

Pepperdine University
Graduate School of Education and Psychology

ACHIEVEMENT GOAL THEORY: ACHIEVEMENT GOALS IN PREDICTING PRE-
COMPETITIVE ANXIETY IN ATHLETES

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of the requirements for the degree of
Doctor of Psychology

by

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Dedicatoria
(Dedication)

Le dedico esta disertación a toda mi familia.

Grandma: Mis primeros recuerdos empiezan en tu salón. Siempre me encantaba observarte haciendo faciales con tus guantes, cubre boca, y tu abrigo blanco. Un día me encontraste mirando a los libros de médico. Me dijiste que doctores estudiaron medicina su trabajo era ayudar a la gente. Me contaste como quisiste estudiarlo, pero siendo mujer en su tiempo no era algo que pudiste lograr. Esto comenzó mi sueño de ser doctora. Después me encontrabas en el salón con guantes y cubre boca y te decía, "¡mira amá, soy doctora!" y luego tu decías, "si Ysmi, eres mi doctorcita." Amá, mi sueño de ser doctora nunca hubiera sido posible sin tus platicas, consejos, y soporte. Por favor nunca me para de hablar sobre tu historia, tu vida, y tus pasiones porque me han servido a seguir mis sueños y tener una perspectiva única.

Grandpa: Desde chiquita me has hablado sobre la importancia de la educación. La vida no te presento muchas oportunidades. Tuviste que trabajar duro y sacrificar para dar a tus hijos y nietos una vida mejor para que nosotros no tuviéramos qué pasar por lo mismo. Siempre me decías, "la única cosa que la gente no te puede quitar es tu educación." Entiendo ahora que teniendo una educación es una habilidad más poderosa. Gracias apá por enseñarme el poder de la educación y siempre empujándome ser lo mejor que puedo ser.

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ABSTRACT

Being involved in a sport (team or individual) can offer numerous benefits for an athlete, such as physical and health advantages. Yet, some athletes strive for more than physical and health benefits. Some athletes strive for sport achievements and mastering sport techniques and skills. According to the achievement motivation theory, athletes are motivated for the need of achievement and striving for perceived high ability (i.e., achievement behavior). Achievement Goal Theory (AGT) proposes achievement motivation is a combination of achievement goals, achievement behavior, and perceived ability, and achievement behavior. Additionally, achievement motivation can be manipulated by achievement goal orientations. Achievement goal orientations include: task orientation (mastery approach goals) and ego orientation (performance approach goals). A systematic review was conducted to examine the predictive relationship between achievement goal orientations and pre-competitive anxiety. After organizing findings across studies through grouping and clustering and thematic analysis the following was found: (1) athletes with task orientation (mastery approach) and ego orientation (performance approach) did not significantly predict pre-competitive trait anxiety or pre-competitive state anxiety. Although the current study did not find achievement goal orientations as a predictor for pre-competitive state anxiety, based off an existing gap in the literature, future research should explore various evidence-based interventions and clinically appropriate interventions that may be suitable and effective for athletes.

Chapter 1: Literature Review

Background and Rationale

The total number of individuals who play sports or play sports is everchanging. Pledge Sports (2017) gave an approximate estimate of how many people engage in sports activity and what types of sports are most popular. Data gathered included everyone registered as a club or league athlete and recreational athlete. The data showed that the top ten international team sports are football (i.e., soccer), badminton, field hockey, volleyball, basketball, tennis, cricket, table tennis, baseball, and golf (Pledge Sports, 2017). Football currently holds the number one spot as the most-played sport in the world. According to FIFA, in 2016, approximately 265 million people and more than five million referees played soccer, accumulating to about four percent of the world's population (Pledge Sports, 2017). Another statistic reported that about two billion people participated in team and individual sports. Among those two billion people, about 85 percent are unregistered athletes (play for fun), seven and a half are young athletes (under 17 years old), six percent are amateur athletes, and a half percent are professional athletes (Henschen, 2016). Overall, it is estimated that one-third of the world's population played a sport in 2016 (Pledge Sports, 2017).

Sports involvement offers physical and health benefits beginning in early youthhood, such as cardiovascular improvements, body composition, and muscular strength (Clevinger et al., 2020). However, some athletes strive for more than just health benefits when playing a sport. Most competitive athletes are motivated to achieve optimal sports performance, which involves increased sports ability and skill. Achieving high sports ability for an athlete can bring satisfaction, success, and external rewards (i.e., receiving a college scholarship or becoming a pro athlete). An athlete's process of accomplishing their highest ability can be satisfying and simultaneously taxing, both mentally and physically. While working towards their goals, athletes must overcome several mental barriers, one being anxiety. Sports psychologist researchers

have found that the motivation behind an athlete's drive can trigger pre-competitive anxiety (Stoeber & Crombie, 2010). Conversely, the motivating factors of an athlete can also have the capacity to facilitate achievement and lower levels of pre-competitive anxiety. The question arises, why does the factor of anxiety impact athletes differently?

Research in sports psychology began in the 19th century. In 1898, Norman Triplett found that cyclists who rode within a group setting performed better (Triplett, 1898). In 1925, the first sport psychology laboratory was opened by Coleman Griffith, who is considered the founder of sports psychology (LeUnes, 2009). Unfortunately, the lack of funding and interest caused the laboratory to close, but Griffith continued his career working for the Chicago Cubs. Since then, research in sports psychology has slowed, and it is considered an understudied branch of psychology. This may better explain the limited available research articles examining achievement goal orientation and pre-competitive anxiety. The lack of existing research between achievement goal orientation and pre-competitive anxiety provides a lack of understanding regarding the relationship between the two. Research can provide a more precise understanding that athletes, coaches, and related professions can benefit from such information. It can inform the appropriate audience on various topics, such as appropriately assessing for achievement goal orientation, comprehending the impact of pre-competitive anxiety, and reducing pre-competitive anxiety.

Statement of the Problem

A neglected component for many athletes is the connection between mind and body. When the body is honed into a peak psychological and physical condition, it can take an athlete's sports ability to another level. However, it is common for athletes to focus solely on physical preparation to strive for optimal sports performance. It is vital to note that sports performance is 95 percent physical and five percent mental, but the five percent triumphs the 95 percent if neglected (Henschen, 2016). Consider this: a high school soccer team is put through the same training regimen, yet only a select few are chosen to play at the collegiate level. What

factors contribute to being chosen to play at the collegiate level? One theory is that mental resiliency may aid in combating negative thoughts and feelings and adverse somatic reactions before playing, reducing the risk of poor sports performance. For an athlete to go from low sports ability to high sports ability, one must develop mental stamina. Preparing one's mental state, as well as physical state, can enable higher sports ability. In other words, the mind and body must work together to battle excess stress, tension, and distractibility that can otherwise hinder one's athletic performance. Psychological factors of pre-competitive anxiety can be detrimental to sports performance.

Athletes should be encouraged to seek a healthy balance of arousal and performance where arousal is sufficient enough to sharpen their attention but not so excessive that it becomes a distraction (Madrigal et al., 2018). Excessive arousal triggered before a competition is considered pre-competitive anxiety. The notion of pre-competitive anxiety has been said to include hostile and unpleasant emotional responses to stressors within the realm of pre-competition that can be expressed through feelings of apprehension and tension (Madrigal et al., 2018). Woodman and Hardy (2011) found through a meta-analysis of 48 studies that athletes who reported high levels of pre-competitive anxiety became a strong predictor of decreased sports performance. Additionally, high levels of pre-competitive anxiety can increase the susceptibility to injury and the onset of depression and can also have the outcome of sport dropout (Woodman et al., 2011). Strategies to reduce pre-competitive anxiety related to achievement goal orientation are still underexplained.

History of Motivation Theory

David McClelland's Motivation Theory proposed that people are motivated by one of three different motivation needs: need for achievement, need for affiliation, or need for power (Moore et al., 2010). The concept behind motivation theory is the belief that a person's motivation type may explain and predict their behavior (Moore et al., 2010). McClelland et al. (1958) believed that people motivated by the need for achievement are motivated to strive for

success with a standard of excellence, later recognized as Achievement Motivation Theory. These types of people thrive off of competition and have the desire to perform well and be successful. Achievement motivation theory suggests that achievement motivation is the need that drives people towards attaining a goal.

Success or standard of excellence is subjectively measured by direct competition with someone else or how well one performs a task, regardless of how someone is doing (Moore et al., 2010). Individuals are expected to fail from time to time, but each shortcoming allows one to learn from their mistakes and get one step closer to their achievement goal. An achievement goal is a future-focused thought representation that guides behavior toward success or avoidance of competency (Hulleman et al., 2010). McClelland et al. (1958) additionally proposed that individuals' achievement behavior and achievement goals can be motivated by avoiding failure or reaching a positive goal of attaining success.

Achievement Behavior

Social psychologist John G Nicholls believed that the process towards achievement could be manipulated behaviorally. According to Nicholls (1984a), *achievement behavior* is defined as behavior directed at developing and demonstrating high ability rather than low ability. How an individual feels about their ability to perform is said to influence the achievement outcome. For example, if an individual believes their ability is low, they feel incompetent (i.e., incapable), increasing the likelihood of a poor achievement outcome. On the other hand, if an individual believes their ability is high, they feel competent (i.e., capable), increasing the likelihood of a positive achievement outcome. An individual is encouraged to identify what can positively influence their achievement behavior as it may predict an increase in ability and competency and the best achievement outcome. Achievement motivation theory proposes that achievement behaviors can be manipulated by achievement orientations (ego orientation, task orientation). *Ego orientation* is defined as measuring one's capacity by comparing others. *Task orientation* measures one's capacity through perceived mastery from past experiences (Nicholls,

1984a). Previous research suggests ego orientation can maladaptively manipulate achievement behaviors when striving for higher ability.

Dweck (1986) examined student achievement behaviors when striving for higher ability within an academic setting. Children who displayed adaptive achievement behaviors demonstrated enjoyed learning a new skill. However, children with maladaptive achievement behaviors showed helpless-like affective behaviors, resulting in avoiding challenges and low perseverance, and displayed adverse effects, like anxiety and negative automatic thoughts about themselves (Dweck, 1986). It is important to note that there was no difference in intellectual abilities between children with adaptive or maladaptive achievement behavior. However, there were differences in subjective ability when a student faced a challenge. What has ultimately been discovered was that the student's achievement orientation had influenced their subjective belief regarding their intelligence. For example, children who believed their intelligence was fixed found their achievement behaviors to be more ego-oriented. In contrast, children who believed their intelligence was malleable were identified more strongly with task orientation (Dweck & Elliot, 1983).

Achievement Goal Theory in Sports

Achievement motivation theory proposed that perceived ability can behaviorally manipulate achievement behavior, which achievement orientations can influence. Achievement goal theory (AGT) was initially examined to understand disparities within an academic setting with the aim of motivation enhancement. (Ames, 1984; Ames & Archer, 1988; Dweck, 1986; Nicholls, 1984b, 1989). Researchers in sport psychology envisioned AGT to apply to sports to understand better an athlete's motivation (Duda, 1989). Once AGT was applied within the sports setting, terms and definitions were minimally modified.

Achievement goal theory (AGT) proposes that the interaction of achievement goals, perceived ability, and achievement behavior can determine achievement motivation. (Ames, 1984). Achievement motivation is typically the motivation behind effort when striving for

achievement. AGT identifies achievement goal orientations that can help determine the level of perceived ability within an athlete. Achievement goal orientations are future-oriented, and when performing a task, athletes are driven by task-orientation goals, ego-orientation goals, or a fluctuation of both (Duda, 2004). Like achievement motivation theory, achievement goal orientations are subjective in measuring ability, a critical antecedent for understanding the motivational process and performance outcome (Duda, 2004).

Achievement goal orientations were originally defined through the dichotomous model. Similar to achievement motivation theory, achievement goal orientations are oriented by how an athlete's achievement behavior motivates (or behaviorally manipulates) their achievement outcome. The dichotomous model splits achievement goals into two categories: task orientation and ego orientation. Task orientation is defined as an athlete who is motivated by improving skill development and believes that effort leads to success regardless of the competition outcome (Lochbaum et al., 2016). Ego orientation is defined as an athlete whose actions are primarily motivated by demonstrating normative competence, such as superior ability, compared to others (Lochbaum, et al., 2016). The ego-motivated athlete most generally judges success and failure by comparing other competitors. At times past research has found un-sportsmanship-like attitudes and aggressive behaviors from those with ego orientation (Lochbaum et al., 2016).

At the end of the 1990s/early 2000s, Elliot and McGregor (2001) re-configured the dichotomous model by adding and renaming new constructs. The dichotomous model was expanded into four achievement goal orientations, the 2x2 Achievement Goal Framework. Under this framework, task orientation was renamed *mastery approach goals*, and ego orientation was renamed *performance approach goals*. The definitions remained relatively the same from the dichotomous model. According to the 2x2 Achievement Goal Framework, *mastery approach goals* are the motivation to achieve absolute or intrapersonal competence (i.e., striving to master a task), and *performance goals* are the motivation to demonstrate standardizing competence (i.e., striving to do better than others; Stoeber et al., 2010).

