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THE EXAMINATION OF SELF-TALK AND COGNITIVE ANXIETY AMONG COLLEGIATE ATHLETES

A Masters Thesis presented to the Faculty of the
Graduate Program in Exercise and Sport Sciences at
Ithaca College

In partial fulfillment of the requirements for the degree
Master of Science

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by

Julia K. Spak

August 2014

Ithaca College

School of Health Sciences and Human Performance

Ithaca, New York

CERTIFICATE OF APPROVAL

MASTER OF SCIENCE THESIS

This is to certify that the Thesis of

Julia K. Spak

Submitted in partial fulfillment of the requirements for the
Degree of Master of Science in the School of
Health Sciences and Human Performance
at Ithaca College has been approved.

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ABSTRACT

Current research is limited and lacks clarity on how self-talk plays a role on anxiety and performance. The purposes of this study were to determine (1) the levels of cognitive state anxiety in collegiate athletes prior to competition; (2) the self-talk strategies Division III athletes use; (3) the relationships between anxiety level prior to competition and self-talk use during competition; and (4) athletes' feelings about their self-talk strategies, anxiety, and performance. Athletes included eleven female student-athletes on NCAA Division III teams with ages ranging from 18-21 years. Descriptive statistics were conducted for the Competitive State Anxiety Inventory-2 Revised (CSAI-2R) subscales and each of the eight Self Talk Use Questionnaire (STUQ) subscales. Linear regression analyses were conducted between each of the STUQ subscale scores and cognitive anxiety to determine the relationship between the items. An introspective analysis procedure was used to develop main themes for this study. Statistical analysis did not show a significant relationship between cognitive state anxiety and any form of self-talk used by the athletes. The current athletes reported using self-talk for calming and relaxing, motivation, focus, and confidence purposes. Self-talk patterns were simple and to the point. For some athletes, moderate levels of anxiety corresponded with moderate self-talk use. For other athletes, however, higher or lower levels of anxiety did not correspond with the amount of self-talk that was used during competition.

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Kathleen Spak
David Kaveney

DEDICATION

This thesis is dedicated to every gifted athlete who struggles with performance and not because of ability, but just simply because they need guidance on how to keep their mind and emotions in check. Let this be a help in the right direction on better understanding yourself and what you need to be successful.

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CHAPTER 1

INTRODUCTION

Athletes are continuously expected to perform well under pressure. When perceived pressure is at its highest, deficits in performance may occur if athletes are unable to control their thoughts (Craft, Magyar, Becker, & Feltz, 2003). Negative thoughts can lead to cognitive anxiety, an example of which includes uncontrollable and rapid worrying about the upcoming performance (Conroy & Metzler, 2004). The ability of an athlete to control their anxiety through various cognitive methods, such as self-talk, may influence their performance level.

Although self-talk may influence anxiety levels, little is known about which type of self-talk most effectively controls anxiety. In general, self-talk is defined as what people say to themselves, either out loud or as a small voice inside their head, in order to change an existing pattern of thought (Theodorakis, Weinberg, Natsis, Doumas, & Kazakas, 2000). Self-talk is often used in the form of cue words, where one or two words prompt an athlete to respond through action (Perkos & Chroni, 2002). When cue words are used effectively, they enhance motivation (Hardy, Hall, & Hardy, 2005), build confidence (Perkos, Theodorakis, & Chroni, 2002), provide cues and instruction, increase skill acquisition, and control anxiety (Hardy, Hall, & Hardy, 2005; Theodorakis, et al., 2000).

