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CAUSAL ATTRIBUTIONS OF ELITE YOUTH FEMALE GYMNASTS: AN INVESTIGATION OF TYPES AND ANTECEDENTS OF ATTRIBUTION

By

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ABSTRACT

CAUSAL ATTRIBUTIONS OF ELITE YOUTH FEMALE GYMNASTS:
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This research was conducted to investigate the types of causal attributions made by elite youth female gymnasts as well as to determine the potential influences of others on the attributional process. Participants included 60 female gymnasts aged 11 to 18 from United States Gymnastics Federation Levels 8, 9, 10 and Elite. All gymnasts completed two written surveys, the Sport Attributional Style Survey (SASS) and the Gymnastics Experience Survey (GES). Fifteen randomly selected gymnasts also participated in a 30-minute interview. Results from the surveys and the interviews indicated that the most commonly reported attributions for both successful and unsuccessful performance outcomes were psychological factors. Attributions to successful and unsuccessful performances were rated as stable, internal and controllable by participants. Results from this study contradict previous studies by Weiner (1985) and other researchers who suggested that ability was the most common cause of successful outcomes and that unsuccessful outcomes should result in unstable, external and uncontrollable attributions. Possible explanations regarding this contradiction are suggested and ideas for future research are proposed.

DEDICATION

This dissertation is dedicated to my wife Dawn, and my son Connor whose unconditional support was vital to completing this project.

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Chapter 1

Introduction

Approximately 25 million children under the age of 18 participate regularly in school or non-school related sporting activities (LeUnes & Nation, 1989). Competing in sport can be a rewarding experience for many youth, yet for many it can be confusing and stressful. While the most common form of participation is through recreational leagues or activities, there are select programs that cater to the more elite child athlete who may be talented enough for national or international competition. While youth competition has been studied extensively, and widely criticized, little is known about the feelings and cognitions of the elite youth participants. Understanding the thought processes, and where these thoughts originate, can give us valuable insight as teachers, coaches, and parents who often expect youth to respond to elite competition as adults would.

The performance expectations of the child athlete involved in elite competitive programs, and the expectations of parents and coaches of these athletes may differ from those of the recreational athlete. Coaches may be paid professionals, rather than volunteers, and an athlete's parents commonly spend thousands of dollars each year for their child's training. In turn, both coaches'

and parents' expectations for the child's involvement in their sport may exceed the expectations made of the recreational athlete. The elite athlete is put in a position where simply participating is viewed as satisfactory, but the underlying emphasis is on success, and that success, in many cases, means winning.

There is a winner in every competition, but few competitors ever "win." Fortunately there are other, often more salient, measures of success. An athlete can view a performance as successful without winning. A personal best, or mastering a new skill, can be viewed as a "success." Similarly, a poor performance, or not meeting one's or other's expectations can be viewed as "failure" even though that athlete might have surpassed all competitors.

One question that has been asked in sport psychology research is "How do athletes or competitors explain their successes and failures?" Attribution theory (Weiner, 1985, 1986, 1992) attempts to explain the cognitions of performers following successful and unsuccessful outcomes. Weiner (1985) suggests that attributions for success or failure are classified into three causal dimensions: (a) locus of causality; (b) stability; and, (c) controllability. Locus of causality can be attributed to the performer (internal causal attributions) or to another source (external attributions). Causes of outcomes can also be viewed as having the ability to change over time (unstable) or to be relatively unchangeable (stable). Lastly, event results can be seen as being controlled by an actor or co-actor (controllable attributions) or not under the control of an actor or co-actor (uncontrollable).

Weiner (1985) states that successful outcomes are usually viewed by the performer as being caused by internal, stable and controllable factors, while performances ending in failure are generally seen as external and unstable. Internalizing causality maintains self-confidence, the performer attributing causes to direct personal control (e.g., effort or ability) while externalizing causality (e.g., luck or task difficulty) during failure may act to "save face."

Locus of causality, stability, and controllability are the most commonly investigated dimensions, but other research (Abramson, Seligman, & Teasdale, 1978; Weiner, 1979) has suggested that two other dimensions may exist: intentionality and globality (Weiner, 1985). Intentionality was proposed to explain failure due to lack of effort. Globality addresses situation specific attributions. Because intentionality is used primarily in asking observers to attribute causes to the behavior of others, this dimension will not be analyzed in this study.

Following causal ascription of a performance outcome, affective experiences are generated. As a consequence these ascriptions have implications for self-evaluation and expectancy. Weiner (1992) proposes that the stability dimension influences relative expectancy for future success. The resulting emotional state may be hopefulness or hopelessness, or confidence or a lack of confidence, that future performances will have the same outcome. Locus of causality will influence esteem related affects such as pride or shame. The dimension of controllability affects social-related emotions such as guilt. Results of appraisals of the self and expectancy for future performance will

positively or negatively affect self-esteem and levels of motivation and may determine who persists or who withdraws from an activity.

A great deal of research in sport psychology has been generated based on attribution theory (e.g., Carron, 1980, 1984; Carron & Spink, 1980; Grove, Hanrahan, & McInman, 1991; McAuley, 1985), but a majority of the studies have used adults as subjects. A few studies have looked at children's competition related attributions (e.g., Bukowski & Moore, 1980; Gill & Martens, 1977) but none have looked at the elite child athlete. One early study looked at the types of attributions made by children during competition (Gill & Martens, 1977). They paired fifth and sixth grade males and females in a maze competition. As the researchers predicted, maze task losers gave more external attributions for their outcomes. Boys, however, made more internal inferences for both success and failure than did girls. Bukowski and Moore (1980) studied the attributions of boys, aged 9 to 13, attending an over-night camp in Canada. When asked about their performances in the camp "Olympics," winners supported Weiner's theory that successful outcomes were largely attributable to effort or ability. Luck and task difficulty, however, were rarely attributed to losing causes. Again, losers tended to attribute their performance to internal causes.

Children's causal attributions for failure in competitive contexts may not be the same as those found by researchers using adults in competition or by children in academic contexts. It is possible that children may be more honest or self-critical in reporting their failures or that the results reported by Bukowski

and Moore (1980) and Gill and Martens (1977) were due to developmental differences.

Nicholls (1978) proposed that children go through four stages of cognitive development in understanding the key attributional constructs of effort and ability. In the first stage, children 5 to 6 years of age cannot distinguish between cause and effect outcomes and ignore effort and ability cues in determining their evaluations of what occurred. During Stage 2, children 7 through 9 years of age, begin to distinguish cause and effect, but focus on effort and outcome to determine causal attributions. Children at this stage of development, according to Nicholls, believe that equal effort results in equal outcomes. In Stage 3, ages 9 through 11, effort is still a primary factor in explaining outcomes, but ability attributions are also made. Ability was only used by these children, however, to explain outcomes that occurred with little apparent effort. It is not until Stage 4, the ages of 12 to 13, that children begin to recognize that outcomes can be the result of effort and/or ability, and that individuals with little ability may be limited in their achievement of success no matter the effort put forth.

While Nicholls' work was in the academic domain, Fry and Duda (1997) found similar results in the physical domain. Fry and Duda (1997) reported that children go through five levels of understanding the interactive effects of skill (ability) and effort. Children at Level 0 are unable to differentiate between demonstrations of unequal effort. At Level 1, effort is distinguished, but children who are perceived as working hard are also perceived as highly skilled.

Children at Level 2 understand that some children are more skilled than others, but feel that the primary cause of outcomes is effort. Fry and Duda (1997) consider Level 3 to be a transitional period. Here children begin to recognize the interaction between skill and effort in determining outcomes, but the understanding lacks consistency. Level 4 children are able to view skill as a capacity and understand that positive outcomes based on effort alone are limited by ability. The ages of transition between the levels proposed by Fry and Duda (1997) are the same as those noted by Nicholls (1978).

Some research with children in sport settings (Bird & Williams, 1980) has found developmental patterns. Bird and Williams (1980) assessed the attributions of children ranging in age from 7 to 18 years. The youngest children, ages 7 to 9, primarily used luck and effort to explain the performances of both males and females. Children 10 through 15 had a tendency to attribute effort to performances of both genders. The 16 to 18 year olds, however, attributed male performance to effort and female performance to luck. But studies, such as this one, have used non-athletes or recreational athletes.

It is possible that elite athletes may have a different cognitive understanding of success and failure than non-athletes or recreational athletes. At advanced levels of competition, success may come in small increments. A seemingly minor improvement in a skill may have been realized only through hours of frustrating practice; and, performing that skill in competition may be viewed by the individual as a success. McAuley (1985), studying intercollegiate female gymnasts, noted that causal attributions were based on subjective

perceptions of success, rather than on the objective outcome (i.e., win or loss) of the event. Causal attributions in all events, except for floor exercise, were significantly influenced by the gymnasts' perceptions of success, rather than by an individual's placement in the competition. A personal best performance, or a failure to reach a goal may be a more salient marker for success or failure than a win or a loss. When assessing causal attributions in individual sporting events, it is necessary to regard the individual's subjective perception of success.

Elite level youth athletes may, in competing with athletes of similar ability or with older athletes, develop different attribution patterns than youth who are non-athletes. A 10-year-old gymnast, through exposure to elite levels of training and competition, may exhibit the capacity to distinguish between effort and ability at a faster rate than would a non-athlete. In the attributional model proposed by Weiner (1985), this exposure would be considered an antecedent to specific causal ascriptions. Weiner (1985, 1986, 1992) suggests that contextual knowledge about an event; whether the attributer is an "actor" or an "observer"; and, the need to protect one's self-esteem (self-serving bias), act as information that is used by the individual to gain an understanding about causality (Weiner, 1992). These antecedents, however, are a partial list of potential antecedents. Brawley (1984) lists motives, memory, beliefs, and social climate among other antecedents that have been researched.

Attributional theory would predict that "ability" would be the most salient attribution for a successful performance. This attribution is both stable and

internal and would result in positive affect and continued prediction for success. But, for some athletes, the attribution to ability is rarely made. Of particular note is this author's experience with elite female youth gymnasts. Through personal experience and pilot work for this project, I noted that female youth gymnasts rarely gave ability attributions when explaining their successes. More frequently given were attributions to "self-confidence" (e.g., "I believed in myself") or psychological preparation (e.g., "I was focused") or practice effects (e.g., "I worked hard in practice"). These attributions may be classified as internal, but vary in the amount of stability as discussed in classic attribution theory.

What are some possible reasons as to why ability attributions in a sport or movement domain are not given? Roberts and Pascuzzi (1979), Bukowski and Moore (1980), and Robinson and Howe (1989) suggested that sport contexts may result in a wider variety of possible explanations than those originally suggested by Weiner. It is also possible that ability is not a salient explanation for two reasons. One, as suggested by Brawley (1984), is that stating that "I am good" as a reason for success may be viewed as braggadocios. This type of response, while it may be accurate, can be less than favorably perceived in the sporting world. More favorable responses are those that are not self-serving. Another possible explanation for the lack of ability attributions is that ability may be viewed by athletes as a "constant," particularly in upper levels of competition. Specific to this study, gymnastics competitors are largely matched by ability, dependent upon the skills and routines that they

can perform. Therefore, in giving reasons for success, if each competitor is of relatively equal ability to begin with then "ability" as a causal attribution may not be a differential explanation.

In addition to internal, subjective perceptions of success or failure, there may be several external factors that influence the attributions of athletes (Brawley, 1984). Scanlan's (1996) discussion of Martens' (1975) social evaluation in competition model within a developmental framework suggests that children receive a considerable amount of reflective appraisal of their performance during and following competition. Of particular import in this process are the evaluations and appraisals, both overt and covert, of coaches, parents, and athlete-peers. Smith and Smoll (1996), in providing a model of the antecedents of coaching behaviors and their effects on athletes, believe that a coach's behaviors "result in perceptions and memories in the minds of young athletes, which in turn affect their emotional reactions to their experiences and, ultimately, the psychological impact of their sport experience" (p. 127).

Coaches may play an important role in the development of an athlete's causal attributions. Through overt means such as verbally accepting or refusing the athlete's explanation of a success or failure, or via less obvious smiles or scowls, the coach can influence subjective perception of performance, as well as, current and future attributions. For example, a gymnast may believe her failure to perform a skill successfully in competition was due to lack of physical ability. However the coach, who knows the gymnast has the ability to perform successfully, may offer an explanation of the performance as lack of focus

before beginning the routine. This could give the gymnast an alternative explanation and potentially alter the current attribution and future causal attributions.

Parents may also play a part in the formation of attributions. The effect that parents have on the development of self-concept and the enjoyment young athletes have for participation in sport have been well documented (Brustad, 1996). Researchers have found that children are likely to adopt the same evaluation of their own performance abilities as their parents (Felson & Reed, 1986; McCullagh, Matzkanin, Shaw, & Maldonado, 1993). Eccles and Harold (1991) suggest that one role that parents play in the development of the self in sport is as interpreters of salient information about their child's performance and achievement outcomes. Parents, thereby, can influence children's cognitions, attributions and self-perceptions of performance outcomes.

The importance of peers on the psychological development within a sport context generally suffers from a lack of research (Brustad, 1996). What is known is that children's preference for evaluative feedback shifts between the ages of 10 to 14 from preferring adult-based feedback to preferring peer-based feedback (Horn & Hasbrook, 1987). While no attribution specific research exists, it can be expected that peers may influence the way in which attributions are made. In the case of gymnastics, gymnasts often are paired in practice groups with peers of similar ability. Feedback from teammates as to the causes of successful and unsuccessful performances in competition and practice, may be particularly meaningful to a gymnast.

The effect that attributional feedback from coaches, parents, and athlete-peers may have on a young elite athlete has not been addressed by researchers. Weiner (1986) suggests that a large number of causal antecedents may influence the causal ascriptions of any one performance outcome. It is likely that the reflective appraisal received from significant others would affect the causal attributions of elite youth athletes.

Statement of the Problem

The purpose of this study is to investigate the types of causal attributions made by elite youth female gymnasts. A second purpose is to determine if coaches, parents, and athlete-peers provide antecedent information that affects those attributions.

Need for the Study

Attributions have been shown to influence an individual's future expectation and affective response to success and failure in the realm of sport. Of particular importance is the relationship between the types of attributions made and continuing participation in an activity. By gaining a better understanding of the attributions, and the potential antecedents of attributions, of elite level youth athletes, one can assist coaches, parents, and young athletes in maintaining a healthy viewpoint of sport participation at the elite level.

Research Questions

1. For elite female youth gymnasts what are the causal attributions made to successful and unsuccessful performance outcomes for actual performances?

2. What is the relationship between the attributions for success and failure and future expectations of performance among elite female youth gymnasts?

3. What is the relationship between the attributions for success and failure and affect among elite female youth gymnasts?

4. What are the reasons that gymnasts give for their attributions?

5. Do the opinions of others (specifically coaches, parents and athlete-peers) act as antecedents of causal attributions for female youth gymnasts?

Hypotheses

1. Among elite female youth gymnasts, successful performance attributions will be classified as more stable than unsuccessful performance attributions, while the locus of control and controllability dimensions will not differ.

2. There will be a positive relationship between the scores on the dimensions of locus of causality, stability and controllability for actual and hypothetical successful performance outcomes.

3. There will be a positive relationship between the scores on the dimensions of locus of causality, stability and controllability for actual and hypothetical unsuccessful performance outcomes.

4. The causal attribution "ability" will be given less frequently than alternate attributions for successful performances.

