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Causal attributions for success and failure: Differences between selected high school and college team sport athletes

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CAUSAL ATTRIBUTIONS FOR SUCCESS AND FAILURE: DIFFERENCES BETWEEN SELECTED HIGH SCHOOL AND COLLEGE TEAM SPORT ATHLETES

by

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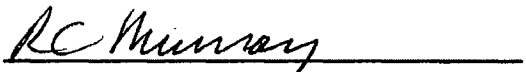

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This study measured causal attributions of high school and college athletes using the Causal Dimension Scale (CDS). The subjects were members of varsity soccer, basketball, baseball, and softball teams. There were 250 surveys conducted on high school subjects, and 240 surveys performed on college subjects. Subjects were broken down into sub-groups of: males, females, starters, and reserves. Subjects were surveyed after wins and losses. A one-way ANOVA was utilized to determine statistical differences between high school and college athletes' scores on the CDS after wins and losses for the three dimensions of causal attribution (locus of causality, control, stability) at the .05 level. The purpose of this study was to see if high school athletes are more egocentric (more ego-enhancing and more ego-protecting) than college athletes. While some significant differences in the causal attributions of high school and college athletes were found, the differences did not indicate increased egocentricism by high school athletes. This study duplicated the findings of many previous studies that found individuals use ego-enhancing attributes (internal, controllable, and stable) after successful outcomes, and ego-protecting attributes (external, uncontrollable, and unstable) after unsuccessful outcomes.

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CHAPTER I

Introduction

Attribution theory of motivation was originated by Heider in 1958, and later expanded upon by many others (Weiner, Frieze, Kukla, Reed, & Rosenbaum, 1971; Weiner, 1979, 1985; Russell, 1982; Chandler and Spies, 1984; Russell, McAuly, & Trico, 1987). The theory states that individuals try to understand the outcomes of their actions by placing or attributing causes to the outcomes. Weiner et al's (1971) first model of attribution had two dimensions, locus of control and stability.

Locus of control is determined by how an individual feels the cause is personally related to him or her. Weiner et al (1972) labeled locus of control either internal or external. For example, if an athlete feels the reason his team won a game was because he made a last second basket, the cause would be internal. If, on the other hand, he feels the cause of a win was because of a lucky bounce, the cause would be external.

Stability refers to the temporal nature of the attribution (Weiner, 1983), and was broken into stable and unstable components (Weiner et al., 1971). A stable attribute is something that will remain constant over a period of time. An example would be a person's size. An unstable attribute is something that can change easily. The consistency of a playing field would be an example. Weiner's four attributes were: ability, internal and stable; effort, internal and unstable; task difficulty, external and stable; and luck, external and unstable (Weiner et al., 1971).

Weiner (1979) later included a third dimension to his model which he labeled "control". He felt attributes are either under the control of an individual or they are uncontrollable by anyone. Control can be internal or external. An example of external control would be the effort of another individual. The mood of a person is an example of an internal but uncontrollable attribution. Luck is also uncontrollable, but is external (Russell, 1982). To prevent confusion, Weiner (1985) renamed "locus of control" as "locus of causality". The eight possible attributes for this three dimensional model are shown in Table 1.

In the last two decades, there has been a great deal of research within attribution theory in regard to athletics. The question this study attempted to answer was: Do differences exist in how high school and college team sport athletes attribute the outcomes of their athletic events?

Table 1

Dimensional Characteristics of the Causal Attributions

	Internal Locus of Causality		**External Locus of Causality**	
	stable	***unstable***	***stable***	***unstable***
Controllable	stable effort	unstable effort	other's stable effort	other's unstable effort
Uncontrollable	ability	mood	task difficulty	luck

Russell, D., McAuley, E., & Tarico, V. (1987). Measuring causal attributions for success and failure: A comparison of methodologies for assessing causal dimension. Journal of Personality and Social Psychology. 52(6), p. 1250.

Many high school coaches take advice from college coaches on how to run their programs. This advice ranges from specific plays to run to how to deal with team psychology after victory and defeat.

If college athletes attribute outcomes differently from high school athletes, some high school coaches may be receiving and using inappropriate information for their teams. If differences exist, high school coaches, as well as college coaches should be taught the differences, and trained to deal with the specific cognitive development of their athletes.

Attributions have been found to be closely related to emotions (Weiner, 1985), and to expectancies of future outcomes (Frieze & Weiner, 1971). An internal attribution will generally be associated with greater emotion than an external attribution (Weiner, Heckhausen, Myer, & Cook, 1972). The affects of pride and confidence are examples of feelings that are associated with success when internally attributed. Shame and guilt are associated with internally attributed failure. External, successful attributions are followed by the feelings of gratitude and thankfulness, while failures would be followed by feelings of surprise and anger if the causes are externally attributed (Cox, 1985). The greater the stability of the attribute, the higher the expectancy for future outcomes to repeat the past (Weiner, 1985). If the individual

believes there is no control over the outcome, he or she may develop a feeling of helplessness. The greater the perception of control the athlete has, the greater the confidence in possibly changing the outcome of future events (Weiner, 1985; Wolf & Sovickas, 1985). A coach would therefore want to emphasize internal and stable attributes after success. This would or should, instill confidence, and improve the chances of repeated success. After a loss, the coach would want to emphasize external and unstable attributes, and point out how the athletes can assume more control to change the outcomes. The determination of which attributes are more likely for high school and college athletes then becomes important as to how the coach will relate to the team.

Problem

The general problem of this study was: Are high school team sport athletes more egocentric than college team sport athletes?

Subproblem

This problem was broken into four subproblems. All of the questions compared high school athletes to college athletes.

Differences within genders. Because past research indicates females attribute causes differently than males (Nicholls, 1975; Croxton & Klonsy, 1982; Chandler, Shama, & Wolf, 1983), sub-group of females and males were tested separately to isolate the attributions of each sex. For this reason two questions were addressed: First, are high school, male, team sport athletes more egocentric than college, male, team sport athletes? Second, are high school, female, team sport athletes more egocentric than college, female, team sport athletes?

Starters and reserves. Zander (1971) suggested that more competent members of a team attribute outcomes differently from less competent members. He suggested the more competent athletes were less egocentric in placing causal attributions. Assuming starters of a team are more competent than the reserves, this study tried to answer two questions: First, are the starters of high school teams more egocentric than the starters of college teams? Second, are the reserve players on high school teams more egocentric than the reserve players on college teams?