Research on the relationship between anxiety and performance is inconclusive. For example, Gould, Eklund, & Jackson (1992) found a negative relationship between cognitive state anxiety and performance when wrestlers described their previous worst performance preparations. The wrestlers lacked confidence and described having

negative and irrelevant thoughts. These negative thoughts were considered to be anxiety-provoking characteristics and seemed to be detrimental to the wrestlers' performance. Similarly, when collegiate volleyball players had low confidence in the team's ability to succeed, individual player confidence decreased, and anxiety levels increased (Alexander & Krane, 1996). As a result, their performance was negatively influenced. Contradictory research by Craft, Magyar, Becker, and Feltz (2003) found a positive relationship between state anxiety and performance. Craft et al., (2003) used a meta-analysis to examine studies that measured state anxiety using the Cognitive State Anxiety Inventory 2 (CSAI-2). Craft et al. (2003) found positive relationships between cognitive state anxiety and performance to be especially strong with athletes competing at a higher level, compared to lower levels. Similarly, Jones and Swain (1992) found highly competitive individuals of an intramural team reporting cognitive anxiety as more facilitating than debilitating to performance.

The amount of research examining the relationships between self-talk, anxiety, and performance, is limited. Theodorakis et al. (2000) measured two forms of self-talk, motivational and instructional, in a study designed to examine the effect of self-talk on anxiety and performance. The participants performed a particular motor task that emphasized strength (leg extensions), endurance (three minute sit ups), precision (badminton serve), or accuracy (passing a soccer ball). While performing the specified task, the experimental group participants were instructed to use either motivational or instructional self-talk; the control group received no self-talk instruction. Results showed both motivational and instructional self-talk patterns aided performance in the experimental group compared to the control group. In fact, participants reported believing

self-talk was helpful. They used the given self-talk strategy consistently throughout execution. Hatzigeorgiadis, Theodorakis, & Zourbanos (2004) also studied motivational and instructional self-talk. They asked water polo players to perform two motor tasks that focused on precision (throwing ball at target) and power (throwing for distance). The results showed using either of the two self-talk strategies yielded less interfering thoughts and helped performance. These studies focused on motivational and instructional self-talk, which are believed to be forms of positive self-talk that helped participants focus. The intent of the two studies mentioned above were not to see if self-talk reduced anxious thoughts, but to see if instructional and/or motivational self-talk strategies improved performance. This being said, only a few research studies have explored the antecedents of self-talk, such as cognitive state anxiety, and their relationship to performance (see Hatzigeorgiadis et al., 2004; Van Raalte, Cornelius, & Brewer, 2000).

Statement of Purpose

The purpose of this study was four-fold: (1) to determine pre-competition anxiety level retrospectively, as measured by the Competitive State Anxiety Questionnaire, and self-talk use, as measured with a modified (STUQ) in collegiate division III athletes; (2) to determine the self-talk strategies Division III athletes use; (3) to investigate the relationship between anxiety level and self-talk use; and (4) to investigate athletes' thoughts and feelings about their use of self-talk, anxiety, and performance with one-on-one interviews.

Research Question

The following four questions were proposed for this study: (1) What was the level of cognitive state anxiety in collegiate athlete prior to competition? (2) What self-talk

strategies did Division III athletes use when they experienced cognitive state anxiety? (3) What was the relationship between anxiety level prior to competition and self-talk used during competition? (4) What were the athlete's thoughts and feelings about their self-talk strategies, anxiety, and performance?

Scope of the Problem

Athletic performance can be broken down into mental and physical components. Fortunately, mental training techniques exist that can aid an athlete's performance; these include but are not limited to: pre-competition routines (Gould, Eklund, & Jackson, 1992), refocusing strategies (Gould et al., 1992), and self-talk (Gould, Jackson, & Finch, 1993). Self-talk can be utilized to actively change athletes' thought processes, which as a result, can alter their performance (Van Raalte, Rivera, & Petitpas, 1994; Perkos, Theodorakis, & Chroni, 2002). Changing athletes' thought processes can be done by having athletes engage in positive self-talk while performing tasks, which in turn controls their anxiety (Theodorakis et al., 2000; Perkos et al., 2002). Since cognitive state anxiety has the potential to significantly hinder performance if it is not controlled (Craft, Magyar, Backer, & Feltz, 2003; Martens, Burton, Vealey, Bump, & Smith, 1990), using self-talk to decrease cognitive state anxiety should have a positive effect on performance. Therefore, it is important to know how and why athletes use self-talk in anxious situations and if they believe using self-talk has a positive effect on their performance.

