differences exist between the observed feedback environment and the environment that is reported to be

perceived by the high- and low-expectancy athletes. High-expectancy athletes' perceptions of coach feedback toward high and low ability athletes were similar to observed trends for the focus and character feedback categories and varied from observed trends for the intent category. The low-expectancy athletes' perceptions of feedback trends for high and low ability athletes were similar to observed trends for the focus feedback category only. It would appear that high-expectancy athletes were more "accurate" in perceiving coach feedback to other players.

Research comparing the accuracy of student perceptions to classroom observation data has not been successful (Brattesani, et al., 1984). Cooper and Good (1983) compared student perceptions of treatment with observed frequencies of student-teacher interactions. Student perceptions of teacher treatment corresponded to observation records on only one of the nine behaviors that were compared. However, all of the perceptions were in the direction of the observations.

Objective observers do not have as much or the same information as the participants in the instructional environment. Therefore, observers may not understand the meaning of the interaction in the context. Observers are subject to different perceptual biases and may use a less appropriate criterion for the student's experience of the reality of the instructional environment. Student

perceptions influence differential instructor behavior and its outcomes just as much as the objectively recorded instructor behaviors (Brattesani, et al., 1984).

4. a) Do high- and low-expectancy athletes' self-perceptions of feedback differ?

Differences were found in the perceptions of feedback to themselves by high- and low-expectancy athletes. The low-expectancy athletes perceived higher frequencies of positive, negative, and affective feedback. The high-expectancy athletes perceived higher frequencies of evaluative, descriptive and behavior-oriented feedback.

The findings that high- and low-expectancy athletes report differing patterns of instructor treatment toward themselves complement previous studies (Brattesani, et al., 1984; Cooper & Good, 1983; Martinek, 1988). This supports the idea that students/athletes can use the information about their own abilities that is communicated in teacher treatment behaviors (Braun, 1976; Brophy & Good, 1974). These findings suggest that coaches can behave in ways that communicate their expectations and that athletes can perceive these expectations from their coaches' behavior. However, not all students will behave or perform in a manner that is consistent with the instructor's expectations. Some students' self-perceptions may be so strong that

expectations that are counter to their own beliefs may have no effect on them (Martinek, 1989).

4. b) Are there differences between observed coach feedback behaviors and the feedback behaviors that are perceived by the high- and low-expectancy athletes toward themselves?

Examination of how high- and low-expectancy athletes perceived their coach's feedback behaviors compared with observed trends show that both high- and low-expectancy athletes perceived the same trends as observed for task-specific feedback. Slight differences were found for other feedback categories. High-expectancy athletes perceived a notably low amount of negative feedback yet the observed coach feedback pattern indicated a higher amount of negative and a lower amount of positive feedback for these athletes. An explanation for this disparity is that the high-expectancy students may not have viewed negative feedback as an important behavior and therefore ignored it. In addition, past research has suggested that high achievers tend to think their instructors are basically "nice people" (Weinstein, et al., 1982). It may be difficult for students to endorse behaviors that are counter to their beliefs about their instructors (Martinek, 1988).

Low-expectancy athletes appeared to think the coach provided negative feedback to them frequently for their behavior yet observed coach feedback was equally positive

and negative. One explanation for this discrepancy is that low- expectancy students might have perceived the coach comments as negative even though they were put in a positive manner. These findings support Weinstein, et al., (1982) who found that low achievers perceived more overall negative feedback than high achievers regardless of the target student rated. Brattesani, et al., (1984) asserts that students perceive these differences in their own personal treatment in addition to the treatment of others.

Both high- and low-expectancy athletes perceived comparably high levels of affective feedback though observed coach feedback indicated very low levels of affective feedback. It is possible that the athletes perceived the coach to have provided affective feedback through nonverbal communicative means (eg., nod, pat, wink, etc.). The feedback observation system used only categorized overt feedback behaviors. Research has shown expectations to manifest in various verbal and nonverbal interactions (Brophy & Good, 1974; Chaikin, et al., 1974).