Hypothesis

The null hypothesis was stated: The egocentricism of high school team sport athletes will not be significantly different than the egocentricism of college team sport athletes. The alternative hypothesis was: High school team sport athletes will be more egocentric in their attributions than will be college team sport athletes.

Weiner et al (1971) and other researchers have shown that athletes are egocentric when making attributions to outcomes (Frieze & Weiner, 1971; Iso-Ahola, 1977; Luginbuhl, Crowe, & Kahan, 1975; Spink, 1978; Reifenberg, 1986). When attributing causes to success, ego-enhancing attributes such as ability and effort are perceived. When a failure occurred, ego-protecting traits such as luck and task difficulty are attributed (Weiner et al., 1971; Spink, 1978; Weiner, 1985).

The early adult, or college years have been shown to be when people develop their sense of identity, as compared to adolescents who are in the midst of an identity crisis during their high school years. Waterman (1982) stated that college seniors have a stronger

sense of identity than do college freshman. Similarly, Marcia (1980) found that most people do not begin to establish an identity until the age of 18 years. Autonomy of individuals increases significantly during this stage of life (Lewis, 1980; White, Speisman & Costos, 1983), as does the ability to make intellectual decisions (Steinberg, 1989). These changes may partially explain why late adolescents and young adults have are less likely to use egocentric attributions than do early and mid-adolescents as Wisniewski and Gaier (1990) found.

Subproblem Hypotheses

The subproblem hypotheses were stated similar to the general hypothesis.

Differences within genders.

H.o: The egocentricism of high school, female, team sport athletes will not be significantly different than the egocentricism of college, female, team sport.

H.a: High school, female, team sport athletes will make more egocentric attributions than will college, female, team sport athletes.

H.o: The egocentricism of high school, male, team sport athletes will not be significantly different than the egocentricism of college, male, team sport athletes.

H.a: High school, male, team sport athletes will make more egocentric attributions than will college, male, team sport athletes.

There was no comparison between males and females.

Starters and reserves.

H.o: The egocentricism of high school starters will not be significantly different than the egocentricism of college starters.

H.a: High school starters will make more egocentric attributions than will college starters.

H.o: The egocentricism of high school reserve players will not be significantly different then the egocentricism of college reserve players in their causal attributions.

H.a: High school reserve players will make more egocentric attributions than will college reserve players.

There were no comparisons made between starters and reserve players.

Delimitations

1. All subjects were members of varsity athletic teams. The sports chosen were: men's and women's soccer, men's and women's basketball, men's baseball, and women's softball. Because of anonymity concerns, and various surveying times for each team, the number of athletes at each survey varied slightly within teams. The total number of athlete surveys was as follows: 150 college males, 90 college females, 120 high school males, and 130 high school females.

2. All athletes came from schools in the La Verne-San Dimas area of Los Angeles County, California. La Verne and San Dimas are very similar, middle-class, suburban bedroom communities of 30,000 residents in eastern Los Angeles County.

3. San Dimas High School was used to acquire the high school age athletes. San Dimas High is a four-year, co-ed school. It has an enrollment of approximately 1200 students. San Dimas High is a member of the Valle Vista League in the California Interscholastic Federation's Southern Section. The league is mid-range for its league member size and competition level. The San Dimas High

athletic program has experienced better than average success in recent years.

4. The University of La Verne was used to acquire college age athletes. It is a co-ed institution with an enrollment of approximately 1100 undergraduates. It has primarily a liberal arts curriculum. The University of La Verne is a member of the Southern California Interscholastic Athletic Conference which belongs to the National Collegiate Athletic Association, division III level. Division III athletes were used in this study because these college athletes and high school athletes experience similar external pressures. The University of La Verne athletic program has experienced better than average success in recent years.

5. Each team completed the Causal Dimension Scale (Russell, 1982) four times, twice after wins and twice after losses. The Causal Dimension Scale was given less than three days after each event. Carron and Spink (1980) have shown that causal attributions remain stable during this time period. Data were collected and analyzed as described in Chapter Three.

Definitions

Attribution Theory: A cognitive theory of motivation in which individuals search for causal understanding of events (Weiner, 1983; Cox, 1985).

Controllability: The degree of volitional influence an individual can exert over a cause or situation (Weiner, 1983).

Controllable: An attribute that an individual has immediate ability to change (Weiner, 1985).

Uncontrollable: An attribute that cannot be immediately altered by any individual (Weiner, 1985).

Locus of Causality: The location of a cause to an individual (Weiner, 1983).

External: An attribute that originates outside of the individual placing cause.

Internal: An attribute which originates from within the individual who is placing the cause.

Stability: The temporal nature of a cause; its relative enduring ability, or its nature to change from moment to moment, or situation to situation (Weiner, 1983).

Stable: An attribute that does not fluctuate (Weiner, 1985).

Unstable: An attribute that does not remain relatively constant (Weiner, 1985).

Ego-enhancement: Attributing internal, stable, controllable attributions to successful situations (Cox, 1985).

Ego-protection: Attributing external, unstable, uncontrollable causes to failure (Cox, 1985).

Egocentric attributions: A pattern of attributions using ego-enhancement and ego-protection.

Egocentricism: Indicated by the amount of internal, controllable, and stable attributions made after successful outcomes, and the amount of external, uncontrollable, and unstable attributions made after failure outcomes.

CHAPTER II

Review of Literature

History of Attribution Theory

Attribution theory does not have a unified body of knowledge that forms a specific theory (Weiner, 1980). Different theorists have different ideas about how people attribute causes to outcomes. There are, however, some general principles that are central to attribution theory.

Attribution theory is based on what an individual perceives as the causes of the outcomes of his or her actions. According to this theory, a person uses perceptions to explain the outcomes of events and predict the outcome of future events. A person's perception of an outcome is also related to how he or she will feel about him or herself. Fritz Heider is generally credited with originating attribution theory. He stated that people assess causes of their actions, and by doing so, they have a greater feeling of stability and understanding of their actions (Heider, 1958). Heider (1958) called this "common sense" or "naive" psychology. It allowed lay people to

better understand their actions.

In Heider's (1958) model, attributes are either personal or environmental. His personal force attributes were trying and ability. Trying was made-up of intention and exertion factors. Task difficulty and luck were the factors of environmental force. The interaction of ability and task difficulty produce a dimension Heider labeled as "can" (Heider, 1958; Cox, 1985).

