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THE EFFECTS OF EXPECTATIONS ON THE MAKING OF CAUSAL ATTRIBUTIONS FOLLOWING SUCCESS AND FAILURE FOR MALE AND FEMALE HIGHSCHOOL BASKETBALL PLAYERS

by

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DEDICATION

Thanks and appreciation for their assistance and ecouragement: To Dr. D. W. Hrycaiko, for making me think and get it right; to Donna Strang, for always making her typewriter and her time available; to Gord Mackie, for words of wisdom and encouragement; to my sisters, Janis Bilec and Cindy Wheeler, for their support; and especially to my parents, Irene and Lloyd Young, for always being there for me.

ABSTRACT

This study had three purposes which were to examine any differences between males and females in making causal attributions, to examine whether athletes' expectations about a competition affect their causal attributions following the competition in confirmed or disconfirmed conditions of success or failure, and to examine any differences in the expectations of males and females with regard to predicting a win or loss, and predicting point differential for an upcoming game. Subjects' expectations regarding an upcoming basketball game were obtained using a pre-game questionnaire, and a post-game questionnaire was used to obtain information about the athletes' causal attributions following the game. Significant differences were found between winners and losers for the locus of causality dimension and the controllability dimension, between confirmed-expectation and disconfirmed-expectation subjects for the stability dimension and the controllability dimension, and between males and females for point differential expectations. It was concluded that; there is no difference between males and females in making causal attributions following competition, expectations about an upcoming competition affect the causal attributions made following the competition, there is no difference between males and females in predicting a win or loss for an upcoming competition, and there is a significant difference between males and females for predicting the point differential for an upcoming game.

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CHAPTER 1

Introduction

Attribution theory received attention through the early work of Heider (1958), Jones and Davis (1965) and Kelly (1967, 1971, 1972) and has since been applied to many areas of life, from the educational setting (Weiner, 1979) to the business world (Orpen, 1980). Applications of attribution theory have also been used in the sport setting in a wide variety of activities including basketball (Lefebvre, 1979a; Spink, 1978), football (Felson, 1981), swimming (Morris, Vaccaro & Clarke, 1979), soccer (Nashida, 1981) and tennis (Ramsbrug, 1978; Yamamoto, 1983).

One specific area of interest in the sport setting has been the role of success versus failure in making causal attributions. Research has examined the relationship between success/failure outcomes and attribution of cause to the four traditional elements of ability, effort, luck and task difficulty (Felson, 1981; Iso-Ahola, 1977; Ramsburg, 1978) and other additional elements (Roberts & Pascuzzi, 1979; Yamamoto, 1983). Further studies have looked at success/failure outcomes as they relate to the three causal dimensions of locus of causality, stability and controllability (Gill, Ruder & Gross, 1982; McAuley & Gross, 1983; McAuley, Russell & Gross, 1983). Russell (1982), drawing from Weiner's (1979) conceptual definitions, used the following definitions when designing the items on the Causal Dimension Scale: "...locus of causality was

defined as referring to whether the cause was something about the attributor (internal) or outside the attributer (external), whereas stability was defined as referring to whether the cause was constant over time (stable) or variable over time (unstable). For controllability, the definition was modified slightly to allow both internal and external causal factors to be considered controllable. A controllable cause was therefore defined as one that could be changed or affected by someone, either the actor or other people." (pg. 1138)

Studies examining the expectancy effect of causal attributions (Allmer, 1980; Frieze & Weiner, 1971; Inagi, 1977; Valle, 1975) and the effects of performance history on causal attributions (Spink, 1978) have also been undertaken. The relationship between athletes' expectations concerning an upcoming competition and attributions made following the competition is an interesting one. Does the expectancy effect explanation accurately predict causal attributions made based on results of immediate outcomes, or is there no effect at all? Many studies have also examined the effect of gender on causal attributions (Bluckner & Hershberger, 1983). While success, failure, and gender, as determinants of causal attributions, have received much attention in the literature, the effects of confirmed or disconfirmed success or failure on causal attributions is not as well documented. Sheedy (1983) suggested that there are other factors which influence attributions of outcomes in sport, not just the dichotomies between male and female, or win and loss.

This study examined the relationship of expectations to the making of causal attributions in various conditions of success and failure. Also to be examined is whether or not there is a difference between males and females in their expectations prior to competition and in their subsequent attributions.

Need for the Study

"Research in the attributional domain has proven definitively that causal ascriptions for past performance are an important determinant of goal expectancies." (Weiner, 1979, pg. 9) This statement, which appears in Weiner's work on the attributional theory of motivation, expresses well the need for a study of this nature to be undertaken. Causal attributions based largely on past outcomes and attitudes towards the outcomes have relevance for future behavior. It follows that, in sport, cognitions or attributions concerning performance outcome may have implications for future expectations and future performance outcomes of success or failure.

Research on the relationship between expectations and attributions has mainly examined the effects that causal attributions for past performance have on expectations for future success. Nashida (1981) found a lack of clarity between causal attributions and change of expectancy. McMahon (1973) found support for the hypothesis that the relationship between attributions to fixed factors and subsequent expectancy is positive following success and negative following

failure; attributions to variable or unstable factors are either unrelated to subsequent expectancy, or there is a negative relationship following success and a positive relationship following failure. Andrews and Debus (1978), in a study dealing with the attribution model of achievement motivation, obtained findings that causal ascriptions influence, and perhaps determine, subsequent achievement behaviors. Forsyth and MacMillan (1981) reported findings which suggested that if an outcome was successful and attributed to internal and controllable factors, then future expectations were very high, but if outcome was attributed to external and uncontrollable factors, future expectations for success were much lower. If the performance outcome was failure, and if the attributions made were to external and uncontrollable factors, expectations for future performance were very low. Expectations for future performance were higher if the attributions for a failed outcome were made to internal and controllable factors. Weiner (1979) reported that "the stability or instability of the perceived causal factors influences the expectancy that the outcome of an action might change in the future." (pg. 11) Weiner also stated that "the primary relation of the stability dimension is to the magnitude of expectancy change following success or failure." (pg. 8) Other studies concerning the stability dimension of attribution and expectations for future success have been done by Frieze and Weiner (1971), Valle (1975), Inagi (1977), Allmer (1980) and Orpen (1980).

The other part of the attribution-expectancy relationship which

has not been as extensively researched is that between prior expectations and subsequent attributions. Valle and Frieze (1976) suggested that the perceived causes of success and failure are related to the initial expectancy of success of a performance. McMahon (1973) found that outcomes that disconfirm a prior expectancy are attributed more to unstable factors than to stable factors, while for confirmed expectancy outcomes the reverse is true. Lau and Russell (1980) and Valle (1975) found that if performance is consistent with expectations, the outcome is more likely to be attributed to stable factors, while unstable attributions are more likely when performance outcome is not consistent with expectations.

Pyszcznski and Greenberg (1981) provide an explanation of how prior expectations, actual outcome and causal attributions may be related. When expected events occur, people may be uninterested or insufficiently motivated to go through the cognitive work necessary to form an attribution because they have pre-existing causal theories to explain such events. Following an unexpected event, individuals engage in more thorough attributional processing, since the event outcome is in conflict with their preconceived notions, and thus, they must seek to explain why the unexpected occurred. Pyszcznski and Greenberg also note that after an unexpected event people often fail to examine all information which may be important or relevant to the outcome because they are relying on their pre-existing theories.

Hastie (1984) reported that unexpected events elicit causal

reasoning, and that causal reasoning produces relatively elaborate memory representations of these events so that they are more likely to be recalled. Lau and Russell (1980) found that there were a greater number of attributions made after an unexpected event. Nesdale (1983) found that explanation seeking was instigated by violations of personal and situational expectations. These three studies agree with Pyszcznski and Greenberg's suggestion of pre-existing causal theories.

Examination of the theories put forth in this section, as well as of the research reviewed in Chapter Two of this study, leads the researcher to make an observation. Although studies have examined attributions and future expectations fairly extensively, research dealing with prior expectations and subsequent attributions is meagre. In both areas, studies have concentrated mainly on one area of causality - the dimension of stability. There has been no study found by the researcher which examines prior expectations and subsequent attributions in all three dimensions of causality - locus of causality, stability and controllability - simultaneously. Such studies that have utilized all three causal dimensions have focused on the attributions of winners versus losers with no regard to prior expectations for success or failure. This raises a question: Is it clear-cut, win-loss outcomes which influence the causal attributions of athletes, or are these attributions altered in some way according to prior expectations for success or failure?

The relationship between expectations and attributions is,

therefore, not well established. And, more important, the implications of this relationship, whatever its nature, on sport need to be more closely examined.

This relationship appears to be a circular one. Prior expectations for success or failure influence the causal attributions made following performance outcome. In turn, causal attributions made to a performance outcome influence future expectations for success and failure. While there is considerable research in the attribution-future expectancy part of the relationship, the bulk of this research is in the dimension of stability only, an exception being Forsyth and MacMillan (1981) who examined locus of causality and controllability, but not stability. Further, the nature of the prior expectation-causal attribution part of the relationship needs to be more extensively examined in order to further the knowledge of the expectation-attribution relationship as a whole.

The importance of utilizing all three causal dimensions becomes apparent if one wishes to examine the implication of the relationship between expectations and attributions in coaching athletes. For example, in the area of prior expectations it has been found that individuals who approach tasks with higher expectancy of success are likely to perform better than those with low expectancy (Dalton, Maier, & Poscavac, 1977; Zajonc & Buckman, 1969; Carron, 1984). Thus, it would appear that it is desirable that athletes approach a competition with the highest possible expectations for success. However, unexpected outcomes produce unstable attributions, and in

cases of failure, more external and uncontrollable attributions. Also, Driedame and Corcoran (1978) found that an unexpected win over a superior opponent or the unexpected loss to an inferior opponent is attributed to the psychological, as opposed to the physical, aspects of competition. With these statements in mind, coaches may need to temper the making of high expectancies for success with realistic goal setting and subsequent goal expectancies (Brooks, 1981; Locke & Latham, 1985). For most athletes, the goal which is set is to win. This is not always a realistic goal, and if it not attained the result may be a subjective assignment by the athlete to the failure condition, and produce corresponding attributions. If realistic goals are set, an absolute loss may still be considered in a positive light if certain goal expectancies were met during the game (eg. shoot seventy percent from the free throw line). This can be the first step in the prior expectations - causal attributions - future expectations chain which can be manipulated to produce more positive attributions, and a more positive attitude toward future expectations (Scanlon & Passer, 1979). That manipulation of attributions can be effective is indicated by Lefebvre (1979a) who reported that players who received an internal attribution pattern from their coaches increased their internal attributions for success over the season. Spink (1982) also described how an attributional approach, the manipulation of the antecedents and consequences of causal attributions, might be used to structure motivation to improve performance success. Changing the expectations for success to ones which are more realistic

can produce, perhaps, better performance, more positive attributions and, possibly, higher future expectations.

Research literature is divided as to the effect of gender on the making of causal attributions. Research by Sheedy (1983), Gill (1980) and Lefebvre (1979b) found no significant difference between male and female attributional scores. Other researchers, such as Weinberg et al (1982), Gill et al (1984) and Carron (1984), reported differences in the way males and females attribute causes of performance following success and failure. While these sources are by no means exhaustive, they do point out the need for futher study in this area.