To recap, the 2x2 Achievement Goal Framework comprises a mastery approach goal, performance-approach goal, mastery-avoidance goal, and performance-avoidance goal. The valence factor differentiates the dichotomous model and the 2x2 Achievement Goal Framework. The 2x2 Achievement Goal Framework proposes that athletes can be motivated by striving for a positive achievement outcome and can also be motivated by a fear of failing. *Mastery avoidance* goal is the motivation to avoid intrapersonal incompetence (i.e., striving to avoid doing worse than the previous performance; Stoeber et al., 2010). On the other hand, *the performance-avoidance goal* is the motivation to avoid demonstrating standardizing incompetence (i.e., striving to avoid doing worse than others; Stoeber et al., 2010). With the addition of valence, mastery-avoidance, and performance-avoidance goals were added under the umbrella of achievement goal orientations and completed the 2x2 Achievement Goal Framework.

The 2x2 Achievement Goal Framework influenced the development of the Achievement Goal Questionnaire for Sports (ASQ-S; Conroy et al., 2003). The ASQ-S measures an athlete's achievement goal orientation related to performance outcomes. Past research suggests that performance approach and avoidance goals positively correlate with fear of failure. Conversely, performance-approach goals have also been found to have positive associations with competence, extrinsic motivation, and challenge assessment of competition (Stoeber et al., 2010). Athletes who pursue performance-approach goals rather than performance-avoidance goals are more confident and motivated to compete. Thus, performance-approach goals are often considered adaptive achievement goal orientation rather than performance-avoidance goals.

Pre-Competitive Anxiety

Pre-competitive anxiety is made up of two constructs: cognitive and somatic anxiety. Cognitive anxiety is negative expectations, lack of concentration, and disrupted attention. Somatic anxiety is characterized by bodily symptoms such as sweating and increased heart rate. Currently, there are valuable tools to measure competitive anxiety. For example, the

Competitive State Anxiety Inventory-2 (CSAI-2) helps to measure competitive state anxiety with scales consisting of cognitive anxiety, somatic anxiety, and self-confidence (Krane & Williams, 1987). The CSAI-2 has significantly helped measure competitive state anxiety (Jones & Swain, 1992). Past findings have shown that pre-competition patterning of cognitive and somatic anxiety components is consistent with the factors on the CSAI-2, with cognitive anxiety remaining constant during pre-competition (Jones et al., 1992). A second helpful tool to measure competitive anxiety is the Sports Anxiety Scale (SAS) or the Sports Anxiety Scale-2 (SAS-2). The SAS and SAS-2 help to measure competitive trait anxiety with scales consisting of cognitive and somatic anxiety. Research has also found patterning of cognitive and somatic anxiety during pre-competition (Duica et al., 2014).

Previous research has examined the role of anxiety in sports performance. Findings showed that those who made the U.S. Olympic team experienced anxiety differently than those who did not. Mahoney and Avenier (1977) compared gymnasts who qualified for the 1976 U.S. Olympic team with athletes who tried out but did not make the team. The gymnasts who made the team reported higher anxiety before tryouts than those who did not. However, this was reversed during tryouts; those who made the team reported less anxiety than those who did not make the team while they were performing. Highlen and Bennett (1979) found similar findings to that of Mahoney et al. (1977). Highlen et al. (1979) compared the level of anxiety between qualifying and non-qualifying wrestlers at a wrestling tournament. Both groups reported high anxiety levels during the anticipation of competing, but the qualifiers reported consistently lower anxiety levels just before and during the wrestling match. These findings suggest that athletes subjectively believed to have a higher ability (i.e., competence) were linked to lower levels of competitive anxiety (Highlen et al., 1979). Krane et al. (1987) hypothesized that athletes who subjectively believed to have lower ability were found to be less capable of self-regulation and are, therefore, more prone to suffer from pre-competitive cognitive anxiety.

The mediating factor of gender has also been considered when examining competitive anxiety. Jones and Cale (1989) reported different pre-competition patterning for cognitive anxiety, somatic anxiety, and self-confidence when investigating the variable of gender. In the case of cognitive anxiety, males showed no changes during the pre-competition period; however, females reported a gradual increase in cognitive anxiety as the competition approached closer (Jones et al., 1989). Somatic anxiety in males showed no increase until the day of the competition. On the other hand, females' somatic anxiety increased earlier in the pre-competition period. Self-confidence remained stable in males but decreased in females on the day of the competition.

Another factor examined in competitive anxiety is the level of perceived ability in achievement behavior identified by an individual. Athletes with a subjective belief of higher ability often enjoy competition, accept challenges, and persist in their efforts while they achieve their goals, therefore characterized as high achievement behaviors (Jones et al., 1992). Atkinson (1964) achievement motivation theory highlighted that those higher in achievement behaviors and achievement motivation strive hard for success and are more likely to persist when faced with complex challenges. On the other hand, individuals with low achievement behaviors and achievement motivation tend to shy away from challenging situations and exhibit lower levels of perseverance when faced with difficult situations. Jones et al. (1992) compared low, competitive groups to highly competitive groups. Findings suggest that those in the low, competitive group tended to report a progressive increase in cognitive anxiety, whereas, in the highly competitive group, their cognitive anxiety remained the same. In the low, competitive group, somatic anxiety was reported an earlier increase than in the highly competitive group. Findings suggest that low-competitive athletes perceive competing as less stimulating than highly competitive colleagues. However, as the competition approaches, low-competitive athletes may perceive a threat that becomes increasingly imminent, which may elicit a

significant increase in negative thoughts and feelings associated right before competing (Jones et al., 1992).

Table 1

Terms & Definitions

Achievement Behavior	Behavior directed at developing and demonstrating high ability rather than low ability.
Achievement Motivation	Achievement motivation is the drive and inspiration behind the desire for striving for success or accomplishments.
Motivation Theory	Attempts to explain and predict behavior and performance based on a person's need for achievement, power, and affiliation.
Achievement Goal Theory	AGT is a social cognitive approach derived from the achievement motivation theory referring to the aim, purpose, and focus of a person's achievement behavior. AGT has three constructs: states of goal involvement, achievement goal orientations, and goal climates. proposes that the interaction of achievement goals, perceived ability, and achievement behavior can determine achievement motivation.
Achievement Goal Orientation	Manner in which an athlete is motivated to increase their sports ability and skills (i.e., task orientation/mastery approach, ego orientation/performance approach).

AGT and Pre-Competitive State and Trait Anxiety

Thus far, chapter one has reviewed a large amount of information regarding achievement motivation theory, achievement behavior, achievement motivation, achievement goal theory, achievement goal orientation, and competitive anxiety. Table 1 provides a list of terms and definitions that are important to know thus far. Now, let us combine the previously presented information as it relates to the current study.

Achievement goal theory (AGT) refers to the aim, purpose, or focus of a person's achievement behavior. AGT provides a framework for understanding achievement behaviors and achievement goals applied to pre-competitive state and trait anxiety variables. AGT emphasizes the role of achievement goals through evaluating affective, behavioral, and cognitive outcomes during an individual's competence pursuit. *Achievement behavior* is directed at developing or demonstrating high ability rather than low ability. Ability can be subjectively measured in two different ways. Ability can be judged by comparing an athlete's past performance or when an athlete compares their performance to others. To develop the high ability, one must feel competent by achieving an outcome with equal or better performance (Nicholls, 1984b).

Additionally, achievement behavior can be manipulated through subjective belief, meaning an athlete with low ability may feel lower in competence, possibly resulting in a poor outcome. The purpose of achievement behavior is to strive for competence by working towards the highest ability possible. Terms such as competence and success will be used interchangeably throughout this study as they are defined similarly. Success/competence is defined as an athlete demonstrating the highest ability (achievement behavior) according to their achievement goal orientations.

AGT was initially created to examine achievement behavior in an academic setting. Extensive research can be found on achievement motivation within an academic setting. However, limited research can be found on the examination of achievement motivation and competitive anxiety, which indicates that the athlete population continues to be underexamined. However, research in sports psychology has made great strides toward understanding human behavior related to sports and athletes. The existing research has found a relationship between achievement goal orientation and pre-competitive anxiety (Li, 2013). Pre-competitive anxiety is a negative, unpleasant emotional trigger from stressors related to the pre-competitive context that can negatively influence subsequent sports performance (Li, 2013).

One construct of pre-competitive anxiety is state anxiety. Spielberger (1966) defined *state anxiety* as "an existing or immediate emotional state characterized by apprehension and tension" (Spielberger, 1966, p. 5). Three components comprise state anxiety: cognitive anxiety, somatic anxiety, and self-confidence. For this study, self-confidence will not be examined. Cognitive anxiety can be described as an athlete worrying about performing poorly, experiencing negative thoughts, difficulty concentrating, and disrupted attention (Martens et al., 1990). The most famous element of cognitive anxiety is worry, which has been viewed as anxious thoughts related to fear of failure (Martens et al., 1990). On the hand, somatic anxiety is defined as the physiological and affective elements of anxiety experience that develop from automatic arousal (Martens et al., 1990). Somatic anxiety can be experienced as tense feelings, tight body, or sweaty hands, but the most prevalent symptoms are perspiration, upset stomach, and muscle tension (Duica et al., 2014).

Researchers have been investigating achievement goals as antecedents of pre-competitive state anxiety. As mentioned before, AGT was studied initially within the academic setting. When AGT transitioned into the sports setting, competence became defined by two primary goal constructs (also recognized as the dichotomous achievement goal approach). The dichotomous approach includes task orientation and ego orientation. Task orientation has been defined as developing a higher ability than one's past performances. Ego orientation has been referred to as striving to pursue higher ability when compared to a normative reference group, in other words striving to outperform others (Li, 2013). According to Duda and Nicholls (1992), task orientation goals have been shown to foster adaptive achievement outcomes, whereas performance goals are inclined to result in non-adaptive achievement outcomes. Furthermore, task orientation goals are negatively related to cognitive anxiety, while ego orientation has been positively related to competitive state anxiety, specifically cognitive anxiety (Hall & Kerr, 1997; Newton & Duda, 1992).

Elliot (1999) proposed the 2x2 Achievement Goal Framework, an extension of the dichotomous approach. Elliot (1999) extended the dichotomous approach by adding the element of valence. The 2x2 Achievement Goal Framework kept the concepts of task orientation and ego orientation but renamed them. Task orientation was renamed to mastery goals, and ego orientation was renamed to performance goals, and both definitions remained similar. Mastery approach goals refer to intrapersonal competence to do better than one's past performance. The performance approach goals refer to normative competence, such as striving to outperform others (Li., 2013). Therefore, for this study, task orientation and mastery approach goals will be used synonymously, as well as ego orientation and performance approach goals. In addition to mastery approach goals and performance approach goals, two more variables were added to complete the 2x2 Achievement Goal Framework, which was mastery avoidance goals and performance-avoidance goals. Mastery and performance-avoidance goals integrate the valence into the construct development. These goals are influenced by the fear of failure (Li, 2013). Mastery avoidance goals refer to intrapersonal incompetence, such as avoiding doing worse than one's past performance. Performance avoidance goals refer to normative incompetence, such as striving not to be outperformed by others (Kaye et al., 2015). Mastery and performance-avoidance goals will not be examined in this study.

The 2x2 Achievement Goal Framework has helped predict sport motivation, sports performance, and cognitive appraisal. However, there appear to be limited studies yet to examine its relation to competitive anxiety, which is crucial for understanding sports performance outcomes. It is hypothesized that mastery approach goals are based on motivation to achieve high ability while focusing on the positive possibility of success, which may be a nonsignificant predictor of competitive anxiety (Elliot et al., 2001). Considering performance approach goals stem from motivation to achieve while experiencing fear of failure, this variable has a higher chance of being a significant predictor of somatic and cognitive anxiety (Cury et al., 2002; Li & Chi, 2007).

State anxiety has been described as an unpleasant emotional reaction evoked by a stimulus perceived as dangerous. During state anxiety, an individual responds to a triggered autonomic nervous system, which activates muscle tension, fear, and negative thoughts (Vassilis et al., 2012). On the other hand, trait anxiety is a "predisposition to perceive certain situations as threatening and to respond to these situations with varying levels of state anxiety" (Spielberger, 1966, p. 5). Consequently, trait anxiety has been suggested as an essential antecedent of state anxiety. High-trait anxiety athletes more often will also experience elevated levels of state anxiety in a threatening situation, which may result in poor sports performance compared to other athletes with lower trait anxiety. State anxiety and trait anxiety both consist of cognitive and somatic symptoms. Cognitive anxiety (as it relates to state and trait anxiety) is defined as negative thoughts, difficulty in concentration, and disrupted attention, but the most prevalent symptom is worry; somatic anxiety is defined as tense feelings, tight body, or sweaty hands, but the most popular experienced symptoms are sweating, upset stomach and muscle tension (Vassilis et al., 2012).

Existing research suggests the relationship between achievement goals and trait anxiety, and achievement goals and state anxiety have similar findings regardless if the dichotomous approach or the 2x2 Achievement Goal Framework is applied. Voight et al. (2000) examined the relationship between the dichotomous approach and trait anxiety. Young athletes whose achievement goals were task-oriented were considered insignificant predictors for competitive trait anxiety. However, ego orientation was a significant predictor of competitive trait anxiety. Abrahamsen et al. (2008) found that goal orientations acquired by elite-level athletes were not affected by competitive trait anxiety suggesting elite athletes can manage their anxiety more effectively when compared to non-elite athletes. Lastly, performance-approach goals are considered to be the motivation to achieve even while experiencing fear of failure. There is a high possibility of this resulting in a nonsignificant predictor of somatic and cognitive anxiety, which has been supported by previous findings (Elliot et al., 2001; Li et al., 2007).