Weiner and his colleagues (Weiner et al., 1971) made several contributions to the attribution theory. Following up on Heider's work and work done by Rotter (1966) on locus of control, Weiner et al. (1971) altered Heider's, model making it easier to understand. Using their model, outcomes of events can be attributed to one of four causes. These causes are ability, effort, task difficulty, and luck (Weiner et al., 1971). The Weiner et al. (1971) model has two dimensions: locus of control and stability. Locus of control refers to the origin of the cause in relation to the person attributing the cause. Ability and effort would have an internal origin. Task difficulty and luck are external in origin. Stability refers to the ease in which a causal factor can change. Effort and luck can change

easily and therefore are unstable. Ability and task difficulty are less easy to change and are considered stable (Weiner et al., 1971). The four factors are depicted in Table 2.

Table 2

Attributions of Weiner's Two Dimensional Model

Stability	**Locus of Control**	
	internal	*external*
stable	ability	task difficulty
unstable	effort	luck

In later research by Weiner (1979), he determined a third dimension on causality should be added to his attribution model. He called this dimension control. The amount of volitional control of a cause determines its controllability. Weiner had some difficulty explaining how a cause could be external and controllable. Russell (1982) helped to more clearly define controllability within Weiner's three dimensional model. A person who perceives his or her own effort as the cause of an outcome is perceiving an internal, controllable cause. If the effort of another person is perceived as the cause of an outcome, the cause is still controllable, but it is

now external (Russell, 1982). The term locus of control was changed to locus of causality to avoid confusion (Weiner, 1979, 1985; Russell, 1982).

The three dimensional model containing locus of causality, stability, and controllability (Table 1) was used in this study.

Differences in Causal Attributions

Weiner et al. (1971) applied their causal attribution model to achievement situations. They found successful outcomes were attributed to internal and stable causes, while unsuccessful outcomes were attributed to external and unstable causes. Field research by Iso-Ahola (1977) studied the attributes of Little League baseball players immediately after their events. He found attributions of winners to be ego-enhancing, and attributions of losers to be ego-protecting. Winners primarily attributed outcomes to ability and good effort. Losers attributed outcomes to task difficulty and low effort (Iso-Ahola, 1977).

Spink (1978) studied high school basketball players, and Carron and Spink (1980) studied high school football players. Both studies showed that athletes attributed wins to ego-enhancing

factors. The athletes of these two studies attributed failures to luck or officiating or both, more than did the Little League players of Iso-Ahola's (1977) study. Luck is also an ego-protecting attribute.

Many studies have been conducted on academic achievement rather than athletic achievement. Reifenberg (1986) found college students who scored high on a mid-term exam rated the cause as internal. Students who performed poorly on the exam gave more external attributions. These results agree with studies performed by Weiner (1979) and his colleagues (Weiner et al., 1971; Frieze & Weiner, 1971). In a study performed by Weiner, Heckhausen, and Meyer (1972), unsuccessful results were attributed to unstable attributes, lack of effort and luck. These findings agreed with the results of other studies by Weiner and colleagues (Weiner & Kukla, 1970; Weiner et al., 1971). Chapman and Lowes (1984) found stability was more strongly associated with expected outcomes. Locus of causality was found to be more highly correlated with success and failure. Their study used students' scores on an English exam as the basis for success and failure.

Differences in High School and College Athletes

The purpose of this study was to find if high school team sport athletes are more egocentric than college team sport athletes. Research has shown there is a difference in causal attributions with respect to maturity level (Borman & Kurdek, 1984; Wisniewski & Gaier, 1990) Wisniewski and Gaier (1990) studied causal attributions of adolescents in a variety of failure situations (academic, athletic, and social). They found late adolescents demonstrated less ego-protection in attribution causes than did younger adolescents. In reviewing studies on athletes of different ages (Iso-Ahola, 1977; Spink, 1978; Carron & Spink, 1980; Croxton & Klonsky, 1982), high school and younger athletes used more egocentricism in attributing causes than did college athletes. All levels of athletes attributed success to internal causes. The differences seem to be in the event of a failure. High school and younger athletes would attribute failure to external and unstable causes (Iso-Ahola, 1977; Spink, 1978), while college athletes were more likely to accept the blame for failures (Croxton & Klonsky, 1982). None of these studies directly compared the differences

between high school and college athletes as this study did.

Adolescence is a time of uncertainty for many teen-agers. The importance of "fitting in" may become very important. Crocket, Losoff, and Petersen (1984) found that adolescent males rated athletic achievement as the most important quality for becoming popular. Adolescent females rated appearance as most important, but athletic achievement was rated higher than academic achievement in becoming popular. Research shows the individual's sense of identity and autonomy begin to develop at the end of adolescence and continues into early adulthood (Marcia, 1980; Lewis, 1981; Waterman, 1982; White, Speisman & Costos, 1983). At the same time, feelings of peer pressure are reduced (Steinberg, 1989). These may be some of the reasons causal attributions of young adults seem to be less egocentric than those of adolescents.

Gender Differences

A great deal of research indicates males and females attribute causes to outcomes differently (Nicholls, 1975; Croxton & Klonsky, 1982; Chandler, Shama & Wolf, 1983; Barman & Kurdek, 1984). Research of high school students (Barman & Kurdek, 1984) and

elementary students (Nicholls, 1975) indicate that females use less egocentric causal attributions than do males. In Croxton & Klonsky's (1982) study of college basketball players, females would attribute losses internally more than males. They found no difference in causal attributions of females and males after winning. In a five-nation study done by Chandler, Shama, and Wolf (1983), differences were found in causal attribution of males and females after both successful and unsuccessful outcomes.

Starters and Reserves

Evidence on the relationship of causal attributions and position on the team as a starter is conflicting. Zander (1971) stated that individuals with greater amounts of competence use fewer egocentric attributions than do individuals with less competence. Iso-Ahola's (1977) findings did not support this position. This study assumed a starting position indicates a higher level of competence. Cox (1985) believed it is important to encourage athletes, especially young athletes, to use egocentric causal attributions.

Causal Dimension Scale

Measuring the amount of each causal dimension historically was somewhat of a problem with attributional research. One method is to have subjects pick from a list of causes the one which they feel best represents why they think they experienced a certain outcome. Research indicates however, that the meaning of effort, ability, luck, and task difficulty may be different to the subjects than was intended by the researcher (Weiner, 1979, 1983; Russell, 1982; Russell, McAuley & Tarico, 1987). Elig and Frieze (1979) concluded that open-ended response statements were more accurate in measuring causal attributions than having the subjects pick from a list of responses. The problem with this approach is the researcher must code the subjects responses into one of the established causes. This can lead to misinterpretation on the part of the researcher (Russell, 1982).