Assumptions

The following assumption is made:

1. Respondents will respond truthfully to the written scales, questionnaires and interview questions.

Limitations

The following limitations exist in this study:

1. Interpersonal relationships between the investigator and gymnasts may affect the results. The investigator has served as a sport psychology consultant for some of the gymnasts from one to four years. Responses to the questionnaires and interview questions may have been affected by this relationship.

2. Ability to recall events will vary among gymnasts.

3. Only one sport, involving females, was included.

Delimitation

The delimitation of the study is as follows: All respondents are female.

Definitions

The following definitions of terms were used in this study:

1. Elite gymnast: A member of the gymnastics club actively practicing and/or competing at United States Gymnastics Federation (USGF) Levels 8, 9, 10 or Elite.

2. USGF Levels: USGF levels of competition are a system that ranks competitive gymnasts by ability with the higher number indicating more skilled gymnasts or more difficult skills. At the time of this study, Levels 5 through 7 were compulsory, and Levels 8 through 10/Elite were optional. At compulsory levels gymnasts compete in each event with a set program. At optional levels the gymnast has the option to choose her program meeting a minimum level of difficulty for the competitive level.

3. Athlete-peer: A gymnast that is either a competitor or a teammate of a participant in the study.

4. Ability: Physical skill, competence or aptitude.

Chapter 2

Review of Literature

During the last two decades the psychological study of sport, motor behavior, and exercise has shown rapid growth. In recent years the focus of study has been largely cognitive in orientation (McAuley, 1992; Rejeski & Brawley, 1983). Of particular interest to those researching the cognitive domain has been attribution theory. Although other models have been postulated (e.g., Kelley, 1973), a majority of attributional research in sport and other areas, such as education, has stemmed from Bernard Weiner's (1972, 1985, 1986, 1992) attributional theory of motivation and emotion. This chapter will review the major tenets of Weiner's theory and the application of the model to research in sport and physical activity, with particular emphasis on youth sport participation.

Overview of Weiner's Model

Weiner's (1972, 1985, 1986, 1992) attributional theory of motivation and emotion is founded on the premise that people are active processors of information who seek and process information verdically. That is to say, when an outcome occurs in achievement settings people seek to know "why?" a failure or a success occurred (Weiner, 1985). Some have postulated that this search is more likely to occur during failure than success (Folkes, 1982), when

the outcome is unexpected (Hastie, 1984), or when the subjective outcome of the situation is deemed as important (Weiner, 1992). Weiner (1985) proposed that these causal attributions, or inferences, are retrospective, often taking place below the level of immediate awareness, and are highly associated with self-esteem and self-concept.

Weiner, Frieze, Kukla, Reed, Rest, and Rosenbaum (1972) originally postulated that achievement outcomes are most commonly categorized by either ability, effort, task difficulty, or luck. While these four causal attributions are the most frequently reported, Weiner (1985, 1986) notes that certain situations (e.g., sport) may produce many more. Weiner and his colleagues (Weiner et al., 1972) identified two dimensions, or common properties of all attributions, locus of causality and stability.

The first of the dimensions, locus of causality, was originally postulated by Heider (1958) who suggested that explanations that people give for behaviors, outcomes and events emphasize factors that occur within the person (internal) or those that occur due to environmental factors (external). In Weiner's early model, ability and effort are seen as internal causes, while luck and task difficulty are viewed as external.

The second dimension, stability, was proposed to account for potential changes of the particular causal attributions. Some attributions (e.g., luck, mood, or effort) are unstable and have the potential to change over time, or from situation to situation, while others remain relatively permanent or stable (e.g., ability).

Following concern that this two dimensional model was overly simple and did not fully account for an individual's ability to influence effort, or that task difficulty may change, Weiner (1979) added a third dimension called controllability. This dimension allows for an individual's or others' control of factors that may vary, while recognizing that some factors lack direct control. Table 1 summarizes Weiner's (1985) three dimensional model.

Table 1

Possible Causes of Success and Failure According to Locus of Causality, Stability and Controllability

	Internal		External	
	Stable	Unstable	Stable	Unstable
Uncontrollable	Ability	Mood	Task Difficulty	Luck
Controllable	Typical Effort	Immediate Effort	Co-actor Bias	Unusual Help from others

Weiner (1985), in reviewing research on the three dimensional property of the model, found that: (a) all studies, with the exception of Passer, Kelley, and Michela (1978), identified the dimension of locus of causality; (b) all studies, with the exception of Passer et al. (1978) and Wimer and Kelley (1982), identified stability, and; (c) only Michela, Peplau, and Weeks (1982) and Wimer and Kelly (1982) failed to describe the controllability dimension. The data, mostly from the field of education, support Weiner's belief that there are three

dimensions of causality. It must be recognized, however, that these studies required subjective or experimenter labeling, or categorizing, and at times methodology has imposed limitations on the causal perceptions of the respondents. Weiner (1985, 1986) recognizes that this is a limitation of the validity of the model and proposes that situation specific circumstances, like the classroom or sport, may decrease or increase the number of possible dimensions.

Though locus of causality, stability, and controllability are the most commonly investigated dimensions, some researchers have suggested that two other properties may exist; intentionality and globality (Weiner, 1985). Weiner (1979) proposed the dimension of intentionality primarily to explain failure due to lack of effort. One may fail because of knowingly or willingly not attempting to make an effort. Weiner (1985) admits that the distinction between controllability and intentionality is somewhat murky and that the two dimensions covary highly. The distinction seems to be that what is sometimes intended (e.g., working toward a goal) may not always be controllable (e.g., procrastination). Weiner (1985) has generally used the intentionality dimension when asking observers to attribute the behavior of others.

Abramson, Seligman, and Teasdale (1978) suggest that some causes may be situation specific, while others may be more general. For example, a failure at a math exam may be attributed to a specific cause such as poor math aptitude, or a more general cause like low intelligence (Weiner, 1985). This distinction between situational and general attributions has been labeled

globality. This dimension may have particular relevance to sport situations where attributions that are made by an individual on the playing field do not apply to other environments. Multi-event sports like gymnastics may have varying levels of globality depending upon the individual and/or the event. Some gymnasts may view a success on the balance beam as due to ability, but feel a successful performance on their floor routine was due to luck.

Measurement Issues

Procedures used to assess the attributional process, such as requiring respondents to rate the importance of experimenter specified causes, possess two limitations (Elig & Frieze, 1979; Forsyth & McMillan, 1981). First, participants' responses are limited to those that the researcher anticipates and includes on the assessment instrument. Most research has been limited to studying attributions included in Weiner's original two or three component model, largely focusing on the attributions of ability, effort, task difficulty, and luck . Some studies have shown there may be many causes that are important to the respondent, but do not fit neatly into one of the three dimensions of Weiner's theory. Little (1985), in a study assessing children's understanding of academic success and failure, found 18 categories from the responses of children ages 5 to 14.

Similarly, results of at least three studies in the realm of sport have found similar categorization problems (Bukowski & Moore, 1980; Roberts & Pascuzzi, 1979; Robinson & Howe,1989). These researchers believed that studies using a sport context present many more situational variables, or possible attributions,

than were initially considered by Weiner. In particular, Roberts and Pascuzzi (1979) found 11 categories of attributions made in sport contexts.

A second limitation of the methodology utilized in a majority of the studies is the link between the reported specific cause and the conceptual attributional dimension. Whereas most of the theoretical and research emphasis has been placed on the dimensions rather than on specific causes, many studies use specific causal attributions to make inferences about dimensions. Because a specific causal attribution may fall on a dimensional continuum, categorizing the attribution becomes problematic. The respondent's perception of the link between the cause and which dimension it applies to may be different than that of the researcher (McAuley, 1992). For example, ability may appear to be a stable factor in the eyes of a researcher, but may be seen as very unstable by the respondent. Russell (1982) refers to this problem as a "fundamental attribution researcher error."

To alleviate this error Russell (1992) developed the Causal Dimension Scale (CDS), a measure of how individuals perceive causes. The Causal Dimension Scale asks respondents to make open-ended attributions and then classify the response along Weiner's causal dimensions. This to some extent prevents the experimenter from making inaccurate ascriptions, yet does assume that the respondent is capable of making accurate inferences.

Hanrahan, Grove, and Hattie (1989) developed a scale based on the CDS to measure attributional style in sport, the Sport Attributional Style Scale (SASS). The SASS requires participants to state a single most likely cause for

a variety of hypothetical sport situations. Respondents then rate the causes on bipolar scales measuring locus of causality, stability, controllability, intentionality, and globality. Similar to the CDS, the Sport Attributional Style Scale limits fundamental attribution researcher error.

Attribution Theory and Sport Achievement Research

Attribution theory has generated a good deal of research in sport psychology. Weiner's theory has been widely utilized in studying competitive sports in both laboratory and field experiments. The results of attribution research in the field of sport psychology, while not all in agreement, do show a pattern of consistency. Reviews by Rejeski and Brawley (1983); Mark, Mutrie, Brooks, and Harris (1984); Brawley and Roberts (1984); and Leith (1989) report common threads, and come to similar conclusions.

Attributions of winners and losers. Attribution theory would predict that, in order to protect self-esteem or to enhance positive feelings, success (winning) should be attributed to internal factors (ability or effort) while failure (losing) should be attributed to external factors (task difficulty or luck). While early studies by Iso-Ahola (1975, 1977) and Roberts (1975) using Little League baseball players tended to support this "self-serving bias", many studies showed that athletes tend to be somewhat egocentric in their attributions, that is a majority of the attributions made were to internal factors whether winning or losing (Carron, 1980, 1984; Carron & Spink, 1980; Grove, Hanrahan, & McInman, 1991; McAuley, 1985). Individual sport athletes who were winners tended to report more internal attributions than did losers (Bukowski & Moore,

1980; Williams, 1981). Similar findings were found for team athletes (Brawley & Roberts, 1984). Using the Causal Dimension Scale, McAuley and Gross (1983) found that winners in a table tennis tournament gave more internal reasons for their win. Similar findings using the CDS by Mark et al. (1984) with squash and racquetball players, and by Grove et al. (1991) with recreational basketball, support the findings of the McAuley and Gross (1983) study.

In a review of this "self-serving bias" Bird and Cripe (1986) concluded that almost all investigations have demonstrated a tendency for sports participants to attribute success internally. There is, however, no clear pattern when making attributions to failure. Variables that mediate making attributions to unsuccessful outcomes appear to be the decisiveness of the outcome (Spink, 1978), the cohesion of the group (Bird, Foster, & Maruyama, 1980), and whether the attribution to failure is made in public or private (Brawley, 1984).

A meta-analytical review of 22 sport attribution studies by Mullen and Riordan (1988) found results similar to those of Bird and Cripe (1986). They found that individuals did attribute their wins to internal causes, but rarely attributed losses externally. Grove et al. (1991) suggest that an explanation for this apparent contradiction with theoretical predictions lies within the context of sport. "People may attribute losing outcomes in sport to internal factors because they are expected to do so or because they want to avoid being seen as 'excuse makers' by coaches, teammates, fans or the media" (p. 96). As well, self-blame can be seen as productive if it focuses on behavioral ("I can do better") rather than on character ("I'm a loser") factors.

Spink and Roberts (1980) and McAuley (1985, 1992) believe that another possible explanation for the inconsistent attribution of losses is that researchers often assume that absolute outcomes, in this case winning and losing, are the same as the subjects' perceived outcomes. Spink and Roberts (1980) demonstrated that a person's causal attributions were affected by ambiguity of the outcome. Ambiguous outcomes were defined as those in which the athlete's subjective perception of success or failure differed from the objective outcome. Clearly perceived wins or losses were attributed to internal factors, while ambiguous outcomes were attributed to external factors.

In similar research, McAuley (1985) designed a study to investigate whether causal attributions were more closely related to perceptions of success or absolute measures of success. Female intercollegiate gymnasts were asked to make causal attributions and to give subjective ratings of their performance on each of the four competitive events: vault, balance beam, uneven parallel bars, and floor exercise. Causal attributions in all events, except for floor exercise, were significantly influenced by the gymnasts' perceptions of success, rather than by actual outcome (placement in the competition).

Attributional gender differences. In reviews of causal attributions and gender differences, McHugh, Duquin, and Frieze (1979) and Blucker and Hershberger (1983) drew two diverse conclusions. McHugh et al.(1979) concluded from their research that females tended to make more frequent external (luck and task difficulty) than internal attributions regardless of outcome. They also concluded that females made greater use of luck

attributions than males for both success and failure outcomes. Based largely on Horner's (1968) fear of success phenomenon, attributional research focused on the premise that women would make fewer internal attributions than external attributions for fear of being seen as competent in what was generally seen as an unfeminine domain. This attributional pattern did not hold true for adult female athletes. McHugh et al. (1979) concluded that while the expected pattern may be found in young female athletes, and non-athletic women, women who externalize attributions to success would not be found in advanced athletic programs.

Other research has come to different conclusions. Blucker and Hershberger's (1983) literature review, as well as studies by Iso-Ahola (1979), Mark et al. (1984), Roberts, Kleiber, and Duda (1981) and Scanlan and Passer (1980) contradicted the findings of McHugh et al. (1979), and did not find any differences between the causal attributions of males and females in sport or athletic settings.

Children, sport, and attributions. It has been hypothesized that the attribution process changes with age (Duda, 1987; Leith, 1989; Roberts, 1980), but there has been little research to back up this theory. Nicholls (1978) suggested that children go through four stages in developing attributions. From ages 5 to 6 children could not distinguish between cause and effect outcomes and ignored effort and ability cues in determining their evaluations of what occurred. Children, 7 through 9 years of age, began to distinguish cause and effect, but focused on effort and outcome. Children at this stage of

development, according to Nicholls, believe that equal effort results in equal outcomes. As children get older, 9 through 11, effort is still a primary factor in explaining outcomes, but ability attributions are also made. Ability was used only by these children, however, to explain outcomes that occurred with little apparent effort. It is not until the ages of 12 to 13 that children begin to recognize that outcomes can be the result of effort and/or ability.

Research by Fry and Duda (1997) has investigated Nicholls' developmental stages in the physical domain. They used a bean bag toss to examine the ability of children ages 5 to 13 to understand effort and ability. Results indicated that the same four levels of development emerged, but that an additional level needed to be included at the lowest level of understanding. Fry and Duda (1997) proposed that children go through five levels of understanding of the interactive effects of skill (ability) and effort in a physical task. Children at Level 0, the added level, are unable to differentiate between demonstrations of unequal effort. At Level 1 effort is distinguished, but children who are perceived as working hard are also perceived as highly skilled. Children at Level 2 understand that some children are more skilled than others, but feel that the primary cause of outcomes is effort. Fry and Duda (1997) consider Level 3 to be a transitional period. Here children begin to recognize the interaction between skill and effort in determining outcomes, but the understanding lacks consistency. Level 4 children are able to view skill as a capacity, and understand that positive outcomes based on effort alone are

limited by ability. Ages at each developmental level concurred with those of Nicholls.

One early study (Gill & Martens, 1977) looked at the types of attributions made by children during competition. Fifth and sixth grade males and females were paired in a maze competition. As the researchers predicted, maze task losers gave more external attributions for their outcomes, and boys made overall more internal inferences than girls.

Bukowski and Moore (1980) studied the attributions of boys, aged 9 to 13, attending an over-night camp in Canada. When asked about their performances in the camp "Olympics", winners supported Weiner's theory that successful outcomes were largely attributable to effort or ability. Luck and task difficulty, however, were rarely attributed to losing causes. Again, losers tended to attribute their performance to internal causes.

Bird and Williams (1980), in a developmental approach to studying children's attributions, presented scenarios related to three different sports, male and female athletes, and success and failure outcomes to children ranging in age from 7 to 18. The youngest children, ages 7 to 9, primarily used luck and effort to explain the performances of both males and females. Children 10 through 15 tended to attribute effort to performances of both genders. The 16 to 18 year olds, however, attributed male performance to effort and female performance to luck.