Also of interest to the researcher is whether gender affects the expectations made prior to competition. There is much research which suggests that this is, indeed, true . Sanguinetti, Lee and Nelson (1985) reported that, in general, studies show that females tend to have lower expectancies of success than males. Weinberg, Richardson, Jackson and Yukelson (1983) and Auvergne (1983) also reported this finding, while Gill et al (1984) reported that males are more likely to predict a win in competition than are females. Other studies have found no difference between male and female expectations (Scanlon & Passer, 1979; Andrews & Debus, 1978). Thus, one again sees the need for further study to shed light on this possible relationship.

Statement of the Problem

The purpose of this study is threefold. First, the study

examines whether there are any differences between the causal attributions made by males and females. Second, the study examines whether athletes' expectations about a competition affect their causal attributions made following the competition, in either confirmed or disconfirmed conditions of success or failure. Third, the study examines any differences in the expectations made by males and females which may exist with regard to predicting a win or loss for an upcoming game, and predicting the point differential in the game.

Hypotheses

The hypotheses tested in this study were:

A. Locus of Causality scores.

1. There will be a significant difference between winners and losers.

2. There will be no significant difference between:
    a. confirmed-expectation and disconfirmed-expectation conditions.
    b. males and females.

B. Stability scores.

3. There will be a significant difference between:
    a. winners and losers.
    b. confirmed-expectation and disconfirmed-expectation conditions.

4. There will be no significant difference between males and females.

C. Controllability scores.

5. There will be no significant difference between:
    a. winners and losers.
    b. confirmed-expectation and disconfirmed-expectation conditions.

c. males and females.

D. Expectation scores.

6. There will be a significant difference between males and females for:
   a. win/loss expectations.
   b. point differential expectations.

Delimitations

For the purpose of this study the following delimitations were in effect:

1. There was no differentiation of the characteristics of the subjects beyond the characteristic of sex. Characteristics such as age, height, weight, intelligence, personality, socio-economic status, playing position and skill were not differentiated.
2. There was no coding or classification of the factors given by the athletes on the questionnaire.

Definition of Terms

Confirmed Expectation. A confirmed expectation refers to the condition in which the athlete indicates on the post-game questionnaire that the game met his/her expectations. This may produce a confirmed-win condition or a confirmed-loss condition.

Disconfirmed Expectation. A disconfirmed expectation refers to the condition in which the athlete indicates on the post-game questionnaire that the game did not meet his/her expectations. This

may produce a disconfirmed-win condition or a disconfirmed-loss condition.

CHAPTER 2

Review of Related Literature

Much of the framework of attribution theory has been developed by the formulation of three viewpoints of attribution (Shaver, 1975). In early work, Heider (1958) identified the ways in which the behavior of others may be interpreted. The behavior may have been caused by situational factors, the behavior may have occurred by "chance", or the behavior may have been caused by the personal disposition of the actor. A second point of view suggested by Jones and Davis (1965) examined attribution in terms of available choices for action, and the desirability of the unique effects or outcomes of those choices. Jones and Davis theorized that the reason for a person's behavior could be interpreted by looking at the choices available to the person, and at the course of action the person actually takes. The third viewpoint, that of Kelley (1967, 1971, 1972), proposed a three dimensional model for attributions comprised of entities, persons and time/modality. Kelley theorized that variation along a dimension would lead to attribution of a cause along that dimension.

Later attribution theory research produced a motivational, or self-serving, explanation of attribution (Zuckerman, 1979). This explanation focused on a tendency toward self-enhancement in making attributions for success, and, alternately, toward self-protection in cases of failure (Miller & Ross, 1975). In sport settings, however,

it has been found that the self-enhancement, or self-serving attributions may be overpowered by situationally-demanded attributions; that is, in sport settings attributions do not always adhere to the principles of the motivational hypothesis (Scanlon & Passer, 1980; Mark, Mutrie, Brooks & Harris, 1984).

Causal attributions in sport encompass the traditional four elements of ability, effort, luck and task difficulty developed by Weiner, Frieze, Kukla, Reed, Rest & Rosenbaum (1971). These elements were arranged in internal/external and stable/unstable dimensions. Additional elements found to be used as causal attributions in sport, such as practice, coaching, officiating, teamwork and other factors were reported by Roberts and Pascuzzi (1979). Yamamoto (1983), in a study of intercollegiate tennis players, extracted thirteen attributional factors for winners and fourteen factors for losers, while Carron (1984) reported a study in which athletes indicated twenty-five attributional factors. The causal attribution elements can be classified along three dimensions of causality - locus of causality, stability and controllability - and can be measured by the Causal Dimension Scale developed by Russell (1982).

Studies by Gill et al (1982), Roberts and Pascuzzi (1979), and Rejeski and Brawley (1983) suggest that, particularily for research on attributions in team sports, research should deal with the causal dimensions of locus of causality, stability and controllability rather than with the four traditional elements of luck, ability, effort, and task difficulty. The reasoning for this recommendation

is clear when one considers the vast range of attribution factors indicated by athletes.

The causal dimension most often dealt with in the reviewed literature on success/failure outcomes is the locus of causality dimension, or the internal/external nature of causal attributions. Evidence exists to suggest that success is attributed internally to such factors as ability and effort, while failure is attributed externally to such factors as luck and task difficulty (Allmer, 1978; Bukowski & Moore, 1980; Lefebvre, 1979a; Forsyth & Schenker, 1977; Weinberg et al, 1982). Some studies have reported, however, that there is no difference in locus of causality attributions made by winners and losers (Mark et al, 1984; Iso-Ahola, 1977).

The controllability dimension has not been dealt with exclusively as extensively as the other two dimensions, appearing mostly as a byproduct of research examining some other area. In a study by McAuley et al (1983) it was found that the controllability dimension was the most influential in determining affective responses to the making of attributions. Pancer (1980) found that failure of an important test was attributed more to controllable factors, and less to uncontrollable factors, than failure of an unimportant test. Studies which have examined controllability in conjunction with the other two dimensions have reported conflicting results, with some finding that the controllability dimension is affected by success/failure outcomes (Gill et al, 1982; McAuley & Gross, 1983), and some finding that controllability is not affected (Mark et al, 1984). Forsyth

and MacMillan (1981) found support that the controllability dimension does have an effect on the changing of future levels of expectancy.

Findings in the stability dimension show that winners make more stable attributions than losers, but there is a tendency toward unstable attributions for both groups (Gill et al, 1982; McAuley & Gross, 1983).

A summary of the research on the effect of success and failure on the making of causal attributions suggests that winners' attributions are more internal, stable and controllable than those of losers, but attributions for both winners and losers are predominantly internal, unstable and controllable.

The stability dimension is of particular interest to the researcher in that it has been found to be the major consideration in forming expectations of future success or failure, and in making causal attributions following immediate outcomes (Fierze & Weiner, 1971; Inagi, 1977; Valle, 1975; Weiner, 1979). Success or failure which is attributed to stable factors produces expectations to respectively, succeed or fail in the future. Success or failure which is attributed to unstable factors leads to increased expectations that, respectively, the alternate outcome will occur in the future (Orpen, 1980). Inagi (1977) found that if failure was attributed to stable causes, expectations were high towards failure again, but if failure was attributed to unstable factors, there was an increased expectancy to do well in the future. Inagi also reported that when repeated failure was experienced there was an increased tendency to attribute to stable factors. In addition to these findings, McMahon (1973)

found that in some cases when attributions were made to variable or unstable causes, there was no relationship between the attributions and subsequent expectancy. It has also been found that a repeated outcome (success or failure) leads to more stable attributions for the outcome (Allmer, 1980). Another characteristic of the expectancy effect on attributions deals with the consistency between expectations and actual outcome. If performance is consistent with expectations, the outcome is more likely to be attributed to stable factors; if performance is not consistent with expectations, unstable attributions result (Lau & Russell, 1980; Valle, 1975). Attributions made to unstable causes lead to predictions less like the immediately preceding performance, and more like the initial expectation. (Valle, 1975).

The stability of causal attributions can also be related to performance history, which is one determinant of performance expectations. If performance outcome is consistent with performance history, stable attributions are made; if performance outcome is not consistent with performance history, attribution is made to unstable causes (Spink, 1978). Thus, it can be suggested that performance history (eg. win more than lose) may lead to certain expectations for future performance (we will win) that are either attributed to stable causes (in the case of a win), or unstable causes (in the case of a loss), depending on the consistency of the performance outcome with performance history. When an outcome is consistent with expectations there is a greater attribution to internal factors, while a disconfirmed outcome produces more external attributions (Nesdale, 1983).

The results of the research to date as reviewed in this paper leave many questions unanswered and issues unresolved. First, there is a discrepancy between research that finds that success is attributed internally and failure externally, and research that finds that both winners and losers make predominantly internal attributions. Second, there is a discrepancy between research that suggests that performance outcome that is consistent with expectations and/or performance history is attributed to stable causes, and research that finds that both winners and losers make predominantly unstable attributions. Third, is there a difference between the attributions along the controllability dimension made by successful and unsuccessful athletes, or do both groups make attributions that are predominantly controllable? Fourth, if there is indeed a relationship between expectations and causal attributions for immediate outcomes, what is the exact nature of the relationship? For example, do prior expectations interfere with, enhance, or have no effect on the attributions of winners and losers? Finally, does the gender of the athlete affect either the expectations or attributions which are made?

Future research should attempt to further explore these questions, and resolve the discrepancies which exist in the present research in order to add to the body of knowledge and evidence concerning these areas of concern. In particular, research should undertake to examine the entire prior expectations - causal attributions - future expectations relationship as it relates to all three causal dimensions as well as its implications for coaching athletes.

CHAPTER 3

Methods and Procedures

Subjects

Subjects for this study were high school varsity athletes from teams participating in the Manitoba High School Athletic Association Provincial 'AAA' Basketball Championships. There were one hundred and thirty-three subjects - sixty-seven females and sixty-six males. Subjects were recruited with the permission of the team coaches, and participation was voluntary. Requests for participation were made verbally to each coach by the researcher. Subject assignment to a condition (confirmed-win, confirmed-loss, discomfirmed-win, disconfirmed-loss) was made on the basis of the outcome of the game related to the athletes' prior expectations and their assessment of whether the game met their expectations. Subjects were further assigned according to their gender, which resulted in eight possible conditions (male-confirmed-win, female-confirmed-win, male-disconfirmed-win, female-disconfirmed-win, male-confirmed-loss, female-confirmed-loss, male-disconfirmed-loss, female-disconfirmed-loss).

Instrumentation

The Causal Dimension Scale, developed by Russell (1982), was used to measure the locus of causality, stability and controllability of the subjects' responses (Appendix A). The scale was used to enable the

athlete to have more input into assessing causal attributions in terms of causal dimensions (Russell, 1982; McAuley, 1985). The scale consists of three questions for each of the three causal dimensions for a total of nine questions. Each question has a rating scale from one to nine so that a minimum score for a dimension is three, and a maximum score for a dimension is twenty-seven for each respondent. Items on the questionnaire are grouped as follows: numbers one, five and seven measure locus of causality (internal/external); numbers three, six and eight measure stability; and numbers two, four and nine measure controllability. A high numerical value (represented by the additive scores from the three questions) for each dimension would indicate high attribution for, respectively, internal, stable and controllable causes. Conversely, a low numerical value would indicate high attribution for, respectively, external, unstable and uncontrollable causes.