Russell (1982) developed the Causal Dimension Scale (Appendix I) to alleviate the previously mentioned errors in causal measurement. In using the Causal Dimension Scale, an individual is asked to what he or she perceives as the cause to the outcome of an

event. The person then answers nine questions that measure the amount of each causal dimension. There are three questions for each dimension. Each question uses a one to nine scale. The range of possible scores for each dimension is three to 27. The closer the score is to 27, the more internal, stable, or controllable the cause is perceived. The closer the score is to three, the more external, unstable, or uncontrollable the cause is perceived.

Research indicates the Causal Dimension Scale is reliable and valid (Russell, 1982; Abraham, 1985; Russell, McAuly & Tarico, 1987). Russell (1982) obtained alpha coefficients of internal consistency for each dimension to approach .9. Abraham (1985) confirmed Russell's findings of reliability. Validity of the Causal Dimension Scale was established by subjecting each item of the scale to a separate analysis of variance. Convergent validity within each dimension, and divergent validity among the three dimensions was established (Russell, 1982).

Statistical Analysis

Russell (1982) and many others (Iso-Ahola, 1977; Spink, 1978; Carron & Spink, 1978; Russell, McAuly & Tarico, 1987) have used an

analysis of variance (ANOVA) when statistically treating data. With this precedent, the one to nine scores on the Causal Dimension Scale were considered interval level data. An ANOVA was applied using a .05 level of significance.

CHAPTER III

Methods

Subjects

High School

Subjects were members of the San Dimas High School boys' varsity baseball and girls' varsity softball teams, and the boys' and girls' varsity basketball and soccer teams. The age of the athletes ranged from 15 to 18 years. As was previously stated, the number of athletes at each practice when they were surveyed varied slightly. The total number of surveys taken from high school athletes was 250.

Males. A total of 120 surveys were made on high school males.

Females. A total of 130 surveys were made on high school females.

Starters. A total of 170 surveys were made on high school starters.

Reserves. A total of 80 surveys were made on high school reserves.

College

Subjects were members of the University of La Verne men's varsity baseball and women's varsity softball teams, and the men's and women's varsity basketball and soccer teams. The age of the athletes ranged from 18 to 24 years. The total number of surveys from college athletes was 240.

Males. A total of 150 surveys were made on college males.

Females. A total of 90 surveys were made on college females.

Starters. A total of 152 surveys were made on college starters.

Reserves. A total of 88 surveys were made on college reserves.

Any athlete who was a member of more than one team was randomly placed on one of the teams and only counted once.

Instrument

The Causal Dimension Scale (Appendix I) developed by Russell (1982) was used to measure the dimensions of locus of causality, stability, and controllability of the athletes attributions to outcomes. The reliability and validity of the Causal Dimension Scale

was discussed in Chapter II.

Procedure

Teams were tested within three days after games. As was stated in Chapter I, this time period has been determined not to affect causal attributions (Carron & Spink, 1980). Each team was tested four times, twice after wins and twice after losses with the following exceptions. The women's soccer team at the University of La Verne did not win a game. Therefore they were only tested twice, after losses. The baseball team at the University of La Verne and the boys' basketball team at San Dimas High School were only tested three times. Both were tested twice after wins and only once after a loss. Both teams were extremely successful in league play. The University of La Verne baseball loss occurred in a nonleague tournament. The San Dimas High School boys' basketball loss occurred in the playoff championship game.

The researcher met with the team to be tested during a practice session. A standard set of instructions was read to the athletes (Appendix II). Each athlete was asked to write the answers to the questionnaire. The questionnaire contained questions to

obtain basic information (age, sex, and if the athlete was a starter on the team). The athletes then wrote their answer to the question, "What do you believe was the main reason or reasons your team won or lost your last game?" Keeping in mind the answer given for the outcome, the athletes then answered the nine questions of the Causal Dimension Scale. All answers to the questionnaire were kept confidential.

The researcher then collected the questionnaires and put them into an envelope marked with the school's name, the name of the sport, and the outcome on the last event. For example, an envelope was marked, "University of La Verne, women's basketball, win." At a later time, the researcher scored the answers to the Causal Dimension Scale as described in Chapter II, and recorded the results for analysis.

Statistical Analysis

As was established in previous, similar studies (Iso-Ahola, 1977; Spink, 1978; Russell, 1982), an analysis of variance (ANOVA) was employed to test each of the null hypotheses at the .05 level of significance. Russell (1982) has set a precedent for

treating the scores of the Causal Dimension Scale as interval level data. The general hypothesis and each of the subproblem hypotheses was tested separately.

CHAPTER IV

Results

General

The scores of the Causal Dimension Scale were treated utilizing an Analysis Of Variance (ANOVA). ANOVA has been used by many previous researchers when treating statistics of attribution theory research (Frieze & Weiner, 1971; Spink, 1978; Elig & Frieze, 1979; Croxton & Klonsky, 1982; Russell, 1982; Chandler & Shama, 1983). ANOVA is a technique used to measure interval level data of two or more variables. It is the most commonly used data analysis technique in psychology (Kenny, 1987). Five one-way ANOVA's were used in this study to compare the wins and losses of high school and college athletes to the three dimmensions (locus of causality, control, and stability) of causal attribuion. A separate ANOVA was performed for the total sample, and each of the sub-groups. Table 3 compares the results of attributions given by high school and college athletes. Because the ANOVA was run five times, the odds of achieving a statistically significant score by chance increase.

Table 3.

Differences Beteween High School and College Athletes' Scores on CDS as Calculated by ANOVA.