More information is needed to discern how and why information and messages that instructors intend to communicate are missed or misconstrued (Brophy, 1983). More information is also needed to discover how these phenomena affect expectation effects in the sport environment.

5. Do high- and low-expectancy athletes differ in sport-confidence?

The high-expectancy athletes possessed greater sport-confidence than the low-expectancy athletes. These findings are consistent with past research indicating high achievers to be significantly higher in self-concept than low achievers (Martinek & Johnson, 1979).

Self-concept is considered to be an important mediator of behavior. Self-concept is related to and affects student performance expectations, achievement motivation, and attitudes. How well others expect students to do, affects their performance, their self-confidence, their interaction with others, and frequently their level of learning (Martinek, 1980a). The development of a positive self-concept may be influenced by instructor expectations as well as the student's perception of the instructor's expectations of his or her performance (Martinek & Johnson, 1979). In the following section, relationships are suggested between coach feedback and high and low levels of sport-confidence.

6. a) What is the relationship between observed coach feedback and sport-confidence of high- and low-expectancy athletes?

Evaluative and prescriptive feedback were found to be related to high levels of sport-confidence. In this study, athletes who received a lot of assessment feedback

(evaluative) and little corrective (prescriptive) feedback felt more confident about their performance ability. In contrast, Sinclair and Vealey (1989) found the variable of immediate feedback to be a significant predictor of gains in sport-confidence. Horn (1985) found performance-contingent feedback to be correlated to increases in self-confidence of young athletes.

High-expectancy athletes who also had high levels of sport-confidence were observed to receive large amounts of negative and descriptive feedback. Low-expectancy athletes who had low levels of sport-confidence were observed to receive more positive and prescriptive feedback than the high-expectancy athletes.

These findings support previous research which has shown different types of coaching feedback to be related to differences in self-confidence (Sinclair & Vealey, 1989; Horn, 1985). Feedback has also been linked with learning, achievement and other psychological constructs (Horn, 1985).

Cooper and Good (1983) have found student self-efficacy beliefs to be positively related to teacher expectations. Self-confidence is influenced by the expectations of the instructor. In turn, self-confidence directly influences achievement striving and behavior (Martinek & Johnson, 1979; Sinclair & Vealey, 1989).

6. b) What is the relationship between self-perceived coach feedback and sport-confidence of high- and low-expectancy athletes?

Athletes who perceived low overall frequencies of feedback, low positive feedback and high levels of descriptive feedback felt more confident in their ability to succeed in sport. Athletes who perceived high frequencies of prescriptive feedback toward themselves scored lower in sport-confidence.

High-expectancy athletes who scored high in sport-confidence perceived high levels of evaluative and behavior-oriented feedback. Low-expectancy athletes who scored low in sport-confidence perceived higher levels of positive, negative and affective feedback than their high counterparts.

These results suggest that the athletes were able to perceive feedback communication behaviors and integrate the information into their self-perceptions (Martinek, 1988). Perceptions mediate the effects of instructor expectations. If the athlete perceives favorable differential feedback toward the self, the athlete will act accordingly and thus feel more confident about their performance ability (Martinek, 1989).

Summary

In summary, expectation effects operate within this sport environment. High- and low-expectancy athletes can be differentiated by verbal feedback patterns, perceptions of the self and others, and sport-confidence.

The results of this study indicate that a coach can behave in a manner that communicates his performance expectations to his athletes. Athletes perceive these expectations from their coach's behavior and these expectations influence athletes' sport-confidence. The findings from this study suggest that expectation effects can function indirectly through the athletes' awareness of differential treatment.

Recommendations

Recommendations projected from the present study are discussed in this section.

1. Further research examining the antecedents of differential coach behavior is recommended. It would be beneficial to identify personal attributes of coaches which are related to differential behavior.

2. It would be worthwhile to determine whether coaches are aware of behaving differently and if they are,

what motives they have for such behavior. Studies involving open-ended interviews combined with questionnaires are recommended.