Thus far, there is evidence that achievement orientation goals, from both the dichotomous approach and the 2x2 Achievement Goal Framework, demonstrate significant predicting relationships in both competitive state and trait anxiety. According to previous research, the dichotomous approach and the 2x2 achievement Goal Framework have measurement overlaps between task and ego orientation and mastery and performance goals; therefore, both frameworks will be utilized for the present study. Additionally, because trait anxiety and state anxiety are measured by the same constructs (cognitive and somatic anxiety), both variables will be included in the present study.

The Present Study

The following operational definitions will be utilized towards the inclusion criteria for included studies for the present study. The following operational definitions can be found in Table 2. *Task orientation* (mastery goals, mastery approach) is defined as an athlete pursuing competence by learning and improving on a task through self-reference, self-improvement, or any self-reference criteria, or when an athlete compares their past performance to themselves and strives to do better than their past performance. *Ego orientation* (performance goals, performance approach) is defined as an athlete pursuing competence through normative reference standards, such as the athlete demonstrating superior competence when compared to others or when an athlete strives to outperform others. *Competitive anxiety* is the negative, unpleasant emotional trigger from stressors related to a competitive context that can negatively influence subsequent sports performance (Fletcher & Hanton, 2001). Competitive anxiety will be split into two specific variables: competitive state anxiety and competitive trait anxiety. *Competitive trait anxiety* will be defined as a predisposition that perceives situations as threatening and responds with varying levels of state anxiety, which requires both a somatic and cognitive response. *Competitive state anxiety* will be defined as an existing or immediate somatic and cognitive response during a stressful event characterized by apprehension and tension. For this study, pre-competitive trait/state anxiety will require a cognitive and somatic

response to be considered pre-competitive trait/state anxiety. *Cognitive anxiety* will be measured as worry. *Somatic anxiety* will be measured as a physiological and affective automatic arousal such as (but not limited to) a racing heart, sweaty hands, upset stomach, sweating, and tense muscles.

The dichotomous achievement goal approach and the 2x2 Achievement Goal Framework will be utilized as the respective models, as they have overlapping constructs and construct definitions. Furthermore, to analyze and report the current study's findings, the following questionnaires will be included in the inclusion criteria: the Task and Ego Orientation in Sports Questionnaire (TEOSQ) and the 2x2 Achievement Goal Questionnaire for Sport (AGQ-S). Competitive State Anxiety Inventory-2 (CSAI-2) will be included as part of the inclusion criteria to analyze and report the findings of pre-competitive state anxiety. Lastly, to analyze and report the findings of pre-competitive trait anxiety, the Sports Anxiety Scale (SAS) and Sports Anxiety Scale-2 (SAS-2) will be included as part of the inclusion criteria.

This study aims to predict the relationship between achievement goal orientations and pre-competitive anxiety. Based on previous research, existing data examines the relationship between achievement goal orientations and competitive anxiety. However, very minimal data is accessible on achievement goal orientation predicting pre-competitive anxiety. The current study aims to contribute valuable information to the research of applied sports psychology, as there appear to be gaps in the current literature regarding achievement goal orientation and pre-competitive anxiety. Taking into account the information gathered from previous studies and the development of AGT, the present study will examine the relationship between achievement goal orientations and pre-competitive trait anxiety, as well as achievement goal orientations and pre-competitive state anxiety within the athlete population. The following are hypothesized:

Hypothesis 1: Ego-oriented (performance approach) athletes are expected to be a significant predictor for pre-competitive state anxiety.

Hypothesis 2: Ego-oriented (performance approach) athletes are expected to significantly predict pre-competitive trait anxiety.

Hypothesis 3: Task-oriented (mastery approach) athletes will not be a significant predictor for pre-competitive state anxiety.

Hypothesis 4: Task-oriented (mastery approach) athletes will not be a significant predictor for pre-competitive trait anxiety.

Table 2

Operational Definitions of Included Variables

Task Orientation (mastery goal)	An athlete pursues competence by learning and improving on a task through self-reference, self-improvement, or any self-reference criteria. When an athlete compares their past performance and strives to do better than their past performance.
Ego Orientation (performance goal)	An athlete pursuing competence through normative reference standards, such as demonstrating superior competence when compared to others, strives to outperform others.
Pre-Competitive Anxiety	Negative, unpleasant emotional triggers from stressors related to a pre-competitive (i.e., before a competition) context can negatively influence subsequent sports performance.
Pre-Competitive Trait Anxiety	Predisposition perceives situations as threatening and responds with varying levels of state anxiety, which requires both a somatic and cognitive response.
Pre-Competitive State Anxiety	Existing or immediate somatic and cognitive responses during a stressful event are characterized by apprehension and tension.
Cognitive Anxiety	Worry.
Somatic Anxiety	Physiological and affective automatic arousal such as (but not limited to) accelerated heart rate, perspiration, upset stomach, and muscle tension.

Chapter 2: Methodology

Systematic Review Approach

For this study, a systematic review of the literature was conducted. A systematic review would examine achievement goal orientations and competitive anxiety. Meta-analyses are a common practice used in systematic reviews; however, the meta-analysis method is inappropriate for the current study as it requires data to be homogenous across all studies yielding only similar quantitative outcomes. A systematic review, however, allows heterogeneous data to be analyzed, which is more appropriate for the current study. All included studies varied in sample sizes, effect sizes, demographic information, sports type, and athlete level. Additionally, the relationship effects between achievement goal orientation and pre-competitive anxiety differed across studies. Consequently, when data, sample sizes, effect sizes, demographic information, and relationship effects are not identical, a non-statistical synthesis is recommended (Moher et al., 2010).

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) is an evidence-based set of guidelines for conducting a systematic review. PRISMA is a reporting guideline that improves the quality of systematic reviews by strengthening the review's transparency, accuracy, and comprehensiveness (Moher et al., 2010). The researcher utilized the PRISMA flow diagram as a general guide to the systematic review process.

Eligibility Criteria

A preliminary review guided by eligibility criteria informed the decision to include the most current, relevant, valid, and reliable studies examining achievement goal orientations and pre-competitive anxiety. Quantitative peer-reviewed scholarly articles published from 2000 to 2023 were included. All articles must have been published in the English language. Articles translated into English were acceptable. Publishing locations from North America, Europe, Asia, and Australia were also included. Participants must have been 12 years or older. Male and

female participants were included. Participants who identified as African American/Black, Hispanic/Latino(a), Asian, Native American, or other was also included.

All included studies must measure achievement goal orientations through either research instrument: Task and Ego Orientation in Sport Questionnaire (TESOSQ) or 2x2 Achievement Goals Questionnaire for Sports (AGQ-S). Additionally, all included studies must measure pre-competitive trait anxiety with Sports Anxiety Scale (SAS) or Sports Anxiety Scale-2 (SAS-2). Lastly, all included studies must measure pre-competitive state anxiety with the Revised Competitive State Anxiety Inventory-2 (CSAI-2).

Psychometric Properties of Instruments

2x2 Achievement Goals Questionnaire for Sports (AGQ-S)

AGQ-S is a self-report questionnaire rated using a Likert scale from (1 = *strongly disagree* to 7 = *totally agree*). The AGQ-S measures four goal orientations: mastery approach, mastery avoidance, performance approach, and performance-avoidance goals, but for this study, mastery avoidance and performance-avoidance goals were excluded; mastery approach and performance approach goals were only analyzed. The AGQS-2 includes three items per achievement goal orientation (12 items). The original questionnaire was adapted to accurately estimate athletes' goal orientation style when involved in a sports competition (Elliot & Murayama, 2008). Examples of questions measuring each orientation are: "My goal is to perform as well as I possibly can" (mastery approach goal) and "My objective is to perform better than the other athletes" (performance approach goal). According to Conroy et al. (2003), AGQS-2 has significant internal reliability and internal validity. The internal consistency for each scale is reasonable, with estimations of .70 for the mastery approach and .82 for the performance approach. Additionally, subscales exhibited structural invariance, differential stability, and latent mean stability over 21-day periods, suggesting stability over time (Conroy et al., 2003).

Task and Ego Orientation in Sports Questionnaire (TEOSQ)

TEOSQ measures task orientation and ego orientation. TEOSQ is a self-report questionnaire consisting of 13 items rated on a five-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Seven items examine task orientation (i.e., "I feel successful in sport when I do my best"), and six items examine ego orientation (i.e., "I feel successful in sport when others can't do as well as me"; Eisenbarth & Petlichkoff, 2012, p. 44). TEOSQ is suggested to have good psychometric validity and properties and has been used within the sports context since the 1980s (Lochbaum et al., 2016). According to Duda (1992), the reliability coefficients for task orientation resulted in .83, and ego orientation resulted in .78, suggesting acceptable validity and reliability.

Sports Anxiety Scale (SAS)

In 1990, the cognitive-affective models of anxiety and empirical findings regarding differential antecedents and consequences of cognitive anxiety and somatic anxiety prompted the development of SAS (Smith et al., 2006). The SAS was designed to measure perceived competition as threatening (Eisenbarth et al., 2012). It is a self-reported questionnaire with 21 items separated into subscales of somatic anxiety (i.e., "my body feels tight") and cognitive anxiety in the forms of worry (i.e., "I have self-doubts"). Responses are on a 4-point Likert scale (1 = *not at all* to 4 = *very much so*). SAS has been cross-validated using both exploratory and confirmatory factor analysis. The 21-item questionnaire measures individual differences in somatic anxiety and two aspects of cognitive anxiety (i.e., worry and concentration disruption). Previous studies have suggested that SAS has been helpful in various sports contexts and appears to be a reliable and valid measure of cognitive and somatic sports performance anxiety (Smith et al., 2006). Smith, et al. (1990) reported internal consistency and adequate test-retest reliability.

In 1995, the SAS appeared inappropriate for younger age groups when Smith et al. (1995) used the SAS as an outcome measure in a study involving a coach-training intervention

designed to reduce situational stress and lowering performance trait anxiety. In this study, the participants ranged from 9 to 12. Following data collection, a factor analysis of the SAS was carried out to ensure that it was appropriate to use its three subscales as dependent variables. The analysis yielded as uninterpretable with numerous cross-loadings, indicating a failure to replicate the 3-factor structure found in older samples. After reassessing the items on SAS, it was found that many had reading levels above the ninth grade.

Additionally, children's emotional self-perception capabilities hindered their abilities to differentiate between the three subjectively experienced trait anxiety. Most development researchers suggest children can draw distinctions between discrete emotions rather than cognitive-affective distinctions. Following these discoveries, Smith et al. (2006) adjusted the questionnaire to increase its reliable and valid multidimensional measure for sports performance trait anxiety by continuing with the same factor structure but increasing its precision when assessing adults and children. These adjustments would allow the multidimensional measure of sports performance trait anxiety to be effective in longitudinal studies beginning in childhood.

Sports Anxiety Scale-2 (SAS-2)

The SAS-2 is a similar measure to the SAS, but a few items were removed to be more appropriately used on younger and older populations. The SAS-2 is a self-reported questionnaire with 15 items designed to measure the variables of cognitive and somatic components of competitive trait anxiety (Duica et al., 2014). It contains three subscales: somatic anxiety, worry, and concentration disruption (concentration disruption will not be included in the present study). The SAS-2 is on a 4-point Likert scale (1 = not at all; 4 = very much). Smith et al. (2006) suggested that the SAS-2 has good internal consistency and test-retest reliability, carrying out for all 15 items. A total score of all 15 items resulted in $\alpha = .91$ (95% CI = .90 – .92) and subscale reliability coefficients resulted in .84 (CI = .82 - .85) for somatic anxiety and .89 (CI = .87 - .90) for worry (i.e., cognitive anxiety). The total score alpha coefficients exceeded .89 for all age groups. Thus, SAS-2 exhibits acceptable internal consistency at both total and

subscale levels, and its reliability is quite similar to that found for SAS in older samples (Smith et al., 2006). Lastly, test-retest coefficients resulted in .76 for somatic anxiety and .90 for worry (i.e., cognitive anxiety), indicating good measurement stability and internal validity.

Revised Competitive State Anxiety Inventory-2 (CSAI-2)

The Revised Competitive State Anxiety Inventory-2 (CSAI-2) was utilized to measure competitive state anxiety. The CSAI-2 is a self-reported 27-item questionnaire, with nine items in each of the three subscales: cognitive anxiety, somatic anxiety, and self-confidence. Self-confidence was not examined. Example question of cognitive anxiety is, "I am concerned about losing," and an example of somatic anxiety is, "My heart is racing" (Ntoumanis & Biddle, 1998). According to Cox et al. (2003), the CSAI-2 has proven to have internal consistency through the reported Cronbach alpha coefficient resulting in 0.91 for cognitive anxiety and 0.90 for somatic anxiety, which suggests acceptable reliability.

Search, Screening, and Selection Process

The review of the literature included sources from the electronic database of PsychINFO. References from articles were considered during the review as well. No other search strategies were included. An initial set of keywords were used to find relevant studies. These keywords were identified through a preliminary review of the literature. These search terms and keywords are achievement goals, competitive anxiety, and athletes. Synonyms for each search term can be found in the List of Search Terms (Appendix A).