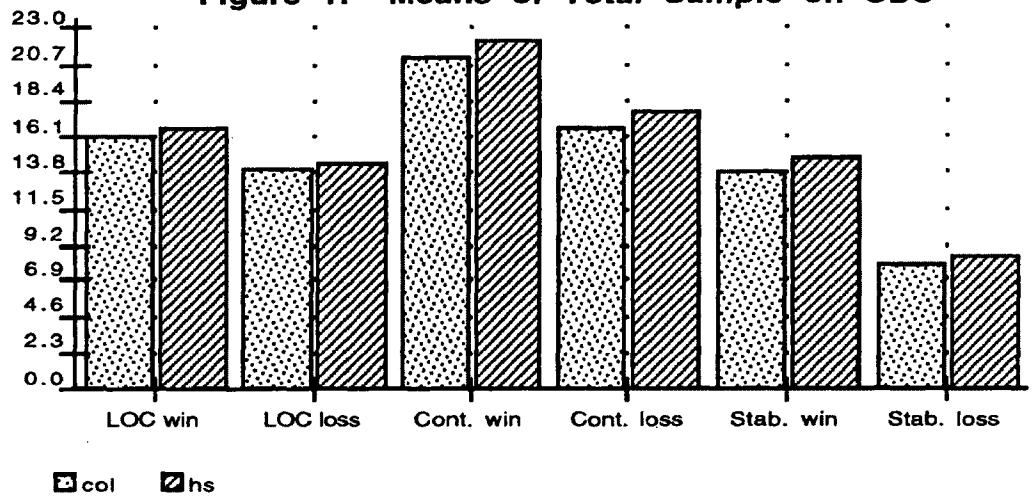
	Locus of Causality		*Control*		*Stability*	
	F	p	F	p	F	p
Total	0.850	.357	8.454	.004*	2.042	.154
Males	5.873	.016*	5.284	.022*	3.342	.154
Females	1.780	.184	5.251	.023*	0.026	.871
Starters	0.272	.602	1.583	.209	1.444	.230
Reserves	3.930	.049*	10.082	.002*	0.544	.462

F: Score from ANOVA.
p: Statistical significance of F score.
(*) Indicates statistical significance using the .05 level.

The intent of this study was to determine if there were any differences in the causal attributions of high school and college athletes. Therefore the differences between males and females, starters and reserves, or athletes of different sports were not measured.

The main effect scores from the ANOVA's do not support the alternative hypothesis that high school athletes are more egocentric

Figure 1. Means of Total Sample on CDS



than are college athletes (Figure 1). The attribution of control showed significant differences in the total sample, as well as three of the four sub-groups. The exception was the team starters sub-group. Differences in locus of causality were significant only in the sub-groups of male athletes and reserve athletes. There were no significant differences in attribution stability (Table 3).

Results of this research confirm the findings of many previous studies (Frieze & Weiner, 1971; Weiner, Heckhausen, Muer & Cook, 1972; Cox, 1985; Weiner, 1985; Wolf & Sovickas, 1985), in that ego-enhancing attributes were used in winning situations, and ego-protecting attributes were given in losing situations.

Ego-enhancement is indicated by high scores on the Causal Dimension Scale in winning situations. Ego-protection is indicated

by low scores on the Causal Dimension Scale in losing situations. The ANOVA shows statistically significant differences of scores given after winning situations compared to scores given after losing situations. The total sample, and all of the sub-groups (except the reserve athletes sub-group), showed a high degree of significant

Table 4.

Differences in Scores on CDS of All Athletes After Winning and Losing Situations as Calculated by ANOVA.

	Locus of Causality		*Control*		*Stability*	
	F	p	F	p	F	p
Total	15.830	<.001*	122.034	<.001*	175.820	<.001*
Males	7.459	.007*	59.870	<.001*	105.127	<.001*
Females	9.766	.002*	56.708	<.001*	69.742	<.001*
Starters	14.358	<.001*	84.194	<.001*	124.334	<.001*
Reserves	3.206	.075	38.386	<.001*	53.022	<.001*

F: Scores from ANOVA.
p: Statistical significance of F scores.
(*) Indicates statistical significance using the .05 level.

differences. Table 4 shows the comparison of ANOVA scores after winning and losing situations.

Mean scores from the Causal Dimension Scale after wins, for

each area of attribution are shown in Table 5. Mean scores from the Causal Dimension Scale after losses, for each area of attribution are shown in Table 6. The possible range of scores is from three to 27. Scores closer to 27 after wins indicate greater ego-enhancement, and scores closer to three after losses indicate ego-protection.

Table 5.

Mean Scores of Athletes on the Causal Dimension Scale After Wins.

	Locus of Causality		Control		Stability	
	H.S.	Col.	H.S.	Col.	H.S.	Col.
Total	16.48	15.94	22.08	20.90	14.60	13.61
Males	16.95	15.95	22.75	20.96	14.97	13.73
Females	16.03	15.94	21.45	20.74	14.24	13.32
Starters	16.16	17.27	21.69	21.36	14.51	13.82
Reserves	17.14	13.83	22.88	20.17	14.77	13.29

The null hypothesis of this research was, "There will be no significant difference between high school and college team sport athletes in their causal attributions of the outcomes of their events." The alternative hypothesis was, "High school team sport

athletes will be more egocentric in their attributions than will be college team sport athletes." While in some instances there are significant differences in the attributions of high school and college team sport athletes, the scores do not support the hypothesis that high school team sport athletes are more egocentric. Egocentricism is indicated by high scores (closer to 27) for attributions after a

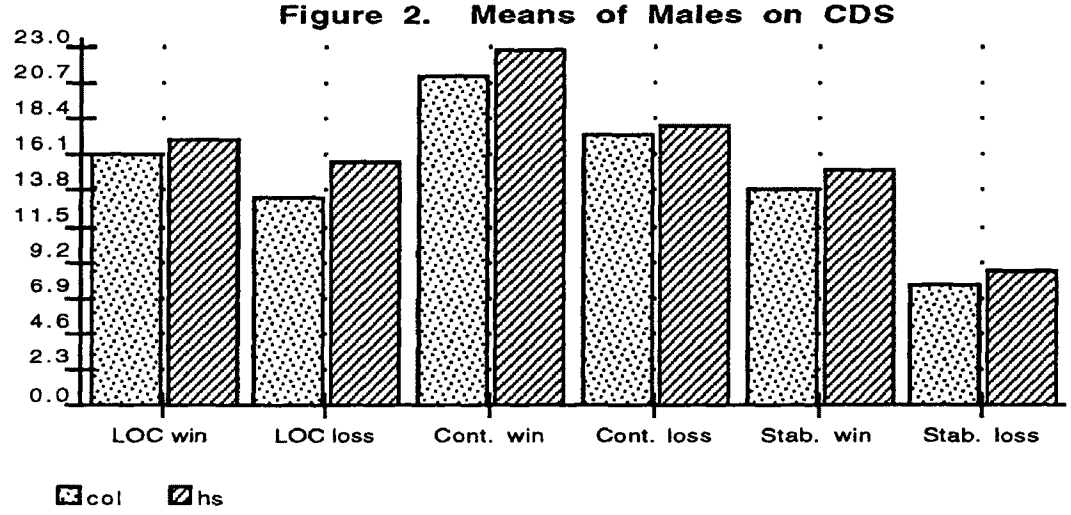
Table 6.