Data Collection

Data was collected only during the first round of the provincial championships. This was an important consideration since the importance, or saliency, of the game may affect the causal attributions made by the participants. Miller (1976) found that the more valid and important the test undertaken, the more pronounced was the effect of outcome on the subjects' attributions, the effect being that individuals assumed more personal responsibility for success than for failure. The seriousness of the effort with which the players undertake to complete the questionnaire may also be affected by how important they

consider the game to be. Pancer (1980) found that failure of an important test was attributed more to lack of effort (controllable) and less to lack of ability (uncontrollable) than failure of an unimportant test. The point in the season at which the questionnaire is administered may also have an affect on the attributions of the athletes. This may be related to such factors as amount of preparation (early versus late season) and the importance of the game (exhibition versus regular season versus playoffs). For example, Spink (1978) and Nesdale (1983) found that attributions to internal factors increased from regular season to playoffs. Importance of the game and point in the season is assumed to be uniform for all teams in this study.

There were four sites for competition and all the games took place on the same evening. The researcher enlisted the aid of three helpers, each of whom was provided with identical written instructions to be given to the teams when the questionnaires were distributed and collected. Instructions and collection procedures were uniform for all teams.

Prior to the beginning of data collection the researcher met with each team to provide information and instructions regarding the pre- and post-game questionnaires. Information about the confidentiality of the study was given, and the need for honest and realistic responses was stressed. Instructions concerning the pre- and post-game questionnaires were formally detailed, with attention paid to each part of both questionnaires. A copy of the information and instructions given to each team is contained in Appendix B, and was

the same for all teams. The same set of instructions was used at the initial meeting and at the game site.

Pre-Game Questionnaire. Prior to the game each athlete was given a pre-game questionnaire (Appendix C) and an envelope. Each athlete then recorded what he/she believed would be the expected outcome of the game (win or loss), and the expected point differential in the game (1-5, 6-10, 11-15, 16-20, more than 20 points). The athlete then placed the completed questionnaire in the envelope, sealed it, and returned the envelope to the researcher or assistant.

Post-Game Questionnaire. Following the competition, each athlete received a post-game questionnaire (Appendix D) and an envelope. The first question asked the athlete "Did the game meet your expectations?" The athlete responded either yes or no, and there was a space for the athlete to give an explanation. This question was included so as to ascertain whether or not the athlete felt his/her expectations were confirmed or disconfirmed as opposed to having the researcher subjectively determine if expectations were confirmed or disconfirmed.

The second question required the athlete to give what he or she felt was the most important determining factor in the game. The question asked "What one factor do you feel contributed most to the outcome of the game?"

The third portion of the post-game questionnaire contained the Causal Dimension Scale. The athlete was asked to complete the scale according to the following instructions: "Think about the factor you have written above. The items below concern your impressions or

opinions of this cause of your outcome. Circle one number for each of the following scales."

The fourth question asked the athlete to indicate if he or she was a starter in the game. Also, if the athlete was not a starter, he/she indicated if they played at all during the game.

The final portion of the post-game questionnaire asked the athlete to indicate to what extent the four traditional elements of attribution - ability, skill, luck and task difficulty - played a role in the outcome of the game.

When the athlete completed the post-game questionnaire he/she placed the questionnaire in the envelope, sealed it, and returned the envelope to the researcher or assistant. The individual envelopes were then placed into a larger envelope on which the score of the game and the team's name was recorded. The pre-game questionnaires were already in the larger envelope. This procedure ensured that both parts of the study, for each team, were kept together.

Subjects were instructed to mark both parts of the questionnaire (pre- and post-game) with some kind of identifying symbol - one suggestion was to mark down their uniform number. This ensured that both parts of the questionnaire were completed by each athlete, and also allowed the researcher to examine each athlete's evaluation of the outcome of the game in relation to their prior expectations.

The subjects were assured prior to the collection of data that all responses would remain confidential, and respondents would remain anonymous. Any athlete who was uncomfortable about putting a

uniform number on the questionnaires could use any identification symbol of his/her choosing. The distribution and collection procedures were designed to ensure that all teams received uniform treatment, and that respondents were assured that their responses would remain confidential and anonymous.

Data Analysis

Following the collection of the data a limitation became apparent as to what data could be included in the statistical analysis. Data involving the starter versus non-starting player versus non-player was not included in the data analysis because the inclusion of a fourth variable in the multifactorial analysis would have resulted in cell samples too small to adequately analyze.

The remaining data collected in this study was analyzed for differences in the following manner:

1. A 2 X 2 X 2 multifactorial analysis of variance was performed to test for differences in Hypotheses 1, 2 (a & b), 3 (a & b), 4, and 5 (a, b & c). The factors used in the analysis were sex (male/female), outcome (win/loss), and expectation (confirmed/disconfirmed). The data was analyzed using a SAS General Linear Models procedure. The level of significance was set at $p < .05$.
2. A Newman-Keuls Post-Hoc test was performed on any test which showed a significant F value where $p < .05$. The level of significance for the Post-Hoc test was set at

$p < .05$.

3. A Pearson Chi-Square statistic was performed to test for differences in Hypothesis 6 (a & b). The data was analyzed using a SAS Frequency procedure. The level of significance was set at $p < .05$.

4. The data involving Weiner's traditional elements of attribution was analyzed according to the procedures outlined in data analysis steps one and two.

CHAPTER 4

Results and Discussion

Table 1 presents the analysis of the locus of causality scores, and shows that there is an outcome main effect (p=.0261) and a sex/expectation interactive effect (p=.0087). A Newman-Keuls Post-Hoc test was performed to determine which of the four groups in the sex/expectation analysis were significantly different. The results of the post-hoc, summarized in Table 2, show a significant difference between female-confirmed and female-disconfirmed groups (F=2.73), between female-confirmed and male-confirmed groups (F=3.77), and between male-confirmed and male-disconfirmed groups (F=2.63) where $F(.05, 3, \infty)=2.60$. An examination of the mean scores for the various groups in the 2 X 2 X 2 procedure (Appendix E) indicates that: winners (16.55) were significantly more internal than losers (14.05); female-confirmed subjects (16.84) were significantly more internal than female-disconfirmed subjects (14.28), as well as significantly more internal than male-confirmed subjects (13.30); and male-confirmed subjects (13.30) were significantly less internal than male-disconfirmed subjects (15.69). There were no other significant differences for any groups in the locus of causality dimension.

Table 3 presents an analysis of the stability scores, and shows that there is an expectation main effect (p=.0081). An examination of the mean scores for the groups in the 2 X 2 X 2 analysis (Appendix E)

Table 1

Summary of Analysis of Variance
Locus of Causality Dimension

Source	DF	Sum of Squares	Mean Square	F
Model	7	431.87037514	61.69576788	*2.13
Error	125	3614.94165494	28.91953324	
Corrected Total	132	4046.81203008		

Source	DF	Sum of Squares	F Value	p Value
Sex	1	31.52663885	1.09	0.2985
Expect	1	0.23414300	0.01	0.9284
Sex/Expect	1	205.65280665	*7.11	*0.0087
Outcome	1	146.62083398	*5.07	*0.0261
Sex/Outcome	1	13.33381225	0.46	0.4984
Expect/Outcome	1	1.24660975	0.04	0.8359
Sex/Expect/Outcome	1	33.25553066	1.15	0.2856

* Significant at .05 level

Table 2

Summary of Newman-Keuls Post-Hoc Test
Sex/Expectation Groups
Locus of Causality Dimension

	S_1	S_2	S_3	S_4
S_1		*2.73	*3.77	1.14
S_2			1.04	1.59
S_3				*2.63
S_4				

* Significant at .05 level

S_1 Female-confirmed
S_2 Female-disconfirmed
S_3 Male-confirmed
S_4 Male-disconfirmed

Table 3

Summary of Analysis of Variance
Stability Dimension

Source	DF	Sum of Squares	Mean Square	F
Model	7	631.96172852	90.28024693	*2.37
Error	125	4771.28639178	38.17029113	
Corrected Total	132	5403.24812030		

Source	DF	Sum of Squares	F Value	p Value
Sex	1	50.65200994	1.33	0.2515
Expect	1	276.18739474	*7.24	*0.0081
Sex/Expect	1	18.97983986	0.50	0.4820
Outcome	1	136.52374520	3.58	0.0609
Sex/Outcome	1	54.56926670	1.43	0.2341
Expect/Outcome	1	77.86341932	2.04	0.1557
Sex/Expect/Outcome	1	17.18605275	0.45	0.5035

* Significant at .05 level

shows that confirmed-expectation subjects (15.43) had significantly more stable attributions than did disconfirmed-expectation subjects (12.78). There were no other significant differences for any groups in the stability dimension.

Table 4 presents the analysis of the controllability scores, and shows that there is an expectation main effect (p=.0001), an outcome main effect (p=.0001), and a sex/expectation/outcome interactive effect (p=.0151). A Newman-Keuls Post-Hoc test was performed to determine which of the eight groups in the sex/expectation/outcome analysis were significantly different. A summary of the results of the post-hoc test is given in Table 5 and shows fourteen significant relationships. Examination of the mean scores for the groups in the 2 X 2 X 2 procedure (Appendix E) shows that: confirmed-expectation subjects(19.58) had significantly more controllable attributions than did disconfirmed-expectation subjects (15.41); winners (20.96) were significantly higher for the controllability dimension than were losers (13.31); and, in ascending order from least controllable to most controllable attributional scores, the sex/expectation/outcome groups were female/confirmed/loss (10.90), male/disconfirmed/loss (11.95), female/disconfirmed/loss (15.10), male/confirmed/loss (15.38), female/disconfirmed/win (17.75), male/disconfirmed/win (19.18), male/confirmed/win (21.84), and female/confirmed/win (22.36). There were no other significant differences for any groups in the controllability dimension.