Assumptions

Assumptions of the study were as follows:

1. Participants were honest with all answers.

2. The sample represented the population of female Division III athletes.

3. The CSAI- 2R and semi-structured questionnaire has validity and is measuring the desired constructs.

4. The modified STUQ has the same validity and is measuring the desired constructs as the original STUQ.

Delimitations

This study was delimited to the following:

1. All subjects were Division III female athletes from Ithaca College.

2. Women's sports were limited to softball, golf, track and field, and lacrosse.

3. Semi-structured interview questions focused on self-talk, anxiety, performance, cue words, thoughts and reactions to situations.

Limitations

The limitations of this study were as follows:

1. The results of this study may not be generalized to all NCAA Division III athletes.

2. Participants' performance was not measured so the role of self-talk on cognitive anxiety in relation to performance was not measured.

3. A modified STUQ was administered during the interview after competition. This allowed for memory bias due to retrospective analysis.

4. Peer debriefing was conducted but at a minimal level.

Definition of Terms

The following terms were operationally defined for the purpose of this study:

1. Self- talk: What people say to themselves either out loud or as a small voice inside their head to change an existing pattern of thought (Theodorakis, et al., 2000).

2. Positive self-talk: What athletes say to themselves that aim their actions, thinking, and focus toward a positive direction and change. An example of a positive self-talk statement could be “I can do it!” (Theodorakis et al., 2000).

3. Negative self-talk: What athletes say to themselves that are inappropriate and anxiety provoking that gets in the way of optimal performance. An example of a negative self-talk statement could be “I suck!” (Theodorakis et al., 2000).

4. Performance (sport) anxiety: The degree to which an athlete responds to cognitive or somatic state anxiety in a competitive sport setting where adequacy of athlete’s performance is evaluated (Conroy & Metzler, 2004).

5. Cognitive anxiety: Automatic, intrusive thoughts that preoccupy the individual to a point where they cannot control it; usually rapid and repetitive and interpreted as a threat. In addition, cognitive anxiety includes worrying about past mistakes, being evaluated by others, and having the inability to concentrate (Conroy & Metzler, 2004).

6. Somatic anxiety: Physiological arousal, such as palms sweating, unwanted butterflies, muscle tension, and stomach or side pains (Krane, 1992).

7. State anxiety: Anxiety at that very moment (Controy & Metzler, 2004).

8. Cue words: One or two words that prompt an athlete to respond through action (Perkos & Chroni, 2002).

9. Motivational cue words: Self-talk that enhances confidence and increase effort; “stay strong!” (Hatzigeorgiadis, Theodorakis, & Zourbanos, 2004).

10. Instructional cue words: Self-talk that helps the athlete carry out a certain physical action. This usually involves how to perform a particular skill, “get down low!” (Hatzigeorgiadis et al., 2007).

CHAPTER 2

REVIEW OF LITERATURE

Introduction

Positive self-talk is a cognitive and behavioral intervention skill taught by coaches and sport psychologists to help athletes engage in positive thought patterns. Although literature (Hardy et al., 2005; Hatzigeorgiadis et al., 2004; Theodorakis et al., 2000) states positive self-talk is beneficial in experimental settings, field research regarding such benefits lack consistency. Studies have showed negative self-talk to improve, or have no effect, on performance for some athletes (Hardy, Gammage, & Hall, 2001), while other studies show negative self-talk to harm performance. This literature review presents the relationship between cognitive state anxiety, performance and self-talk. Specifically, the literature review is organized into the following sections: (1) competitive sport anxiety, (2) anxiety and performance, and (3) self-talk.

Competitive Sport Anxiety

The inherent nature of sport requires athletes to perform consistently during pressure situations. Therefore, it is imperative that athletes are able to cope with this pressure. Although some athletes perform well under heightened anxiety and may even prefer it, others may find their performance suffers if their anxiety is interpreted negatively (Hatzigeorgiadis & Biddle, 2008). This is commonly known as “competitive performance anxiety,” which is a form of cognitive anxiety, and has received great attention within research in an attempt to help improve athletes’ coping mechanisms.