Mean Scores of Athletes on the Causal Dimension Scale After Losses.

	Locus of Causality		Control		Stability	
	H.S.	Col.	H.S.	Col.	H.S.	Col.
Total	14.37	13.95	17.63	16.47	8.29	7.95
Males	15.48	13.28	17.95	17.31	8.51	7.49
Females	13.02	14.78	17.33	15.43	8.06	8.52
Starters	14.57	14.16	17.46	16.59	8.55	7.86
Reserves	13.92	13.53	18.00	16.24	7.65	7.91

win, and low scores (closer to 3) after a loss (Cox, 1985). Of all the scores in Table 3, that show significant differences, none of them follow the pattern of more egocentricism for high school athletes (Tables 5 & 6).

Figure 2. Means of Males on CDS



Locus of Causality

Significant differences were not found between high school athletes and college athletes for locus of causality in the sample as a whole. Significant differences were found in the sub-groups of male athletes and reserve athletes (Table 3). However these

Figure 3. Means of Reserves on CDS

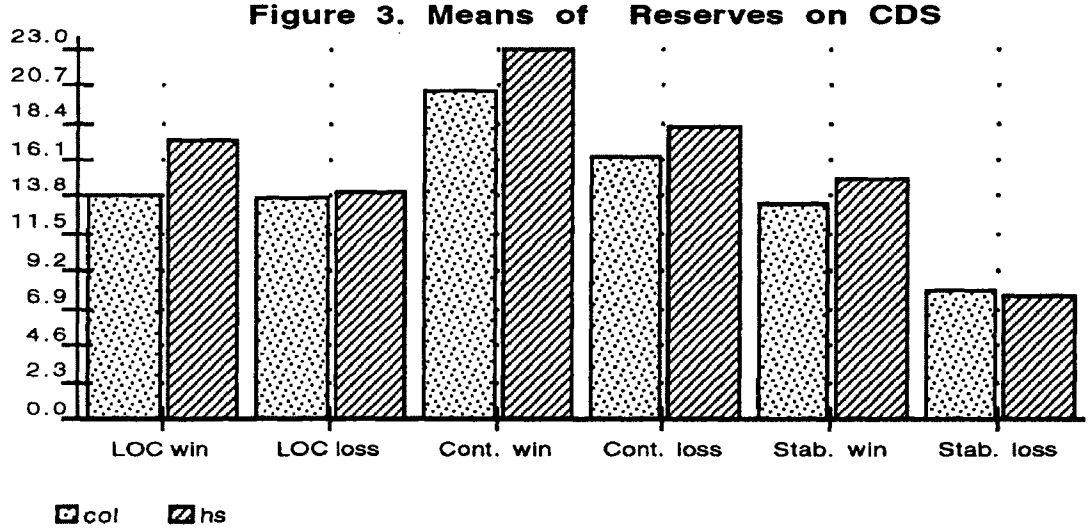
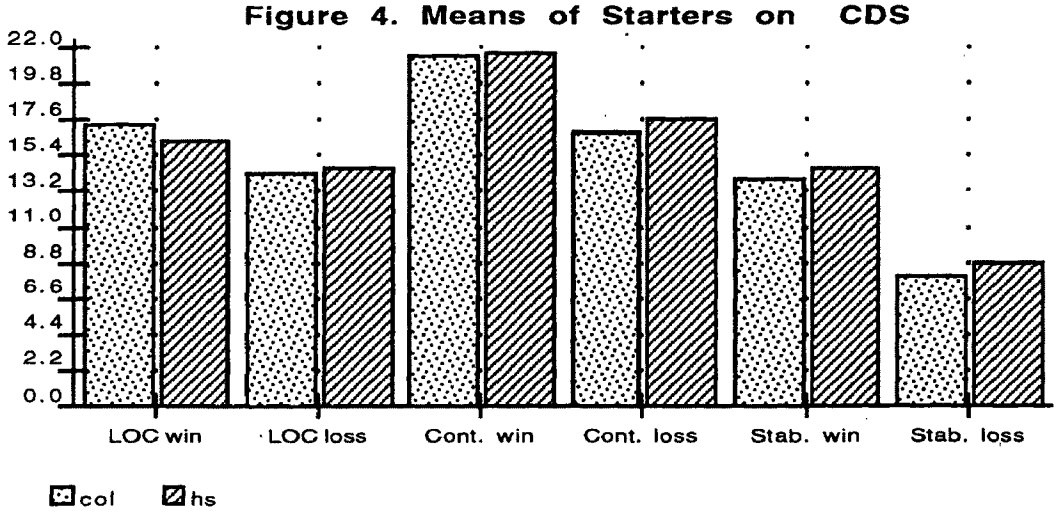


Figure 4. Means of Starters on CDS



differences do not follow the pattern if more egocentricism for high school athletes (Figures 2 and 3).

Control

Statistically significant differences for the attribution of control were found for the entire sample, and each of the sub-groups with the exception of the starters sub-group (Figure 4). These differences also did not follow the pattern of increased egocentricism by high school athletes though (Table 5 and Table 6).

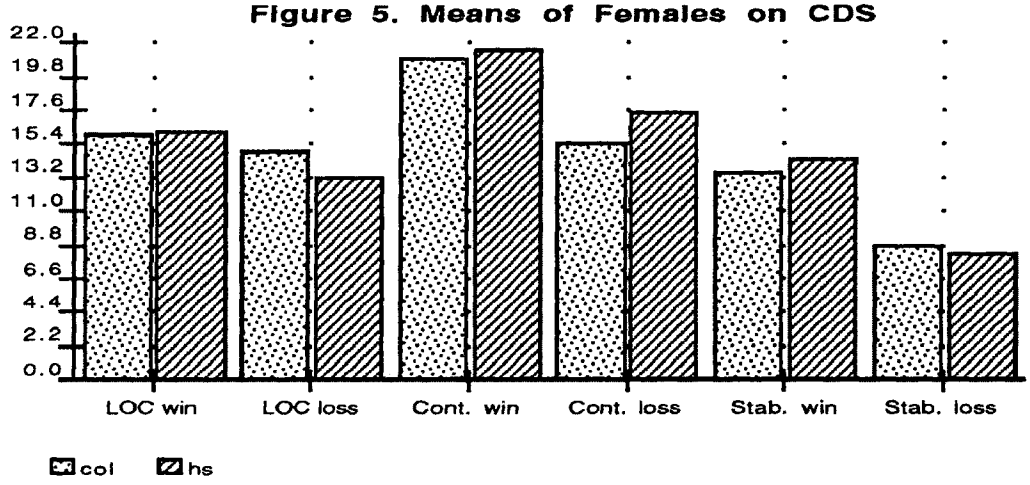
Stability

There were no statistically significant differences in the stability attribution.