Table 6 gives a summary of the data in which the male and female subjects were asked if the game would be a win or a loss. The table

Table 4

Summary of Analysis of Variance
Controllability Dimension

Source	DF	Sum of Squares	Mean Square	F
Model	7	2336.46778611	333.7811123	*13.09
Error	125	3188.46454472	25.5077164	
Corrected Total	132	5524.93233083		

Source	DF	Sum of Squares	F Value	p Value
Sex	1	18.46037244	0.72	0.3966
Expect	1	560.46616566	*21.97	*0.0001
Sex/Expect	1	13.87363468	0.54	0.4622
Outcome	1	1487.46279777	*58.31	*0.0001
Sex/Outcome	1	2.89108476	0.11	0.7369
Expect/Outcome	1	98.56375571	3.86	0.0515
Sex/Expect/Outcome	1	154.74997511	*6.07	*0.0151

* Significant at .05 level

Table 5

Summary of Newman-Keuls Post-Hoc Test
Sex/Expectation/Outcome Groups
Controllability Dimension

	S_1	S_2	S_3	S_4	S_5	S_6	S_7	S_8
S_1		*8.36	*3.06	*5.00	*3.27	*7.99	0.77	*6.04
S_2			*5.30	*3.36	*5.10	0.38	*7.59	*2.32
S_3				1.94	0.20	*4.92	*2.29	*2.97
S_4					1.73	*2.99	*4.23	1.04
S_5						*4.72	*2.50	*2.77
S_6							*7.22	1.95
S_7								*5.27
S_8								

* Significant at .05 level

S_1 Female-confirmed-loss
S_2 Female-confirmed-win
S_3 Female-disconfirmed-loss
S_4 Female-disconfirmed-win
S_5 Male-confirmed-loss
S_6 Male-confimred-win
S_7 Male-disconfirmed-loss
S_8 Male-disconfirmed-win

Table 6

Summary of Data for Choosing Win/Loss

	Female	Male
Win	64	64
Loss	3	2
Total	67	66

Predicting a Win

	Female	Male
Frequency (observed)	64	64
Frequency (expected)	64.48	63.52

$x^2=0.007$ $x^2(.05, 1)=3.84$

Predicting a Loss

	Female	Male
Frequency (observed)	3	2
Frequency (expected)	2.52	2.48

$x^2=0.18$ $x^2(.05, 1)=3.84$

includes, for each sex, the observed frequency of predicting a win, the expected frequency of predicting a win, the observed frequency of predicting a loss, and the expected frequency of predicting a loss. A Pearson chi-square statistic comparison of the data shows no significant difference between females and males for the likelihood of predicting a win (x^2=0.007), or for the likelihood of predicting a loss (x^2=0.18), where x^2(.05, 1)=3.84.

Table 7 gives a summary of the data in which the male and female subjects were asked what the point differential in the game would be. The table includes, for each sex and for each point interval, the observed frequency of choosing the interval, the expected frequency of choosing the interval, the deviation of the observed frequency from the expected frequency, the critical value of chi-square for each cell, and percentage of total, row and column. A chi-square analysis for homogenity of proportions of the data shows that there is a significant difference between males and females for the choosing of game point differential intervals (p=.0003). A Pearson chi-square statistic comparison of female and male frequencies for each point differential interval indicates females (n=22) have a significantly higher frequency of choosing the lowest point differential interval (1-5 points) than do males (n=8) (x^2=6.3), and males (n=11) have a significantly higher frequency of choosing the highest point differential interval (more than 20 points) than do females (n=1) (x^2=8.5), where x^2(.05, 1)=3.84. There were no significant differences between males and females for point intervals 6-10 points, 11-15 points, and 16-20 points. Figure 1,

Table 7

Summary of Data for Point Differential Intervals
Sex by Code

SEX / CODE	1	2	3	4	5	Total
Female	22	26	12	6	1	67
Frequency	22	26	12	6	1	
Expected	15.1	21.2	15.1	9.6	6.0	
Deviation	6.9	4.8	-3.1	-3.6	-5.0	
Cell Chi2	3.1	1.1	0.6	1.3	4.2	
Percent	16.54	19.55	9.02	4.51	0.75	50.38
Row Pct	32.84	38.81	17.91	8.96	1.49	
Col Pct	73.33	61.90	40.00	31.58	8.33	
Male	8	16	18	13	11	66
Frequency	8	16	18	13	11	
Expected	14.9	20.8	14.9	9.4	6.0	
Deviation	-6.9	-4.8	3.1	3.6	5.0	
Cell Chi2	3.2	1.1	0.7	1.4	4.3	
Percent	6.02	12.03	13.53	9.77	8.27	49.62
Row Pct	12.12	24.24	27.27	19.70	16.67	
Col Pct	26.67	38.10	60.00	68.42	91.67	
Total	30	42	30	19	12	133
	22.56	31.58	22.56	14.29	9.02	100.00

Statistics for 2-Way Table

Chi-Square	21.020	DF=4	PROB=0.0003*

* Significant at .05 level

Code 1 1-5 points
Code 2 6-10 points
Code 3 11-15 points
Code 4 16-20 points
Code 5 20+ points

Interval 1 1-5 points
Interval 2 6-10 points
Interval 3 11-15 points
Interval 4 16-20 points
Interval 5 20 + points

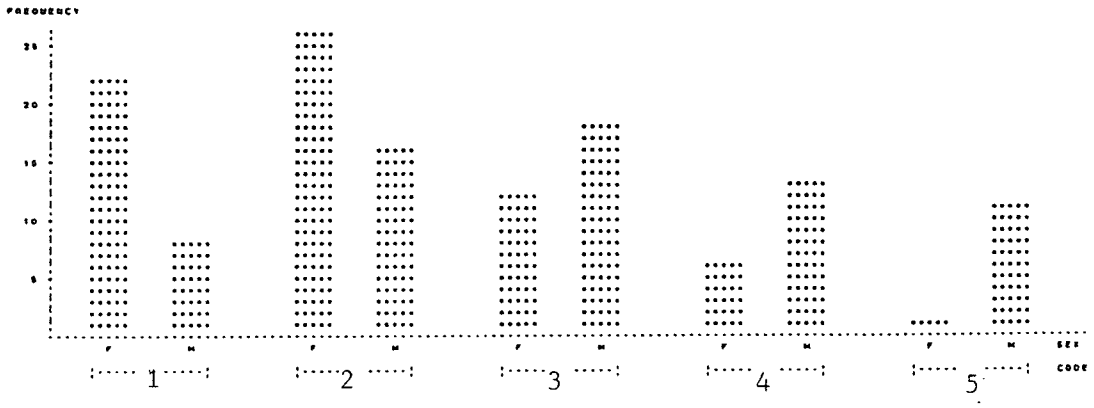

Figure 1. Point Differential Interval Frequencies, Side-by-Side Comparison, Females versus Males

which is a side-by-side comparison of male and female frequencies, more clearly indicates the differences between males and females in choosing point differential intervals.

Analysis of the data concerning the four traditional elements of attribution (ability, effort, task difficulty and luck) produces the following results. Table 8 presents the analysis of the ability variable data, and shows a sex main effect (p=.0012), an expectation main effect (p=.0009), and an outcome main effect (p=.0001). Examination of the mean scores for the groups in the 2 X 2 X 2 procedure (Appendix E) shows that: females (3.84) were significantly higher than males (3.14); confirmed-expectation subjects (3.91) were significantly higher than disconfirmed-expectation subjects (3.09); and winners (4.06) were significantly higher than losers (2.82).

Table 9 presents the analysis of the effort variable data, and shows an expectation main effect (p=.0037), and an outcome main effect (p=.0001). Examination of the mean scores for the groups in the 2 X 2 X 2 procedure (Appendix E) shows that: confirmed-expectation subjects (3.94) were significantly higher than disconfirmed-expectation subjects (3.16); and winners (4.18) were significantly higher than losers (2.79).

Table 10 presents the analysis of the task difficulty variable data, and shows a sex main effect (p=.0301), an outcome main effect (p=.0276), and a sex/outcome interactive effect (p=.0370). A Newman-Keuls Post-Hoc test was performed to determine which of the four sex/outcome groups were significantly different. The results of the

Table 8

Summary of Analysis of Variance
Ability Variable

Source	DF	Sum of Squares	Mean Square	F
Model	7	81.87118431	11.69588347	7.89
Error	125	185.36189840	1.48289519	
Corrected Total	132	267.23308271		

Source	DF	Sum of Squares	F Value	p Value
Sex	1	16.26632558	10.97	*0.0012
Expect	1	17.12630152	11.55	*0.0009
Sex/Expect	1	4.03851042	2.72	0.1014
Outcome	1	39.51287729	26.65	*0.0001
Sex/Outcome	1	0.88212950	0.59	0.4420
Expect/Outcome	1	0.39638082	0.27	0.6061
Sex/Expect/Outcome	1	3.64865917	2.46	0.1193

* Significant at .05 level

Table 9

Summary of Analysis of Variance
Effort Variable

Source	DF	Sum of Squares	Mean Square	F
Model	7	82.12102382	11.73157483	*6.04
Error	125	242.90153257	1.94321266	
Corrected Total	132	325.02255639		

Source	DF	Sum of Squares	F Value	p Value
Sex	1	6.52527010	3.36	0.0693
Expect	1	17.01993029	8.76	*0.0037
Sex/Expect	1	1.82639504	0.94	0.3342
Outcome	1	51.66848562	26.59	*0.0001
Sex/Outcome	1	0.50275191	0.26	0.6119
Expect/Outcome	1	1.98116466	1.02	0.3146
Sex/Expect/Outcome	1	2.59702620	1.34	0.2499

* Significant at .05 level

Table 10

Summary of Analysis of Variance
Task Difficulty Variable

Source	DF	Sum of Squares	Mean Square	F
Model	7	25.64352291	3.66336042	*2.47
Error	125	185.03316882	1.48076535	
Corrected Total	132	210.67669173		

Source	DF	Sum of Squares	F Value	p Value
Sex	1	7.12467907	4.81	*0.0301
Expect	1	1.68733926	1,14	0.2877
Sex/Expect	1	1.75336323	1.18	0.2785
Outcome	1	7.35585696	4.97	*0.0276
Sex/Outcome	1	6.57669751	4.44	*0.0370
Expect/Outcome	1	1.13439090	0.77	0.3830
Sex/Expect/Outcome	1	0.01119599	0.01	0.9308

* Significant at .05 level

post-hoc test are presented in Table 11, which shows a significant difference between the female-loss and male-loss groups (F=4.64), between the female-win and male-loss groups (F=4.59), and between the male-loss and male-win groups (F=4.59), where F(.05, 3,)=2.60. An examination of the mean scores for the groups in the 2 X 2 X 2 analysis (Appendix E) indicates that: females (3.45) were significantly higher than males (2.98); winners (3.44) were significantly higher than losers (2.95); and, in ascending order, male-loss subjects (2.43) were lower than female-win and male-win subjects (both at 3.44), which in turn, were lower than female-loss subjects (3.45).

Table 12 presents the analysis of the luck variable data, and shows a sex main effect (p=.0037), an expectation main effect (p=.0149), and an outcome main effect (p=.0239). Examination of the mean scores for the groups in the 2 X 2 X 2 procedure (Appendix E) indicates that: males (3.05) were significantly higher than females (2.37); disconfirmed-expectation subjects (3.03) were significantly higher than confirmed-expectation subjects (2.37); and losers (3.07) were significantly higher than winners (2.40).

Discussion

Gender Results

Attributions. As was expected, there was no sex main effect for any of the three dimensions. This finding agrees with studies by Sheedy (1983) and Lefebvre (1979b), and with the literature reported by Bluckner and Hershberger (1983), in which there were no significant

Table 11

Summary of Newman-Keuls Post-Hoc Test
Sex/Outcome Groups
Task Difficulty Variable

	S_1	S_2	S_3	S_4
S_1		0.05	*4.64	0.05
S_2			*4.59	0.00
S_3				*4.59
S_4				

* Significant at .05 level

S_1 Female-Loss

S_2 Female-Win

S_3 Male-Loss

S_4 Male-Win

Table 12

Summary of Analysis of Variance
Luck Variable

Source	DF	Sum of Squares	Mean Square	F
Model	7	45.30503833	6.47214833	*3.78
Error	125	214.25887144	1.71407097	
Corrected Total	132	259.56390977		

Source	DF	Sum of Squares	F Value	p Value
Sex	1	15.02863162	8.77	*0.0037
Expect	1	10.45588283	6.10	*0.0149
Sex/Expect	1	1.23624560	0.72	0.3974
Outcome	1	8.95961035	5.23	*0.0239
Sex/Outcome	1	2.05735781	1.20	0.2754
Expect/Outcome	1	0.97620513	0.57	0.4519
Sex/Expect/Outcome	1	6.59110500	3.85	0.0521

* Significant at .05 level

differences between males and females on attribution scores.