Cognitive Anxiety

Cognitive anxiety is a category of anxiety often broken down into two types: state and trait anxiety. State anxiety refers to the anxiety an individual feels at a particular moment (Alexander & Krane, 1996; Conroy & Metzler, 2004) and is the primary focus of the current study. Cognitive anxiety manifests as automatic and intrusive thoughts that preoccupy the individual to a point where they cannot control their anxious thoughts (Conroy & Metzler, 2004). Usually these thoughts are rapid, repetitive, and are interpreted as a threat. Worrying about past mistakes, being evaluated by others, and an inability to concentrate are symptoms of cognitive anxiety (Alexander & Krane, 1996; Campen & Roberts, 2001; Conroy & Metzler, 2004). Bandura's Social Cognitive Theory (1986) suggests that expectations set about a performance can predict anxiety. Additionally, anxiety can dictate performance and help form expectations (Alexander & Krane, 1996; Bandura, 1986, 1989; Krane, Williams, & Feltz, 1992). Ultimately, cognitive anxiety can lower performance expectations (Krane, 1996; Martens et al., 1990) as the high rates of worrying and preoccupied thoughts enhance doubt. Consequently, having lower performance expectations may lower performance.

Campen and Roberts (2001) indicate cognitive anxiety is at its peak immediately before competition and subsides during competition. Cognitive anxiety is minimized when athletes' past experiences were successful or their appraisal was positive (Alexander & Krane, 1996; Campen & Roberts, 2001). Once athletes interpret anxiety as being more of a thought process, as opposed to the emotional or physical component, they tend to maintain this positive interpretation.

Competitive State Anxiety

State anxiety can play a crucial role in performance because it is built up over time. If negative thoughts are not dealt with instantaneously, it may be harder for an athlete to change their interpretation of their anxiety once more time has passed. When athletes are most anxious in the moments leading up to competition, their anxiety may hinder the likelihood of a successful performance.

However, the relationship between state anxiety and performance is not clearly understood. Elko and Ostro (1991) studied female collegiate gymnasts who were identified as anxiety prone and found that gymnasts with high cognitive state anxiety were unable to think clearly, could not control their thoughts, and used negative self-talk. As a result, their performances suffered. Based on the work of Elko and Ostro, it is possible individuals may utilize more negative talk when they are experiencing cognitive state anxiety. However, Van Raalte's (2000) and Hatzigeorgiadis & Biddle's (2008) research found athletes used more negative self-talk when trait anxiety was present.

Anxiety and Performance

There are five common theories used to explain the relationship between anxiety/arousal and performance: *Inverted-U Hypothesis* (Yerkes & Dodson, 1908), *Drive Theory* (Hull, 1943), *The Individualized Zone of Optimal Functioning Hypothesis* (Hanin, 1978), *Multidimensional Anxiety Theory* (Martins et al., 1990), and *The Catastrophe Theory* (Hardy, 1990). Traditionally research has had difficulty distinguishing between arousal and anxiety and thus some of the early research used the terms interchangeably.

The *Inverted- U Hypothesis* suggests heightened arousal increases performance to a particular level, but as arousal continues to increase it leads to anxiety, causing a systematic decline in performance (Horn, 1992, 2002; Krane, 1992). The relationship takes the shape of an inverted U (Appendix A). However, there are many limitations to the theory. For example, the theory focuses on the physiological effects of an athlete and their performance, without considering the multiple constructs of anxiety, such as the somatic and cognitive components. Instead, the focus is univariate. Outside variables, which can influence athletes' performance, are not integrated into the Inverted-U Hypothesis.

The *Drive Theory*, originally proposed by Hull (1943), states that arousal and performance occur in a linear fashion (Appendix B; Horn, 1992, 2002). That is, when the level of arousal increases so does the level the performance. The theory also states when athletes are in the early stages of learning a task, their arousal level might be the highest because they are unfamiliar with the task. As a result, their response will naturally be incorrect, which subsequently, decreases their performance. However, once the skill is learned there should be less anxiety, which will produce the correct response and improve performance (Landers, 2006). The limitation of this theory is that the drive theory is only applicable to simple tasks, such as those that involved accuracy (i.e., speed, strength), and not complex tasks, such as a gymnastic routine.