There are three instances shown in Tables 5 and 6 that indicate more egocentricism in high school athletes. These

instances are seen in the attributions of stability and locus of causality in the females sub-group (Figure 5), and stability attribute in the reserve players sub-group (Figure 3). In none of these three instances is the difference great enough to show significance however.

Figure 5. Means of Females on CDS



CHAPTER V

Discussion

Conclusions

Egocentricism is indicated by higher scores on the Causal Dimension Scale after a win, and lower scores after a loss (Cox, 1985). Results of the analyses of variance show no support for the main alternative hypothesis that high school athletes are more egocentric than college athletes.

The sub-groups of male athletes and reserve players showed significant differences when attributing locus of causality (Table 3). However these scores do not follow the pattern of increased egocentricism by high school athletes, as it is stated above (Table 5 & 6, Figures 2 & 3). High school male athletes' scores were higher then college male athletes' scores after losses (Figure 2). College reserve athletes scored the Causal Dimension Scale almost identically after winning and losing situations when attributing locus of causality as can be seen in Figure 3. This could be expected if reserve players do not get as much playing time as

the starters. High school reserve athletes attributed wins internally, but they externally attributed losses (Figure 3).

When attributing the dimension of control, there were generally significant differences between high school athletes' scores and college athletes' scores. However the scores did not reflect the pattern of increased egocentricism for high school athletes either. In addition, the sub-group of starters, which would have the most control over an outcome because of their greater amounts of playing time, showed no significant differences whatsoever (Figure 4).

There were no significant differences in the scores for stability. The averages of scores on the Causal Dimension Scale for stability had greater differences between wins and losses than did the averages of scores for locus of causality or control. This would indicate all athletes felt the causes of wins were much more stable than the causes of losses. However, the average of scores for stability after wins is not greater than fifteen, indicating all athletes felt the causes of wins was not very stable (Tables 5 & 6).

Russell (1982) states that scores greater than 15 indicate a stable cause.

In all instances except one (starters attributing locus of causality), high school athletes showed more ego-enhancement by scoring the Causal Dimension Scale higher after wins than did college athletes after wins (Table 5). However, college athletes showed more ego-protection than high school athletes by scoring the Causal Dimension Scale lower after losses than did high school athletes (Table 6). Egocentricism is a combination of ego-enhancement and ego-protection. Neither high school or college athletes showed greater egocentricism.

A possible explanation for the increased ego-enhancement by high school athletes and increased ego-protection by college athletes is the overall won/loss records by the different teams. While both the University of La Verne, and San Dimas High School had successful and unsuccessful teams, overall, the high school teams were more succussful than the college teams. This is especially true for the female teams. This may account for why the high school athletes took more credit for victories, and why the

college athletes placed more blame for defeats. This could be an area of possible future research.

A somewhat similar pattern of attributions was found in research on students who developed learning goals, and students who developed performance goals (Dweck & Leggett, 1988; Elliot & Dweck, 1988). Students who developed learning goals were more likely to use ego-enhancement attributions after successes, but did not use many ego-protecting attributions after failures. This pattern is similar to the high school athletes in this study. The students who developed performance goals did not use as many ego-enhancing attributions after successes, which is similar to the college athletes in this study. However the college athletes used ego-protecting attributions after failures, where the performance goal students did not.

It may not be wise to do much comparing of the athletes in this study to the students in the above mentioned study. The ages of the athletes in this study ranged from 15 to 24 years old. The students in the Ellitot and Dweck (1988) study were fifth graders.

This study is mentioned only to stimulate possible similar future research on older subjects.

The main reason to conduct this research project was to see if high school athletes are more egocentric in their attributions than college athletes. Coaches of different levels could than deal with their athletes' attributions more appropriately. A coach wants to emphasize attributions that protect self esteem and promote self confidence. The results of this study show that high school coaches may want to encourage more ego-protecting attributions, and college coaches may want to promote more ego-enhancing attributions. Although, more research is probably necessary before this recommendation can be made.

Many studies have found people attribute ego-enhancing causes ("I am the better athlete.") after successes, and ego-protecting causes ("The official blew the call.") after failures (Frieze & Weiner, 1971; Weiner et al., 1972; Cox, 1985; Weiner, 1985; Wolf & Sovickas, 1985) The findings of this study agree with the previous research. Only the sub-group of reserve players when attributing locus of causality did not show significant differences between

scores after wins and scores after losses. This makes sense in that reserve athletes may have played less, and therefore feel they had less of a direct effect on the outcome of a game. The reserve players' scores for attributing control and stability were significantly different after wins and losses. All of the other sub-groups, and the sample as a whole showed significantly different scores for all of the attributes after wins and losses.

Recommendations

A problem that occurred with the research was the athletes' interpretation of the wording of the Causal Dimension Scale. Many of the high school athletes and some of the college athletes initially had trouble understanding the meaning of the questions. Additional explanation was necessary for the athletes to understand the questions. Changing the wording to simpler terms might have been beneficial.

Another problem with the questionnaire involved the numbers the subjects were supposed to circle to indicate their feelings about the cause. The numbers are used by the researcher to score the responses of the subjects. Some of the athletes did not understand

they were to circle the number closer to the response they most agreed with. They would ask what number they should circle if they felt a certain way. It is possible this confusion is part of the reason for the lack of significant findings. It is the feeling of the researcher that there were very few subjects that did not ask for clarification however.

The one through nine numbers on the Causal Dimension Scale do not always progress in the same order (see Appendix I, the Causal Dimension Scale). Some athletes thought a nine meant they strongly agreed to the response on the left, even if the nine was on the right side of the page. Replacing the numbers with a generic symbol would alleviate this problem. Subjects could circle the symbol that was closer to the side they agreed with. The researcher would then have to replace the symbols with the proper value to score the questions. This would cause a slight increase in the amount of time to score the responses.