After identifying search terms and keywords, a comprehensive search plan was established. The comprehensive search plan included combining search terms in various ways to populate relevant research studies called search syntaxes. The following are all search syntaxes inputted in PsychINFO: "Achievement Goals + Competitive Anxiety," "Achievement Goals + Competitive Anxiety + Athletes," "Achievement Goal Orientation + Competitive Anxiety + Athletes," "Achievement Goal Orientation + Competitive Anxiety + Sports Athletes," "Task Orientation + Ego Orientation + Competitive Anxiety," "Mastery Goals + Performance Goals +

Competitive Anxiety," "Achievement Goals + Performance Anxiety + Athletes," "Achievement Goal Orientation + Competitive Anxiety," and "Achievement Goal Orientation + Competitive Anxiety + Athletes" (reference Appendix B and Appendix C).

After each search, every article was reviewed. The researcher reviewed each article by the title. If the article's title included concepts or descriptions regarding achievement goal orientations or competitive anxiety, the abstract was then reviewed (if not, it was excluded). The abstract was then be read and assessed if it met eligibility criteria. If it appeared to meet eligibility criteria, the researcher read and reviewed the article in full text (if not, it was excluded). After reviewing the article in full-text, if it still met eligibility criteria, it was determined as an included study; this process was repeated until all research articles were reviewed (reference Appendix D).

Following the completion screening and selection process, a PRISMA Flow Diagram was created to depict the sources flow from phase one until the final phase. The diagram begins with the total number of identified sources. During the screening process, a total number of articles were identified ($N = 76$). Following, duplicate articles were removed ($n = 64$). Articles that were excluded ($n = 6$) and articles that were screened ($n = 58$). Full-texts that were assessed for eligibility ($n = 52$) and full-text articles were excluded with reason (i.e., failed to meet eligibility criteria) ($n = 48$). Finally, four quantitative studies ($n = 4$) met the eligibility criteria and were included in the systematic review (reference Appendix E).

Quality Appraisal

Each included study's quality appraisal, also known as a critical appraisal (or risk of bias for experimental studies), was assessed with the Quality Appraisal Form (See Appendix F). The quality appraisal process began with the researcher examining each included study by identifying the general methodology of the study and its specific design or inquiry approach. Each category of the study listened in the Quality Appraisal was rated on a Likert 4-point scale of 0 = *missing* to 3 = *strong*. The categories that were assessed for quality were: strength of

literature foundation and rationale for the study, clarity, and specificity of research aims/objectives/questions, quality of research design or methodological approach, sample selection and characteristics, data collection tools, data collection processes, analysis and presentation of data, discussion of results, and discussion of study limitations. The researcher deemed studies eligible or ineligible based on the primary rating system. Definitive studies for eligibility had an average rating between two and three. Studies with an overall rating of two or less were considered to be categorical weaknesses, which were then indefinitely excluded. However, all studies included in the quality appraisal process were not excluded, as each study displayed an average of three (reference Table 3). After completing the quality appraisal, four quantitative studies were examined and analyzed.

Table 3*Quality Appraisal Outcomes*

<i>N</i> = 4	Strong	Good/Adequate	Weak	Missing	Not Applicable
Strength of Literature Foundation and Rationale for Study	<i>n</i> = 4; 100%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%
Clarity and Specificity of Research Aims/Objectives/Questions/Hypotheses	<i>n</i> = 4; 100%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%
Quality of research design or methodological approach	<i>n</i> = 3; 75%	<i>n</i> = 1; 20%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%
Sample Selection and Characteristics	<i>n</i> = 2; 50%	<i>n</i> = 2; 40%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%
Data Collection Tools (Scales, Observation, Interviews, etc.)	<i>n</i> = 4; 100%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%
Data Collection Processes	<i>n</i> = 3; 75%	<i>n</i> = 1; 20%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%
Analysis and Presentation of Data	<i>n</i> = 4; 100%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%
Discussion Of Results	<i>n</i> = 4; 100%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%	<i>n</i> = 0; 0%
Discussion of Study Limitations	<i>n</i> = 3; 60%	<i>n</i> = 0; 0%	<i>n</i> = 0	<i>n</i> = 1; 20%	<i>n</i> = 0; 0%

Chapter 3: Results

Given the need for more research on understanding the relationship between achievement goal orientation and pre-competitive anxiety, this study aimed to critically and comprehensively review the quantitative literature on achievement goal orientation and pre-competitive trait/state anxiety. Out of the 76 sources identified through the search, 12 were duplicates leaving 58 sources to be screened. Then, six sources were excluded during the screening process, and 52 were left for full-text screening. Forty-eight sources were excluded during the full-text screening due to meeting the exclusion criteria. Sources were excluded based on the following exclusion criteria: sources that were published before the year 2000, if participants' ages were younger than 12 years old, if studies did not utilize the Task and Ego Orientation in Sports Questionnaire (TEOSQ) or Achievement Goals Questionnaire for Sport (AGQ-S) to measure achievement goal orientation variables, and if studies that did not utilize the SAS/SAS-2 or CSAI-2 to measure pre-competitive anxiety variables. If sources met one or more of the exclusion criteria mentioned above reviewer did not include the study.

Four sources met all inclusion criteria at the end of the screening and selection process (reference Table 4). Three of the included sources (Sources 1, 2, and 3) examined the predictive relationship between achievement goal orientations and pre-competitive trait anxiety. Only one study (Source 4) met all inclusion criteria for achievement goal orientations and pre-competitive state anxiety. Therefore, the results of this predictive relationship will be discussed solely from one source. Furthermore, each of the four sources was examined for quality appraisal, and all four sources successfully met the criteria for a good quality appraisal (view Table 3 for reference).

Table 4*Table of Included Studies*

Source	Year	Design	Sample Population	Sample Size	Reference
1	2012	Cross-Sectional Design	University Athletes	329	Eisenbarth, C. A., & Petlichkoff, L. M., (2012). Independent and interactive effects of task and ego orientations in predicting competitive trait anxiety among college-aged athletes. <i>Journal of Sport Behavior</i> , 35, 387-405.
2	2012	Cross-Sectional Design	Elite Basketball Athletes	221	Barkoukis, V., Perkos, S., Kokkinopoulos, S., & Rossios, C. (2012). Superstitious beliefs as moderators in the achievement goals: Competitive anxiety relationship, <i>International Journal Sport Psychology</i> , 43, 438-456.
3	2000	Top Down Approach	Volley Athletes	196	Voight, M. R., Callagan, J. L., & Ryska, T. A. (2000). Relationships between goal orientations, self-confidence and multidimensional trait anxiety among Mexican-American female youth athletes. <i>Journal of Sport Behavior</i> , 23, 271-288.
4	2013	Prospective Design	Handball Athletes	160	Li, C. H. (2013). Predicting precompetitive state anxiety: Using the 2x2 achievement goal framework. <i>Perceptual & Motor Skills: Exercise & Sport</i> , 117(2), 339-352.

This chapter details results found through a narrative synthesis by organizing data from tabulation, grouping and clustering, and thematic analysis. Results will address each hypothesis: (1) athletes with ego-orientation (performance approach) are expected to be a significant predictor for pre-competitive state anxiety, (2) athletes with ego-orientation

(performance approach) are expected to be a significant predictor for pre-competitive trait anxiety, (3) athletes with task-orientation (mastery approach) are expected to be a significant predictor for pre-competitive state anxiety, and (4) athletes with task-orientation (mastery approach) are expected to be a significant predictor for pre-competitive trait anxiety. As previously mentioned, pre-competitive trait/state anxiety comprises cognitive and somatic responses. When examining the predictive relationship between achievement goal orientations and pre-competitive anxiety, both cognitive and somatic anxiety must be present to determine a predictive relationship with pre-competitive anxiety. For example, suppose athletes with ego orientation (performance approach) demonstrate a significant predictive relationship with somatic anxiety but not cognitive anxiety. In that case, it will be determined that athletes with ego orientation are not a significant predictor for pre-competitive anxiety. On the other hand, if athletes with ego orientation (performance approach) show a significant predictive relationship with somatic and cognitive anxiety, it will be stated that athletes with ego orientation are a significant predictor for pre-competitive anxiety.

Narrative Synthesis

A systematic review can be completed in various ways. For the purpose of this study, a narrative synthesis was the most appropriate approach to utilize as it allows the researcher to review and examine the findings from each included study thoroughly. A narrative synthesis is one of the best approaches for a systematic review (Popay et al., 2006). It allows the researcher to synthesize findings across multiple studies using words and text, which concisely summarizes and explains the synthesis findings. A narrative synthesis can be used in both qualitative and quantitative studies. Although it is more commonly used in qualitative studies, a narrative synthesis is versatile by providing the ability to manipulate statistical data. Narrative synthesis can transform statistical data into textual data by synthesizing the data in a storytelling description (Popay et al., 2006). Researchers are encouraged to pursue narrative synthesis when conducting a systematic review when there is a lack of data to calculate a standardized

effect size, a lack of heterogeneity in the data, or both. In this case, there is a lack of evidence for heterogeneity in the data and the inability to calculate a standardized effect size, which is why narrative synthesis is deemed most appropriate for the organization of findings. According to Popay et al. (2006), narrative synthesis is broken into stages to analyze and report findings. The following stages were taken from Popay et al. (2006) model:

Stage 1: Developing a Preliminary Synthesis

Stage 2: Exploring the Relationships Within Studies

Stage 3: Exploring the Relationships Between Studies

Predicting Pre-Competitive Trait Anxiety

Stage 1: Developing a Preliminary Synthesis

Tabulating the Data. The starting point for the synthesis was to extract data from the primary studies in a tabular form (See Appendix G). The focus is to organize each study into a Tabulation based off important and relevant information to synthesize information into common themes and main findings. Each study was organized by the following: author names and published year, study design, statistical model, number of participants, mean age (or range), sports type, achievement goal orientation variables, instrument measure, key findings and outcomes, if the study answered the research question, and the strength of quality appraisal.

Step 2: Exploring the Relationships Within Studies

Source 1 was a quantitative study that examined 329 athletes ($N = 329$). For the sake of this article the following will be utilized to differentiate between gender when discussing demographics throughout the study, (m = males) and (f = females). Of the 329 athletes, 200 males (m = 200), and 129 females (f = 129). Of the 329 participants, they were either college athletes ($n = 113$; m = 78, f = 35), intramural athletes ($n = 106$; m = 74; f = 32), or recreational athletes ($n = 110$; m = 48, f = 62) with the age range between 18 to 25 years old, and mean age of 19.38 ($M = 19.38$). Various sports were included, such as basketball, football, racquetball, wrestling, soccer, softball, tennis, and volleyball.

The first article examined the relationship between task orientation, ego orientation, and pre-competitive trait anxiety. Source 1 measured pre-competitive trait anxiety utilizing the measure SAS and task/ego orientation with TEOSQ. The statistical analysis utilized to evaluate task orientation and ego orientation in predicting pre-competitive trait anxiety was multiple regression analysis. Results indicated the following: athletes with task orientation were not a significant predictor of cognitive anxiety ($B = .02, p > .05$), and athletes with task orientation were a significant predictor of somatic anxiety ($B = .20, p < .01$), athletes with ego orientation were not a significant predictor of cognitive anxiety ($B = .03, p > .05$), and athletes with ego orientation were not a predictor of somatic anxiety ($B = .06, p > .05$).

Source 1 findings suggest athletes with task orientation are a significant predictor for somatic anxiety, but are not a significant predictor for cognitive anxiety, indicating athletes with task orientation are not a significant predictor for pre-competitive trait anxiety. On the other hand, athletes with ego orientation were not a significant predictor of cognitive and somatic anxiety, indicating that athletes with ego orientation are also not a significant predictor of pre-competitive trait anxiety. Results from Source 1 suggest that athletes who identify as task-oriented or ego-oriented do not predict cognitive and somatic anxiety in pre-competitive trait anxiety. Therefore, athletes with task orientation are not a significant predictor for pre-competitive trait anxiety or athletes with ego orientation.

Source 2 was a quantitative study that examined 221 elite basketball players ($N = 221$) with a mean age of 23.71 years old. According to this study, those who played in a national league for five or more years were considered to be an elite athlete and were met the eligibility criteria to participate in the study. The mean experience playing in national leagues was 13 years, while those with less than five-year experience was excluded from the study.

In Source 2, the following variables were examined: mastery approach, performance approach, and pre-competitive trait anxiety. This article measured pre-competitive trait anxiety with SAS, and the mastery approach/performance approach was measured with AGQ-S. The

statistical analysis utilized to evaluate the mastery approach/performance approach in the prediction of pre-competitive trait anxiety was linear regression analysis. Source 2 reported that athletes with mastery-approach goals were significant predictors of cognitive anxiety ($F(1, 220) = 4.54, p < .05, b = -.14$). However, they were not significant predictors for somatic anxiety ($F(1, 220) = 11.66, p > 0.5, b = .30$). Conversely, athletes with performance-approach goals were significant predictors of cognitive anxiety ($F(1, 220) = 10.65, p < .01, b = .21$) and somatic anxiety ($F(1, 220) = 6.12, p < .05, b = .16$).