There was, however, a gender interactive effect for two of the causal dimensions. There was a sex/expectation interactive effect for the locus of causality dimension, and a sex/expectation/outcome interactive effect for the controllability dimension.

Significant differences in the locus of causality dimension were found between female-confirmed and female-disconfirmed conditions, between female-confirmed and male-confirmed conditions, and between male-confirmed and male-disconfirmed conditions. In the relationship for which sex is the differentiating variable (female-confirmed versus male-confirmed) it was found that females were more internal than males in the confirmed-expectation condition. This finding is in conflict with studies by Weinberg et al (1982) and Carron (1984) which found that females tend to endorse external attributes (such as luck) more than males. This finding may suggest that females assume more personal responsibility for a confirmed outcome - win or loss - than do males.

The sex/expectation/outcome interactive effect in the controllability dimension involves twenty-one significant relationships, ten of which include sex as a differentiating variable. Of the four relationships in which sex is the only differentiating variable (female-confirmed-win versus male-confirmed-win; female-confirmed-loss versus male-confirmed-loss; female-disconfirmed-win versus male-disconfirmed-win; female-disconfirmed-loss versus male-disconfirmed-loss) only two are significant: female-confirmed-loss versus male-confirmed-loss in which the males have higher controllability scores, and female-disconfirmed-loss versus male-disconfirmed-loss in which the females scored higher for

controllability. It would appear that the sex variable is not the main determinant of the controllability dimension.

Expectations. This study found no significant difference between males and females for the likelihood of predicting a win or loss for upcoming competition. This does not agree with Gill et al (1984) who found that males were more likely to predict a win. There are two possible explanations for the finding that males and females did not differ in the likelihood of predicting the outcome of a competition. The first, suggested by Miller and Ross (1975), is that there may be a tendency for people to expect success. That is, whether it is realistic or unrealistic to do so, people usually expect to win. A second explanation, as described by Scanlon and Passer (1980), is the effects of situational constraints on the making of responses. Scanlon and Passer describe the occurrance of a situation in which the athlete feels pressured by coaches, teammates, and so-called "social norms" to make "appropriate" attributions or statements which may, or may not, coincide with the athlete's own beliefs. Thus, an athlete may predict a win, not necessarily because the athlete honestly feels that a win will occur, but possibly because he/she feels that is what he/she is supposed to do. This idea is related to the concept of public versus private statements. Brawley (1984) reported that public presentation of attributions and statements may differ markedly from those made privately. The degree to which this is true may depend on the degree to which the athlete will be held responsible for the accuracy of the statements or attributions. This is especially true when the public

statements are made to a significant other, for example, a coach, parent, or newspaper reporter. In an anonymous questionnaire the athlete is not held individually accountable, and the extent to which the resulting responses may be considered public or private is unclear. The athlete may feel that, since someone else is going to examine the responses, the responses are public. Or, the athlete may feel that, because responses are anonymous and their identity will not be known, they can write down what they honestly feel. Is is evident, then, that much more research is needed on prediction of outcome for competition.

The results of this study show a significant difference between males and females in the way they selected a point spread interval. In agreement with Sanguinette et al (1985), Weinberg et al (1983) and Carron (1984), this study found that females were more conservative, or lower, in their expectancies for success than were males. A possible explanation for this may be that, while women in sport are gaining more and more acceptance, it is still not socially acceptable for women to be "too aggressive", or "too competitive", or "too cocky" - in short, too masculine. It is still more acceptable for women to be more conservative and modest in sport. Another possible explanation is suggested by Carron (1984) who found that perception of personal ability may also affect expectations for success. He found that females tend to have a lower perception of personal ability and lower expectancies for success than males. This may well be linked to the first explanation that females should be more conservative and modest about

their involvement in sport. This will be further examined in the implications section of this chapter.

Win/Loss Results

As expected, there was an outcome main effect for the locus of causality dimension. In agreement with a number of studies, among them Gill et al (1982), McAuley and Gross (1983), and McAuley et al (1983), it was found that winners were significantly more internal in their causal attributions than were losers. This difference has often been explained by the self-serving bias theory (Zuckerman, 1979). This theory indicates that while there is a tendency toward self-enhancement in making attributions for success (i.e. assuming personal responsibility for success), there may also be a tendency toward self-protection in cases of failure (i.e. avoiding personal responsibility for failure) (Miller & Ross, 1975). This phenomenon is often called "saving face", and there are a multitude of variables, mostly external in nature, which athletes use to save face, from injuries, to environmental factors, to lack of preparation and poor coaching decisions. The self-serving bias may be seen as producing the beneficial situation where the athlete is not discouraged from trying again (since it is not his "fault" the team lost). However, in reality, it produces a negative situation in which the athlete is not encouraged to improve in the areas which really were the cause of the failure (such as a lack of effort). As Freedman (1964) suggested, people often resist perceiving their own behavior as inadequate and rarely see themselves as a primary cause of failure. Thus, there may be a perpetuation of

the condition of failure as the athlete makes external attributions for failure, resigns himself/herself to the fact that the outcome of failure was due to something outside of him/her, and does not work on the things which must be improved to increase the possibility of future success. Until the athlete assumes personal responsibility for the outcome it is difficult to take steps to improve the opportunities for success. While some studies suggest that, in sport settings, self-serving attributions may be overpowered by situationally-demanded attributions (Scanlon & Passer, 1980; Mark et al, 1984), the self-serving bias was operating to some degree in this study.

There was an outcome main effect observed for the controllability dimension, with winners being significantly more controllable than losers. While research suggests that winners will be more controllable in their attributions than losers (Gill et al, 1982; McAuley & Gross, 1983), and some research suggests there will be no difference (Mark et al, 1984), none of the studies examined by the researcher found a significant difference between winners and losers on the controllability dimension. An explanation for the findings of this study may be related to the locus of causality dimension. It has already been found that winners are more internal than losers. The question, asked by Weiner (1979) arises: "...can an external cause be perceived as controllable?" (pg.7) If the answer to that question is "not really", which Weiner (and the researcher) tends to feel, then it follows that if winners make more internal attributions they will also make more controllable attributions than losers.

There was also a sex/expectation/outcome interactive effect for the controllability dimension which produced twenty-one significant relationships, fourteen of which involve outcome as a differentiating variable. Of the four relationships which have outcome as the only differentiating variable (female-confirmed-win versus female-confirmed-loss; female-disconfirmed-win versus female-disconfirmed-loss; male-confirmed-win versus male-confirmed-loss; male-disconfirmed-win versus male-disconfirmed-loss), all but female-disconfirmed-win versus female-disconfirmed-loss were significant. In all four relationships, the controllability scores were higher for the win condition than for the loss condition. This supports the finding that outcome has an effect on the controllability dimension.

It must be kept in mind exactly what is meant by the success or failure of the outcome in any study. Most studies use absolute, objective outcomes to assess success and failure, while other studies use perceived, subjective outcomes. Rejeski and Brawley (1983) suggested the type of achievement outcome used - absolute, objective (win/loss) versus relative, subjective (perceived success or failure) - and whether goals were met, or not met - can have a great influence on resulting attributional data. McAuley and Gross (1983) reported that most studies assess attributions for absolute success or failure (win/loss) and suggested that attributions may differ for perceived success or failure. McAuley (1985) and Ramsburg (1978) suggested that whether the athletes feel they are successful or unsuccessful

is more important than whether they win or lose. Spink and Roberts (1980) suggested that objective outcomes per se may not be the best determinant for causal attributions, since winning or losing are not necessarily synonymous with success and failure. This study used a combination of absolute and perceived success and failure. Absolute outcome was used to assign the subjects to a win or loss condition, but this was tempered by having the athlete assess whether or not his/her expectations were met in the competition, thereby assigning the expectation condition.

Expectation Results

There was no expectation main effect found for the locus of causality dimension, but there was a sex/expectation interactive effect. It was found that there was a significant difference between the female-confirmed and female-disconfirmed conditions, between the female-confirmed and male-confirmed conditions, and between the male-confirmed and male-disconfirmed conditions. The two relationships in which expectation is the differentiating variable (female-confirmed versus female-disconfirmed and male-confirmed versus male-disconfirmed) suggest that, for each sex, expectations will affect locus of causality attributions. Chapman and Lawes (1984) found that confirmed-success subjects made internal attributions, while disconfirmed-failure subjects made more external attributions. More specifically, Nesdale (1983) reported that behavior that confirms a person's expectations

is attributed internally (to the actor) and behavior that disconfirms a person's expectations is attributed externally (to the situation). One would expect for the present study that, for each sex, the confirmed condition would be more internal than the discomfirmed condition. This is the case for the females, but for the males the disconfirmed condition is more internal than the confirmed condition. The inconsistency of this finding is puzzling. There is neither a sex main effect nor an expectation main effect for the locus of causality dimension, but rather, there is a combination of sex and expectation conditions which produces significant differences between groups. More study is necessary to clarify the sex/expectation interactive effect for the locus of causality dimension.

There was an expectation main effect for the stability dimension, and, as hypothesized, the confirmed condition was significantly higher on the stability dimension than the disconfirmed condition. This finding is in aggreement with many studies (Lau & Russell, 1980; Valle, 1975; McMahon, 1973). An explanation for this finding is suggested by the relationship between past performance and expectations for future performance. Expectations about an upcoming competition are made based on performance in the past, that is, how well an athlete expects to do depends largely on how well the athlete has done in the past (Weiner, 1979). Athletes assemble and, over time, modify the factor, or set of factors, which it is felt have influenced the outcomes of performance. This is true whether the athlete has been largely successful, or largely unsuccessful, however, in either case it has been found that as a performance

outcome is repeated over time, attributions become more and more stable (Allmer, 1980; Inagi, 1977). An athlete who has been predominantly successful in the past will tend to expect to succeed in the future, while an athlete who has experienced predominantly failed outcomes will have lower expectancies for success. Thus, when the athlete's expectations are confirmed, that is, when the athlete who expects to do well is successful, or the athlete who did not expect to do well is not successful, the athlete is able to draw from the existing set of factors and produce stable attributions. If the performance does not confirm the athlete's expectations, the athlete must search out a new factor or factors which influenced the performance, and the attributions will be more unstable (Pyszcznski & Greenberg, 1981; Nesdale, 1983; Hastie, 1984).

There was an expectation main effect for the controllability dimension, with the confirmed-expectation condition having significantly more controllable attributions than the disconfirmed-expectation condition. While Forsyth and MacMillan (1981) found that the controllability dimension had an effect on the changing of future levels of expectancy, only one study was found on the effect of expectancy on the controllability dimension. Inagi (1977) suggested that there was no relationship between expectancy and the controllability dimension. However, the finding of this study that there was a signifcant difference between confirmed and disconfirmed conditions appears to be logical. An athlete should feel that more control is exercised (either by self or some other actor) in a performance that is expected, than is exer-

cised in a performance that is unexpected, in that an aspect of the controllability dimension is intentionality. This follows from the idea that each opponent in the game has established some kind of strategy according to their expectations about the game. If the game meets their expectations the athletes are more likely to believe it was because they executed their game strategy than if the game did not meet their expectations. When the competition and its outcome does not meet expectations there may be a tendency to adopt the attitude that "there was nothing to be done to change what happened" since the execution of their game strategy did not produce the desired results.