The *Individualized Zone of Optimal Functioning Hypothesis* (IZOF), theorized by Yuri Hanin (1980), suggests an athletes' ideal state anxiety level falls in a specific zone. When the athlete is in this zone, their performance will reach an "optimal" level (Appendix C). When an athletes' state anxiety is outside of their zone, their performance

will not be optimal. This theory has been modified multiple times to include somatic and cognitive anxiety levels (Hanin, 1997). The revised theory states that performance and anxiety interact to form the optimal performance zone. An athlete’s worst performance is likely to happen when their somatic and cognitive anxiety is outside their zone of functioning (Horn, 1992, 2002)

The *Multidimensional Anxiety Theory* (Burton, 1988; Martens et al., 1990) is similar to the Inverted-U but attempts to explain the effects of cognitive state anxiety and somatic anxiety on the athlete’s performance. The relationship between cognitive state anxiety and performance creates a negative linear relationship whereas somatic anxiety can be beneficial to a certain level (Appendix D). However, some studies have results contrary to this theory. A consistent positive curvilinear relationship was observed between somatic anxiety and performance along with a positive relationship between cognitive anxiety and performance (Craft et al., 2003).

The *Catastrophe Theory* (Hardy, 1990) suggests that when athletes have an excessive amount of cognitive state anxiety, their performance will decline catastrophically (Appendix E; Horn, 1992, 2002). Thus, once athletes’ experience excessive cognitive state anxiety, it will be very difficult for them to recover to an average level of performance. The Catastrophe Theory uses a three dimensional model to explain the anxiety and performance relationship. The three dimensions include cognitive anxiety, somatic anxiety, and performance (Krane, 1992). Specifically, these three components interact in a continuous manner by counterbalancing each other. If cognitive anxiety is high, somatic anxiety and performance will be affected. The model shows how an athlete’s performance can be predicted by an increase in somatic anxiety or cognitive

anxiety and that somatic anxiety is moderated by cognitive state anxiety (Horn, 1992, 2002). The promising aspect of this theory is that the relationship between anxiety and performance can constantly change depending on the level of cognitive and somatic anxiety; plus, cognitive anxiety will not always hurt performance, but actually enhance it. Moreover, a sharp decline in performance may not be seen if athletes interpret their anxiety as a positive occurrence. Certain levels of anxiety may actually help athletes to focus and perform.

Self-Talk

Multiple definitions of self-talk exist in the literature, creating confusion around the exact meaning. Research suggests self-talk can be characterized by someone talking to themselves during any given period to control thoughts and feelings (Holland, 2003). Hardy, Hall, and Hardy (2005) provided a more specific definition of self-talk, defining self-talk in terms of motivational and instructional functions such as, psyching themselves up or providing instruction to carry out a specific demand. On the other hand, Theodorakis et al. (2000) attempted to categorize self-talk as being positive or negative in nature. Positive self-talk allows athletes to direct their actions and focus in a more positive manner, regardless of what has happened in past performances. The idea of positive self-talk is to focus on the "here and now." Statements such as, "I can do it" are commonly used. Negative self- talk includes anxiety-provoking thoughts and feelings that lead to counterproductive behavior (Theodorakis et al., 2000). Statements such as, "I suck" and "I can't do this" are examples of negative self-talk (Perkos, Theodorakis, & Chroni, 2002). While some research suggests positive self-talk benefits athletes and increases their performance by increasing confidence and improving anxiety control

(Hamilton, Scott, & MacDougall, 2007), other research suggests positive self-talk may not affect performance because some athletes use the same cue words, phrases, or statements during both their best and worst performances (Van Raalte, Brewer, Rivera, & Petitas, 1994).