Source 2 findings suggest athletes with mastery-approach goals are a significant predictor for cognitive anxiety, but not somatic anxiety. Therefore, athletes with mastery approach goals are not a significant predictor for pre-competitive trait anxiety. On the contrary, according to the reported results from Source 2, athletes with performance-approach goals are a significant predictor for cognitive and somatic anxiety. These results indicate that athletes with performance-approach goals are a significant predictor for pre-competitive trait anxiety.

Source 3 was a quantitative study that examined 196 Mexican-American female volleyball players ($N=196$), with an age range of 13 – 18 years old mean age of 15.72. Source 3 examined the following variables: task orientation, ego orientation, and pre-competitive trait anxiety. The TEOSQ measured task/ego orientation, and the SAS measured pre-competitive trait anxiety. Source 3 utilized a linear regression analysis to evaluate the predictive relationship between task orientation/ego orientation and pre-competitive trait anxiety. Source 3 found that athletes with task orientation were a significant negative predictor for somatic ($p < .01$) and cognitive anxiety ($p < .001$). Thus, athletes with task orientation are not a significant predictor for pre-competitive trait anxiety. In contrast, athletes with ego orientation were found to be a significant positive predictor of somatic anxiety ($p < .001$) and a significant negative predictor of cognitive anxiety ($p < .01$). Consequently, athletes with ego orientation are not a significant predictor for pre-competitive trait anxiety. According to Source 3, athletes with task or ego

orientation are not significant predictors for pre-competitive trait anxiety. However, a noteworthy caveat to mention, athletes with ego orientation were a significant predictor for somatic anxiety.

Step 3: Exploring the Relationships Across Studies

Grouping and Clustering. Grouping and clustering involve organizing the included studies into smaller groups to make the process of narrative synthesis more manageable (Popay et al., 2006). Doing this allows the opportunity to decode patterns into major groups across studies. Studies can be grouped according to one or a combination of the following: the type of intervention being studied, the setting or context for the intervention, the group to whom it is being directed, the study design, the statistical model, and the nature of the results being reported (Popay et al., 2006). After finalizing the data extraction Excel sheet (Appendix G), it was discovered that all included studies utilized a similar statistical model (i.e., regression analysis), which generally reports results in a similar nature. A regression analysis commonly estimates the significance of a relationship between an independent variable and dependent variable through a reported p value. If a p value of equal to or less than 0.05 ($p \leq 0.05$) represents statistically significant relationship. For the purpose of this study, p value greater than 0.05 means that no effect was observed. Due to studies having a similar statistical model, which allowed findings to be reported similar nature, the data was able to be organized and decoded into common themes. The following were grouped and organized by the present study's hypotheses, the statistical model, and the nature of the reported results.

Group 1: Task Orientation (Mastery Approach) and Cognitive Pre-Competitive Trait Anxiety (Table 5).

Group 2: Task Orientation (Mastery Approach) and Somatic Pre-Competitive Trait Anxiety (Table 6).

Group 3: Ego Orientation (Performance Approach) and Cognitive Pre-Competitive Trait Anxiety (Table 7).

Group 4: Ego Orientation (Performance Approach) and Somatic Pre-Competitive Trait Anxiety (Table 8).

Organizing reporting findings into separate groups allows comparisons and contrasts across studies for the purpose of developing one common theme for each group. Table 5 examined the relationship between task orientation/mastery approach and cognitive pre-competitive trait anxiety. Sources 1 and 3 found that athletes with task orientation do not significantly predict cognitive anxiety. Source 2 found that athletes with mastery goals significantly predict cognitive anxiety.

Table 6 examined the relationship between task orientation/mastery approach and somatic pre-competitive trait anxiety. Source 1 found that athletes with task orientation significantly predict somatic anxiety. Sources 2 and 3 found that athletes with task orientation (mastery approach) do not significantly predict somatic anxiety.

Table 7 examines the relationship between ego orientation/performance approach and cognitive pre-competitive trait anxiety. Sources 1 and 3 reported that athletes with ego orientations were not significant predictors of cognitive anxiety. Source 2, on the other hand, reported that athletes with mastery goals were a significant predictor of cognitive anxiety.

Table 8 examines the relationship between ego orientation/performance approach and somatic pre-competitive trait anxiety. Source 1 and 2 reported that athletes with ego orientation were not significant predictors of somatic anxiety. Source 3 reported that athletes with ego orientation were significant predictors of somatic anxiety. After examining the similarities and differences across each study, the following common themes were established:

Common Theme 1: Task orientation (Mastery Approach) did not significantly predict cognitive anxiety (reference Table 5).

Common Theme 2: Task Orientation (Mastery Approach) did not significantly predict somatic anxiety (reference Table 6).

Common Theme 3: Ego Orientation (Performance Approach) did not significantly predict cognitive anxiety (reference Table 7).

Common Theme 4: Ego Orientation (Performance Approach) did not significantly predict somatic anxiety (reference Table 8).

Table 5*Task Orientation & Pre-Competitive Trait Anxiety Cognitive*

Source #	Achievement Goal Orientation	Results	Common Theme 1
1	Task Orientation	Task orientation was not a significant predictor of cognitive anxiety.	Task Orientation (Mastery Approach) did not significantly predict cognitive anxiety.
2	Mastery Approach Goals (Task Orientation)	Mastery approach goals were significant predictors of cognitive anxiety.	
3	Task Orientation	Task orientation was not a significant predictor for cognitive anxiety.	

Table 6*Task Orientation & Pre-Competitive Trait Anxiety Somatic*

Source #	Achievement Goal Orientation	Results	Common Theme 2
1	Task Orientation	Task orientation was a significant predictor for somatic anxiety.	Task Orientation (Mastery Approach) did not significant predict somatic anxiety.
2	Mastery Approach (Task Orientation)	Mastery approach were not a significant predictor for somatic anxiety.	
3	Task Orientation	Task orientation was not a significant predictor for somatic anxiety.	

Table 7*Ego Orientation & Pre-Competitive Trait Anxiety Cognitive*

Source #	Achievement Goal Orientation	Results	Common Theme 3
1	Ego Orientation	Ego orientation was not a significant predictor of cognitive anxiety.	Ego Orientation (Performance Approach) did not significantly predict cognitive anxiety.
2	Performance Approach (Ego Orientation)	Performance approach was a significant predictor for cognitive anxiety.	
3	Ego Orientation	Ego orientation was not a significant predictor of cognitive anxiety.	

Table 8*Ego Orientation & Pre-Competitive Trait Anxiety Somatic*

Source #	Achievement Goal Orientation	Results	Common Theme 4
1	Ego Orientation	Ego orientation was not a significant predictor for somatic anxiety.	Ego Orientation (Performance Approach) did not significantly predict somatic anxiety.
2	Performance Approach (Ego Orientation)	Performance approach was a significant predictor for somatic anxiety.	
3	Ego Orientation	Ego orientation was a significant predictor for somatic anxiety.	

Thematic Analysis. The last step of synthesizing and summarizing findings across studies included using thematic analysis. Thematic analysis is a common technique used in qualitative data analysis, but people have argued that it could also be used in studies involving quantitative data (Creswell & Clark, 2018). Thematic analysis can be used in quantitative and

qualitative analysis to identify the primary, recurrent, or essential concepts across multiple studies based on the research questions or hypotheses (Popay et al., 2006). For example, conceptual 'themes' can be extracted from statistical models or quantitative questionnaires the same way as conceptual themes are extracted from qualitative research (Popay et al., 2006). The main difference is qualitative studies aim to extract similar concepts from behavioral observations or interviews to define a new phenomenon or refine an existing one. Quantitative studies, on the other hand, seek to extract similar concepts across studies based on statistical evidence with the objective of accurately and appropriately identifying main ideas and then drawing conclusions from statistical results.

Based on the current hypotheses, task orientation (mastery approach) and ego orientation (performance approach) were examined separately. The relationship between task orientation (mastery approach) and pre-competitive trait anxiety was explored and examined for similarities and differences regarding the significance of their relationship. Similarly, ego orientation (performance approach) and pre-competitive trait anxiety were studied for differences and similarities to understand the significance of their relationship. Primary themes were organized and summarized by organizing findings as significant or insignificant relationships between the research variables. In the end, there appeared to be recurrent concepts between achievement goal orientations and pre-competitive trait anxiety. Two main findings were determined:

Main Finding 1: Athletes with task orientation (mastery approach) did not significantly predict pre-competitive trait anxiety (reference Table 9).

Main Finding 2: Athletes with ego orientation (performance approach) did not significantly predict pre-competitive trait anxiety (reference Table 10).

Table 9*Thematic Analysis Task Orientation & Pre-Competitive Trait Anxiety*

Source 1	Source 2	Source 3
<ul style="list-style-type: none"> • Athletes with task orientation are not significant predictors of cognitive anxiety. • Athletes with task orientation are not significant predictors of somatic anxiety. 	<ul style="list-style-type: none"> • Athletes with mastery approach goals are significant predictors of cognitive anxiety. • Athletes with mastery approach goals are not significant predictors of somatic anxiety. 	<ul style="list-style-type: none"> • Athletes with task orientation are not significant predictors of cognitive anxiety. • Athletes with task orientation are not significant predictors of somatic anxiety.
<p>Main Finding 1: Athletes with task orientation (mastery approach) did not significantly predict pre-competitive trait anxiety.</p>		

Table 10*Thematic Analysis Task Orientation & Pre-Competitive State Anxiety*

Source 1	Source 2	Source 3
<ul style="list-style-type: none"> • Athletes with ego orientation are not significant predictors of cognitive anxiety. • Athletes with ego orientation are not significant predictors of somatic anxiety. 	<ul style="list-style-type: none"> • Athletes with performance approach goals are significant predictors of cognitive anxiety. • Athletes with performance approach goals are significant predictors of somatic anxiety. 	<ul style="list-style-type: none"> • Athletes with ego orientation are not significant predictors of cognitive anxiety. • Athletes with ego orientation are a significant predictor of somatic anxiety.
<p>Main Finding 2: Athletes with ego orientation (performance-approach) did not significantly predict of pre-competitive trait anxiety.</p>		

As stated earlier, the achievement goal orientation must significantly predict both cognitive and somatic anxiety to be established as a significant predictor of pre-competitive trait anxiety. The main findings between achievement goal orientation and pre-competitive trait anxiety made it evident that task orientation (mastery approach) was not a significant predictor

for pre-competitive trait anxiety. Almost all studies found task orientation (mastery approach) to not be a significant predictor for cognitive and somatic anxiety. Source 2 was the only study that reported task orientation (mastery approach) was a significant predictor for cognitive anxiety but not somatic anxiety.

Regarding ego orientation (performance approach), there appeared to be more variance across all studies. Approximately half of the included studies showed ego orientation (performance approach) to be partially predictive of pre-competitive trait anxiety. Source 1 found ego orientation to be an insignificant predictor for pre-competitive trait anxiety as there was no significant predictive relationship with either cognitive or somatic anxiety. Source 2, however, showed ego orientation (performance approach) significant predictor for pre-competitive trait anxiety as it was a predictor for both cognitive and somatic anxiety. Source 3 indicated a partial predictive relationship between ego orientation and pre-competitive trait anxiety, as it was a significant predictor for cognitive anxiety but an insignificant predictor for somatic anxiety. Although ego orientation (performance approach) was deemed an insignificant predictor of pre-competitive trait anxiety, there appears to be a partially predictive relationship between the two variables. Sources 2 and 3 found ego orientation (performance approach) to be a significant predictor for somatic anxiety, indicating a partial predictor relationship.

Predicting Pre-Competitive State Anxiety

After searching through numerous studies, only one study met all eligibility criteria for the included research variables. Therefore, only one study (source 4) was included to examine the relationship between achievement goal orientations and pre-competitive state anxiety. Source 4 examined 160 handball athletes ($N = 160$), 88 were male ($m = 88$), and 72 were female ($f = 72$). The participants' age range was 15-18, with a mean age of 17. Source 4 included the following variables: mastery approach, performance approach, and pre-competitive state anxiety. Pre-competitive state anxiety was measured with CSAI-2, and the mastery approach/performance approach was measured with AGQ-S.

Statistical analysis, known as hierarchical regression analysis, was utilized to statistically examine the relationship between mastery goals/performance goals and pre-competitive state anxiety. Results suggested athletes with mastery-approach goals were not significant predictors of somatic anxiety ($r = -0.7, p > .05$) or cognitive anxiety ($r = -.01, p > .05$). Additionally, athletes with performance-approach goals were not significant predictors of somatic anxiety ($r = .08, p > .05$) or cognitive anxiety ($r = .17, p > .05$). These findings indicate mastery-approach goals and performance-approach goals are both insignificant predictors for pre-competitive state anxiety. Tabulation was not created and thematic analysis and grouping were not performed as only one included study was examined. Two or more studies are required for grouping and clustering, and thematic analysis to successfully and meaningfully identify recurrent and vital patterns within the research variables (Creswell et al., 2018). Below are the main findings for pre-competitive state anxiety based on Li (2013):

Main Finding 3: Athletes with a mastery approach (task orientation) did not significantly predict pre-competitive state anxiety.

Main Finding 4: Athletes with a performance approach (ego orientation) did not significantly predict pre-competitive state anxiety.