There was also a sex/expectation/outcome interactive effect for the controllability dimension resulting in twenty-one significant relationships. Twelve of these relationships had expectation as a differentiating variable, and of the four in which expectation was the only differentiating variable (female-confirmed-loss versus female-disconfirmed-loss; female-confirmed-win versus female-disconfirmed-win; male-confirmed-loss versus male-disconfirmed-loss; male-confirmed-win versus male-disconfirmed-win) all but male-confirmed-win versus male-disconfirmed-win were significant. There was a conflicting pattern of expectation effect, however. The confirmed-expectation condition was significantly higher than the disconfirmed-expectation condition for the female-confirmed-win versus female-disconfirmed-win relationship, and for the male-confirmed-loss versus male-disconfirmed-loss relationship. However, in the female-confirmed-loss versus female-disconfirmed-loss relationship the disconfirmed-expectation condition was significantly

more controllable than the confirmed-expectation condition. This suggests that, although expectation has an influence on the controllability dimension (as per the expectation main effect), the interactive effect of, to some extent, the sex variable and, to a much larger extent, the outcome variable, mediates the main effect of the expectation variable on the controllability dimension.

Traditional Elements Results

The four traditional elements of ability, effort, task difficulty and luck have been classified along causal dimensions by a number of researchers. Roberts and Pascuzzi (1977) classified ability as being internal and stable, effort as internal and unstable, and luck and task difficulty as external and unstable. Weiner (1979) and Carron (1984) also included the dimension of controllability (which Carron refered to as intentionality), and classified ability as being internal, stable and uncontrollable, effort as internal, unstable and controllable, task difficulty as external, stable and uncontrollable, and luck as external, unstable and uncontrollable. The latter classification system assists in examining the results of the traditional elements portion of this study in relation to relevant literature.

Gender. Gill (1980) and Sheedy (1983) reported no difference between the attributions made by males and females. Weinberg et al (1982) and Carron (1984) found that females rated luck higher than males, and Gill et al (1984) and Carron (1984) reported that females rated effort higher than males. Carron (1984) also found that females

rated ability lower than did males and task difficulty higher than males. The conflicting nature of the literature makes it difficult to analyze the results of this study as to agreement or disagreement with other studies. In this study females were higher than males for ability attributions (Carron (1984) found the opposite to be true), and for task difficulty attributions (which agrees with Carron's (1984) conclusion). There was no significant difference for effort attributions (which agrees with Gill (1980) and Sheedy (1983), but disagrees with Gill et al (1984) and Carron (1984)). Males were higher than females for luck attributions (Weinberg et al (1982) and Carron (1984) found the opposite to be true). More research is needed in the area of gender effects on attributions in order to clarify what is currently a confusing situation.

Win/Loss. Literature dealing with the effects of outcome on the making of causal attributions has reported that winners make internal attributions, specifically ability and effort, more than losers, while losers make external attributions, specifically luck and task difficulty, more than winners (Frieze & Weiner, 1971; Iso-Ahola, 1977; Spink, 1978; Lau & Russell, 1980; Weinberg et al, 1982). The results of this study are in agreement with the reported literature for ability attributions (winners higher than losers), for effort attributions (winners higher than losers) and for luck attributions (losers higher than winners). However, for task difficulty attributions this study found that winners were higher than losers, which does not agree with the literature. A possible explanation for this finding is that task difficulty is often

considered to be a stable attribution (Weiner, 1979; Carron, 1984), and as such, winners may be expected to rate task difficulty attributions higher than losers (Gill et al, 1982; McAuley & Gross, 1983).

Expectations. If performance is consistent with prior expectations, the outcome is more likely to be attributed to stable factors, while if performance is not consistent with expectations, unstable attributions are made (Valle, 1975; Lau & Russell, 1980). When an outcome is consistent with prior expectations there is greater attribution to internal factors, while a disconfirmed outcome leads to more external factors (Nesdale, 1983). According to Weiner's (1979) and Carron's (1984) classification systems, ability is internal and stable, effort is internal and unstable, task difficulty is external and stable, and luck is external and unstable. The results of this study found that, for the expectation variable, confirmed-expectation subjects were higher than disconfirmed subjects for ability attributions and effort attributions, disconfirmed-expectation subjects were higher than confirmed-expectation subjects for luck attributions, and there was no difference for task difficulty attributions. If the stability of each factor is considered it would be expected that confirmed-expectation subjects would be higher than disconfirmed-expectation subjects for ability and task difficulty attributions, which are considered stable, and that disconfirmed-expectation subjects would be higher than confirmed-expectation subjects for effort and luck attributions, which are considered unstable. If the locus of causality of each factor is considered it would be expected that confirmed-expectation subjects would be higher than disconfirmed-expectation subjects for ability and effort attributions

which are considered internal, and that disconfirmed-expectation subjects would be higher than confirmed-expectation subjects for task difficulty and luck attributions, which are considered to be external. While there is agreement for the ability attributions (confirmed higher than disconfirmed) and the luck attributions (disconfirmed higher than confirmed), the effort and task difficulty attributions are not in agreement with what the literature would predict. Each of the traditional elements has three component properties which are locus of causality, stability and controllability. Research suggests that, in different situations (such as win vs loss), each of these properties would predict that certain attributions would be made, and that these properties do not always coincide for each element (such as the internal, yet unstable, properties of effort, and the external, yet stable, properties of task difficulty). It is the author's contention that this finding supports other studies which recommend that causal dimensions, rather than causal elements, be used in sport studies dealing with attribution theory (Roberts & Pascuzzi, 1979; Gill et al, 1982; Rejeski & Brawley, 1983).

Implications

The results of this study have several implications for the practical application of attribution theory and how it is affected by expectations.

One of the most important implications lies in the area of attribution retraining. Attribution retraining, as the name implies, involves changing the attributions made following outcomes of success or failure. The review of the literature presented in the preceding chapters has indicated that the attributions for a past outcome which

lead to a high expectancy for future success are different if that outcome is successful than if the outcome is unsuccessful. Forsyth and MacMillan (1981) reported that if an outcome was successful and attributed to internal and controllable factors, then future expectations were very high, but if the outcome was attributed to external and uncontrollable factors expectations for future success were much lower. If the performance outcome was failure, and if the attributions made were to external and uncontrollable factors, expectations for future success were very low, but if attributions were made to internal and controllable factors expectations for future success were much higher. Carron (1984) and Lau (1984) also stated that internal attributions for outcome - particularily for success - increase the expectations for future success, and may predict better than expected performance in subsequent games. Following success, stable attributions lead to higher expectancies for future success than do unstable attributions, while for failed outcomes the reverse is true (Valle, 1975; Orpen, 1980; Inagi, 1977). The importance of high expectations for success is evident in that individuals who approach tasks with higher expectancy of success are likely to perform better than those with lower expectancy (Dalton et al, 1977; Zajonc & Buckman, 1968, Carron, 1984). Thus, to encourage higher expectancies for success, it is beneficial to emphasize internal, stable and controllable attributions following successful outcomes, and internal, unstable and controllable attributions following failed outcomes.

In the sport setting, attribution retraining is a tool the coach can use to improve the team's attributions, increase the team's expectations for success and, ultimately, improve the team's perform-

ance. This is particularily useful in situations where an athlete or team is not performing well, and experiencing more failure outcomes than successful outcomes. The coach can emphasize an effort orientation (internal, unstable and controllable) which has been found to produce high levels of intensity and persistance on the part of the athletes in both practice and competition, and also leads to a belief that future success is possible (Dweck, 1975; Andrews & Debus, 1978; Grove & Pargman, 1984; Carron, 1984). The effort orientation for attributions following a failure outcome emphasizes the temporary nature of failure, and the need to assume responsibility for, and control of, improving performance, and is in contrast to the ability orientation (internal, stable and controllable) that is emphasized following success. By emphasizing an effort orientation following failure, a coach can help the athletes focus on working hard in practice to improve skills, fitness and/or game strategy. An improvement in these areas should lead to an improvement in performance.

There is an important offshoot of attribution retraining. While the stability dimension is ideally different following success (stable) and failure (unstable), the locus of causality dimension should ideally always be internal, and the controllability should ideally always be controllable. For this study, winners were more stable than losers in their attributions which is as it should be to encourage high expectancy for future success. However, both the locus of causality dimension and the controllability dimension were also affected by the outcome of the game. Winners were more internal and more controllable than losers. It can be seen from this that there is definitely a need for attribution retraining for the losing athletes to produce a shift

from external and uncontrollable attributions, to more internal and controllable attributions to encourage higher expectancy for future success.

The results of this study also show that, in addition to being affected by the outcome of the game, the controllability dimension was also significantly affected by the expectations of the athletes prior to the game. Those athletes whose expectations were confirmed were more controllable in their attributions than those athletes whose expectations were not confirmed. This suggests that there may be a need for coaches to define goals in terms other than winning or losing. Realistically, an athlete or team is not always going to be able to honestly expect to win - the incidence of perfect, undefeated seasons is very rare. If a coach emphasizes winning as the only successful goal, there will be many times when the expectation "we will win" will not be confirmed, and feelings of success will not be realized. For a team that is not highly ranked, or, for whatever reason, does not win very often, the team members may become frustrated and, as failure persists, give progressively more external and uncontrollable attributions. The athletes feel helpless to do anything to improve the situation, and expectations for future success will be very low. Absolute success or failure is, and should be, different from perceived success or failure. Coaches must be aware of this, and set goals which allow athletes to expect some success apart from an absolute win. When it is not realistic to expect to win, other goals may be set which are challenging, but which the team can expect to accomplish, for example, to shoot seventy percent from the free throw line. In this manner, the liklihood of having prior expectations confirmed is increased, as is the liklihood of feeling successful.

It must be remembered, however, that "expectations alone will not produce desired performance if the component capabilities are lacking." (Bandura, 1977, pg. 192) While athletes should be encouraged to have the highest expectations for success that are possible, expecting to win will not produce a victory or good performance if such things as skills, fitness, preparation or game strategy have not been developed to a sufficient level to achieve those expectations. This illustrates the need for realistic goals for success.

This does not mean to imply that athletes should not be encouraged to strive to win; very often winning is a realistic and attainable goal and athletes should be encouraged to reach beyond their current level of athletic acheivement and accomplishment. However, winning or losing should not be the measuring stick by which athletes measure their accomplishments in sport. Athletes must have concrete goals that are within their own control, and within their reach, in order to measure success or failure (Brooks, 1981).