Although applauding the study for its developmental approach, Weiss, McAuley, Ebbeck, and Wiese (1990) were somewhat critical of the Bird and

Williams' (1980) results. They felt that having children respond to hypothetical vignettes may elicit very different responses than actual experience. Weiss et al. (1990) also criticized the use of fixed items and experimenter assigned dimensions. In their study Weiss et al. used a modified version of Russell's (1982) Causal Dimension Scale to assess the relationship between self-esteem and attributions. They reported children high in self-esteem made attributions that were more internal and stable than did children who were low in self-esteem. There were no apparent age or gender differences reported.

Many in the field of sport psychology (Duda, 1987; LeUnes & Nation, 1989; McAuley, 1992; Robinson & Howe, 1989; Weiss et al., 1990) have called for more research in the developmental aspects of sport attribution. While some studies have investigated children in recreational sport settings (Kimieck & Duda, 1985; Robinson & Howe, 1989), none have investigated elite level youth athletes. Attributions for the child athlete may be very different than those of non-athletes. Roberts (1980) and Robinson and Howe (1989) mention the need to determine where children learn or receive their attributions. Horn and Lox (1993) and Scanlan (1984) believe that educating parents and coaches about their own and their athlete's behavior can make the athletic experience more rewarding for the child.

The influence of significant others. Athletic events are never performed in a vacuum. This is especially true where youth sports are concerned. The child athlete is surrounded by the suggestions and opinions of individuals who play an important part in their physical and psychological development as

competitors. Coaches, parents, and peer athletes are among those who can affect the way a young athlete learns about involvement in sport, enjoyment of sport participation, and sport behavior (Brustad, 1996; Greendorfer, 1992). There has been little research on the effect of significant others on an individual's causal attributions, yet these associations would seem to be an important component in the antecedent-attribution link.

The coach occupies an influential position in the athletic development of the young athlete (Smith & Smoll, 1996). This influence may be magnified at the elite level, where the athlete may spend as many as 30 hours a week in training. The relationship between athlete and coach is one of complexity. The perceptions and reactions of athletes are affected not only by their own expectations, but by the response of the coach to these beliefs. Smith and Smoll (1990, 1996) believe that coaching behaviors are instrumental in affecting the way that athletes evaluate and interpret their sporting performance. Verbal and non-verbal cues from the coach can provide the athlete with important feedback about the acceptance of performance outcomes. Though no research exists specific to the influence of coaching behavior on an athlete's causal attributions, it seems likely that coaches may reform or modify the way that athletes think about their performance outcomes.

Parents, too, may play an important role in the development of attributions. Children's reliance on adults as sources of information is likely to affect a range of psychological factors as the athlete develops in sport. Brustad (1996) noted that parents can positively or negatively affect a child's enjoyment

of sport participation and self-concept in sport contexts. This influence is particularly conspicuous during the early years of sport participation (Horn & Hasbrook, 1986, 1987). Eccles and Harold (1991) suggest that one role that parents play in the development of the child in sport is as interpreters of information about the athlete's performance and achievement outcomes. It would seem to follow that parents' feedback specific to performance outcomes would affect the way that a child perceives the causes of successes and failures.

The effects of peers on the psychological development in sport is poorly understood (Brustad, 1996). Horn and Hasbrook (1987) noted that children shift their preference for evaluative feedback from adult-based to peer-based between the ages of 10 to 14. This is the age range that many athletes begin the transition from recreational athletics to accelerated, elite level training. It stands to reason that the elite child athlete might turn to athlete-peers and/or teammates for attributional feedback of performance outcomes.

Summary

Weiner (1985, 1986) proposed an attribution theory of motivation and emotion in achievement settings. This model has been widely used in educational and sport settings and has received empirical support. Most of the research in sport, however, has focused on adults, rather than on children; and a majority of the research on children has been on the recreational athlete rather than on advanced or elite level performers. Little is known of the types of attributions made by elite level athletes or the potential antecedents or

mediating forces that may effect the development of attributions. This is particularly true of athletes in multi-event sports such as gymnastics. This study is designed for a two-fold purpose; namely, to investigate the types of attributions of child athletes, specifically gymnasts; and, to attempt to determine additional antecedents, specifically the feedback from coaches, parents, and athlete-peers on causal attributions.

Chapter 3

Method

The purpose of this study was to investigate the types of causal attributions made by female gymnasts. Secondarily, the investigation attempted to determine if and/or how, significant others, specifically parents and coaches, influence gymnasts' causal attributions. The study contained two separate analyses. Initial analysis looked at the types of causal attributions; the second investigated the sources of causal attributions.

Participants

Volunteer participants for this study were 60 female gymnasts from two Midwestern cities. Participants' ages ranged from 11 to 18 with a mean age of 13.83 (SD= 1.83). Gymnasts ranged from having 2 to 12 years of competitive gymnastics experience with a mean of 5.60 (SD= 2.14). There were 25 Level 8 gymnasts, 10 Level 9 gymnasts, and 25 Level 10/Elite gymnasts in the sample. Each gymnast was briefed on the purpose of the study and was asked to sign a participant informed consent form prior to participating in the study. Parental consent for the gymnasts' participation was also obtained for gymnasts under the age of 18 (See Appendix A). Permission to use the club's facilities was obtained from both of the club owners.

Questionnaires

The following scales and questionnaires were used to evaluate participants' attributions during the study.

Demographics. Gymnasts were asked to provide information on date of birth, current level of competition, and years in gymnastics competition (See Appendices B & C).

Hypothetical events. In order to assess causal attributions for hypothetical events, gymnasts were asked to respond to a modified version of the short form of the Sport Attributional Style Scale (SASS; see Appendix B) (Hanrahan & Grove, 1990a) . The SASS was developed to describe the attributional style of athletes. Internal reliability for the scale was reported at .71 (Hanrahan, Grove & Hattie, 1989). The test-retest reliability of the long form of the SASS has been reported by Hanrahan, Grove and Hattie (1989) at .73. Correlations between the items on the long and short forms range between .85 and .96 with a mean of .94 (Hanrahan & Grove, 1990a). Internal reliability of the SASS short form for this population was .74.

The SASS short form asks subjects to respond to five positive and five negative hypothetical events. They are then required to list the single most important cause for that event. Gymnasts then rated each cause on a 7-point Likert scale with bipolar anchors. These ratings correspond to five causal dimensions: (a) internality, (b) stability, (c) globality, (d) controllability, and (e) intentionality. Scores for each dimension are totaled separately for positive and

negative events resulting in possible scores for each dimension ranging from 5 to 35.

In addition to rating causal dimensions gymnasts were asked to answer questions regarding the importance of the event if it happened to them, and the relative clarity of imagining the event. Both questions were rated on a 7-point Likert scale.

The short form of the SASS was used for this study because one hypothetical situation proposed on the long form, " The crowd 'boos' you during a competition", is inapplicable to gymnastics competitions. (While the crowd at a gymnastics competition may voice displeasure for scores, the disapproval is nearly always directed at the judges of the meet). The short form omits this item, its pair (the crowd cheers) and one other paired item , specifically, "A newspaper article is extremely positive (negative) about you and your team." Hanrahan and Grove (1990b) reported that the short form of the scale correlates significantly with the long form (r=.94). Personal communication with one of the authors of the SASS confirms this form as an appropriate measure of attributional style for this participant population (J.R. Grove, personal communication, November 14,1996). The SASS short form was modified to be specific to gymnastics competition. When appropriate, the generic "sport" references were changed to read "gymnastics." For example; the hypothetical event, "You succeed in mastering a difficult sport skill," was modified to read, "You succeed in mastering a difficult gymnastics skill." Appendix B contains the modified version of the SASS short form.

Actual events. To determine the causal attributions of gymnasts for actual events, the "Gymnastics Experience Survey" (GES) was created by this author (see Appendix C). The methodology used for this survey is similar to that used by Hanrahan and Grove (1990a). However, instead of responding to hypothetical events gymnasts were asked to recall and describe two recent successful and two recent unsuccessful performances in gymnastics, and to name the one most likely cause of each performance. They then rated the causes using the same bipolar questions used in the SASS. Scoring for successful and unsuccessful performance outcomes was identical to that of the SASS. Internal reliability for the GES was .69, close to that of the SASS. Recall of prior events has been used in attributional research and found to be a reliable means of assessing causal attributions (Gilovich, 1983; Weiner, 1986; Wong & Weiner, 1981).

Gymnasts were also asked to respond to questions regarding emotional responses to the performances and future expectations of performance. To assess emotional responses, participants answered 12 questions regarding their successful and unsuccessful performance outcomes on a seven-point Likert scale. Scores ranged from 1 (Not at all) to 7 (Very) on the following emotions: good; bad; angry; calm; unhappy; happy; ashamed; proud; unsatisfied; satisfied; disappointed; and, pleased. Selections of these items were based on previous attribution-emotion research by Biddle and Hill (1988, 1992). Appendix C contains the complete Gymnastics Experience Survey.

Interviews

Randomly selected gymnasts participated in one 20 to 30-minute interview. Each gymnast was asked to give reasons for successful and unsuccessful performances; the personal importance of those attributions; the importance of specific attributions to athlete-peers, coaches, and parents; and, if ability had not been previously cited as an attribution, why ability was not reported as an attribution for success (See Appendix D).

Procedure

During their competitive season, participants were asked to take part in two data collection sessions, three sessions for those selected to participate in the interview. In order to reduce potential response bias during the first two sessions, subjects received the SASS and the GES in the following manner. For half of the participants, the SASS short form was completed in session one and the Gymnastics Experience Survey was completed in session two. The remaining participants received the GES first and the SASS the following session. The two sessions took place a week apart. Participants were randomly selected for both groups. In testing for order effects, no significant difference was found ($t = 0.38$, $p < .05$).

Questionnaire data collection. During normal practice hours the gymnasts were asked to meet as a practice group to complete the questionnaire. Data collection took place in a secluded area of each gymnastics facility. The gymnasts were asked to sit on a gymnastics mat and were given a pencil and a clipboard with the attribution questionnaires attached

in the random order described above. The investigator first read aloud the instructions for each survey prior to completion by the gymnasts. The gymnasts were reminded to respond to "how they felt" and to respond as honestly as possible. Questions or clarifications regarding responses were answered on an individual basis during the administration of the questionnaire. At the end of the data collection period the participants were thanked and excused from the area.

Interview. Participants were interviewed individually, in person during regularly scheduled practice times or during times prior to or following practice. The interviewer followed the scheduled interview protocol and, when necessary, made probes to clarify statements made by the gymnast.

Data Analysis

To provide a description of the causal attributions made by elite female youth gymnasts, and to address Research Question 1 and Hypothesis 4, the attributions provided by the gymnasts on the GES were inductively analyzed using hierarchical content data analysis.

In order to address Hypotheses 1, and to check for concurrent validity of the GES and SASS short form, a 2 x 2 (performance outcome x situation) multivariate analysis of variance (MANOVA) was performed. The scores for each outcome and situation on the dimensions of locus of control, stability, and controllability served as the dependent variables for this analysis. A separate, exploratory 2 x 2 MANOVA (performance outcome x situation) was run using the scores on the remaining two dimensions of globality and intentionality as the dependent variables.

Mean scores on the GES and SASS short form did not differ on the dimensions of stability, locus of causality, or controllability. Table 2 lists the mean scores and standard deviations for each of the attributional dimensions as well as the resulting F score and probability.

Table 2
Means, Standard Deviations and F Scores for GES and SASS Scores on the Dimensions of Stability, Locus of Causality and Controllability

Dimension Measurement	Mean	SD	F	probability
Stability			2.32	.134
GES	4.72	1.09		
SASS	4.94	0.71		
Locus of Causality			0.01	.921
GES	5.46	1.21		
SASS	5.49	0.83		
Controllability			0.30	.548
GES	2.95	1.41		
SASS	2.90	0.87		

To note the relationship between the GES and the SASS short form (Hypotheses 3 and 4), a separate correlation was performed between summed scores of matching items for each of the five attributional dimensions. Successful and unsuccessful performance outcomes were analyzed independently. Results of this analysis are presented in the following chapter.

To investigate Research Question 2, the relationship between attributions and future expectancy, two separate correlations, one for successful and one for unsuccessful performances, were performed. Summed scores from both

successful performance outcomes from the GES on the dimension of stability were correlated with summed scores on item 19, performance expectancy. An identical procedure was used for unsuccessful performance outcomes.

To investigate Research Question 3, separate correlations were performed for successful and unsuccessful performance outcomes. Summed scores on the dimensions of locus of causality and controllability were correlated separately with the 12 affect scores from the GES.

To answer Research Questions 4 and 5, interviews were transcribed verbatim and responses were analyzed via hierarchical content data analysis to determine the: (a) common attributions for success and failure; (b) most salient attributions; (c) effect of athlete-peer feedback; (d) effect of coach feedback; (e) effect of parent feedback; and, (f) why "ability" is not reported for successful performances. The frequency of responses in each category was noted.

Chapter 4

Results

The purpose of this study was to investigate the types of causal attributions made by elite female youth gymnasts, and to determine if others, primarily parents, coaches, and peers, provide information that affects those attributions. Also of interest is the relationship between performance outcomes and the attributional dimensions of stability, locus of causality, and controllability. Specifically at issue is whether elite youth competitors will attribute successful performance outcomes to internal, stable and controllable factors, and unsuccessful outcomes to external, unstable, and uncontrollable outcomes as proposed by Weiner (1985).

Gymnast's Attributions to Successful and Unsuccessful Performance

In order to describe the types of attributions made by female youth gymnasts, participants' responses to the open ended question on the GES, i.e., "List the single most likely cause for your performance", were analyzed using an inductive hierarchical analysis. Each response was logged and analyzed for content. Though the gymnasts were asked to list only a single cause, most responded with two or more causes. When multiple responses were given for a single performance outcome, each response was treated as unique. For example, one gymnast responded to an unsuccessful performance with the

attribution, " I had a bad warm-up and was nervous." This response was included in both the "warm-up" and "nervous" categories.

Following the logging of individual responses, responses were grouped with similar responses to create first order themes. These first order themes were further grouped to create similar categories of responses to create second order themes. From these second order themes five general categories of attributions emerged that were common to both successful and unsuccessful performance outcomes: (a) ability attributions; (b) effort attributions; (c) psychological/mental skills factor attributions; (d) result of practice attributions; (e) physical factor attributions; and (f) coaching. There were two categories unique to successful performance outcomes, "support from others" and "fun", and one unique to unsuccessful outcomes," bad luck."

Two other individuals, one familiar with both attribution theory and with youth gymnastics and one unfamiliar with attribution theory but with gymnastics experience, provided a reliability check for the categorization of responses. Category agreement was reached in 97.5% and 95.5%, respectively, of the responses.

In order to answer Research Question 1, "What are the causal attributions made to successful and unsuccessful performance outcomes?", the results of the hierarchical analysis described above are detailed in the following sections separated into successful and unsuccessful performance outcomes. Tables 3 and 4 list the general categories and higher order themes of attributions for successful and unsuccessful performance outcomes.

Attributions for Successful Performance Outcomes

The general categories of attributions to successful performance outcomes are discussed in order of frequency of total responses in Table 3. The statements that constitute each first order theme are comments taken verbatim from the gymnasts' questionnaires.