The Causal Dimension Scale was administered either before or after a team's practice depending on what was more convenient for the team's coach. In general, the participating athletes were quite

willing and somewhat eager to take part in the study. The players seemed to take more time answering the questions if the questionnaire was given before practice. After practices, players were tired and more anxious to leave. Hence some athletes seemed slightly apathetic when answering the Causal Dimension Scale after practice sessions. Therefore, it may be beneficial for future researchers to administered the Causal Dimension Scale before practice sessions rather than after practices.

The initial survey of a team took a much greater amount of time than the following surveys. This was because of the extra time spent making introductions to the team, and giving the team an explanation of the procedures. It is highly recommended that if future researchers cannot do all of the surveys before practice sessions, they at least do the initial survey before practice because of the extra time the initial survey takes.

When surveying a team with more than 15 members, it would be helpful to have an assistant who was familiar with the procedures of the survey. Again, this would be especially helpful the first time a team is surveyed. When surveying a large team,

such as the University of La Verne baseball team, a great deal of time was spent distributing and collecting papers and pencils. This caused the researcher to be less available to answer questions from the athletes. An assistant to help with these managerial tasks would be very beneficial.

The purpose of this study was solely to test the differences in attributions of high school and college athletes. There was no intention of looking at the interactions between different sub-groups. Future researchers may wish to look at differences between female starters and male reserve athletes or some other combination of sub-groups.

Future researchers may want to see if there are any differences between athletes of high pressure, large college athletic programs and high school athletes, or athletes from small colleges like the University of La Verne. Athletes who are on athletic scholarships may attribute causes differently than high school athletes, or college athletes who are not on athletic scholarships.

An important follow-up to this study would be to research the effects of a team's won/loss record on the causal attributions made by that team. This would help to determine if the data of this study was influenced by the different success levels of the high school and college athletes.

Another area of possible future research would be to see if the pattern of higher ego-enhancement by high school subjects, and more ego-protection by college subjects is common to the two age groups, and not just athletes.

Summary

High school and college athletes of similar background show no significant differences in overall egocentricism. High school athletes showed more ego-enhancement, while college athletes displayed more ego-protection. Both groups followed well established patterns of making ego-enhancing attributes after wins and ego-protecting attributes after losses.

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APPENDIX I

QUESTIONNAIRE FOR ATHLETES

Age:

Sex:

Starter or Nonstarter (circle one)

What do you believe was the main reason or reasons your team won or lost your last game?

CAUSAL DIMENSION SCALE

Think about the reason or reasons you have written above. The items below concern your impressions or opinions of this cause or causes of your outcomes. Circle one number for each of the following scales.

1. Is the cause(s) 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(s):			
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(s) something that is:			
Permanent	9 8 7 6 5 4 3 2 1	Temporary
4. Is the cause(s) 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(s) something that is:			
Outside of you	1 2 3 4 5 6 7 8 9	Inside of you
6. Is the cause(s) something that is:			
Variable over time	1 2 3 4 5 6 7 8 9	Stable over time
7. Is the cause(s):			
Something about you	9 8 7 6 5 4 3 2 1	Something about others
8. Is the cause(s) something that is:			
Changeable	1 2 3 4 5 6 7 8 9	Unchangeable
9. Is the cause(s) something for which:			
No one is responsible	1 2 3 4 5 6 7 8 9	Someone is responsible

APPENDIX I (cont.)

A total score for each of the three subscales is arrived at by summing the responses to the individual items as follows: (1) locus of causality--Items 1, 5, and 7; (2) stability--Items 3, 6, and 8; controllability--Items 2, 4, and 9. High scores (closer to 27 in a range of 3 to 27) on these subscales indicate that the cause is perceived as internal, stable, or controllable.

The Causal Dimension Scale taken from:
(Russell, D., 1982. The Causal Dimension Scale: A measure of how individuals perceive causes. Journal of Personality and Social Psychology, 42(6), p. 1143.

APPENDIX II

Procedures Read to Athletes

1. The purpose of this study is to see what athletes believe are the causes to outcomes of games.

2. Fill-out the background data.

3. Write in the cause or causes you feel are the main reasons for the outcome of your last game.

4. Answer the nine rating scales thinking about the cause or causes you wrote above.

5. Answer all questions as honestly as possible. Answer the way you feel. All answers are confidential and anonymous.

6. If you have any questions while answering the questionnaire, please ask me.

University of
Montana

Intra-campus MEMORANDUM

DATE: October 3, 1991

TO: Michael B. Riggs

FROM: The University of Montana Institutional Review Board
for the Use of Human Subjects in Research

As a result of ☐ administrative review or ☒ deliberations by The University of Montana Institutional Review Board, your proposed research project:

☐ Has been approved and is considered:

- ☐ a "no risk" project not requiring the written informed consent of the participants.
- ☐ to involve sufficient risk to require the written informed consent of the participants as defined in the UM Policy Statement for the Use of Human Subjects in Research as amended in the memorandum of December 28, 1978, to your department.

☒ Has been conditionally approved, and the conditions imposed by the Board are:

1. The parental consent form should be enlarged to include a place for the signature of the student to signify his consent as well as his parent's.
2. The parental consent form should provide complete information on how to contact both Mr. Riggs and Dr. Miller.

☐ Has not been approved in its present form. The Board suggests that you:

cc: Arthur Miller, Dept of Health &
Human Performance

James A. Walsh

Dr. James A. Walsh, IRB Chairman

NOTE: It is mandatory that you report immediately to the IRB:

1) Changes in procedures;
2) Unanticipated problems;
3) Adverse reactions of, or effects on, subjects.

Parental Consent Form

To participate in the study: "Causal Attributions for Success and Failure: Differences Between High School and College Athletes," the athlete will answer a short questionnaire in which he or she will give the causes that they believe were the reasons for the outcome of a game. All answers given will be confidential. By signing below, the athlete gives consent to participate in the study, and the parent gives permission for their son or daughter to participate in the study.

Athlete:

Date:

Parent:

Date:

If you wish to see a copy of the questionnaire, or have any questions, please contact Michael Riggs (researcher), Dr. Athur Miller (research advisor), or you child's coach.

Michael Riggs: (714) 593-6204

Dr. Arthur Miller: (406) 243-4211