Instructional and Motivational Self-Talk

Different self-talk strategies are appropriate during different situations. When athletes are learning a relatively new task, they might need to repeat steps cognitively to help them carry out the specific demand. While they are doing this, instructional self-talk can be beneficial (Hatzigeorgiadis et al., 2004). For example, someone who has never played soccer and is learning how to correctly kick a soccer ball for the first time can instruct themselves on how to carry out the action by using a phrase like “step, drop, step, kick” (Hardy et al., 2005). Instructional talk has been found to enhance performance as it directs attentional focus; therefore, the athlete’s focus is narrow and directed at how to execute the specific action (Harvey, Van Raalte, & Brewer, 2002; Hatzigeorgiadis, Zourbanos, & Theodorakis, 2007;Theodorakis et al., 2000). Instructional self-talk is mostly used while performing and learning difficult tasks and is ideal for novice athletes, especially when learning the technical and tactical aspects of a sport (Hatzigeorgiadis et al., 2004; Perkos et al., 2002).

While learning specific skills is important, at times athletes may find themselves in situations where they believe they cannot continue mentally or physically, and need encouragement. In this case, a simple “stay with it” might be enough to make athletes focus and finish the job (Hardy et al., 2005). This type of self-talk is called “motivation self-talk”. It basically involves statements aimed at promoting motivation within the

individual. Motivational self-talk is great for enhancing confidence (Zervas, Stavrou, & Psychountaki, 2007), effort (Hatzigeorgiadis et al., 2004), energy, and concentration (Hardy et al., 2001). Furthermore, motivational self-talk can relax the mind, aid focus, and allow athletes to feel prepared and ready (Hardy et al., 2001).

While athletes engage in both instructional and motivational self-talk, the manner in which they use them may be different. A host of researchers believe athletes implementing instructional self-talk use *cue words* whereas during motivational self-talk they mainly use short *phrases* (Hamilton et al., 2007; Hardy et al., 2004; Hardy, Hall, Alexander, 2001; Hatzigeorgiadis & Biddle, 2008; Highlen & Bennett, 1983; Johnson, Hrycaiko, Johnson, & Halas, 2004; Mamassis & Doganis, 2004; Muris, Merckelbach, Mayer, & Snieder, 1998; Nicholls, Holt, & Polman, 2005; Perkos et al., 2002; Theodorakis et al., 2008; Thomas & Fogarty, 1997; Van Raalte et al., 1994). Research has also found that athletes use instructional self-talk more frequently than motivational self-talk (Gibson & Foster, 2007). It must be highlighted that most of the studies listed above required the athlete to use cue words that were already designed by the researcher; the athlete had little choice on words they could use. This is certainly a possible limitation since in order for a cue word to be effective it must hold a personal meaning for athletes (Van Raalte et al., 2000). Therefore, future research should allow the participants to use their own cue words, allowing for personal meaning

<u>Use of Cues Words, Sentences, or Phrases</u>

As mentioned previously, self-talk can take on many forms according to athletes' preference. Cue words, sentences, and phrases are utilized to allow athletes to meet performance demands (Malouff, McGee, Halford, & Rooke, 2008). Cue words act as a

reminder for athletes to execute a particular demand. These tend to be used in a one word format, prompting athletes to respond through action. For example, an athlete who has difficulty with maintaining balance while being on one leg could say "balance" or "focus" (Hardy et al., 2005).

It is also possible for athletes to use sentences, instead of cue words. Sentences are longer in structure and most athletes during competition do not have the time to verbalize a lengthy command. However, sentences such as, "Land on kicking foot after foot has hit the ball" may work when used to perform a new skill, execute skills in practice or in a self-paced sport such as golf (Hardy et al., 2005).

An alternative type of self-talk is a *phrase*. A phrase is a short collection of words often used during pressure situations that gets the content across to the athlete. A phrase such as "pressure to the outside" allows for more specific instruction in a shorter period of time (Hardy et al., 2001), or a phrase such as "I'm ready!" can provide extra motivation when athletes are preparing for competition. In general, Gibson and Foster (2007) found that athletes preferred using phrases more than cue words, while sentences were used the least.