Psychological/mental skills attributions for successful outcomes. Psychological/mental skills attributions were those that suggested the successful outcome was due to psychological factors (e.g., confidence), mental skill (e.g., concentration), or mental preparation (e.g., determination). There were 71 responses attributed to psychological/mental skills, accounting for 53% of the total attributions for successful outcomes. Nine second order themes of psychological/mental skills emerged: (a) focus/concentration, the gymnasts reported that focus or concentration was responsible for their success; (b) confidence, the gymnasts reported that being confident led to their achieving success; (c) determination, determination or "sticktuitiveness" was responsible for the outcome; (d) aggressiveness, being aggressive was responsible for success; (e) attitude, a positive attitude led to success; (f) lack of nervousness, not being nervous helped the gymnast succeed; (g) unafraid, overcoming fear was responsible for success; (h) pressure, positive pressure or a lack of pressure led to success; and, (i) motivation, the gymnast was motivated to succeed. Four responses were psychological in nature but did not group with other responses and were categorized as "miscellaneous" .

Table 3

Attributions for Successful Outcomes: Categories and Category Summary Statistics

General categories/ 2nd- & 1st-order themes	Category Frequency	Item Frequency	% of total attributions
Psychological/mental skills	71		53.0%
Focus/concentration		19	14.2%
Concentration		5	
I was focused		4	
Focus		4	
I stayed focused		3	
I concentrated		3	
Determination		14	10.4%
Determination		7	
Determination and dedication		3	
Not wanting to stop until I made it		1	
I stuck to it		1	
I was determined in practice		1	
I knew I had to do it and forced myself		1	
Confidence		10	7.5%
I had confidence		6	
Being confident		2	
I knew I could		2	
Attitude		6	4.5%
My attitude		3	
I was really positive		1	
Positive attitude		1	
Thinking positive		1	
Pressure		5	3.7%
No pressure		2	
Pressure		2	
Wasn't a lot of pressure		1	
Aggressiveness		4	3.0%
I was aggressive		2	
Being aggressive		2	
Not nervous		3	2.2%
I wasn't nervous		2	
Staying calm		1	
Unafraid		3	2.2%
Overcame my fear		2	
Getting up the guts to throw it		1	
Motivation		2	1.5%
I had to prove that I could do it		1	
Wanting to go to Nationals		1	
Miscellaneous		5	3.7%
Mental performance		1	
Mentals		1	
Patience		1	
Set goals		1	
I was comfortable with the environment		1	

Table 3 (cont'd)

General categories/ 2nd- & 1st-order themes	Category Frequency	Item Frequency	% of total attributions
Effort	21		15.7%
Previous hard work		13	9.7%
I worked hard		11	
I practiced very hard		1	
Training really hard		1	
Trying hard		6	4.5%
Trying hard		5	
Going hard for it		1	
Effort		2	1.5%
Practice	19		14.2%
Practicing		11	8.2%
Practicing		10	
All of the hard training		1	
Preparation		3	2.2%
Specific practice		3	2.2%
Lots of endurance work		1	
Worked things that I needed		1	
Drills		1	
Readiness		2	1.5%
I was ready		2	
Ability	9		6.7%
Skilled		4	3.0%
Letting go later		1	
Hit routines		1	
I hit all of my events		1	
Doing roundoffs		1	
Consistency		4	3.0%
Consistency		2	
I'm consistent		2	
High ability		1	0.1%
I was an all-star		1	
Support from others	4		3.0%
Being supported		3	2.2%
Being supported		2	
All the support I got from other people		1	
Others' confidence		1	0.1%
My coach and my friends knew I could do it		1	
Physical	2		1.5%
Adrenaline		2	

Table 3 (cont'd)

General categories/ 2nd- & 1st-order themes	Category Frequency	Item Frequency	% of total attributions
Coaching	2		1.5%
Coaches helping me		2	
Fun	2		1.5%
Having fun		2	
Wanting to keep my coaches happy	1		0.1%
Because it was my first meet of the season	1		0.1%
Because it was an easy meet	1		0.1%
Being excited to come to [the club]	1		0.1%
Total		**134**	

Nineteen responses (14.2%) were attributed to focus/concentration, the most frequent of the psychological/mental skills attributions. Gymnasts also indicated determination (14; 10.4%),confidence (10; 7.5%), attitude (6; 4.5%), pressure (5; 3.7%), aggressiveness (4; 3.0%) not being nervous (3; 2.2%) being unafraid (3; 2.2%), and motivation (2; 1.5%) as being the cause of success.

Effort attributions for successful outcomes. Effort attributions were those that suggested that the outcome was due to hard work or trying hard. There were 21 responses in this general category accounting for 15.7% of the total successful attributions. Three sub-categories of effort attributions emerged from the analysis: (a) previous hard work, the gymnasts reported that working hard in the past led to success; (b) trying hard, the gymnasts reported that trying hard during the performance led to success, and (c) general effort, the gymnasts reported non-specified effort attributions. Thirteen gymnasts (9.7%) responded with attributions of previous hard work, 6 (4.5%) attributed success to trying hard, and 2 (1.5%) listed general effort.

Results of practice attributions for successful outcomes. Results of practice attributions were those that suggested the outcome was due to practicing or preparation for competition. Practice attributions totaled 19, or 14.2 %, of successful outcome attributions. Four sub-categories emerged from this category: (a) practice, the gymnasts reported that practicing helped achieve success; (b) preparation, the gymnasts noted that being prepared for competition led to a successful outcome; (c) specific practice, the gymnasts

listed specific practice features that helped; and, (d) readiness, the gymnasts indicated that they were ready for competition. Eleven gymnasts (8.2%) listed the sub-category of practice, 3 (2.2%) listed preparation, 3 (2.2%) specific practice, and 2 (1.5%) readiness.

Ability attributions for successful outcomes. Ability attributions were those that suggested that the performance outcome was due to personal skill or high ability. Ability attributions accounted for 6.7% (n=9) of successful performance outcome attributions. Three second order themes emerged for attributions to ability: (a) skilled, the gymnasts reported success at the skills necessary to be successful in gymnastics; (b) consistency, the gymnasts reported being consistent in performing skills; and, (c) high ability, one gymnast reported having high physical ability. Four (3.0%) gymnasts gave attributions of skill and consistency, while only 1 (0.1%) gymnast reported high ability.

Support from others attributions for successful outcomes. Support from others attributions were those in which the gymnast suggested that success was gained through the support of others. There were 4 (3.0%) responses in this category. Two second order themes emerged from this category: (a) being supported, others' support was led to success; and, (b) others' confidence, others had confidence in the gymnasts' ability. There were 3 (2.2%) responses in being supported and 1 (0.1%) in others' confidence.

Physical factors for successful outcomes. This category was created primarily because there were several responses to physical factors in unsuccessful performance outcomes and it was necessary to note attributions to

successful outcomes for the quantitative analysis (chi-square) that follows. There were 2 (1.5%) responses to successful outcomes in this category, both were related to adrenaline.

Coaching attributions for successful outcomes. Coaching attributions were those in which the gymnast indicated that coaches helped them achieve a successful performance outcome. There were 2 (1.5%) responses in this category.

Fun attributions for successful performance outcomes. Two responses (1.5%) created this category. Both gymnasts indicated that they were successful because they were "having fun."

Other attributions for successful outcomes. There were four responses that could not be grouped into meaningful categories. See the end of Table 3 for these responses.

Attributions for Unsuccessful Performance Outcomes

Table 4 lists the general categories of attributions and higher order themes for unsuccessful performance outcomes. The general categories of attributions to unsuccessful performance outcomes are discussed in order of the frequency of total responses.

Psychological/mental skills attributions for unsuccessful outcomes. Psychological/mental skills attributions were those that suggested the unsuccessful outcome was due to psychological factors, or a lapse in mental skill or mental preparation. This general category resulted in 63 (51.6%) responses. Six second order themes were identified among the responses in

Table 4

Attributions for Unsuccessful Outcomes: Categories and Category Summary Statistics

General categories/ 2nd- & 1st-order themes	Category Frequency	Item Frequency	% of total attributions
Psychological/mental skills	63		51.6%
Lack of concentration focus		**21**	17.2%
Was not focused		6	
Not concentrating		4	
Lack of concentration		3	
No concentration		3	
Loss of concentration		3	
Losing my focus		1	
Lack of focus		1	
Nervousness		**18**	14.8%
Nerves		7	
Nervous		7	
Nervousness		3	
Everyone was stressed out including [coach]		1	
Fear		**9**	7.3%
Fear		5	
Scared		4	
Lacking confidence		**6**	4.9%
I wasn't confident enough		2	
No confidence		2	
Lack of confidence		1	
I believed I couldn't do it		1	
Too much pressure		**2**	1.6%
Frustration		**2**	1.6%
Poor attitude		**2**	1.6%
Miscellaneous		**3**	2.4%
Wasn't being aggressive enough		1	
I was not completely there		1	
Bad mood		1	
Practice	16		13.1%
Poor preparation		**6**	4.9%
Not prepared		2	
Not ready		2	
Not being ready for the skill		1	
Not knowing exactly how to do it		1	
Lack of practice		**5**	4.1%
Not enough practice		3	
Not enough training		1	
Lack of conditioning		1	
Ineffective warm up		**3**	2.4%
Not enough warm-up		2	
Bad warm-ups		1	
Poor practice		**2**	1.6%
I wasn't doing good in practice		1	
Vaulting with the mini-tramp too much		1	

Table 4 (cont'd)

General categories/ 2nd- & 1st-order themes	Category Frequency	Item Frequency	% of total attributions
Ability	11		9.0%
Not making skill corrections		4	3.3%
Poor timing		2	1.6%
Couldn't get the timing right		1	
Bad timing		1	
Poor skills		2	1.6%
Loss of skill		1	
Not doing the trick correct		1	
Bad day		2	1.6%
Low ability		1	0.1%
Myself		1	
Physical Factors	11		9.0%
Injury		5	4.1%
Injury		3	
Injured		1	
I have a genetic injury		1	
Fatigue		5	4.1%
Tired		2	
Lack of energy/endurance		2	
Exhaustion		1	
Other -Too cold		1	0.1%
Effort	6		4.9%
Lack of hard work		3	2.4%
Not working hard		2	
Loss of hard work		1	
Laziness		2	1.6%
I was lazy		2	
Lack of effort		1	0.1%
Poor coaching	4		3.3%
Coaching		1	
Told the coaches had no time for me		1	
Lack of coaches		1	
Coach was pressuring me too much		1	
Bad luck	3		2.4%
Luck		1	
Bad luck		1	
Chance		1	
Don't know		3	2.4%
Not being used to anything		1	0.1%
Not being able to compete in meets		1	0.1%
Sad family		1	0.1%
Not happy		1	0.1%
Not wanting to do gymnastics			0.1%
Total		**122**	

this category: (a) lack of concentration or focus, the gymnasts reported that poor performance was attributable to a lack of concentration; (b) nervousness, the gymnasts attributed poor performance to being nervous; (c) fear, the gymnasts were frightened, resulting in poor performance; (d) lacking confidence, the gymnasts attributed poor performance to a lack of self-confidence; (e) pressure, the gymnasts felt there was too much pressure and poor performance resulted; (f) frustration, the gymnast's frustration led to poor performance; and, (g) poor attitude, a negative attitude caused the gymnast to be unsuccessful . Three other responses could not be placed into meaningful categories and were labeled as "miscellaneous."

Twenty-one (17.2%) responses were categorized as lack of concentration, the most frequent in the general category of psychological/mental skills. Eighteen (14.8%) responses were grouped as due to nervousness, 9 (7.3%) were categorized as fear, 6 (4.9%) as lack of confidence, and 2 (1.6%) each for pressure, frustration and poor attitude.

Practice factors attributions for unsuccessful outcomes. Practice factor attributions were those that suggested the outcome was due to lack of practicing or preparation before a competition. Practice attributions accounted for 13.1% (n=16) of all unsuccessful performance outcomes. Four sub-categories were identified: (a) poor preparation, the gymnasts felt unprepared or unready for the competition; (b) lack of practice, the gymnasts attributed being unsuccessful to a lack of practice time; (c) ineffective warm-up, poor performance was due to a poor or insufficient warm-up; and, (d) poor practice, the gymnasts felt that

practice went poorly. Six (4.9%) gymnasts attributed unsuccessful outcomes to poor preparation, 5 (4.1%) responses were attributed to lack of practice, 3 (2.4%) to ineffective warm-up and 2 (1.6%) to poor practice.

Ability attributions for unsuccessful outcomes. Ability attributions for unsuccessful outcomes were those that suggested that performance was due to lack of personal skill, low physical ability, or unstable physical ability. There were 11 (9.0%) responses in this general category. Five second order themes emerged from the analysis: (a) not making skill corrections, the gymnasts believed that their lack of success was due to the inability to correct an incorrect skill; (b) poor timing, the gymnasts reported that lack of success was caused by poor timing in performing the skill; (c) poor skills, the inability to perform a trick or skill correctly; (d) bad day, unstable ability, or ability was below average the day of the performance, and, (e) low ability, the one gymnast who identified this attribution felt that she was low in ability. The ability theme with the most responses was not making skill corrections with 4 (3.3%). Poor timing, bad day, and poor skills each had 2 (1.6%) responses, and low ability had 1 (0.1%) response.

Physical factors for unsuccessful outcomes. Two themes of attributions emerged for the category of physical factors: (a) injury, gymnasts were injured; and, (b) fatigue, gymnasts were tired or lacked energy during the competition. A total of 11 (9.0%) physical factors were recorded. There were 5 (4.1%) responses attributed to injury and 5 (4.1%) to fatigue. One response was categorized as miscellaneous. In this case the gymnast indicated she was cold.

Effort attributions for unsuccessful outcomes. Effort attributions were those that suggested that the unsuccessful outcome was due to lack of effort or lack of hard work. Six (4.9%) effort responses were identified. Three sub-categories emerged: (a) lack of hard work, the gymnasts reported being unsuccessful due to poor work habits; (b) laziness, the gymnasts attributed poor performance to being lazy; and, (c) lack of effort, gymnasts attributed poor performance to a lack of effort. There were 3 (2.4%) responses that indicated lack of hard work, 2 (1.6%) reporting laziness, and 1 (0.1%) lack of effort.

Poor coaching attributions for unsuccessful outcomes. Responses in this category were those that indicated coaching was in some way responsible for the gymnasts' lack of success. There were 4 (3.3%) responses in this category.

Bad luck attributions for unsuccessful outcomes. Bad luck attributions were those in which the gymnast's attributed poor performance to chance or bad luck. There were 3 (2.4%) attributions in this category.

Other attributions for unsuccessful outcomes. There were 8 (6.6%) attributions that did not fit into meaningful categories. These responses are listed at the end of Table 4.

Over 50 percent of all responses cited by the participants for both performance outcomes were attributed to psychological or mental skill factors. For successful performance outcomes, if the attribution categories of psychological/mental skills, effort, and practice are combined, these attributions account for over 82 percent of all causes cited by the youth gymnasts. For unsuccessful performance outcomes, the combination of psychological/mental

skills, practice, and physical factors accounts for over 73 percent of attributions. Ability attributions are given less than 10 percent of the time for both successful and unsuccessful performance outcomes, which contradicts Weiner's (1985) theory.

Weiner (1985) proposed that internal and stable attributions were likely to be given following successful performance outcomes. Hypothesis 4 predicted that the causal attribution of ability would be given less frequently than alternate attributions for successful performances. In order to test this hypothesis, and to investigate any differences in the frequency of attributions between successful and unsuccessful performance outcomes a 2 X 5 (outcome x attribution category) chi-square analysis was performed. In order to reduce potential problems with small cell size, the attribution categories included in the chi-square analysis were those that included at least 10 responses from either performance outcome. Attribution categories included in the analysis were ability, effort, psychological/mental skills, practice and physical factors. The resulting chi-square indicated that a significant difference existed between the response categories (X^2=14.58, df=4, p=.005). Table 5 shows the row percentages and column percentages for each attribution category for successful and unsuccessful performances. A difference of 10% or greater between response categories was considered to be a meaningful difference.