Chapter 4: Discussion

Achievement Goal Theory Overview

Achievement goal orientations were derived initially from the achievement motivation theory called Human Motivation Theory, also known as the Acquired Needs Theory, founded and created by David McClelland. This theory is known to help others successfully manage and lead a team more effectively. McClelland's Human Motivation Theory can help identify people's motivating drives, which have been proven to help with giving positive feedback and praise effectively and can have a direct effect in increasing the production rate while keeping others motivated (Moore et al., 2010).

According to the Human Motivation Theory, there are three motivators that McClelland believed all humans had or learned over time, regardless of gender, culture, or age, one of which is a need for achievement. The need for achievement is defined as the motivating factors to help one overcome complex problems or situations. Individuals who identify with the need for achievement are typically driven for success by working towards accomplishing a personal achievement, such as winning a game or getting promoted in the workforce. While working towards an achievement, individuals begin to learn and understand their achievement motivation type. An individual can be oriented by avoiding failure or working towards a positive goal of attaining success, known as achievement behavior. Achievement behavior is often measured subjectively through two different orientations: ego orientation (measuring one's capacity through the comparisons of others) or task orientation (measuring one's capacity through perceived mastery based on past experiences) (Nicholls, 1984a). Previous research has indicated ego orientation to be a maladaptive goal orientation, whereas task orientation has been suggested to be a more adaptive method of learning and establishing goals (Dweck, 1986).

The achievement goal theory was initially developed to understand academic learning differences and motivation enhancement by taking concepts from the achievement motivation

theory. While research and theories began to evolve in social psychology, research in sports psychology was barely making an entrance. Sports psychologists eventually adopted and applied the achievement goal theory within the sports context and discovered various research findings involving motivation enhancement and assessment. The achievement goal theory is constructed of three concepts, one being achievement goal orientations. Achievement goal orientation was originally conceptualized through the dichotomous model and was the first model to define the goal orientations, which was adopted from the achievement motivation theory. The dichotomous model separates the achievement goal orientation into task orientation and ego orientation. *Task orientation* is defined as the motivation for self-improvement in skill development; *ego orientation* is the motivation to demonstrate normative competence (Lochbaum et al., 2016). Definitions reflect similar descriptions to that of the achievement motivation theory. According to the achievement goal theory, athletes can acquire one or both dichotomous factors. For example, athletes can pursue task-orientation goals, ego-orientation goals or fluctuate between the two (Duda, 2004).

The dichotomous model was later re-configured and expanded into four achievement goal orientation constructs, known as the 2x2 Achievement Goal Framework: mastery approach goals, performance-approach goals, mastery-avoidance goals, and performance-avoidance goals. *Mastery approach goals* are defined as motivation towards striving to achieve intrapersonal competence and master a task, and *performance goals* are defined as motivation to demonstrate standardizing competence and strive to do better than others (Stoeber et al., 2010). The dichotomous model and the 2x2 Achievement Goal Framework have overlapping definitions of constructs (task orientation/mastery approach; ego orientation/performance approach). Based on the limited research available, both models were used to increase the sample size and quality of the study. Mastery-avoidance and performance-avoidance goals were not examined and excluded from the current study.

The achievement goal theory suggests that a person's achievement behavior can be facilitated through an interplay of achievement goal orientations (Duda, 2004). The achievement goal theory believes that an athlete's achievement goal orientation can direct their achievement behaviors towards achieving and attaining positive goals. Achievement goal orientations have been shown to predict academic performance through exam grades, course grades, achievement test scores, and sports performance (Greene & Miller, 1996; Kaplan & Maehr, 1999; Smith, et al., 1995). The achievement goal literature provides the general assumption that athletes either identify as task orientation or ego orientation, and depending on their goal orientation, it can predispose them to particular beliefs, emotions, and courses of action, one of which being pre-competitive anxiety (Chi, 2004). Furthermore, previous research has suggested that competitive anxiety can increase significantly before competing (i.e., pre-competitive). This study aimed to examine the relationship between achievement goal orientations and pre-competitive trait anxiety and the relationship between achievement goal orientations and pre-competitive state anxiety. The following were hypothesized, and each one will be addressed:

1. Athletes with ego orientation (performance approach) were expected to significantly predict pre-competitive state anxiety.
2. Athletes with ego orientation (performance approach) were expected significantly predict pre-competitive trait anxiety.
3. Athletes with task orientation (mastery approach) were expected significantly predict pre-competitive state anxiety.
4. Athletes with task orientation (mastery approach) were expected to significantly predict pre-competitive trait anxiety.

Achievement Goal Predicting Pre-Competitive Trait Anxiety

Ego Orientation/Performance Approach

The present study hypothesized that athletes with ego orientation (performance approach) were expected to significantly predict pre-competitive trait anxiety. Based on the examination, results indicated athletes with ego orientation (performance approach) were found to be an insignificant predictor for pre-competitive trait anxiety; therefore, the null hypothesis has

been rejected. These findings are inconsistent with several previous studies suggesting ego orientation (performance approach) to be a maladaptive goal orientation that can lead to higher levels of distress and pre-competitive anxiety (Duda, 2001).

Athletes with ego orientation (performance approach) tend to create a standard for success based solely on factors outside of themselves, typically comparing their performance to others, which has been suggestive of higher anxiety levels (Eisenbarth et al., 2012). Voight et al. (2000) have also supported the contention that athletes who constantly focus on outcome and social comparison tend to endorse higher levels of competitive trait anxiety, which is consistent with the findings presented by Duda (1992), suggesting ego-oriented (performance approach) athletes are prone to pre-competitive trait anxiety due to doubting their competence and worrying about their performance in comparison to others. These types of athletes may view training sessions and competitions as a threat to their abilities, which can decrease their self-confidence and result in higher levels of pre-competitive trait anxiety, either cognitively or somatically.

When examining and comparing across studies of the relationship between each variable, there appeared to be existing relationships between ego-oriented/performance approach and cognitive anxiety or somatic anxiety. One study found ego-oriented (performance approach) athletes significantly predicted cognitive anxiety and not somatic anxiety, yet, another study found the opposite to be true – ego-oriented (performance approach) athletes significantly predict somatic anxiety but not cognitive anxiety. Although these findings do not fully predict pre-competitive trait anxiety, they indicate that ego-oriented (performance approach) goals can partially predict pre-competitive trait anxiety. These findings are congruent with past research indicating that ego-oriented (performance approach) goals can act as a maladaptive achievement motivation (Voight et al., 2000).

Previous research has supported that athletes who focus on competition outcomes and social comparisons report higher levels of pre-competitive trait anxiety (Ntoumanis et al., 1998).

Ego-oriented (performance approach) athletes can tend to focus on social comparison and strive to outperform others and then negatively impact an athlete's perspective on training and competitions, which is consistent with Duda (1992) suggesting ego-oriented (performance approach) athletes are prone to pre-competitive trait anxiety due to doubting their competence and worrying about their performance in comparisons to others. These types of athletes may view training sessions and competitions as a threat to their abilities, which can decrease their self-confidence and result in higher levels of pre-competitive trait anxiety, either cognitively or somatically. Based off the information provided, athletes who measure their athletic abilities and skills to others, such as their own teammates, can trigger pre-competitive anxiety in which could have a negative effect on their overall sports performance. During this occurrence, a common practice coaches take is reducing an athlete's play time (i.e., sitting on the bench). A reduction of play time can further perpetuate an athlete's pre-competitive anxiety and overall sports performance when they are given a few minutes of playing time as these athletes will struggle with managing their worry and somatic responses. If coaches fail to address mental health issues negatively impacting their athlete's sports performance can create a rupture in the relationship between an athlete and coach especially if an athlete continuously receives minimal playing time. An athlete can receive lack of playing time as a form of punishment, which can increase the susceptibility of an athlete dropping out of their sport. Therefore, it is crucial for athletes to develop coping strategies to manage their anxiety.

Coping strategies were found to mitigate the relationship between ego orientation/performance approach and pre-competitive trait anxiety. Ego orientation (performance approach) and disengagement coping skills were found to mitigate cognitive anxiety but were unsuccessful in mitigating somatic anxiety (Duica et al., 2014). Disengagement coping skills entail avoiding confrontation of threat or related distress, such as avoidance, denial, and wishful thinking, to prevent a negative self-image (Gaudreau et al., 2010). Athletes with ego orientation (performance-approach) goals who perceive their abilities to be low have

been found to have an increase in vulnerability and helplessness, which can debilitate an athlete's performance.

According to Duica et al. (2014), disengagement coping skills were found to intervene in ego-oriented athletes with cognitive anxiety through behavioral disengagement. These results imply disengagement coping skills for athletes with ego orientation (performance approach) may represent a plausible intervention strategy to assist these types of athletes when experiencing pre-competitive trait anxiety, specifically when experiencing a cognitive response.

Furthermore, it provides context into the differences in findings between included studies. Duica et al. (2014) found that athletes with ego orientation (performance approach) predicted somatic anxiety but not cognitive anxiety due to the mediating variable of disengagement coping skills. Ego-oriented athletes were found to intervene in their cognitive anxiety by engaging in disengagement coping skills. However, disengagement coping skills were found to be ineffective when experiencing somatic anxiety. Based on the findings, future research should investigate further mediating effective coping strategies to help athletes manage and decrease pre-competitive anxiety, somatically and cognitively.

Task-Orientation/Mastery Approach

The present study hypothesized that athletes with task orientation (mastery approach) are not expected to significantly predict pre-competitive trait anxiety. Based on the present findings, athletes with task orientation (mastery approach) were not significant predictors for pre-competitive trait anxiety. In examining the relationship between task orientation/mastery approach and cognitive/somatic anxiety, most studies indicated that athletes with task orientation (mastery approach) were not a significant predictor relationship for either somatic or cognitive anxiety. All studies suggested athletes with task orientation (mastery approach) were not significant predictors for somatic and cognitive anxiety, excluding one. Source 2 reported athletes with ego orientation (mastery approach) as a significant predictor for cognitive anxiety; source 2 suggests a partial predicting relationship between task orientation (mastery approach)

and pre-competitive anxiety. The presented findings are incongruent with previous research indicating that task orientation (mastery approach) is the most adaptive achievement goal (Elliot et al., 2001).

Moreover, these types of goals are the most adaptive as they allow athletes to focus on their personal development and mastery of the task and define success through a self-referenced criterion (Barkoukis et al., 2012). Therefore, these findings can assume that athletes with task-oriented (mastery approach) goals have an adaptive perspective on training and competitions. They may view them as an opportunity to achieve their self-referenced goals resulting in lower levels of pre-competitive trait anxiety. Furthermore, Barkoukis et al. (2012) found that elite athletes with task orientation (mastery approach) did not predict a somatic response during pre-competitive anxiety due to having experience playing in his sports. As mentioned, athletes who have had the opportunity to play longer can cope and manage their anxiety triggers based on their years of experience participating in sports.

Additionally, elite athletes with task orientation (mastery approach) may be accustomed to the player at a more advanced level. Still, they can focus on their skill development without placing additive social pressures on the external world. Furthermore, elite athletes interpret the elevated arousal of the pre-competition as physical readiness to perform and achieve (Voight et al., 2000).

There was low anticipation of finding a significant relationship between task orientation (mastery approach) and somatic/cognitive anxiety. Although some findings suggested task orientation (mastery approach) was a significant predictor of cognitive anxiety, findings only suggest a partially significant relationship between the two variables. Notably, the association between task orientation (mastery approach) and somatic responses in pre-competitive anxiety does not necessarily imply a debilitating relationship for the athlete. The concept of anxiety and response to anxiety has not been suggestive of being negative and debilitating. Often, somatic symptoms, such as racing heart and perspiration, may not automatically cause significant

disruption or severe debilitation in athletes (Smith, et al., 1990). Athletes may interpret their somatic responses as of form of preparation before a competition. Athletes may also benefit from somatic anxiety as it allows them to increase their focus, attention, and cortisol levels while increasing energy levels. Lastly, athletes with task orientation (mastery approach) who report higher levels of somatic anxiety may reflect an increased readiness to compete rather than incapacitating somatic anxiety.

Achievement Goal Predicting Pre-Competitive State Anxiety

The present study hypothesized that athletes with task orientation (mastery approach) were expected to be an insignificant predictor of pre-competitive state anxiety. Based on the suggestive findings, athletes with task orientation (mastery approach) were not significant predictors for pre-competitive state anxiety. As stated, mastery-approach goals are the most adaptive and facilitating before a competition. Elliot's (1999) hypothesis is that task orientation (mastery approach) is more conducive to an athlete's performance than another achievement goal orientation. Additionally, it was hypothesized that ego orientation (performance approach) was expected to be a significant predictor of pre-competitive state anxiety. Findings suggested ego orientation (performance approach) was not a significant predictor for pre-competitive anxiety, and these findings are inconsistent with previous research. However, it is essential to mention that this study did not examine the motivational properties, such as the strength of the antecedents of achievement goals. Therefore, these properties may have caused an insignificant predicting relationship between ego orientation (performance approach) and pre-competitive state anxiety.