However, Hardy et al. (2005) found that the *type* of self-talk does not matter as much as how athletes respond to it. For example, two different athletes can use the same type of self-talk during performance, but with one athlete experiencing a decrease in performance and the other an increase in performance. One athlete may say "why did you do that, you know better than that?" when a mistake occurs and find this to be motivating and continues to work harder. One the other hand, another athlete may internalize this phrase and start having more negative thoughts. It might be more important to analyze

how the athlete appraises the self-talk than describing the actual self-talk phrases themselves. A negative interpretation may lead to a decrease in performance (Hardy et al., 2005); whereas, a positive interpretation may lead to a positive response.

First and Second Person Self-Talk

Athletes can use self-talk in the 1st, 2nd, or 3rd person. When choosing to talk in the first person, they use "I" or "me", but when athletes use second person, the more often used word is "you" (Hardy et al., 2001). Once athletes encounter a tough demand, using a first person perspective helps as an authoritative tool in emphasizing the importance of the challenging demand; an example of this could be saying "I can do it!" Second or third person is often used as a motivational tool where athletes tell themselves not to stop a particular action, for instance, "Keep going!" (Gibson & Foster, 2007). Although Gibson and Foster in 2007 state that athletes use first, second, or third person depending on the task, Hardy et al. (2001) found athletes use first and second person perspective equally.

Facilitative and Debilitative Self-Talk

The concepts of facilitative and debilitative self-talk relate to how athletes perceive a situation; that is, if athletes interpret their performance as negative or positive, their self-talk strategies may follow that interpretation. For example, if an athlete interprets the NCAA quarterfinals as a highly anxious situation, then that athlete's self-talk use might be debilitative. It is important for athletes to not only be positive in their interpretation of situations but they must also employ facilitative self-talk strategies. Hatzigeorgiadis and Biddle (2008) and Alexander and Krane (1996) found that athletes who interpreted their cognitive anxiety as positive reported less negative self-talk during

competition. Highlen and Bennett (1983) conducted a series of mini studies that focused on elite divers and wrestlers. One of the studies focused on the psychological factors that separated divers who made the Canadian National Team. They found that qualifiers used more instructional self-talk during training and competition, whereas non-qualifiers praised themselves more during competition. Also, qualifiers engaged in more positive self-talk either a day prior to competition and/or one hour prior to competition than the non-qualifiers and experienced less anxiety during competition. A plausible explanation for the qualifiers having less anxiety might be that they interpreted the situation as more positive and used more positive self-talk.

Anxiety and Self-Talk

Conroy and Metzler (2004) postulated that self-talk plays a vital role in anxiety. They suggest that intrusive thoughts become involuntary during an anxious state and eventually may distract an athlete from focusing on relevant cues. However, when athletes are in anxious states, they can implement self-talk to help them regain focus, gain confidence, and lower anxiety (Conroy & Metzler, 2004; Mamassis & Doganis, 2004). Although, as previously mentioned, pre-competitive anxiety and negative self-talk are not always detrimental to performance. Athletes who interpret their pre-competition worrying as negative should understand it is a normal reaction to competition. In addition, athletes who allow their self-talk use to negatively affect their performance should reflect on what self-talk they are using and how they are interpreting the self-talk.

Summary

Research data on self-talk and cognitive state anxiety collected within a sporting environment are limited. Self-talk is used by many athletes to increase motivation,

confidence, self-efficacy, and to control anxiety (Hamilton et al., 2007; Hatzigeorgiadis & Biddle, 2008; Theodorakis et al., 2008). Self-talk can be debilitative or facilitative depending on how athletes perceive their self-talk (Hanton & Jones, 1999).

The majority of research has been conducted on an experimental or intervention level, but there is a lack of descriptive data. According to Hardy et al. (2005), this makes it very difficult to make generalizations from athlete to athlete. Although most research states self-talk controls cognitive state anxiety or diminishes it, other research suggests it may have the opposite effect. Due to the gaps identified in the current research, the purposes of this study were to investigate cognitive state anxiety and self-talk use in collegiate athletes, along with gaining insight into athletes' perceptions of the relationship between self-talk, anxiety, and performance.