3. When obtaining self-report data, an attempt should be made to collect as many measures of the same variable by as wide a variety of means as possible. For example, athlete perceptions of coaching could be obtained by self-report scores, stimulated recall methods, followed by individual interviews. Research needs to be done to develop better procedures for measuring athlete perceptions of variations in instructional behaviour.

4. Differential behavior is affected by variables other than expectations for performance. The prediction of such behavior would be facilitated if performance expectations were studied in combination with other factors that have been shown to influence instructor behavior. These factors might include student gender or socio-economic status.

5. The ways that coaches communicate performance expectations to athletes need to be further researched. Coding systems are limited in the recording of coach behaviors through which expectations might be communicated. Examples include the tone of voice used in asking a question, the amount of time the coach is prepared to wait for an athlete response and the multitude of non-verbal messages that coaches transmit to athletes.

6. The "reciprocal" nature of influence of expectations should be stressed. Future research must address how the student or athlete mediates expectation effects. The perceptual and interpretive processes of students/athletes act as potential mediators of expectancy effects and can ultimately affect behavior and performance.

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APPENDIX A

INFORMATIVE LETTERS TO COACH AND ATHLETES

LETTER TO COACH

January, 1991

Dear coach,

I would greatly appreciate your participation in a sport psychology study I am conducting in partial fulfilment of my master's thesis. We spoke briefly over the phone at the start of December concerning the particulars of this research.

Many studies investigating coaching effectiveness focus on coaching behaviors such as feedback (ie., skill correction, general encouragement, negative reinforcement, etc.). However, there is relatively little known about the coaching behaviors that players actually perceive. Recent developments have drawn attention to the role of the athlete's perceptions in the processes of learning and psychological development.

This study is being performed in order to describe the feedback behaviors of an experienced coach, to examine the interaction between the coach and the athletes, to determine the sport-confidence of athletes over the season, and to describe the perceptions of the athletes of the coaching environment.

Your involvement as a coach will be to complete a questionnaire at the beginning, middle and end of the season. This questionnaire will result in a ranking of your athletes' potential volleyball ability. Procedures will also involve the videotaping of four practice sessions. You are requested to wear a wireless microphone at these times. I will try to be as unobtrusive with the video equipment as possible. Trained observers will then use systematic observation techniques to code coach/player interactions. This will result in descriptions of selected coach and player behaviors.

The athletes will be asked to complete one questionnaire at the beginning of the season and three questionnaires in the middle and at the end of the season. These questionnaires will result in descriptions of their sport-confidence and perceptions of the coaching environment.

Information and identities will be kept completely confidential. I guarantee that you will remain anonymous in any presentation or publication resulting from this research. You have the right to withdraw yourself from the study at any time. However, I encourage you to participate in this study as your involvement is invaluable to the development of coaching effectiveness research and the success of my studies!

Please do not hesitate to contact me at home (424-0098) if you have any concerns or questions. I look forward to working with you.

Sincerely,

Sheryl Hoo

LETTER TO ATHLETE

January, 1991

Dear athlete,

I would greatly appreciate your participation in a sport psychology study I am conducting in partial fulfilment of my master's thesis. Your coach has already volunteered to be part of the study if you also agree.

Many studies investigating coaching effectiveness focus on coaching behaviors such as feedback (ie., skill correction, general encouragement, negative reinforcement, etc.). However, there is relatively little known about the coaching behaviors that players actually perceive. Recent developments have drawn attention to the role of the athlete's perceptions in the processes of learning and psychological development.

This study is being performed in order to describe the feedback behaviors of an experienced coach, to examine the interaction between the coach and the athletes, to determine the sport-confidence of athletes over the season, and to describe the perceptions of the athletes of the coaching environment.

Your involvement as a player will be to complete one questionnaire at the beginning of the season and three questionnaires in the middle and at the end of the season. These questionnaires will result in descriptions of your sport-confidence and perceptions of the coaching environment. Procedures will also involve the videotaping of four practice sessions. The coach will be requested to wear a wireless microphone. I will try to be as unobtrusive with the video equipment as possible. Trained observers will then use systematic observation techniques to code coach/player interactions. This will result in descriptions of selected coach and player behaviors.