By inspection of the distribution of responses it can be surmised that a meaningful difference in frequencies occurs between the psychological/mental category and each of the other categories in both successful and unsuccessful

performance outcomes. Psychological/mental skills attributions differed by 50.8% from ability attributions, by 41.0% from effort attributions, by 42.6% from practice attributions, and by 56.6% from physical attributions in successful performance outcomes. A meaningful difference also existed in successful performance outcomes between attributions to physical factors and effort attributions (15.6%) and physical factor and practice attributions (14.0%). Ability attributions did not differ from effort, practice or physical attributions.

For unsuccessful performance outcomes psychological/mental skills attributions differed by 53.3% from effort attributions, by 48.6% from both ability and physical attributions, and by 43.9% from practice attributions. For unsuccessful performance outcomes response frequencies between the categories of ability, effort, practice, and physical factors are apparently equal.

Table 5

Frequencies of Attribution Categories for Successful and Unsuccessful Performance Outcomes.

	Frequencies and percentages of responses						
	Successful			Unsuccessful			
Attribution Category	Freq.	Row %	Column %	Freq.	Row %	Column %	Total
Ability	9	45.0%	7.4%	11	55.0%	10.3%	20
Effort	21	77.8%	17.2%	6	22.2%	5.6%	27
Psychological	71	53.0%	58.2%	63	47.0%	58.9%	134
Practice	19	54.3%	15.6%	16	45.7%	15.0%	35
Physical	2	15.4%	1.6%	11	84.6%	10.3%	13
Total	122			107			229

There are some meaningful differences in the attribution category frequencies between successful and unsuccessful performance outcomes. Attributions to ability (10.0%) and physical factors (69.2%) occur with greater frequency in unsuccessful performance outcomes. Effort attributions occur with greater frequency in successful performance outcomes (55.6%).

The results from the 2 x 5 chi-square analysis and the hierarchical analysis of the attributions of female youth gymnasts suggest that attributions to ability are relatively rare in this population. This would support the prediction made in Hypothesis 4, that ability attributions would occur with less frequency than other explanations.

Interviews

Results from the interviews with randomly selected gymnasts gives further insight into common attributions for both successful and unsuccessful performances and reasons why ability is not used frequently as an attribution. To answer Research Question 4, "What are the reasons that gymnasts give for their attributions?", and to further investigate the types of attributions made by this population; interview responses were coded in a manner similar to that used in the hierarchical analysis of the causal attributions described above. Questions addressed: (a) the common attributions for success and failure; (b) the attributions most salient to gymnasts; (c) the effect of athlete-peer, coach, and parent feedback on the gymnasts' attributions, and, (d) why "ability" is not reported as an attribution for successful performance. Five gymnasts each from

Levels 8, 9, and 10/Elite were randomly selected to participate in the interviews. There were a total of 7 gymnasts from one gymnastics club and 8 from the second club.

Attributions for successful performances. In response to the question, "What are the main reasons that you do well during a competition?", most responses came from four broad categories; (a) hard work/effort, (b) confidence, (c) focus, and (d) relaxation.

Six gymnasts cited hard work or effort as the main reason they did well during competition. One Level 8 gymnast stated, "I score high when I have good skills and that takes hard work. I have to try hard in practice. I really work hard after a good meet. It makes me feel better." Success was also attributed to effort by a Level 10/Elite gymnast, "Mostly it is because of hard work or good practices. If I had a good week before a meet I feel like I am ready. Mostly I'm ready if I have been working hard and concentrating on corrections."

Confidence in one's self was believed to be the primary reason for success by 4 gymnasts. A Level 10/Elite gymnast summed up her feelings in reporting, "When I do well it is usually because I am confident. I just feel good. I feel like everything is going to go well." Belief that things are going to go well was noted by one Level 10/Elite athlete, "The main reason is internal, just a good positive feeling. I am sure things are going to go well and they usually do." A Level 8 gymnast had similar feelings, "I guess me. When I believe in me. I have to know that I am going to do well before we start. Then I tell myself 'you can do it', and I just do it."

Focus was also mentioned as a key to success by two Level 10/Elite gymnasts. "Sometimes I just feel right. I focus and look at the beam. It's not like I think about it or anything. It just happens." The other gymnast responded, "The main reason for me is focus. If I can focus and not be distracted. Then I do good."

Success during a competition was attributed to staying relaxed by two gymnasts, both Level 9 competitors. One gymnast stated, "I guess I do well when I'm relaxed and not thinking about just what I am doing. I sometimes get nervous when I think too much." Another commented that she needed to be, "Relaxed. I can't be too nervous. Sometimes if I feel jittery or ... for me to do my best I have to not worry."

Similar to the findings from the GES (see Table 4), a majority of the attributions for successful performance can be classified as psychological skills or are related to effort. Only one gymnast, a Level 8 competitor, reported that ability played a major role in her success, "If I have a good day. If I don't make mistakes and nail all my routines. I'm good at all of my skills and work hard to stay on beam. If I do well on beam, I usually score my best." Results from the interviews lend support to the contention made in Hypothesis 4, that youth gymnasts infrequently list ability as the reason for their success.

Attributions for unsuccessful performances. In response to the question, "What are the main reasons that you do not do well during a competition?", a majority of the responses could be categorized as attributable to lack of concentration, lack of effort, or to anxiety. Other attributions for unsuccessful

performance were made to frustration, lack of motivation, injury, or to unstable ability.

The most common reason given for poor performance was lack of concentration. Six gymnasts from all competitive levels, 8 through 10/Elite, gave similar responses. A typical response, by a Level 10/Elite gymnast was, "When I can't concentrate. Sometimes I don't do as well as I had wanted to on beam and that will ruin my whole day. I lose my concentration and worry about screwing up. When that happens I can't concentrate." Another Level 10/Elite gymnast attributed her poor performances to, "When I have bad form. Usually that's because I'm not focused. Not thinking about what I am supposed to be doing." A Level 9 gymnast described her lack of focus in a different manner, "Not thinking about my skills. Or not thinking. Sometimes I feel like my brain has fallen out. That makes [my coach] mad." At times poor performance due to concentration problems has roots outside of the performer, "I don't do well when I am bothered by something. Sometimes my coach, sometimes my parents yelling. It makes me think about them and not about what I am doing."

Two of the fifteen attributions to poor performance could be categorized as lack of effort. One Level 9 gymnast gave the reason for performing badly as, "I do bad when I don't try hard. There are days when I just don't [try]. If I don't try I usually don't win." The other respondent indicated, "If I give up. I'll start out good and then I'll fall or have a problem, and then I give up. If I keep on trying I can do well, but sometimes I can't [keep trying]."

Anxiety also led to poor performances. Two gymnasts, both competing at Level 8, felt that nervousness caused them to be unsuccessful. One gymnast commented that nerves play a role in poor performance, "When I get really nervous. Sometimes I can't do good when I get nervous. It bothers me." The other gymnast, citing anxiety, suggested that worrying affected her ability to concentrate, "If I get too worried. Then I can't think about what I should be [doing]. All I know is that I am nervous."

The remainder of the responses described a variety of attributions. One gymnast implied that her poor performances might be attributable to unstable ability, "When I just blow it. Sometimes I just don't have it. I can't get it done." Another felt that frustration was the cause of performance problems. A Level 10/Elite performer held that poor performance was linked to motivation, "When I have a bad day. Sometimes I just don't want to be there. I can't get excited. That's usually when I do bad." Injuries were also suggested as a reason for poor performances, "When I am injured. [I do] O.K. when I feel good. But if I am hurt, I worry about getting hurt again or more."

A majority of the attributions for unsuccessful performances, like those for successful performances, can be categorized as psychological. Concentration, motivation, and anxiety all play a role in the gymnasts' perceptions of unsuccessful performances. Lack of effort was also cited as a factor in poor performance.

Importance of attributions. In response to the question, "Which of the reasons is most important to you?", 9 out of the 15 gymnasts indicated that effort

was the most significant. The responses regarding the salience of effort can be further divided into three sub-categories: (a) trying hard, (b) practicing hard, and (c) overcoming adversity through effort.

Gymnasts at each of the competitive levels reported that trying hard was the most important attribution for success or failure. The comment of one Level 10/Elite competitor was typical of the five responses in this category, "When I try hard. I really feel good about myself when I know I tried." Another gymnast commented, "When I try hard and do my best. It makes me feel really good. If I make a mistake at least I am trying."

Putting forth effort during practice and having the results of hard work be evident during competition was important to two gymnasts. One gymnast, a Level 9, summed up her feelings, "If I worked really hard in practice and it paid off in a meet, it makes me feel good to know that it worked." Another gymnast related her sense of achievement through hard work, "When I have been practicing hard and then I do well, I really feel that I have done something then."

Overcoming some form of adversity through effort stood out for two gymnasts. "When I know that I tried, and didn't give up when things didn't go perfect," was important to one competitor. For another, it was important to try hard even when there was self-doubt, she stated that she valued, "Going for it. If I did it [even] when I had my doubts."

Overcoming fears or anxiety was important to three gymnasts. "When I did well even though I was nervous, it makes me worry a lot less the next time.",

noted one of these competitors. Successfully battling fear was notable for another, "If I got over my fears. Sometimes I'm scared of a trick. If I do it in a meet I feel better."

For some gymnasts pleasing coaches was of utmost importance. One Level 10/Elite gymnast felt it was meaningful ,"If (the coach) says that I did my best." Keeping the coach happy has other benefits according to another gymnast, "If (the coach) is happy, then it means that practices will be easier. If not then it just gets harder."

Gymnasts' statements about their meaningful attributions were related to success. All but one gymnast gave positive, self-affirming statements. This gymnast, rather than expressing effort in a positive way, stated, " I get mad at myself for not trying."

Attributions to ability. None of the 15 gymnasts interviewed listed the attribution of ability directly as a cause of successful performance outcomes on the GES. When asked why ability attributions were not given, most participants had some difficulty in responding. Most gymnasts began by saying "I don't know.", or "I hadn't thought about it." When prompted, gymnasts' responses to the question fell into two categories: (a) it is inappropriate to claim ability as a reason for one's success; and, (b) ability is of lesser consequence in achieving success than other factors.

Although they each believed themselves to be good gymnasts, 6 of the respondents did not believe that it was appropriate to claim that success was attributable to one's ability. One competitor mentioned, "I guess that I am good

at most of my events. Maybe it's just that if you really think you are good, you don't want others to know that's what you think. I mean I'm good but I don't want to go around bragging about it. That's not what you are supposed to do. Others are just as good as I am." Another suggested, "It's just not right. If you had a whole gym going around and thinking, 'I'm better than you are.', that wouldn't help. People would just get mad. The coaches wouldn't like it either." One of the most experienced gymnasts, an 18 year old stated, "I've been doing this [gymnastics] for a long time. I guess that I know that I am good or else I couldn't do it. But, I never thought that I was better than anybody else. Gymnasts who brag, or act all cocky, just aren't liked very much. It's not right to act that way because anything can happen. One day you are on top, the next day you could get hurt or something and it's all over. It's better to stay humble and take it a day at a time knowing that things can change."

Other gymnasts thought that ability was not as important as other conditions when it came to being successful. Seven of the gymnasts responding claimed that, though they were good gymnasts, there were other factors that accounted for their successes. "I'm good. This is a gym where you have to be. [Coach] won't put up with it if you aren't. But when I do well I know that it's because of other things. I was focused. I [was] working hard in practice or got good coaching. Or I made corrections. When I do good it's because of both. [Both?] Both that I'm good and I do other things good like concentrate." Another gymnast considered the question and responded, "You usually don't win because you're good. Sometimes it helps, but there are other things, like

knowing what you are supposed to pay attention to. Or luck, sometimes you are just as good as the other girls but one slips and you end up in first. But it wasn't because you were better, it's just that she fell." One Level 10/Elite gymnast summarized, "We're all good. To get to Level 10 you have to be good. I've been to Nationals and there isn't a lot of difference between girls. It's like I was telling [a teammate], 'To do good [at Nationals] you gotta believe in yourself, work hard, relax and don't get too psyched out. They're good, but everyone is the same. If you do your best and concentrate, you're gonna be a winner.' I think to be successful it's not how good you are it's what you believe is going to happen."

Although youth gymnasts are apparently cognizant of their own ability, they are reluctant to claim ability as a primary attribution for successful performance. Ability is viewed as something that is present but, in the opinion of youth gymnasts, either should not be boasted about or should be used only as a partial source of success. At higher levels of gymnastics competition athletes possess very similar levels of physical ability. Thus, the difference in performance outcomes is generally attributed to other factors. In this population those factors are primarily psychological.

Differences of Attributional Dimensions in Successful and Unsuccessful Outcomes

It was hypothesized that successful performance outcomes would be classified as more stable than unsuccessful outcomes. To test Hypothesis 1 examining the stability, locus of control and controllability of the gymnasts

attributions, three 2 x 2 (situation x outcome) MANOVAs were performed. Scores from two situations, actual (GES) and hypothetical (SASS) performances, for both successful and unsuccessful outcomes were compared. Dependent variables were the scores on individual attributional dimensions. In order to equate the summed scores on each scale for each of the attributional dimensions, it was necessary to average the scores on both scales since there were three fewer items on the GES. The resulting average scores were used in all MANOVA calculations. MANOVA results examining the difference between the actual (GES) and hypothetical (SASS) scores were discussed in the previous chapter.

Stability. Results indicate a significant difference for between successful and unsuccessful outcomes, F (1, 50) =83.79, p=.001. Gymnasts rated successful outcomes (M= 5.44, SD= 0.88) as significantly more stable than unsuccessful outcomes (M=4.00, SD= 0.99). Gymnasts who have successful performance outcomes are more likely to believe the reasons for those outcomes will occur again than are gymnasts who have unsuccessful outcomes. These results support Hypothesis 1.

Locus of causality. There was no significant difference between the mean scores for successful (M =5.50, SD= 0.90) and unsuccessful (M=5.45, SD= 1.06) outcomes on the dimension of locus of causality (F (1, 50) =0.00, p=0.985). Gymnasts who are successful are equally likely to believe the cause of the outcome is internal as are gymnasts who are unsuccessful. These results support Hypothesis 1.

Controllability. Successful outcomes (M= 2.40, SD= 1.00) were rated as significantly more controllable than unsuccessful outcomes (M= 3.44, SD= 1.20), F (1, 50) = 48.57, p=0.001. Gymnasts who had successful performance outcomes were more likely to believe the reason for the outcome was more under their control than gymnasts who had unsuccessful performance outcomes. These results do not support Hypothesis 1.

Overall, there was partial support for Hypothesis 1. Results from the MANOVAs showed that successful outcomes were rated as more stable and controllable than unsuccessful outcomes. Scores on the locus of causality dimension did not differ. For successful performance outcomes youth gymnasts make attributions that can be described as more stable and more controllable than unsuccessful outcomes.

Weiner (1985) suggested that successful performance outcomes would result in attributions that were internal, stable, and controllable. It was suggested that unsuccessful performance outcomes would result in attributions that were external, unstable, and uncontrollable. The results of this study indicate that the attributions made by youth gymnasts follow the pattern that Weiner suggested for successful performance outcomes, but refute the predictions of Weiner for unsuccessful performance outcomes.