The controllability dimension also exhibited a sex/expectation/outcome interactive effect. It is interesting to note that, although there was both an expectation main effect and an outcome main effect for the controllability dimension, when the interactive effect is examined it becomes apparent that outcome has a more influential effect on the controllability of attributions than do expectations. While there is no logical pattern of controllability scores according to the sex variable (from lowest to highest: female, male, female, male, female, male, male, female), nor according to the expectation variable (from

lowest to highest: confirmed, disconfirmed, disconfirmed, confirmed, disconfirmed, disconfirmed, confirmed, confirmed), controllability scores arranged according to the outcome variable show a very definite and logical pattern (from lowest to highest; loss, loss, loss, loss, win, win, win, win). The outcome of the game was most important in determining the controllability attributions of the athletes, often overpowering, and sometimes enhancing, the effect of expectations on controllability scores. For confirmed-win and disconfirmed-loss conditions there was an enhancing effect of the two variables, but for confirmed-loss and disconfirmed-win conditions, the outcome of the game overpowered the expectations. This is an additional reason for emphasizing success in terms other than an absolute win. If athletes recognize success even if they lose, they may make controllability attributions which are associated with winning (controllable), rather than controllability attributions which are associated with losing (uncontrollable), thereby encouraging a higher expectancy for future success.

Overall, the causal dimension scores in this study were internal (mean=15.25), stable (mean=14.08) and controllable (mean=17.45). However, the stability score was just above the neutral value of 13.50, while the locus of causality score and the controllabilility score were also not high on their respective dimension scales. The overall results of this study agree with other research which has found that attributions are generally internal and controllable, but disagree with the finding that attributions are generally unstable (Gill et al,

1982; McAuley & Gross, 1983).

Another implication of the results of this study stems from the finding that females have lower expectations for success than do males. This is important for coaches who work with female athletes to keep in mind when preparing their athletes for competition. Carron (1984) talks about the necessity of helping female athletes develop an increased expectancy for future success by emphasizing appropriate attributions, particularily increased confidence in personal ability for success, and an increased emphasis on effort attributions for failure. Carron feels that the emphasis on appropriate attributions for women is important, not only to increase expectancy for future success, but to enable the female athlete to develop to her potential.

Another area of concern arises from the use of the Causal Dimension Scale as a measurement tool. The particular measurement tool used by a researcher in a study can have an effect on the results obtained in the study. Rejeski and Brawley (1983) listed instrument and methods variance as a methodological problem in research; different tools for measuring responses can produce different data in otherwise similar studies. Mark et al (1984) suggested that some of the findings reported in research literature may be a function of the measurement technique used, rather than findings which reflect the true nature of the data.

McAuley and Gross (1983), Russell (1982), and Gill et al (1982) found the Causal Dimension Scale to be a reliable measure of how individuals perceive attributions in terms of causal dimensions. However, there was one possible limiting aspect of the scale which arose

from this study. The Causal Dimension Scale does not differentiate between positive and negative factors which the athletes have recorded as having the most influence on the outcome of the competition. For confirmed outcomes this lack of differentiation should not affect the results one would expect to obtain. In the case of a team win, the factors which are listed are usually positive, and the athletes may exhibit a tendency towards higher internal, stable and controllable attributions in relation to losers. In the case of a team loss, the factors given are usually of a negative nature, either an undesirable factor, or the lack of a desirable factor. The losing athletes then may record lower scores on the attribution dimensions than winning athletes. While this again points out the desirability of re-structuring goals to produce a higher incidence of success, these results would be expected, and make sense as well. A desirable factor is one the athlete would like to see continue (stable) and one over which he would like to feel he has personal control (internal and controllable). In the instance of the negative factor of the losing athlete, the factor is one the athlete would like to think is temporary (unstable), or one which was an aspect of the situation and not under his control (external and uncontrollable). Mark et al (1984) found that attributions which are lower in stability and controllability may help to "focus on the changeable, behavioral characteristics which, if modified, may facilitate positive expectations for future performance." (pg. 193)

However, the failure to recognize that some athletes record desirable factors, while other athletes on the same team record

undesirable factors for the same contest, also fails to acknowledge the differences which may occur in the data as a result. For example, for a disconfirmed-win situation, some of the members of the team may give positive factors which they feel contributed to doing well, while other members may give negative factors which they feel contributed to not playing to potential in spite of a win. In a disconfirmed-loss situation, some athletes may record negative factors which they feel contributed to their inability to win the game, while other team members may give positive factors which they feel contributed to playing well in spite of the loss. The extent to which the difference in factors may affect the overall data is not clear, but it is apparent that this problem is most likely to occur in disconfirmed situations. Future studies should examine the factors listed by the athletes and code them as to their positiveness and negativeness, and treat the data as two separtate groups to assess what differences, if any, exist.

There is one final implication of this study which relates to the attributional factors which are given in sport settings. Weiner et al (1971) identified four elements of attribution (ability, effort, task difficulty and luck). However, several studies done in sport settings have suggested that the four traditional elements of attribution are too limiting for sport situations (Roberts & Pascuzzi, 1979; Yamamoto, 1983; Carron, 1984; Gill et al, 1982; Rejeski & Brawley, 1983). This study found twenty-two attributional factors given by the athletes involved. The implication of this finding is that using only a traditional approach to attributional factors may not give a true and complete pic-

ture of the way athletes make causal attributions. The twenty-two factors which were present in this study did include the four elements of ability, effort, task difficulty and luck, but also included things such as officiating, home court advantage, fans, teamwork, coaching, bench strength, preparation, concentration, discipline, positive attitude, desire, physical advantage/disadvantage, patience/execution, temporary ability, composure/control, determination, and specific skills and specific players. Thus, the value of using the Causal Dimension Scale to measure attributions in sport is apparent when one examines the variety and number of factors to which athletes attribute sport performance.

CHAPTER 5

Summary and Conclusions

This study was undertaken with three purposes in mind: To examine any differences between males and females in making causal attributions, to examine whether athletes' expectations about a competition affect their causal attributions following the competition in confirmed or disconfirmed conditions of success or failure, and to examine any differences in the expectations of males and females with regard to predicting a win or loss, and predicting point differential for an upcoming game.

A number of hypotheses were formed and tested in this study to obtain information about these three areas of concern. Of the eleven hypotheses which were tested, seven were confirmed, and are as follows: There was a significant difference between winners and losers for the locus of causality dimension (winners more internal than losers). There was no significant difference between the confirmed-expectation and disconfirmed-expectation conditions for the locus of causality dimension. There was no significant difference between males and females for the locus of causality dimension. There was a significant difference between confirmed-expectation and disconfirmed-expectation conditions for the stability dimension (confirmed more stable than disconfirmed). There was no significant difference between males and females for the stability dimension. There was no significant difference between males

and females for the controllability dimension. There was a significant difference between males and females for point differential expectations (males had higher expectations than females).

There were four hypotheses which were not supported in this study, and are as follows: There will be a significant difference between winners and losers for the stability dimension (no significant difference was observed). There will be no significant difference between winners and losers for the controllability dimension (winners were more controllable than losers). There will be no significant difference between confirmed-expectation and disconfirmed-expectations for the controllability dimension (confirmed were more controllable than disconfirmed). There will be a signinficant difference between males and females for win/loss expectations (no significant difference was observed).

The results of the study warrant the following conclusions:

1. There is no difference between males and females in making causal attributions following competition.

2. Expectations about an upcoming competition affect the causal attributions made following the competition. The outcome of the game was most influential in determining locus of causality scores, but expectation, along with the sex variable, produced an interactive effect. For the stability dimension, the expectation variable was the only variable to significantly affect the scores, with the confirmed-expectation condition more stable than the disconfirmed-expectation condition. The controllability dimension, which was hypothesized as having the least amount of variability, had the greatest number of observed

significant differences. The outcome of the game and prior expectations both produced significant differences, with winners more controllable than losers, and the confirmed-expectation condition more controllable than the disconfirmed-expectation condition, however, outcome is the more influential of the two variables in affecting controllability scores.

3. There is no difference between males and females in predicting a win or loss for upcoming competition. There was, however, a significant difference between males and females for predicting the point differential for an upcoming game, with females having lower expectancies than males.

Recommendations

The following recommendations are made with regard to future research in the area of causal attributions and expectations:

1. Future studies should utilize larger samples. Also, an examination of different sports and different age groups is encouraged.

2. Future studies should utilize various data collection patterns.

Eg. a. - collect data for one team for several competitions against the same opponent.

b. - collect data over the season for a team against a variety of opponents.

c. - collect data from a number of teams against a common opponent.

3. For all studies, the post-game questionnaire should include a question asking each athlete to indicate what he/she would expect the

outcome of the next game against the same opponent to be. This would be helpful in examining what effect causal attributions have on the changing of future expectancies for success.

4. Future research should test for differences between various groups. Eg. a. - players of different achievement levels. Within a team setting, one may find athletes who are low-achievers and athletes who are high-achievers. Some studies have found no difference in attributions for different achievement levels (Spink, 1978), while other studies have found a difference in attributions made by high- and low-achieving athletes (Carron, 1984; Auvergne, 1983; Lefebvre, 1979b; Grove & Pargman, 1984).

b. - players of different positions. Some positions in sports are thought to be more pivotal than others, such as the pitcher in baseball, the quarterback in football, the goaltender in hockey, and the setter in volleyball (Leonard, 1980).

c. - players of different skills levels. Many studies have found no difference between attributions of skilled and less-skilled players (Iso-Ahola, 1977; Spink, 1978; Mark et al, 1984), while Felson (1981) did find differences in attributions between competent and less-competent players. Research in this area should also include starters versus non-starters, and veterans versus rookies.

d. - players who play and players who do not play.

Studies have indicated that there are differences in attributions between actors (those who played) and observers (those who did not play/coaches). Rejeski, Rae and McCook (1981) and Smith (1984) found that actors favored situational explanations, while observers found dispositional explanations for behavior, but Bukowski and Moore (1980) did not find this to be true.

5. Future research should test for differences between athletes in team sports and athletes in individual sports. For example, team cohesion may affect causal attributions (Bird, Foster & Maruyama, 1980), especially the extent to which responsibility for performance is assigned to self or team (Gill, 1980; Gill et al, 1982; Bird & Brame, 1978). For individual sports there is less (and in many cases, zero) opportunity to diffuse the responsibility of performance to other people. Research needs to determine if there are differences between team sport athletes and individual sport athletes for expectations and attributions.

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APPENDIX A

Causal Dimension Scale

The Causal Dimension Scale
(adapted from Russell, 1982)

1. Is the cause something that:										
Reflects an aspect of yourself	9	8	7	6	5	4	3	2	1	Reflects an aspect of the situation
2. Is the cause:										
Controllable by you or other people	9	8	7	6	5	4	3	2	1	Uncontrollable by you or other people
3. Is the cause something that is:										
Permanent	9	8	7	6	5	4	3	2	1	Temporary
4. Is the cause something:										
Intended by you or other people	9	8	7	6	5	4	3	2	1	Unintended by you or other people
5. Is the cause something that is:										
Outside of you	1	2	3	4	5	6	7	8	9	Inside of you
6. Is the cause something that is:										
Variable over time	1	2	3	4	5	6	7	8	9	Stable over time
7. Is the cause:										
Something about you	9	8	7	6	5	4	3	2	1	Something about others
8. Is the cause something that is:										
Changeable	1	2	3	4	5	6	7	8	9	Unchanging
9. Is the cause something for which:										
No one is responsible	1	2	3	4	5	6	7	8	9	Someone is responsible

APPENDIX B

Instructions to Athletes

Instructions to Athletes

- results of the study are confidential and you will remain anonymous.