Information and identities will be kept completely confidential. I guarantee that you will remain anonymous in any presentation or publication resulting from this research. You have the right to withdraw yourself from the study at any time. However, I encourage you to participate in this study as your involvement is invaluable to the development of coaching effectiveness research and the success of my studies!

Please do not hesitate to contact me at home (424-0098) if you have any concerns or questions. I look forward to working with you.

Sincerely,

Sheryl Hoo

APPENDIX B

CONSENT FORM

CONSENT FORM

My signature on this form indicates that I will participate in a study conducted by graduate student, Sheryl Hoo. The study will investigate coach and athlete interactions and athlete perceptions. My signature will also indicate that I understand the following:

1. I am a volunteer and can withdraw at any time from the study without penalty.
2. I have received an explanation about the nature of the study and its purpose.
3. There is no danger of physical or psychological harm.
4. The data provided will be confidential.

( ) I would like to volunteer for this study.

( ) I do not want to participate in this study.

_____
Signature

_____
Date

APPENDIX C

COACH RANK-ORDER FORM OF PERFORMANCE EXPECTATIONS

Date: _____

Please rank order all the players on your team from highest to lowest according to your expectations concerning their potential volleyball ability. This information will be kept completely confidential.

APPENDIX D

FEEDBACK ANALYSIS PROFILE INSTRUMENT

FEEDBACK ANALYSIS PROFILE INSTRUMENT

(Sinclair, 1985)

Name _____ Sport/Activity _____ Game/Practice Level _____ Sex _____ Age _____

DIRECTION		FOCUS			CHARACTER		ON TASK		SPECIFIC		TIMING			INTENT				TOTALS		
		Skill		Beh	+	—	Yes	No	Yes	No	Con	Ter	Del	Evl	Des	Pre	Aff			
		/	x																	
INDIVIDUAL	Private																			
	Public																			
GROUP	Private																			
	Public																			
TEAM/ CLASS																				
TOTALS																				

√ - Correct
X - Incorrect
Beh - Behavior
+ - Positive
- - Negative
Con - Concurrently
Ter - Terminal
Del - Delayed
Evl - Evaluative
Des - Descriptive
Pre - Prescriptive
Aff - Affective

Feedback communications for the FAP are divided into various categories:

"DIRECTION" of the communication refers to whom the feedback is directed to.

Is the feedback being directed to an individual, a group of individuals (forwards, guards, etc.), or the entire team? Was the feedback directed privately or publicly (ie., could it be overheard by everyone?

"FOCUS" describes whether the feedback is skill-oriented or aimed at behavior.

Is the feedback directed to the athlete's skill performance or behavior? Is the feedback being directed to the correct or incorrect segment of the action?

"CHARACTER" indicates the positive or negative nature of the response.

"ON-TASK" indicates whether the comment relates to the task at hand.

Is the feedback directed to the part of the action that was cued before its initiation? (yes or no)

"SPECIFIC" indicates whether the comments are general or specific.

Was the feedback specific to the task (yes) or was it generally uninformative (no)?

"TIMING" describes the moment of the feedback delivery in relation to the task.

Is the feedback provided concurrently (given while the athlete is performing) or terminally (given immediately after the skill performance and before the next attempt), or delayed (given after a period of time has elapsed since the skill performance)?

INTENT

Evaluative. Feedback that gives a value judgement or assessment of the success of the trial (good or bad).

Descriptive. This is the approach which informs the athlete what was done (describe what happened).

Prescriptive. This identifies the changes in performance that are needed for improvement (prescribing alternative technique or strategy).

Affective. This motivates, encourages, and reinforces a correct performance.

APPENDIX E

MODIFIED FEEDBACK ANALYSIS PROFILE

MODIFIED FEEDBACK ANALYSIS PROFILE

		FOCUS		CHARACTER		INTENT				TOTALS
		TASK SPECIFIC	Gen	+	—	Evl	Des	Pre	Aff	
INDIVIDUAL										

APPENDIX F

PERCEIVED ENVIRONMENT QUESTIONNAIRE

PERCEIVED ENVIRONMENT QUESTIONNAIRE

This short questionnaire will ask you how often certain coaching behaviors are directed towards high and low skilled athletes in your instructional group.