For successful performance outcomes causal attributions of the gymnasts in this study were stable with a mean score of 5.44, (with a score of 1 indicating the cause would never happen again, and score of 7 indicating the cause would always happen again), internal (1=cause was totally due to me, 7=totally

due to other things), and controllable with a mean score of 2.40 (1=controllable, 7=uncontrollable). Unsuccessful performance outcomes resulted in attributions that were neither stable nor unstable (4.00), internal (5.45), and somewhat controllable (3.44).

Relationship Between the GES and SASS

To further assess the relationship between the GES and SASS, correlations between the scores on the five associated dimensions of the SASS and GES were examined. For successful outcomes only the dimensions of controllability (r=.46), globality (r=.60), and intentionality (r=.49) were significantly correlated. Stability (r =.22) and locus of causality (r=.06) were not significantly correlated. Table 6 presents the correlation coefficients between each of the attributional dimensions for successful performance outcomes.

For unsuccessful outcomes the dimensions of stability (r=.42), globality (r=.50), and intentionality (r=.36) were significantly correlated. The dimensions of locus of causality (r=.24) and controllability (r=.13) were not significantly correlated. Table 7 presents the relationship between the dimensions for unsuccessful performances.

These results only partially support Hypotheses 2 and 3 which predicted a significant relationship between the matching items on the GES and SASS on the dimensions of stability, locus of causality, and controllability. A significant relationship between the two questionnaires was found only for the dimension of controllability for successful performance outcomes and stability for

Table 6
Correlation Coefficients of Attributional Dimension Scores
Between the SASS and GES for Successful Performance Outcomes

GES	SASS				
	Stability	Locus of causality	Controllability	Intentionality	Globality
Stability	0.22	-0.14	-0.11	-0.28	0.32*
Locus of causality	-0.02	0.06	0.22	-0.05	0.20
Controllability	-.028	-0.18	0.46*	0.08	-0.16
Intentionality	-0.06	-0.13	0.45*	0.50*	-0.22
Globality	0.12	0.04	-0.09	-0.35	0.60*

* significant at $p < 0.05$

Table 7
Correlations Coefficients of Attributional Dimensions of
the SASS and GES for Unsuccessful Performance Outcomes

GES	SASS				
	Stability	Locus of causality	Controllability	Intentionality	Globality
Stability	0.42*	-0.19	0.22	0.05	0.40*
Locus of causality	0.07	0.24	-0.13	0.27	0.04
Controllability	-0.08	-0.10	0.13	0.03	0.22
Intentionality	0.06	0.18	-0.26	0.36*	0.00
Globality	0.27	-0.15	0.14	0.03	0.50*

* significant at $p < 0.05$

unsuccessful performance outcomes. No predictions were made regarding the relationships of the attributional dimensions of intentionality and globality.

Relationship Between Attributional Dimension and Affect

To test the relationship between affect and attributional dimensions in female youth gymnasts, (Research Question 3), correlations were conducted using the dimensions of locus of causality and controllability from the GES and the 12 affect items from the GES. Separate analyses were run for successful and unsuccessful performances.

Weiner (1985) suggested that the locus of causality dimension was related to emotion and that success would result in positive affect and failure in negative affect. To test this supposition, positive affect items (good, happy, pleased, proud, satisfied, and calm) from successful outcomes were correlated with locus of control scores from the GES. For unsuccessful performance outcomes, negative affect scores (angry, ashamed, bad, disappointed, unhappy, and unsatisfied) were used. There was a significant positive relationship between locus of causality and the item "pleased" (r=.30). This indicates that the more internal the attributions the more pleased that the gymnast feels with her performance. All other resulting correlation were not significant. Table 8 shows the correlations between locus of causality and controllability and the positive affect scores.

For unsuccessful performance outcomes locus of causality was significantly related to all six negative affect scores. The positive relationship indicates that gymnasts making internal attributions feel anger (r=.30), ashamed

(r=.39), bad (r=.34), dissatisfied (r=.34), unhappy (.37) and unsatisfied (r=.28). Table 9 shows the correlations between locus of causality and controllability and the negative affect scores.

Weiner (1985) also predicted a similar relationship between the dimension of controllability and affect. To examine this relationship the correlation analysis described above was run with scores on the controllability dimension and the affect scores. There were no significant correlations for successful performance outcomes (see Table 8). For unsuccessful performance outcomes, two affect items, anger (r=-0.26) and ashamed (r=-0.35), were negatively correlated with controllability. This indicates that gymnasts scoring low on the controllability item (was controllable) felt anger and were ashamed with their unsuccessful performances. The remaining negative affect items were not significantly correlated with the controllability dimension (see Table 9).

For the dimension of stability, Weiner (1985) suggested that a positive relationship existed between stability and expectations for future performance. Attributions considered stable would be seen as likely to happen again, attributions considered unstable would be unlikely to occur again. To test this premise with this population (Research Question 2), the correlation between stability scores and future expectancy scores on the GES were noted. There was a significant relationship between the two measures for both successful (r=0.38, p=0.005) and unsuccessful (r=0.75, p=0.001) outcomes. This suggests

Table 8

Correlation Between Scores of Locus of Control and Controllability and Positive Affect Items on the GES for Successful Performance Outcomes

	Positive Affect					
Dimension	Good	Happy	Pleased	Proud	Satisfied	Calm
Locus of Causality	0.04	0.11	0.30*	0.11	0.21	0.21
Controllability	-0.20	-0.12	-0.02	-0.02	-0.15	0.05

* significant at $p < 0.05$

Table 9

Correlation Between Scores of Locus of Control and Controllability and Positive Affect Items on the GES for Unsuccessful Performance Outcomes

	Negative Affect					
Dimension	Bad	Unhappy	Disappointed	Ashamed	Unsatisfied	Angry
Locus of Causality	0.34*	0.37*	0.34*	0.39*	0.28*	0.30*
Controllability	-0.21	-0.17	-0.22	-0.35*	-0.20	-0.26*

* significant at $p < 0.05$

that whatever the outcome, successful or unsuccessful, youth gymnasts expect the outcome to occur again.

The Effect of Athlete-peer, Coach, and Parent Feedback

In order to examine, the effect of others' opinions on the attributions of female youth gymnasts (Research Question 5), participants were asked to respond to questions regarding their conversations about successful and unsuccessful performances with other gymnasts, their coaches and their parents. The focus in categorizing these responses was two-fold, to note if gymnasts differed in their responses depending upon level of competition and if responses differed depending upon age. For the purposes of analysis of interview data in this section, gymnasts were categorized into age groups, (a) 17-18 (n=3), (b) 15-16 (n=3), (c) 13-14 (n=5), and (d) 11-12 (n=4).

Gymnasts of all ages and levels talked to other gymnasts about both successful and unsuccessful performances. While competitive level seemed to have little effect on the type of feedback received from peers, there were some apparent differences in age groups. Older gymnasts (15-18 years of age) relied on their teammates for a great deal of support, whereas the younger gymnasts talked with their peers in a superficial manner.

Gymnasts in the oldest two age groups, 17-18 and 15-16, seemed reliant on feedback from other gymnasts, particularly when things went wrong. One 17 year-old related, "When I really blow it, I can count on my team. They tell me that it's going to be O.K. and to forget it. They remind me to focus and to concentrate on my corrections." A 16 year-old competitor recounted, "If I miss [a

skill] during practice and [the coach] gets mad, they [my teammates] tell me to suck up and work harder. They also tell me what I missed and what I need to do. It's like we've all been there and can understand what is going on. We push each other and make each other work harder. If we do that, we get better."

When successful these older gymnasts also turned to their peers, as an 18 year-old said "It's really cool to nail a dismount and turn around and see your buds [sic] there. They come over and hug you and tell you that you're awesome. They know it takes hard work." A 16 year-old noted, "I really like it when I did good and your team is standing there smiling, saying things like 'good job' or 'I knew you could.' Sometimes they let me know that I can do anything if I workout and if I can keep in focus." One 17 year-old talked about getting feedback from teammates during ups and downs, "We've been together for a long time. We're like sisters. You can count on them being honest with you when you do good and bad. I like it when they can tell me that I need to get it together, to work hard or to stop crying when I screw up. They keep me knowing what I'm supposed to be doing. It's not like they're always doing that. Sometimes when I stick a dismount they cheer and tell me that I did it because I'm the hardest worker. It's kinda fun when you can tell they know that you are really trying."

Gymnasts in the younger age groups often talked to other gymnasts about performances but were less descriptive in the type of feedback that they received. A 12 year-old suggested, "We talk, but not too much. It's mostly stuff like 'good job' or cheering. When someone is crying, we tell each other that it's

going to be O.K." A 14 year-old related, "We know when someone is doing good and yell for them, like, help them out. If they aren't doing well, we try to help by fixing their skills or telling them to keep it up."

For all ages and competitive levels, feedback from athlete-peers regarding both successful and unsuccessful performances centered around effort and skill correction. Maintaining appropriate effort levels when things went well, "Keep up the hard work", or increasing effort when problems arose, "We need to push each other when they don't do well", were consistently mentioned.

In addition to providing information about effort, gymnasts gave critical feedback about individual's skills. Many of their reports suggested that a great deal of the information that passes between gymnasts regarding success or failure is for the purpose of correcting errors in performance or affirming that a performance was correct.

The types of conversations that took place between coaches and gymnasts seemed to be related to both age and competitive level. Younger gymnasts (ages 11-14) of all competitive levels relied heavily on coaches for feedback. Older gymnasts (15 and up) valued feedback if they were competing at Level 10/Elite, but not at the lower competitive levels. Older gymnasts at competitive levels under Level 10/Elite did not speak to coaches to the same extent as the other groups.

Younger gymnasts felt that coaches attributed their poor performance to lack of effort and concentration. Typical of the statements made by younger

gymnasts was one made by a 12 year-old, "I need to talk and listen to [the coach] to know what I did wrong. He lets me know if I need to work harder, or to focus, or what to do to get better." A 13 year-old said, "[Coach] bugs me if I don't do as well as I can. If I don't do well he tells me to concentrate and to work harder during practice." The coaches' view of success, according to younger gymnasts can be attributed to skill correction, effort, and concentration. One 14 year-old summarized her experience and the experience of the younger gymnasts, "When I really hit a routine [the coach] gets really excited. He tells me that I worked really hard to make corrections. He says things like, 'See I told you you could do this if you concentrated on what you were doing.' or 'If you worked hard to make those corrections this is what happens.' I believe him because it works for all of us."

Level 10/Elite also relied on coaches feedback for both successful and unsuccessful performance, but the focus of the feedback was more on skill correction than on effort or concentration, particularly for unsuccessful performances. "When I talk to my coaches it's usually about what I am doing wrong or right. We don't really talk about too much else. He knows I know what to do most of the time." Another Level 10/Elite competitor stated, "[Coach] has me do things on my own, until I make a mistake or do badly. Then he gives me the corrections I need. Sometimes he gets mad if I am not working hard enough, but mostly it's just the corrections that we talk about. He thinks that I work hard."

Gymnasts competing at the upper levels of competition believe that coaches value effort, "My coach really likes it when I try hard, especially if I was having a bad day and tried. Then he tells me that when I try as hard as I was trying that I'm going to do great." One Level 10/Elite performer mentioned that her coach was especially complementary of her effort when making a successful return following an injury, "He said 'Atta way! See what can happen when you work that hard.' That made me realize that it can really make a difference, even when I thought I couldn't do it."

Older gymnasts competing at Levels 8 and 9 did not admit to speaking with their coaches to the same extent as older Level 10/Elite gymnasts or younger gymnasts. "It's not like I don't want to hear about it from [Coach], we just don't talk about it when I do good. Mostly I just talk to the other [gymnasts], not too much to the coaches. When I do hear from the coaches, it's when I make a mistake during practice.", stated one 17 year-old Level 9 gymnast regarding her coach. Another Level 9 competitor stated "I usually know what I do wrong...sometimes he tells me, most of the time I've already figured it out."

Older gymnasts talked to their parents about their performances with less frequency than did the younger gymnasts. Where all eight gymnasts in the two youngest categories acknowledged talking with their parents about their performance, only five out of the seven older gymnasts admitted speaking to their parents. When older gymnasts did speak to parents these conversations usually followed successful performances. "When I do good we usually get

excited and talk about it. When I blow it they just leave me alone. I guess they have learned that that is best.", mentioned a 16 year old gymnast.

For both younger and older gymnasts, conversations with parents were generally related to effort. One 12 year-old commented, "Every time I don't do well they tell me, 'At least you tried hard.' I guess it makes me feel good to try hard even if I don't do well." The same gymnast noted that following a successful performance her parents also complimented her on her hard work. A 16 year-old competitor relating a conversation with her parents following a meet in which she fell on two of four events said, "I was mad at myself for falling, but they told me it was O.K. because I was doing my best. I really was and it made me feel better."

It is likely that athlete-peers, coaches, and parents have some effect on the types of attributions that gymnasts make. Each of these sources emphasize effort in regards to being successful. Older gymnasts rely on peers for performance feedback, and on coaches if they are upper level competitors. Parental influence of attributions for these ages appears to be limited to verbal support when gymnasts are successful.

Younger gymnasts seem to respond to the feedback of parents and coaches with particular emphasis on attributing success to effort and lack of success to lack of effort. These gymnasts did receive feedback from peers about their performances, but the quality of the feedback could be classified as lacking depth.

Summary

Elite youth gymnasts viewed performance outcomes as principally attributable to psychological factors, accounting for approximately 58% of the attributions for successful and unsuccessful performances as measured by the GES. These attributions can be described as stable, internal and controllable for successful performance outcomes, and internal and controllable for unsuccessful outcomes.

Information from interviews corresponded to the quantitative findings. During interviews gymnasts emphasized the importance of confidence, focus, and relaxation in obtaining success. Similarly, the interviews highlighted that lack of success was perceived by youth gymnasts as attributable to the psychological factors of lack of concentration and elevated levels of anxiety.

Effort was also emphasized when performance outcomes were successful. Working or trying hard was listed as the reason for success in 15.7% of the responses on the GES. Effort was emphasized to a greater extent during interviews, with gymnasts placing particular importance on working or trying hard. Interview participants also accented the importance that coaches and parents placed upon effort.

Ability, as proposed in the hypotheses, did not play as great of a role in the athletes' attributions as did other reasons. This seems to be ascribed to two factors; it is viewed as boastful and unacceptable to claim that you possess high levels of ability; and, though they recognized that they had ability, other factors

such as focus and effort seemed to be the critical discriminators during competition.

Chapter 5

Discussion

Attribution theory, as postulated by Bernard Weiner (1985), suggests that attributions for successful performance outcomes are classified as internal, stable, and controllable, with ability the most frequently cited attribution. This attributional pattern, taking credit for and controlling one's success and expecting successful outcomes to happen again, is viewed to result in continued motivation for participation in an activity. This same attributional pattern was found in the responses of the youth gymnasts in this study. In classifying the attributions of successful performance outcomes the responses of the participants in this study could be described as stable, internal, and controllable. What did differ from Weiner's theory were the types of attributions reported for successful performance outcomes, namely ability.

Based on the experiences of the author in past associations with youth gymnasts, it was predicted that attributions to ability for successful performance outcomes would be less frequent than attributions of other types. The results, both from open ended questionnaire responses and from interviews with youth gymnasts, supported this expectation. Attributions to ability following successful outcomes were only given 6.7% of the time. A majority of responses indicated that success was due to psychological factors. In addition, two other categories

of attributions, effort and practice effects, were listed more frequently than the attribution of ability.