Due to the lack of research studies available, only one study was examined for the following variables: achievement goal orientations and pre-competitive state anxiety. The present study could not comprehensively interpret the findings based on the need for more research and minimal information. Future research is needed to investigate the relationship between achievement goal orientations and pre-competitive state anxiety. Further investigations

are required to clarify how and why achievement goal orientations predict or significantly affect pre-competitive state anxiety. Furthermore, it can provide helpful information for coaches, athletes, and other sports-related professionals to understand better the relationship between achievement goal orientations and pre-competitive state anxiety as it relates to sports performance. An interesting future research direction would be to examine the differences in achievement goal orientations and pre-competitive state anxiety when gender and race are examined.

Limitations

This comprehensive review of this dissertation was subject to some limitations. While efforts were made to utilize a wide range of keywords to search for articles on achievement goal orientations and pre-competitive trait/state anxiety, some relevant sources might have been unintentionally omitted from this review. While the original search yielded 76 sources, many were duplicates or unrelated to achievement goal orientations and pre-competitive trait/state anxiety. When deciding what articles to add during the screening process, only studies that included the measures of TEOSQ or AGQ-S and SAS/SAS-2 or CSAI-2 were included, and the rest were omitted. Furthermore, as the studies in this review were primarily quantitative in English, qualitative data and research in other languages were excluded.

Another primary limitation was the need for more diverse samples within the sources. All included articles only provided gender, age, and the athlete's sport. However, it did not indicate ethnicity, race, relationship status, or other important demographic information to consider for a research study. Many sources should have included demographic information when discussing their participant section. With the need for demographic information, it was difficult to understand the diversity of all sources. Future research on achievement goal orientations and pre-competitive trait/state anxiety will benefit from recruiting more diverse samples. This can be particularly beneficial when examining the critical factors of achievement motivation. Sports researchers need to understand the role achievement motivation plays in diverse cultural

groups. Most research on achievement motivation can be primarily found in white, middle-class populations (Voight et al., 2000). However, there are indications that a person's particular achievement goal orientation is primarily determined by situational and cultural contexts (Maehr & Nicholls, 1980). Therefore, sports researchers must try to develop more culturally-sensitive approaches to the study of achievement motivation, which proposes that personal goals and casual perceptions are formed by an individual's cultural perspective (Duda & Allison, 1982). For example, motivation research has shown Mexican-American populations to show consistent discrepancies between motivational orientation and mainstream Anglo culture (Maehr et al., 1980). For this reason, it is vital to consider including demographic information, such as ethnic backgrounds and cultural diversity, to understand better culture and ethnicity's role in examining achievement motivation.

An integrative systematic review can be subjective, as techniques such as grouping and synthesizing information can be loosely defined (Whittemore & Knafl, 2005). This researcher may have subjectively organized and synthesized information, resulting in subjective data analysis. However, substantial efforts were made to comprehensively analyze achievement goal orientations and pre-competitive trait/state anxiety. The current study used a PRISMA flow chart to improve the quality of the data found within this systematic review by strengthening the transparency, increasing accurate reporting, and comprehensiveness of this review (Moher et al., 2010). Further, the collected data were analyzed using thematic analysis, which is common, and empirical data-gathering techniques used in both qualitative and quantitative research studies (Creswell et al., 2018). One of the most beneficial methods of this technique is converting quantitative data into qualitative data by examining similarities and common themes across sources. For example, variables that are examined by similar or the same statistical analysis can report similar findings, which can allow the researcher to extract the quantitative data and then translate it into qualitative data and then examine it, grouping and clustering it into common themes (Creswell et al., 2018).

There were also limitations and strengths in not using a research team. The primary researcher was the sole collector and analyzer of data. Having one researcher collect and analyze the data may reduce the chance of biases but limits the range of collecting a more comprehensive range of data. Lastly, all included studies utilized self-report measures. Self-report questionnaires can allow participants to respond exaggeratedly and include various biases, like the social desirability bias. There is also a possibility that respondents responded with dishonesty, which can negatively impact the analysis of data. Furthermore, since all included studies collected data from only self-report questionnaires, this can increase the susceptibility of harming the data collection through method variance (Creswell et al., 2018).

Lastly, it is also important to consider the question of the use of subjectivity when conducting a research project. For example, when coding data and grouping themes, there is a high probability for subjective choices, interpretations, and values. When conducting quality research, objectivity is important. Objectivity refers to the quality of being independent of personal biases, opinions, or emotions. Subjectivity, on the other hand, refers to the quality of being influenced by personal perspectives, feelings, or preferences, and subjectivity and objectivity are not mutually exclusive but rather interrelated (Brown et al., 2011). Strategies that would have been helpful to reduce subjectivity would have been to seek feedback from peers, mentors, and experts while collecting and interpreting my collected data. Additionally, the use of self-reflection tools, such as journaling, could have been helpful to monitor progress. Lastly, the use of critical thinking tools, such as checklists or rubrics, would have been helpful while evaluating and improving the quality of the research.

Contributions to Future Research

The current study contributed to the field of psychology in several ways. First, it helped by increasing awareness of the lack of interventions to manage pre-competitive anxiety for athletes. Furthermore, the current study also provided insight into the lack of research in sports psychology regarding the relationship between achievement goal orientations and pre-

competitive trait/state anxiety. Evidently, there is a lack of information regarding effective treatments to manage anxiety for athletes within a sports setting. Athletes are constantly in high-stress situations before and during competition. Athletes may not always have the opportunity to learn stress reduction skills or to work with a mental health professional to develop effective coping strategies. Unfortunately, athletes face several stressors simultaneously, like chronic pain, sports injuries, performance outcomes, goal achievements, mental illness, and more. Future research should examine effective coping skills related to the effects of achievement goal orientation on pre-competitive anxiety, which can provide athletes with effective strategies in highly stressful situations, such as pre-competitive anxiety.

Future contributions made by the current study include achievement goal orientations that can affect anxiety levels. Although the current study did not successfully uncover significant relationships between achievement goal orientations and pre-competitive, existing research demonstrated predictive relationships between the two research variables. The current study could not provide clear explanations as to why or how achievement goal orientations provoke pre-competitive anxiety. However, it was able to uncover achievement goal orientations can predict pre-competitive, specifically ego-oriented (performance approach) athletes are more susceptible to increased pre-competitive anxiety. Despite the fact research in sports psychology involving motivation, and anxiety has a long way to go, the current study presented the possible effects achievement orientation goals could have on pre-competitive anxiety for athletes. The findings can inform coaches and athletes on to be aware of the contributing factors playing to their stress levels. Then have the ability to consider if the athlete's achievement goal orientation can be a main influencing factor into their increased levels of anxiety before a competition.

Direction for Future Research

There continues to be a gap in the research discussing the effects of coping skills in managing anxiety symptoms. Future research should explore various evidence-based interventions and clinically appropriate interventions that may be suitable and effective for

athletes. The present study uncovered one practical coping skill indicating benefits for ego-oriented athletes. Ego orientation (performance approach) goals and disengagement coping skills were found to mediate cognitive anxiety but not somatic anxiety (Duica et al., 2014).

Disengagement coping skills include avoiding confrontation of threat or related distress, such as avoidance, denial, and wishful prevent a negative self-image (Gaudreau et al., 2010). No other mediating effective coping skills were found in previous research. Future research is encouraged to explore further evidence-based interventions suitable to provide more resources to athletes. Previous research has reported cognitive behavioral strategies to be beneficial for athletes during high anxiety levels. For example, behavioral interventions of goal setting have been useful in decreasing anxiety during the achievement process (Brown et al., 2011). While an athlete establishes a goal, clinical establishes short-term measurable goals to foster an athlete's development toward their long-term goal. During this process, the clinical and athlete will have significant opportunities to practice psychological strategies (cognitive reframing, meditation) to manage stress and anxiety while participating in their behavioral goal-setting treatment plan (Brown et al., 2011). Cognitive reframing has been described as a beneficial cognitive behavioral strategy for athletes with automatic negative thoughts or frequent maladaptive thought patterns before, during, or after an accomplishment (Brown et al., 2011).

No further information regarding practical coping skills for athletes were found. Thus, future research is highly encouraged to examine the mediating role of coping skills concerning the relationship between achievement goal orientations and pre-competitive trait/state anxiety. Athletes, coaches, and other sports-related professionals would greatly benefit from future research to educate themselves on which coping skills can help manage pre-competitive anxiety related to one's achievement goal orientation, which may result in better sports performance in athletes.

Athletes can often fall victim to substance abuse due to mismanaging anxiety and stress levels. Athletes are more susceptible to engaging in substance abuse if their mental health

symptoms are not addressed and appropriately treated. Athletes are vulnerable to substance abuse as previous research indicates athletes engage in substance use to self-medicate from untreated mental health issues or life stressors (i.e., coping with an injury or chronic physical pain; Reardon & Creado, 2014). Untreated mental illnesses can cause additional mental health issues to occur. For example, unmanaged anxiety can cause an increase in depressive symptoms, and if athletes lack adaptive coping skills to manage mental health symptoms independently, substances are one of the most common self-mediation methods.

As stated earlier, sports psychology is still considered a young branch of psychology compared to other disciplines. There is much room to grow both in clinical and applied sports psychology. The current study hopes to influence future researchers to continue pursuing research in sports psychology to close the existing gap in current literature regarding achievement motivation and pre-competitive anxiety by examining strategies to reduce the negative consequences athletes may experience from lack of mental health support. Furthermore, it is crucial to continue working towards understanding the relationship between motivation factors and anxiety but, more importantly, examining techniques, strategies, and interventions that will be useful for athletes to reduce significant levels of distress and reduce the risk of injury, poor sports performance, or further decompensation in mental health symptoms.

Future research can benefit from utilizing the current variables and continuing to build a more advanced study to increase the quality of the research analysis. Athletes who acquire a maladaptive motivation orientation may not be aware of their maladaptive thought pattern and behavior engagement, which can result from engaging in harmful motivating behaviors, causing a significant increase in distress. Currently, there is a lack of information and resources to assist athletes who acquire a goal orientation that is not effective for their mental health, which in return is negatively affecting their performance and style of play, so future research must continue to pursue investigating mediating factors that can be causing other negative impacts

on their cognitive well-being, sports performance, and autonomic nervous system. Mediating factors that can be important to consider for future research are coaching styles. Future research can examine the effects of a coach's way of interacting with their athletes, a coach's way of motivating their athletes, and their communication skills. Results can provide insight and information on coach compatibility as it relates to the athlete's learning style.

Future research should also consider identifying how these variables are defined and affected based on different cultural backgrounds and identities. For example, previous research has found that Anglo athletes are more likely to construe personal success from competitive or outcome-based criteria. In contrast, Navajo, Mexican-American, and African-Americans tend to emphasize self-based criteria of personal development and effort when defining personal success (Duda & Allison, 1982). Additionally, the ability to help the team was used as a criterion of personal success in Navajo and Mexican-American athletes compared to Anglo athletes (Voight et al., 2000). A future study should examine the cultural diversity among athletes when examining the relationship between achievement goal orientations and pre-competitive anxiety. It can provide significant insight into the development of an athlete's achievement goal orientation and examine how it may play a role in the relationship of pre-competitive anxiety.

Conclusion

In conclusion, it is hoped that the findings of this study, which were found to be consistent with some of the general achievement motivation literature, will provide the intended audience with further knowledge of how to understand and assess achievement goal orientations as it relates to pre-competitive anxiety. Furthering the exploration between achievement goal orientations and pre-competitive anxiety with more diverse samples while also including mediating variables of coping skills will address the gap in the literature regarding the assessment and management of pre-competitive anxiety. It is hoped that the current study provides a sense of encouragement and guidance to future researchers to continue examining

the relationship between achievement goal orientations and pre-competitive anxiety and to strive toward filling in the existing gaps in the achievement motivation literature.