Please circle a number under each column for each statement that reflects the frequency of the coaching behavior described.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Always

		Lower Skilled Athlete					Higher Skilled Athlete				
1.	The coach provides information that is useful and specific to correct performance.	1	2	3	4	5	1	2	3	4	5
2.	After a successful performance, the coach praises the athlete.	1	2	3	4	5	1	2	3	4	5
3.	After an unsuccessful performance, the coach criticizes the athlete.	1	2	3	4	5	1	2	3	4	5
4.	After the athlete performs a skill, the coach evaluates the athlete's performance verbally (eg. that's better, not so good, good, etc.).	1	2	3	4	5	1	2	3	4	5

	Lower Skilled Athlete					Higher Skilled Athlete				
5. After the athlete performs a skill, the coach provides feedback to her by describing to her what it was that was done.	1	2	3	4	5	1	2	3	4	5
6. After the athlete performs a skill, the coach tells her what to change in order to get improved results.	1	2	3	4	5	1	2	3	4	5
7. The coach verbally motivates, encourages persistence, and reinforces the actions of the athlete.	1	2	3	4	5	1	2	3	4	5
8. The coach comments about the athlete's behavior.	1	2	3	4	5	1	2	3	4	5

APPENDIX G

SELF-PERCEPTIONS OF FEEDBACK QUESTIONNAIRE

SELF-PERCEPTIONS OF FEEDBACK QUESTIONNAIRE

This short questionnaire will ask you how often certain coaching behaviors are directed towards you.

Please circle a number that reflects the frequency of the coaching behavior described.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Always

1. The coach provides me with useful and specific information to correct my performance.
   1 2 3 4 5

2. After a successful performance, the coach praises me.
   1 2 3 4 5

3. After an unsuccessful performance, the coach criticizes me (ie. draws attention to the failure or mistake).
   1 2 3 4 5

4. After I perform a skill, the coach evaluates my performance verbally (eg., that's better, not so good, good, etc.)
   1 2 3 4 5

5. After I perform a skill, the coach provides feedback to me by describing to me what it was that I was doing.
   1 2 3 4 5

6. After I perform a skill, the coach tells me what to change in order to get improved results.
   1 2 3 4 5

7. The coach verbally motivates, encourages persistence, and reinforces my actions.
   1 2 3 4 5

8. The coach has to verbally discipline my behavior (eg. attitude or goofing off).
   1 2 3 4 5

APPENDIX H

TRAIT SPORT-CONFIDENCE INVENTORY

Name: _____ Date: _____

TRAIT SPORT-CONFIDENCE INVENTORY
(Vealey, 1986)

Think about how self-confident you are when you compete in sport.

Answer the questions below based on how confident you generally feel when you compete in your sport. Compare your self-confidence to the most self-confident athlete you know.

Please answer as your really fee, not how you would like t feel. Your answers will be kept completely confidential.

When you compete, how confident do you generally feel? (circle number)

1. Compare your confidence in your ability to execute the skills necessary to be successful to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

2. Compare your confidence in your ability to make critical decisions during competition to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

3. Compare your confidence in your ability to perform under pressure to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

4. Compare your confidence in your ability to execute successful strategy to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

5. Compare your confidence in your ability to concentrate well enough to be successful to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

6. Compare your confidence in your ability to adapt to different game situations and still be successful to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

7. Compare your confidence in your ability to achieve your competitive goals to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

8. Compare your confidence in your ability to be successful to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

9. Compare your confidence in your ability to consistently be successful to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

10. Compare your confidence in your ability to think and respond successfully during competition to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

11. Compare your confidence in your ability to meet the challenge of competition to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

12. Compare your confidence in your ability to be successful even when the odds are against you to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

13. Compare your confidence in your ability to bounce back from performing poorly and be successful to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9