For unsuccessful performance outcomes Weiner (1985) suggested that, in order to preserve motivation and protect one's ego, attributional responses are given with a "self-serving bias." This bias would result in attributions that were external, unstable, and uncontrollable. Results from this study do not support Weiner's predictions. Female youth gymnasts gave attributions for unsuccessful performance that could be classified as internal and controllable, but could not be classified as either stable or unstable.

That Weiner's predictions were only partially supported by the results of this study is certainly not without precedence. Previous studies by Carron (1980, 1984), Carron and Spink (1980), Grove, Hanrahan, and McInman (1991), and McAuley (1985) have found that athletes tend to internalize both successful and unsuccessful performances as did the youth gymnasts in this study. As for the relative infrequency of the ability attribution, other research (Bukowski & Moore, 1980; Roberts & Pascuzzi, 1979; Robinson & Howe, 1989) has suggested that sport contexts may offer much more varied response categories than those suggested by Weiner (1985). In particular, Roberts and Pascuzzi (1979) found that only 45% of the attributions made by participants in a study of sport attributions fell into the traditional categories of ability, effort, task difficulty, and luck. Roberts and Pascuzzi (1979) also were able to describe 11 categories of attributions as opposed to the four traditionally offered by attribution theory. Similar to the results of Roberts and Pascuzzi (1979), this

study found that only 22.4% of successful attributions and 16.3% of unsuccessful attributions fell into the traditional categories described by Weiner (1985). Roberts and Pascuzzi (1979) suggested that sport specific situations must be considered when attempting to describe the attributions of athletes. There are several factors specific to gymnastics competition that may help explain the attributions described in this study.

Gymnastics can be considered a sport that takes place in a relatively closed, unchanging environment. The equipment does not move, there are no opponents to avoid or to react to, and the difficulty of the task remains constant. The difference between success and failure, then, is the capability of the individual to meet the demands of the situation. If physical ability is not considered to be an appropriate cause or seen as only a partial factor in achieving success, as suggested by the interview data , then other more salient causes are seen as differentiating the successful and the unsuccessful performance. For participants in this study those causes are most prominently psychological factors.

Cited frequently as a cause for both successful and unsuccessful performance suggests that psychological factors would be considered as stable. If one considers that in the context of attribution theory that stability addresses the likelihood of the cause occurring again in future performances, then it is quite possible for a gymnast to consider psychological factors to be somewhat stable for both types of performance outcomes. For example if a gymnast performs well and attributes the outcome to good concentration, this

level of concentration may be viewed as likely to occur again. If the same gymnast performs poorly and believes it is due to poor concentration she may believe that poor concentration is also likely to happen again. While the level of concentration itself is seen to vary and may appear unstable, the performer may, through her past experience, consider the causes of performance to be stable or repeatable. Thus, while physical ability may not vary, factors that determine the difference between successful and unsuccessful outcomes, in this case psychological factors, are much more variable.

Another explanation for the frequency of psychological factors cited is that while physical ability may be considered by gymnasts as relatively constant, what varies from athlete to athlete is the mental ability to employ other non-physical skills such as focus or confidence. Thus, psychological skill may be considered as an "ability" in much the same way that a physically gifted performer is considered to posses physical ability. Viewed in this manner, psychological abilities fit the traditional attributional dimensions of internal, stable, and controllable causes for successful performance outcomes. What is problematic for traditional attribution theory is the frequency of these alternate stable factors cited for unsuccessful performance. Yet, as noted above, athletes tend to make internal attributions for unsuccessful performances as well as successful performances (Carron, 1980, 1984; Carron & Spink, 1980; Grove, Hanrahan, & McInman, 1991; McAuley ,1985). Psychological ability should be thought of as an ability in much the same way as physical prowess has been traditionally viewed as ability.

Alternate explanations from the traditional ability, effort, task difficulty, and luck reflect the demands of upper levels of gymnastics competition. This is a sport that demands high levels of concentration, supreme amounts of effort and long hours of practice. It is not too surprising to consider that alternative explanations are more significant to the gymnast than physical ability. Gymnastics competitions are divided into levels based on the ability to physically perform the necessary requirements. If gymnasts are divided in this way by ability, creating smaller physical performance differences among competitors, then this would make other, alternate explanations more salient.

From information gathered during the interviews of this study, youth gymnasts of all levels appear to particularly value success as the result of effort. It is probable that this emphasis on hard work or on trying hard is ingrained from several different sources. Coaches, parents, and other gymnasts were all cited by youth gymnasts as accentuating the positive relationship between effort and success.

Horn and Harris (1996), discussing the development of perceived competence in young athletes, indicated that children ages 7-12 are heavily influenced by parents' and coaches' feedback about their performance. In particular, they suggested that children in this age group learn how their performances will be judged within the context of their specific sport. If coaches or parents emphasize winning over effort, then the child will believe that their competence is based on whether or not they win, not on the basis of the effort put forth. Adolescents, according to Horn and Harris (1996), are less

dependent upon external sources of evaluative feedback, particularly those of parents and coaches. Instead the opinions of peers, as well as their own internalization of performance feedback is regarded to be of greater importance in forming notions of competence.

If feedback about causes for performance outcomes is similarly influenced by parents, coaches, peers, and self-evaluation, as suggested in the interviews, then gymnasts may learn early from a variety of sources that hard work is rewarded and in turn learn to value effort because effort is valued. The emphasis that these athletes place on effort reinforces the concept that effort should be rewarded, especially in a sport where improvements may come only in small increments and where hard work and continued practice is often the only means for improvement.

Weiner (1985) also suggested a link between the attributional dimensions of locus of causality, stability, and controllability and emotion. He suggested that locus of causality and controllability would be closely linked to positive affect with success and negative affect with failure. Stability, noted Weiner, was linked to expectations of future performance outcomes. For this study stability was found to have the expected relationship between the atttributional dimension and future expectancy. A poor relationship, however, was found between the causal attributions of locus of causality and controllability and affect for successful performance outcomes. Unsuccessful performance outcomes resulted in a correlation between all negative affect

items and locus of causality, and the items of anger and shame for controllability.

These findings are similar to those noted by McAuley and Duncan (1990) who examined the relationship between affect and causal attributions in college-aged gymnastics students. They suggested that, because successful gymnastics performance was a product of consistency over time, a relationship between stability and future performance was to be expected. However, they also suggested that the poor relationship between the other dimensions and affect may be due to Vallerand's (1987) contention that causal attributions are "sufficient but not necessary precursors of affect" (McAuley & Duncan, 1990, p. 423).

An alternate explanation may have to do with the possibility that stability and expectations for performance may override the positive affect of successful performance and exaggerate the negative affect of unsuccessful performance. If a gymnast expects to be successful and, in turn, is successful then the positive affect may be tempered by achieving what was expected. The response to this success may take the form of, " I expected that I would succeed, I was responsible for my success (internal/controllable attributions) and I am pleased, but not too excited." This lack of an attribution-affect relationship may also reflect the attitude that because of the thin line that exists between success and failure in gymnastics, one should not get too enthusiastic about success or too dispirited about failure.

Failure, on the other hand, may result in a strong relationship between affect and attribution because of the tendency for athletes to internalize and take blame for controlling their unsuccessful outcomes and to be disappointed when failure rather than success occurs (McAuley & Duncan, 1990; Weiner, 1986). The thought process may take the form of, "I am responsible for this failure, it may happen again. I am ashamed, disappointed, unhappy, angry, unsatisfied, and feel bad". With the realization of self-responsibility for a cause of failure that may occur again, the resulting emotions may be exaggerated.

Finding accurate ways to assess performance attributions has been a concern of researchers both in education (Russell, 1992) and sport (Hanrahan, Grove, and Hattie, 1989). It is now generally assumed that open ended responses are the most meaningful way to assess "true" attributions and that these attributions tap the emotional and motivational states of the respondent. These attributions then suggest an "attributional style" that is relatively uniform across different situations. There should, therefore, be a strong relationship between attributions for both hypothetical and actual situations.

Of some concern in this study is the poor relationship between the scores of the attributional dimensions on the actual (GES) and hypothetical (SASS) situations. Previous research has suggested a significant relationship between the SASS and real-life sporting experiences existed (Hanrahan & Grove, 1990). In this study, significant relationships were found only between the dimensions of controllability, intentionality, and globality for successful outcomes and the dimensions of stability, intentionality, and globality for unsuccessful

performance outcomes. In Hanrahan and Grove's (1990) study only locus of causality for unsuccessful outcomes showed a weak correlation (r=.05) between real-life situations and the hypothetical situations conveyed by the SASS.

One reason for the poor relationship between the dimensions could be the relative ambiguity of the information available to the respondent on the SASS. For a hypothetical situation, such as those offered on the SASS, the participant is forced to "fill in the blanks" in order to offer a causal attribution. While these explanations, and the corresponding scores on the attributional dimensions, may suggest an attributional style, the ambiguity may cause the respondent to rate the attributional dimensions in a manner dissimilar to, and with less emotional involvement than, those events that "happened to me." Rejeski and Brawley (1983) and McAuley and Gross (1983) suggested that role playing scenarios may, in truth, place the participant in the role of "observer" rather than "actor." If this was the role assumed by the subjects in this study, then it could be expected that responses on hypothetical and actual scenarios may differ.

The results of this study suggest that the attribution of ability, often viewed by sport researchers as physical ability and by those in education as intelligence or aptitude, may be complex. In some contexts ability may be considered physical, in others those possessing a psychological edge may be considered most able. It is most likely that one's true ability, whether in education or in sport, is a combination of talent and the psychological capability

to address the task at hand. Future attribution research needs to investigate whether physical (or mental) abilities and psychological abilities are separate or interacting causal dimensions.

The results of this study also show a need for further research into sport specific attributions. While this research suggests that the attributional pattern of female youth gymnasts does not differ from those of athletes of other ages or genders (Blucker & Hershberger, 1983; Iso-Ahola, 1979; Mark, Murtrie, & Brooks ,1984; Roberts, Kleiber, & Duda, 1981; and Scanlan and Passer, 1980), the types of attributions given may be particular to the sport of gymnastics. Strategies and circumstances that are unique to a given sport need to be taken into account in order to understand the attributions and, in turn, the motivation of athletes. For example, if female youth gymnasts frequently attribute their successes to internal, controllable causes such as psychological skills, effort, and practice factors and view these factors as important, then coaches and parents need to encourage development of these "skills".

Research is also necessary to determine if the types of attributions and the attributional patterns of young elite athletes, differ from those young athletes who are participating in less competitive environments. If differences are found to exist, what are the underlying causes of the differences? Additional research can also address the effects of others who are significant to the athlete on the development of casual attributions. Is the development of causal attributions similar to that of perceived competence as described by Horn and her colleagues (Horn & Hasbrook, 1986, 1987; Horn & Lox, 1993)?

Further study into the dimension of intentionality needs to be addressed if we are to better understand the effect of others on an individual's attributions. Intentionality was suggested by Weiner (1985) as a dimension to be considered when observers are asked to explain the causes of a performer's outcome. For example, if it was believed by an observer that a poor performance was due to lack of effort, did they believe the lack of effort was intentional or unintentional? In order to understand how a coach or parent may affect the attributions of an athlete we should also understand the causal attributions of the coach or parent.

The research suggests that coaches and parents should encourage young athletes to make attributions for successful outcomes that are internal and controllable, and the outcome should be viewed as stable. Attributions like effort and concentration give the athlete a sense of being in control over the outcome. The attitude that, "If I put forth more effort, or focus harder, then I can improve and this will lead to continued success", will continue to motivate the athlete.

Unsuccessful performances should be attributed to internal, controllable and unstable attributions. This gives the athlete the understanding that they have control and they can change the cause, leading to an improvement in future performance. The coach or parent should encourage the athletes to understand that factors that often affect performance and lead to unsuccessful outcomes, can be altered, and with continued effort or practice, are unlikely to occur again. How well one does in the future is dependent upon the perceived

cause of past performances and the belief that these causes are in one's control, and the likelihood of such causes transpiring again.

The coach and parent also need to consider the age of the young athlete. Adult feedback can be especially important early in a child's athletic experience. Pre-adolescents are particularly accepting of parent and coach feedback about their performance outcomes. It may be important in working with pre-adolescents to give accurate feedback and feedback that suggests that the athlete is in control of the performance outcomes and that improvements can be made. Adolescents are more likely to evaluate their performance outcomes from a variety of sources. The adolescent may use causal information from peers, coaches, and parents as well as their own beliefs. Although the parent or coach may not be able to directly influence the athlete, they should still encourage attributions that place the athlete in control of the outcome.

Finally, this research has brought to light the importance and need to encourage the development of strong psychological skills in young athletes. Over 50 % of the causes for both successful and unsuccessful performance outcomes from this study were attributed by youth gymnasts to psychological skills. These athletes believe that concentration, determination, and confidence make a difference in their ability to succeed, and that lack of focus, nervousness, and fear causes them to fail. Mental skills training programs for young athletes, like those proposed by Orlick and Zitzelsberger (1996), can lead to more successful outcomes and promote the perspective that young

athletes can control their own future. In elite level athletics, recreational sports, and physical education classes instructors and coaches need to teach psychological skills along with physicals skills.

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APPENDICES

APPENDIX A

APPENDIX A

Informed Consent Form

Michigan State University
Department of Physical Education and Exercise Science

Investigators: Dr. Martha Ewing and Mr. John Fitzpatrick,

I,_____, hereby agree to participate as a volunteer in a study of sport as an authorized part of the research program in the Department of Physical Education and Exercise Science at Michigan State University. I am aware that this study is a part of the doctoral dissertation of Mr. John Fitzpatrick under the direction of Dr. Martha Ewing.

The purpose of the study is to investigate the relationship between performance and explanations that athletes give for their performance. You will be asked to participate in two short survey sessions and one interview. Any information from interviews and/or surveys will be confidential. Answers will not be shared with your parents, your coaches, or your teammates.

The study and my part in the study have been defined and fully explained to me, and I understand this explanation. I have been given the opportunity to ask whatever questions I may have and all such questions and inquiries have been answered to my satisfaction. I understand that my participation in this study does not guarantee any beneficial results to me. I understand that any data or answers to questions will remain confidential with regard to my identity. Within these restrictions, results of the study will be made available to me at my request. I further understand that I am free to withdraw my consent and discontinue my participation at any time.

_____	_____	_____
Date	Date of Birth	Signature

As parent or legal guardian of_____ I have read the above statement and agree to allow my daughter to participate in this study. I understand that I am able to withdraw her from participation at any time.

_____	_____
Date	Signature

APPENDIX B

APPENDIX B

Name_____ **Age**_____

Current Competitive Level_____ **Date of birth** ___/___/___
mo day yr

Number of Years in Gymnastics Competition_____

Sport Attributional Style Scale

This survey describes several positive and negative events in sport. Please try to imagine yourself in each situation. If such an event happened to you, what would have caused it? While events may have many causes, we want you to pick only one - the single most likely cause if this event happened to you. Please write this cause in the blank provided. Then, we will ask you to answer some questions about the cause and about the event. To summarize, we want you to:

1. Read each event and imagine it happening to YOU.
2. Decide what you feel would be the single most likely cause of the event if it happened to you.
3. Write the most likely cause in the blank provided.
4. Answer the five questions about that cause.
5. Answer two questions about the event.
6. Go to the next event.

Treat each event on it's own, trying to imagine yourself involved in that situation. You may use any part of the rating scale when answering a question. The labels at each end of the scale are there only to help you. Make sure your answers are exactly how you would feel.

Although your name appears at the top of the page, your answers will not be shared with anyone.