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APPENDIX A

List of Search Terms

<u>Search Term ID#</u>	<u>Primary Term</u>	<u>Synonyms/ Alternate Forms</u>	<u>Notes</u>
01	Achievement Goals	Achievement Goal Orientation, Task Orientation, Ego Orientation, Mastery Goals, Performance Goals	Possibly include TESOQ or AGQ-S
02	Competitive Anxiety	Competitive Trait Anxiety, Competitive State Anxiety, Performance Anxiety	Possibly include CSAI-2, SAS, or SAS-2
03	Athletes	Sports athletes	Possibly include sports performance

APPENDIX B

Comprehensive Search Plan

<u>Search Type</u>	<u>Databases or Sources</u>	<u>Search Term ID(s)</u>	<u>Search Syntax or Instructions</u>	<u>Fields to Search</u>	<u>Specifiers</u>
Electronic Database	PsychINFO	1, 3	"Achievement Goals" + "Competitive Anxiety"	Title, Keywords, Abstract	*Years 2000-2023
Electronic Database	PsychINFO	1, 2, 3	"Achievement Goals" + "Competitive Anxiety" + "Athletes"	Title, Keywords, Abstract	*Years 2000-2023
Electronic Database	PsychINFO	1, 2, 3	"Achievement Goal Orientation" + "Competitive Anxiety" + Athlete	Title, Keywords, Abstract	*Years 2000-2023
Electronic Database	PsychINFO	1, 2, 3	"Achievement Goal Orientation" + "Competitive Anxiety" + "Sports Athlete"	Title, Keywords, Abstract	*Years 2000-2023
Electronic Database	PsychINFO	1, 2	"Task Orientation" + "Ego Orientation" + "Competitive Anxiety"	Title, Keywords, Abstract	*Years 2000-2023
Electronic Database	PsychINFO	1, 2, 3	"Task Orientation" + "Ego Orientation" + "Competitive Anxiety" + "Athlete"	Title, Keywords, Abstract	*Years 2000-2023
Electronic Database	PsychINFO	1, 2	"Mastery Goals" + "Performance Goals" + "Competitive Anxiety"	Title, Keywords, Abstract	*Years 2000-2023
Electronic Database	PsychINFO	1, 2, 3	"Mastery Goals" + "Performance Goals" + "Competitive Anxiety" + "Athlete"	Title, Keywords, Abstract	*Years 2000-2023
Electronic Database	PsychINFO	1, 2, 3	"Achievement Goals" + "Performance Anxiety" + "Athlete"	Title, Keywords, Abstract	*Years 2000-2023

APPENDIX C

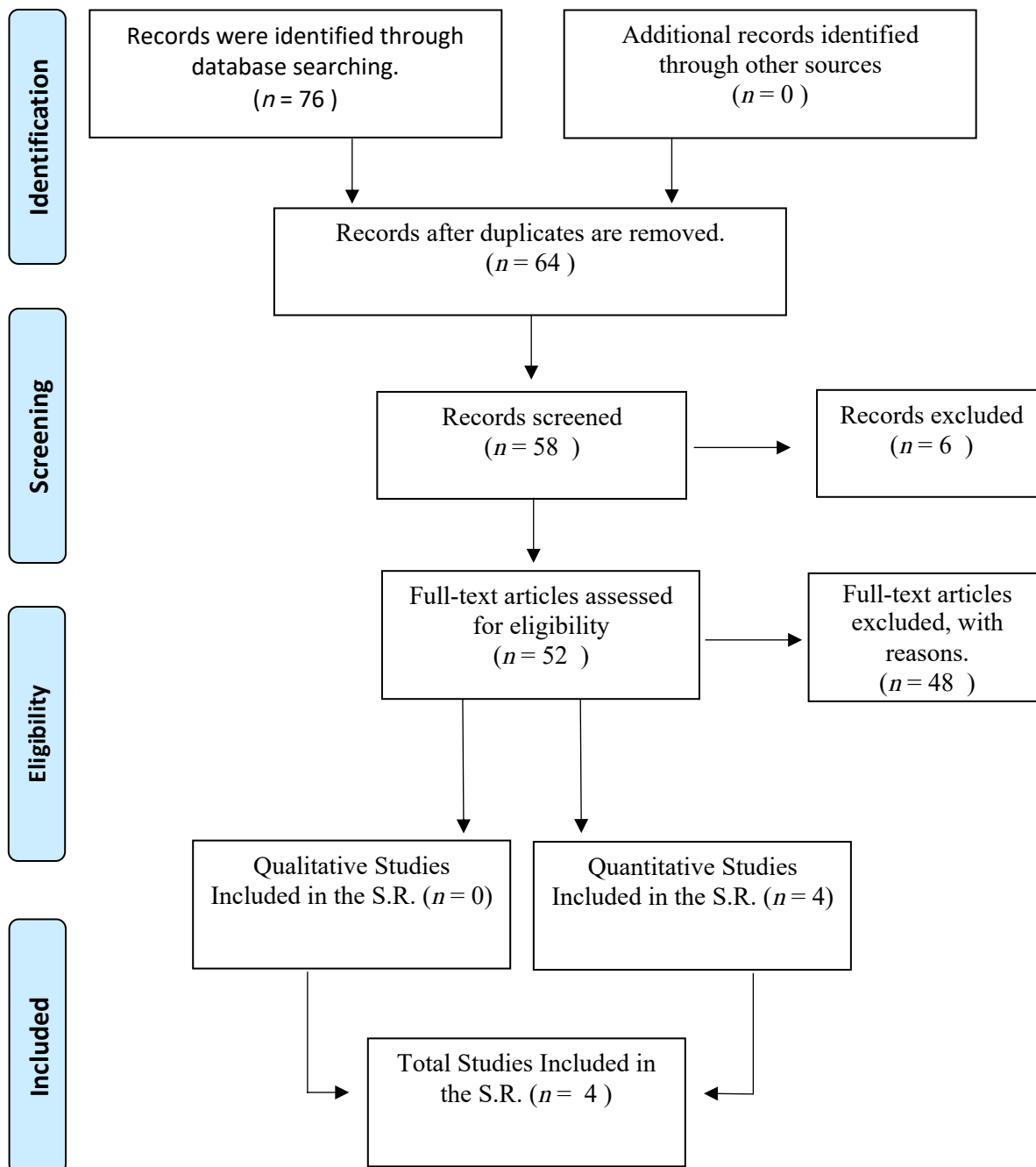
Search Documentation Record

<u>Search Date</u>	<u>FULL SEARCH ID#</u>	<u>TYPE OF SEARCH</u>	<u>DATABASE/SOURCE</u>	<u>SEARCH TERM ID#s</u>	<u>SEARCH SYNTAX OR OTHER GUIDELINES FOR THE SEARCH</u>	<u>FIELDS SEARCHED</u>	<u>SEARCH SPECIFIER: Years</u>	<u>SEARCH SPECIFIER: Publication Type</u>	<u># of Records</u>
12/18/2022	001	Electronic Database	PsychINFO	1,2	Achievement Goals + Competitive Anxiety	Title, Keywords, Abstract	2000-2023	Scholarly Peer Reviewed Articles Only	24
12/18/2022	002	Electronic Database	PsychINFO	1,2,3	Achievement Goals + Competitive Anxiety + Athletes	Title, Keywords, Abstract	2000-2023	Scholarly Peer Reviewed Articles Only	17
12/18/2022	003	Electronic Database	PsychINFO	1,2,3	Achievement Goal Orientation + Competitive Anxiety + Athletes	Title, Keywords, Abstract	2000-2023	Scholarly Peer Reviewed Articles Only	3
12/18/2022	004	Electronic Database	PsychINFO	1,2,3	Achievement Goal Orientation + Competitive Anxiety + Sports Athletes	Title, Keywords, Abstract	2000-2023	Scholarly Peer Reviewed Articles Only	0
12/18/2022	006	Electronic Database	PsychINFO	1, 2, 3	Task Orientation + Ego Orientation + Competitive Anxiety	Title, Keywords, Abstract	2000-2023	Scholarly Peer Reviewed Articles Only	10
12/18/2022	008	Electronic Database	PsychINFO	1, 2, 3	Mastery Goals + Performance Goals + Competitive Anxiety	Title, Keywords, Abstract	2000-2023	Scholarly Peer Reviewed Articles Only	6
3/4/2023	009	Electronic Database	PsychINFO	1, 2, 3	Achievement Goals + Performance Anxiety + Athletes	Title, Keywords, Abstract	2000-2023	Scholarly Peer Reviewed Articles Only	10
3/4/2023	010	Electronic Database	PsychINFO	1, 2	Achievement Goal Orientation + Competitive Anxiety	Title, Keywords, Abstract	2000-2023	Scholarly Peer Reviewed Articles Only	3
3/4/2023	011	Electronic Database	PsychINFO	1, 2, 3	Achievement Goal Orientation + Competitive Anxiety + Athletes	Title, Keywords, Abstract	2000-2023	Scholarly Peer Reviewed Articles Only	3

APPENDIX E

PRISMA Flow Diagram

Flow Diagram Template



APPENDIX F
Quality Appraisal Form

INDIVIDUAL STUDY QUALITY APPRAISAL FORM FOR SYSTEMATIC REVIEWS

Author(s) and Year: _____ **Study ID#** _____

1. Methodology:

2. Specific Design/Statistical Analysis:

RATING SCALE: Strong=3 Good/Adequate=2 Weak=1 Missing=0 N/A

3. Strength of Literature Foundation and Rationale for Study: _____

(POSSIBLE CONSIDERATIONS: current and relevant references, background literature sufficiently comprehensive, Need/Rationale for study clearly stated, etc.)

4. Clarity and Specificity of Research Aims/Objectives/Questions/Hypotheses: _____

5. Quality of Research Design or Methodological Approach: _____

(POSSIBLE CONSIDERATIONS: provides a rationale for the design/methodology chosen, appropriateness for research questions, clear description of the design and methodological approach, strength of design, characteristics utilized, potential cofounds identified and addressed, internal and external validity).

6. Sample Selection and Characteristics: _____

(POSSIBLE CONSIDERATIONS: adequacy of sample size in the context of design, detailed description of sample characteristics, representativeness of the sample, adequacy of sample characteristics in the context of research aims, detailed descriptions of recruitment and selection of participants, the extent of selection or sample bias).

7. Data Collection Tools (Measures, Instruments, Questionnaires, etc.): _____

(POSSIBLE CONSIDERATIONS: rationale for selection, appropriateness of variables, development of tool clearly described, psychometrics properties (reliability, validity) described, adequacy of psychometric properties).

8. Data Collection Processes: _____

(POSSIBLE CONSIDERATIONS: data collection procedures clearly described, intervention strategies and implementation described in detail, quality of data collected, etc.).

9. Analysis and Presentation of Data: _____

(POSSIBLE CONSIDERATIONS: appropriateness of analysis for research questions and type of data, results presented clearly and comprehensively, usefulness and clarity of tables, graphs, and charts, power and effect size presented).

10. Discussion of Results: _____

(POSSIBLE CONSIDERATIONS: results are discussed with existing literature, appropriately and comprehensively answered current research questions/hypotheses, research questions of the study were addressed, etc.).

11. Limitations/Direction for Future Research: _____

(POSSIBLE CONSIDERATIONS: identifies and discusses limitations of design/strategy utilized, strengths of the study, recommendations for future research builds off findings of the study).

OVERALL RATING: **EXEMPLARY** **STRONG** **GOOD/ADEQUATE** **WEAK**
 (e.g., all "3") (e.g., mostly "3"s) (e.g., mostly "2"s) (e.g., mostly "1"s)

APPENDIX G

Evidence Table of Included Studies

PRE-COMPETITIVE TRAIT ANXIETY											
Document ID#	Authors and Year	Design	Statistical Model	Participants (N)	Mean Age or Range	Type of Sport(s)	Achievement Goal Orientation Variables	Instrument Measure	Key Findings and Outcomes	Answered Research Question? (Y/N)	QA
1	Eisenbarth and Pelichkoff, 2012	Cross-sectional design	Multiple Regression Analysis	N = 329 (male[n = 200]; female[n = 129]) N = 113 intercollegiate athletes (78 males; 35 females) N = 106 intramural athletes (74 males; 32 females) N = 110 recreational athletes (48 males; 62 females)	18-25 (M = 19.38)	Basketball, football, racquetball, wrestling, soccer softball, tennis, and volleyball	Task Orientation, Ego Orientation	SAS	Task orientation were significant predictors of somatic anxiety.	Y	Strong
2	Barkoukis, Perkos, Kokkinopoulos, and Rossios, 2012	Cross-sectional design	Linear Regression Analysis	N = 221	M = 24	Basketball	Mastery approach goals, Performance approach goals	SAS-2	Performance approach goals were significant predictors for somatic anxiety. Performance approach goals were significant predictors for cognitive anxiety. Mastery approach goals showed no significant effect on somatic anxiety. Mastery approach goals were significant predictors for cognitive anxiety.	Y	Strong
3	Voight and Callaghan, 2000	Top-Down Approach	Linear Regression Analysis	N = 196	13-18 (M = 15.72)	Volleyball	Task Orientation, Ego Orientation	SAS	The present study findings indicated task orientation is a negative predictor for cognitive anxiety. Additionally, ego orientation was a significant predictor for somatic anxiety.	Y	Strong

APPENDIX H

IRB Non-Human Subjects Approval

PEPPERDINE UNIVERSITY

Graduate & Professional Schools Institutional Review Board

March 13, 2023

Protocol #: **31323**

Project Title: Achievement Goal Theory: A Systematic Review of Achievement Goal Orientation in Predicting Competitive State and Trait Anxiety in Athletes

Dear Ysmara:

Thank you for submitting a "GPS IRB Non-Human Subjects Notification Form" for *Achievement Goal Theory: A Systematic Review of Achievement Goal Orientation in Predicting Competitive State and Trait Anxiety in Athletes* project to Pepperdine University's Institutional Review Board (IRB) for review. The IRB has reviewed your submitted form and all ancillary materials. Upon review, the IRB has determined that the above-titled project meets the requirements for *non-human subject research* under the federal regulations 45 CFR 46.101 that govern the protection of human subjects.

Your research must be conducted according to the form submitted to the IRB. If changes to the approved project occur, you will be required to submit *either* a new "GPS IRB Non-Human Subjects Notification Form" or an IRB application via the eProtocol system (<http://irb.pepperdine.edu>) to the Institutional Review Board.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite our best intentions, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete explanation of the event and your response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the IRB and documenting the adverse event can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* at <https://community.pepperdine.edu/irb/policies/>.

Please refer to the protocol number denoted above in all further communication or correspondence related to this approval.

On behalf of the IRB, we wish you success in this scholarly pursuit.

Sincerely,

Institutional Review Board (IRB)
Pepperdine University

cc: Mrs. Katy Carr, Assistant Provost for Research
Dr. Judy Ho, Graduate School of Education and Psychology IRB Chair