- the study requires honest and realistic responses. Don't put down what you think your coach would want you to put down, or what you think I want you to put down, or what your teammates are putting down. I am only interested in what <u>you</u> think.

- please make sure you put your uniform number in the space marked Identifying Symbol.

- Pre-game questionnaire:
  - #1 - indicate what you think will be the outcome of the game (win or loss).
  - #2 - indicate what you think will be the point differential ie. win or lose by how many points?
  - put questionnaire in the envelope, seal it and return it to the researcher.

- Post-game questionnaire:
  - #1 - did the game turn out the way you thought it would, or was there something that was not as you expected?
  - #2 - what do you consider to be the most important reason why your team (won/lost) the game. This can be any factor at all. Eg. talent, effort, preparation, coaching, refereeing, fans, etc.
  - #3 - Please read the instructions given with the scale before doing the questions. The scale refers to the factor you gave in question #2. Although it may be easier to circle all the 5's, or all the 1's, or all the 9's, or whatever pattern seems fast, please read each question in the scale and think about each response. This is the most important part of the study.
  - #4 - indicate if you are a starter - if no, please indicate if you played at all during the game.
  - page 2 - please indicate how important you feel the four factors listed were in the outcome of the game. Also, circle which of the two factors you are refering to in each question. Eg. - for the first one, if you thought your team's higher level of skill was important, circle skill and give your numerical response.

- when you have completed the questionnaire (both pages, and have filled in your uniform number) place the questionnaire in the enveloped you have been given and seal the envelope. Then place the envelope in the larger manilla envelope with your team name on it.

- thank you for your time and your participation.

APPENDIX C

Pre-Game Questionnaire

Identifying Symbol _____

1. What do you think will be the outcome of the game?

Win _____ Loss _____

2. What do you think will be the point differential?

1-5 points _____
6-10 points _____
11-15 points _____
16-20 points _____
20 + points _____

APPENDIX D

Post-Game Questionnaire

Identifying Symbol _____

Post-Game Questionnaire

1. Did the game meet your expectations?

   Yes _____

   No _____

   Explain _____

   _____

2. What one factor do you feel contributed most to the outcome of the game?

   _____

   _____

3. Think about the factor you have written above. The items below concern your impressions or opinions of this cause of your outcome. Circle one number for each of the following scales.

1. Is the cause something that:										
Reflects an aspect of yourself	9	8	7	6	5	4	3	2	1	Reflects an aspect of the situation
2. Is the cause:										
Controllable by you or other people	9	8	7	6	5	4	3	2	1	Uncontrollable by you or other people
3. Is the cause something that is:										
Permanent	9	8	7	6	5	4	3	2	1	Temporary
4. Is the cause something:										
Intended by you or other people	9	8	7	6	5	4	3	2	1	Unintended by you or other people
5. Is the cause something that is:										
Outside of you	1	2	3	4	5	6	7	8	9	Inside of you
6. Is the cause something that is:										
Variable over time	1	2	3	4	5	6	7	8	9	Stable over time
7. Is the cause:										
Something about you	9	8	7	6	5	4	3	2	1	Something about others
8. Is the cause something that is:										
Changeable	1	2	3	4	5	6	7	8	9	Unchanging
9. Is the cause something for which:										
No one is responsible	1	2	3	4	5	6	7	8	9	Someone is responsible

4. Are you a starter? Yes _____ No _____

   If no, did you play? Yes _____ No _____

(Please complete next page as well)

Identifying Symbol _____

To what extent do you think the following factors played a role in the outcome of the game?

	Not at all				Very much
1. Skill/Lack of skill	1	2	3	4	5
2. Effort/Lack of effort	1	2	3	4	5
3. Easy opponent/Better opponent	1	2	3	4	5
4. Good luck/Bad luck	1	2	3	4	5

APPENDIX E

Group Mean Scores

Group Mean Scores
Locus of Causality Dimension

Sex	N	Int/Ext
F	67	15.7313433
M	66	14.7575758

Expect	N	Int/Ext
C	65	15.3692308
D	68	15.1323529

Outcome	N	Int/Ext
L	61	14.0491803
W	72	16.2638889

Sex	Expect	N	Int/Ext
F	C	38	16.8421053
F	D	29	14.2758621
M	C	27	13.2962963
M	D	39	15.7692308

Sex	Outcome	N	Int/Ext
F	L	31	14.4516129
F	W	36	16.8333333
M	L	30	13.6333333
M	W	36	15.6944444

Expect	Outcome	N	Int/Ext
C	L	18	13.8888889
C	W	47	15.9361702
D	L	43	14.1162791
D	W	25	16.8800000

Sex	Expect	Outcome	N	Int/Ext
F	C	L	10	16.6000000
F	C	W	28	16.9285714
F	D	L	21	13.4285714
F	D	W	8	16.5000000
M	C	L	8	10.5000000
M	C	W	19	14.4736842
M	D	L	22	14.7727273
M	D	W	17	17.0588235

Group Mean Scores
Stability Dimension

Sex	N	Stable
F	67	13.4626866
M	66	14.6969697

Expect	N	Stable
C	65	15.4307692
D	68	12.7794118

Outcome	N	Stable
L	61	12.4426230
W	72	15.4583333

Sex	Expect	N	Stable
F	C	38	15.0526316
F	D	29	11.3793103
M	C	27	15.9629630
M	D	39	13.8205128

Sex	Outcome	N	Stable
F	L	31	11.0000000
F	W	36	15.5833333
M	L	30	13.9333333
M	W	36	15.3333333

Expect	Outcome	N	Stable
C	L	18	12.3888889
C	W	47	16.5957447
D	L	43	12.4651163
D	W	25	13.3200000

Sex	Expect	Outcome	N	Stable
F	C	L	10	10.7000000
F	C	W	28	16.6071429
F	D	L	21	11.1428571
F	D	W	8	12.0000000
M	C	L	8	14.5000000
M	C	W	19	16.5789474
M	D	L	22	13.7272727
M	D	W	17	13.9411765

Group Mean Scores
Controllability Dimension

Sex	N	Control
F	67	17.8208955
M	66	17.0757576

Expect	N	Control
C	65	19.5846154
D	68	15.4117647

Outcome	N	Control
L	61	13.3114754
W	72	20.9583333

Sex	Expect	N	Control
F	C	38	19.3421053
F	D	29	15.8275862
M	C	27	19.9259259
M	D	39	15.1025641

Sex	Outcome	N	Control
F	L	31	13.7419355
F	W	36	21.3333333
M	L	30	12.8666667
M	W	36	20.5833333

Expect	Outcome	N	Control
C	L	18	12.8888889
C	W	47	22.1489362
D	L	43	13.4883721
D	W	25	18.7200000

Sex	Expect	Outcome	N	Control
F	C	L	10	10.9000000
F	C	W	28	22.3671429
F	D	L	21	15.0952381
F	D	W	8	17.7500000
M	C	L	8	15.3750000
M	C	W	19	21.8421053
M	D	L	22	11.9545455
M	D	W	17	19.1764706

Group Mean Scores

Ability Variable

SEX	N	
F	67	3.83582090
M	66	3.13636364

EXPECT	N	
C	65	3.90769231
D	68	3.08823529

OUTCOME	N	
L	61	2.81967213
W	72	4.05555556

SEX	EXPECT	N	
F	C	38	4.00000000
F	D	29	3.62068966
M	C	27	3.77777778
M	D	39	2.69230769

SEX	OUTCOME	N	
F	L	31	3.32258065
F	W	36	4.27777778
M	L	30	2.30000000
M	W	36	3.83333333

EXPECT	OUTCOME	N	
C	L	18	3.16666667
C	W	47	4.19148936
D	L	43	2.67441860
D	W	25	3.80000000

SEX	EXPECT	OUTCOME	N	
F	C	L	10	3.10000000
F	C	W	28	4.32142857
F	D	L	21	3.42857143
F	D	W	8	4.12500000
M	C	L	8	3.25000000
M	C	W	19	4.00000000
M	D	L	22	1.95454545
M	D	W	17	3.64705882

Group Mean Scores

Effort Variable

SEX	N	
F	67	3.76119403
M	66	3.31818182

EXPECT	N	
C	65	3.93846154
D	68	3.16176471

OUTCOME	N	
L	61	2.78688525
W	72	4.18055556

SEX	EXPECT	N	
F	C	38	3.97368421
F	D	29	3.48275862
M	C	27	3.88888889
M	D	39	2.92307692

SEX	OUTCOME	N	
F	L	31	3.12903226
F	W	36	4.30555556
M	L	30	2.43333333
M	W	36	4.05555556

EXPECT	OUTCOME	N	
C	L	18	2.77777778
C	W	47	4.38297872
D	L	43	2.79069767
D	W	25	3.80000000

SEX	EXPECT	OUTCOME	N	
F	C	L	10	2.70000000
F	C	W	28	4.42857143
F	D	L	21	3.33333333
F	D	W	8	3.87500000
M	C	L	8	2.87500000
M	C	W	19	4.31578947
M	D	L	22	2.27272727
M	D	W	17	3.76470588

Group Mean Scores

Task Difficulty Variable

SEX	N	
F	67	3.44776119
M	66	2.98484848

EXPECT	N	
C	65	3.36923077
D	68	3.07352941

OUTCOME	N	
L	61	2.95081967
W	72	3.44444444

SEX	EXPECT	N	
F	C	38	3.44736842
F	D	29	3.44827586
M	C	27	3.25925926
M	D	39	2.79487179

SEX	OUTCOME	N	
F	L	31	3.45161290
F	W	36	3.44444444
M	L	30	2.43333333
M	W	36	3.44444444

EXPECT	OUTCOME	N	
C	L	18	3.22222222
C	W	47	3.42553191
D	L	43	2.83720930
D	W	25	3.48000000

SEX	EXPECT	OUTCOME	N	
F	C	L	10	3.60000000
F	C	W	28	3.39285714
F	D	L	21	3.38095238
F	D	W	8	3.62500000
M	C	L	8	2.75000000
M	C	W	19	3.47368421
M	D	L	22	2.31818182
M	D	W	17	3.41176471

Group Mean Scores

Luck Variable

SEX	N	
F	67	2.37313433
M	66	3.04545455

EXPECT	N	
C	65	2.36923077
D	68	3.02941176

OUTCOME	N	
L	61	3.06557377
W	72	2.40277778

SEX	EXPECT	N	
F	C	38	2.21052632
F	D	29	2.28620690
M	C	27	2.59259259
M	D	39	3.35897436

SEX	OUTCOME	N	
F	L	31	2.58064516
F	W	36	2.19444444
M	L	30	3.56666667
M	W	36	2.61111111

EXPECT	OUTCOME	N	
C	L	18	2.88888889
C	W	47	2.17021277
D	L	43	3.13953488
D	W	25	2.84000000

SEX	EXPECT	OUTCOME	N	
F	C	L	10	2.20000000
F	C	W	28	2.21428571
F	D	L	21	2.76190476
F	D	W	8	2.12500000
M	C	L	8	3.75000000
M	C	W	19	2.10526316
M	D	L	22	3.50000000
M	D	W	17	3.17647059