PLEASE TURN THIS PAGE OVER AND BEGIN

A. YOUR TEAM-MATES CLAIM THAT YOU ARE A VERY GOOD GYMNAST

1. Write down the most likely cause_____.

2. Is the cause of your team-mates claiming you were a good gymnast something about you or something about other people or things? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future when your team-mates are talking about your being a good gymnast, will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects how your team-mates refer to your performance in gymnastics, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

7. How important would this event be if it happened to you?

Not at all Important					Extremely Important	
1	2	3	4	5	6	7

8. How clearly were you able to imagine this event happening to you?

Not at all clearly					Very clearly	
1	2	3	4	5	6	7

B. YOU FAIL TO MASTER A DIFFICULT GYMNASTICS SKILL

1. Write down the most likely cause_____.

2. Is the cause of your failure something about you or something about other people or things? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future when you attempt a difficult gymnastics skill, will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects your failure to master a difficult gymnastics skill, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

7. How important would this event be if it happened to you?

Not at all Important					Extremely Important	
1	2	3	4	5	6	7

8. How clearly were you able to imagine this event happening to you?

Not at all clearly					Very clearly	
1	2	3	4	5	6	7

C. YOU ARE NOT SELECTED FOR THE TEAM IN AN IMPORTANT COMPETITION

1. Write down the most likely cause_____.

2. Is the cause of your not being selected for the team something about <u>you</u> or something about <u>other people or things</u>? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future when a team is selected, will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects whether or not you get selected for the team, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

7. How important would this event be if it happened to you?

Not at all Important					Extremely Important	
1	2	3	4	5	6	7

8. How clearly were you able to imagine this event happening to you?

Not at all clearly					Very clearly	
1	2	3	4	5	6	7

D. YOU PERFORM VERY WELL DURING A MEET

1. Write down the most likely cause_____.

2. Is the cause of your good performance something about <u>you</u> or something about <u>other people or things</u>? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future when performing in a meet, will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects your performance in meets, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

7. How important would this event be if it happened to you?

Not at all Important					Extremely Important	
1	2	3	4	5	6	7

8. How clearly were you able to imagine this event happening to you?

Not at all clearly						Very clearly
1	2	3	4	5	6	7

E. YOU SUCCEED IN MASTERING A DIFFICULT GYMNASTICS SKILL

1. Write down the most likely cause_____.

2. Is the cause of your success something about you or something about other people or things? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future when you attempt to master a difficult gymnastics skill, will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects how your success ,in mastering gymnastics skills or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

7. How important would this event be if it happened to you?

Not at all Important					Extremely Important	
1	2	3	4	5	6	7

8. How clearly were you able to imagine this event happening to you?

Not at all clearly					Very clearly	
1	2	3	4	5	6	7

F. YOU HAVE A HARD TIME FINISHING A DEMANDING PRACTICE SESSION

1. Write down the most likely cause_____.

2. Is the cause of you having a hard time finishing the practice session something about you or something about other people or things? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future when you are practicing, will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects how hard practice is for you to finish, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

7. How important would this event be if it happened to you?

Not at all Important					Extremely Important	
1	2	3	4	5	6	7

8. How clearly were you able to imagine this event happening to you?

Not at all clearly					Very clearly	
1	2	3	4	5	6	7

G. THE COACH CRITICIZES YOUR PERFORMANCE

1. Write down the most likely cause_____.

2. Is the cause of the coach criticizing your performance something about <u>you</u> or something about <u>other people or things</u>? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future when the coach criticizes you, will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects your coach's comments, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

7. How important would this event be if it happened to you?

Not at all Important					Extremely Important	
1	2	3	4	5	6	7

8. How clearly were you able to imagine this event happening to you?

Not at all clearly					Very clearly	
1	2	3	4	5	6	7

H. YOUR TEAM-MATES CLAIM THAT YOU ARE NOT A GOOD GYMNAST.

1. Write down the most likely cause_____.

2. Is the cause of your team-mates claiming you were not a good gymnast something about <u>you</u> or something about <u>other people or things</u>? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future when your team-mates are talking about your not being a good gymnast, will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects how your team-mates refer to your performance in gymnastics, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

7. How important would this event be if it happened to you?

Not at all Important					Extremely Important	
1	2	3	4	5	6	7

8. How clearly were you able to imagine this event happening to you?

Not at all clearly					Very clearly	
1	2	3	4	5	6	7

I. YOU ARE SELECTED FOR THE TEAM IN AN IMPORTANT COMPETITION

1. Write down the most likely cause_____.

2. Is the cause of your being selected for the team something about <u>you</u> or something about <u>other people or things</u>? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future when a team is selected, will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects whether or not you get selected for the team, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

7. How important would this event be if it happened to you?

Not at all Important					Extremely Important	
1	2	3	4	5	6	7

8. How clearly were you able to imagine this event happening to you?

Not at all clearly					Very clearly	
1	2	3	4	5	6	7

J. YOU PERFORM VERY POORLY DURING A MEET

1. Write down the most likely cause_____.

2. Is the cause of your poor performance something about <u>you</u> or something about <u>other people or things</u>? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future when performing in a meet, will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects your performance in meets, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

7. How important would this event be if it happened to you?

Not at all Important					Extremely Important	
1	2	3	4	5	6	7

8. How clearly were you able to imagine this event happening to you?

Not at all clearly					Very clearly	
1	2	3	4	5	6	7

K. THE COACH COMPLIMENTS YOUR PERFORMANCE

1. Write down the most likely cause_____.

2. Is the cause of the coach complimenting your performance something about you or something about other people or things? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future when the coach compliments you, will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects your coach's comments, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

7. How important would this event be if it happened to you?

Not at all Important					Extremely Important	
1	2	3	4	5	6	7

8. How clearly were you able to imagine this event happening to you?

Not at all clearly					Very clearly	
1	2	3	4	5	6	7

L. YOU HAVE NO TROUBLE FINISHING A DEMANDING PRACTICE SESSION

1. Write down the most likely cause_____.

2. Is the cause of you having no trouble finishing the practice session something about you or something about other people or things? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future when you are practicing, will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects how easy practice is for you to finish, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

7. How important would this event be if it happened to you?

Not at all Important					Extremely Important	
1	2	3	4	5	6	7

8. How clearly were you able to imagine this event happening to you?

Not at all clearly					Very clearly	
1	2	3	4	5	6	7

APPENDIX C

APPENDIX C

Name_____ **Age**_____

Gymnastics Experience Survey

This survey ask you to list the two most important successful and unsuccessful experiences you have had recently in gymnastics. Please describe how you felt about that experience. Next you will be asked about the most likely cause for that experience. Finally you will be asked some questions about that reason.

Although your name appears at the top of the page, your answers will not be shared with anyone. Please answer honestly and report how you feel, not how others may feel about the question.

A. Think back to a recent time when you felt **successful** with your performance in gymnastics.

1. Describe the performance and how you felt about the performance

2. What was the single most likely cause for your performance_____.

3. Is the cause of your successful performance something about you or something about other people or things? (circle one number)

Totally due to other people or things					Totally due to me
1	2	3	4	5	6 7

3. In the future will this cause happen again?

Will never happen again					Will always happen again
1	2	3	4	5	6 7

4. Is the cause something that just affects your performance in gymnastics, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life
1	2	3	4	5	6 7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable
1	2	3	4	5	6 7

6. Is the cause intentional or unintentional?

Intentional					Unintentional
1	2	3	4	5	6 7

These next questions ask you how you felt about the successful performance you mentioned above. Please circle the number that is closest to the way that you felt following your performance.

My performance made me feel ...

7. Not at all bad — Very bad

1 2 3 4 5 6 7

8. Not at all good — Very good

1 2 3 4 5 6 7

9. Not at all angry — Very angry

1 2 3 4 5 6 7

10. Not at all calm — Very calm

1 2 3 4 5 6 7

11. Not at all unhappy — Very unhappy

1 2 3 4 5 6 7

12. Not at all happy — Very happy

1 2 3 4 5 6 7

13. Not at all ashamed — Very ashamed

1 2 3 4 5 6 7

14. Not at all proud — Very proud

1 2 3 4 5 6 7

15. Not at all unsatisfied — Very unsatisfied

1 2 3 4 5 6 7

16. Not at all satisfied — Very satisfied

1 2 3 4 5 6 7

17. Not at all disappointed — Very disappointed

1 2 3 4 5 6 7

18. Not at all pleased — Very pleased

1 2 3 4 5 6 7

19. I expect this type of performance

To never happen again — To happen again

1 2 3 4 5 6 7

B. Think back to **another** recent time when you felt **successful** with your performance in gymnastics.

1. Describe the performance and how you felt about the performance

2. What was the single most likely cause for your performance_____.

3. Is the cause of your successful performance something about you or something about other people or things? (circle one number)

Totally due to other people or things					Totally due to me
1	2	3	4	5	6 7

3. In the future will this cause happen again?

Will never happen again					Will always happen again
1	2	3	4	5	6 7

4. Is the cause something that just affects your performance in gymnastics, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life
1	2	3	4	5	6 7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable
1	2	3	4	5	6 7

6. Is the cause intentional or unintentional?

Intentional					Unintentional
1	2	3	4	5	6 7

These next questions ask you how you felt about the successful performance you mentioned above. Please circle the number that is closest to the way that you felt following your performance.

My performance made me feel ...

7. Not at all bad — Very bad

1 2 3 4 5 6 7

8. Not at all good — Very good

1 2 3 4 5 6 7

9. Not at all angry — Very angry

1 2 3 4 5 6 7

10. Not at all calm — Very calm

1 2 3 4 5 6 7

11. Not at all unhappy — Very unhappy

1 2 3 4 5 6 7

12. Not at all happy — Very happy

1 2 3 4 5 6 7

13. Not at all ashamed — Very ashamed

1 2 3 4 5 6 7

14. Not at all proud — Very proud

1 2 3 4 5 6 7

15. Not at all unsatisfied — Very unsatisfied

1 2 3 4 5 6 7

16. Not at all satisfied — Very satisfied

1 2 3 4 5 6 7

17. Not at all disappointed — Very disappointed

1 2 3 4 5 6 7

18. Not at all pleased — Very pleased

1 2 3 4 5 6 7

19. I expect this type of performance

To never happen again — To happen again

1 2 3 4 5 6 7

C. Think back to a recent time when you felt **unsuccessful** with your performance in gymnastics.

1. Describe the performance and how you felt about the performance

2. What was the single most likely cause for your performance_____.

3. Is the cause of your unsuccessful performance something about you or something about other people or things? (circle one number)

Totally due to other people or things					Totally due to me
1	2	3	4	5	6 7

3. In the future will this cause happen again?

Will never happen again					Will always happen again
1	2	3	4	5	6 7

4. Is the cause something that just affects your performance in gymnastics, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life
1	2	3	4	5	6 7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable
1	2	3	4	5	6 7

6. Is the cause intentional or unintentional?

Intentional					Unintentional
1	2	3	4	5	6 7

These next questions ask you how you felt about the unsuccessful performance you mentioned above. Please circle the number that is closest to the way that you felt following your performance.

My performance made me feel ...

7.	Not at all bad					Very bad
	1	2	3	4	5	6 7
8.	Not at all good					Very good
	1	2	3	4	5	6 7
9.	Not at all angry					Very angry
	1	2	3	4	5	6 7
10.	Not at all calm					Very calm
	1	2	3	4	5	6 7
11.	Not at all unhappy					Very unhappy
	1	2	3	4	5	6 7
12.	Not at all happy					Very happy
	1	2	3	4	5	6 7
13.	Not at all ashamed					Very ashamed
	1	2	3	4	5	6 7
14.	Not at all proud					Very proud
	1	2	3	4	5	6 7
15.	Not at all unsatisfied					Very unsatisfied
	1	2	3	4	5	6 7
16.	Not at all satisfied					Very satisfied
	1	2	3	4	5	6 7
17.	Not at all disappointed					Very disappointed
	1	2	3	4	5	6 7
18.	Not at all pleased					Very pleased
	1	2	3	4	5	6 7

19. I expect this type of performance

To never happen again					To happen again
1	2	3	4	5	6 7

D. Think back to **another** recent time when you felt **unsuccessful** with your performance in gymnastics.

1. Describe the performance and how you felt about the performance

2. What was the single most likely cause for your performance_____.

3. Is the cause of your unsuccessful performance something about you or something about other people or things? (circle one number)

Totally due to other people or things					Totally due to me	
1	2	3	4	5	6	7

3. In the future will this cause happen again?

Will never happen again					Will always happen again	
1	2	3	4	5	6	7

4. Is the cause something that just affects your performance in gymnastics, or does it also affect other parts of your life?

Affects just gymnastics					Affects all things in my life	
1	2	3	4	5	6	7

5. Is the cause something that is controllable by you or others or is it uncontrollable?

Controllable					Uncontrollable	
1	2	3	4	5	6	7

6. Is the cause intentional or unintentional?

Intentional					Unintentional	
1	2	3	4	5	6	7

These next questions ask you how you felt about the unsuccessful performance you mentioned above. Please circle the number that is closest to the way that you felt following your performance.

My performance made me feel ...

7. Not at all bad — Very bad

1 2 3 4 5 6 7

8. Not at all good — Very good

1 2 3 4 5 6 7

9. Not at all angry — Very angry

1 2 3 4 5 6 7

10. Not at all calm — Very calm

1 2 3 4 5 6 7

11. Not at all unhappy — Very unhappy

1 2 3 4 5 6 7

12. Not at all happy — Very happy

1 2 3 4 5 6 7

13. Not at all ashamed — Very ashamed

1 2 3 4 5 6 7

14. Not at all proud — Very proud

1 2 3 4 5 6 7

15. Not at all unsatisfied — Very unsatisfied

1 2 3 4 5 6 7

16. Not at all satisfied — Very satisfied

1 2 3 4 5 6 7

17. Not at all disappointed — Very disappointed

1 2 3 4 5 6 7

18. Not at all pleased — Very pleased

1 2 3 4 5 6 7

19. I expect this type of performance

To never happen again — To happen again

1 2 3 4 5 6 7

APPENDIX D

APPENDIX D

Interview Questions

The interviews, with probes, should take from 20 to 30 minutes to complete.

1) WHAT ARE THE MAIN REASONS THAT YOU DO WELL DURING A COMPETITION?

2) WHAT ARE THE MAIN REASONS YOU DO NOT DO WELL DURING A COMPETITION?

3) WHICH OF THE REASONS IS MOST IMPORTANT TO YOU?

4) DO OTHER GYMNASTS TALK TO YOU ABOUT YOUR PERFORMANCE?

A) If "Yes"- What do they say when you perform well? Poorly?

B) If "No"- Why do they not talk to you about your performance?

5) DO COACHES TALK TO YOU ABOUT YOUR PERFORMANCE?

A) If "Yes"- What do they say when you perform well? Poorly?

B) If "No"- Why do they not talk to you about your performance?

6) DO YOUR PARENTS TALK TO YOU ABOUT YOUR PERFORMANCE?

A) If "Yes"- What do they say when you perform well? Poorly?

B) If "No"- Why do they not talk to you about your performance?

7) IF ABILITY IS NOT LISTED AS AN ATTRIBUTION FOR EITHER SUCCESSFUL PERFORMANCE ON THE GES QUESTIONNAIRE--

A) Why did you not list "ability"? Do you consider yourself "good" at gymnastics?

8) IF ABILITY IS NOT LISTED AS AN ATTRIBUTION ON ONE SUCCESSFUL PERFORMANCE BUT NOT BOTH PERFORMANCES ON THE GES QUESTIONNAIRE--

A) Why did you list "ability" on one performance but not the other?

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