CHAPTER 3

METHODS

The purposes of this study were to determine (1) the levels of cognitive state anxiety in collegiate athlete prior to competition, (2) self-talk strategies Division III athletes use, (3) the relationships between anxiety level prior to competition and self-talk use during competition, and (4) Division III athletes' feelings about their self-talk strategies, anxiety, and performance. A mixed method approach was used to assess use of self-talk and the relationship between athletes' anxiety level and their self-talk. The following chapter highlights the athletes, procedures, data analysis, and statistics.

Participants

Participants included eleven ($N = 11$) female student-athletes of NCAA level Division III. Athletes were nearing the end of their spring season in the sports of women's track and field ($n = 5$), women's lacrosse ($n = 2$), softball ($n = 2$), and women's golf ($n = 2$). Age ranged from 18-21 years, and years of experience varied greatly from one to seven years. Consent to recruit athletes from the athletes' coaches was obtained prior to the onset of the study. At this time, the rationale and procedure of the study was explained in detail. The researcher met with each team, briefly explained the study, emphasizing confidentiality and freedom to withdraw without penalty. To prevent the Hawthorne effect, which states that the athletes' answers will be affected because they know their anxiety is being measured, the title of this project and questionnaire was named to "Use of Self-Talk Strategies during Competition." A sign-up sheet was provided for interested athletes.

Data Collection

The study had two sessions. Session one included completion of a demographic questionnaire asking for athletes' age, sex, year in college, years of playing experience, and sport (Appendix F), and the cognitive state anxiety questionnaire thirty minutes prior competition. Session two consisted of a semi-structured interview that allowed athletes to express their thoughts and feelings related to self-talk use and anxiety and the modified self-talk use questionnaire. Session two was conducted fifteen minutes post competition. All of the athletes perceived each competition to be very important as each competition determined their rankings and playoff standings.

Session I

Each athlete gave their written informed consent as approved by Ithaca College Human Subjects Review Board (Appendix G) and then completed the demographic questionnaire and cognitive state anxiety inventory. This session took place in a quiet location away from the team an hour before competition play. Session one took a total of ten to fifteen minutes to complete.

Cognitive State Anxiety Inventory

The Competitive State Anxiety Inventory-2R (CSAI-2R; Martens et al., 1990; Cox, Martens, & Russell, 2003) is a widely known and popular questionnaire used to determine state anxiety in performance. In the current study, the questionnaire was completed at the end of session one (Appendix H). The CSAI-2R has internal reliability of .76-.91 (Burton, 1998) and high validity (Martens et al., 1990). This revised CSAI is more psychometrically sound than the original CSAI-2, which contained ambiguous and loaded questions. The CSAI-2R questionnaire includes 17 items divided into three

subscales: cognitive anxiety, somatic anxiety, and self-confidence. There are seven somatic anxiety items (e.g., “My body feels tense”), five cognitive anxiety items (e.g., “I’m concerned about performing poorly”) and five self-confidence items (e.g., “I'm confident I can meet the challenge”). Respondents rated each item on a Likert-type scale ranging from one (“not at all”) to four (“very much so”) on how frequently they experienced various symptoms prior to competition in general. The cognitive sub-scores were calculated by summing the five cognitive related statements, dividing the sum by the five cognitive items and multiplying by ten. The similar procedure was done for somatic and self-confidence subscales. The subscale score ranges from 10 to 40 for each subscale. The score represents the level of intensity the participant is feeling for each component of anxiety. A total score is obtained by adding all three subscales together, which provides a measure of performance anxiety. Although all questions were answered by the athletes from the CSAI-2R, only the cognitive anxiety subscale was used for the purposes of this study.

Session II

Session two was the semi-structured interview and the administration of the STUQ questions verbally. Prior to collecting data for session two, seven pilot interviews were conducted to refine the interview questionnaire and interviewing skills. Pilot interviews were conducted until ambiguity was eliminated, that is, all questions flowed and were clear. In order to eliminate memory bias, session two interviews took place in a quiet and comfortable setting for the athlete, such as a room or playing field, immediately following the coaches’ post-competition talk on the same day as session one. The interview comprised of a series of questions from the revised self-talk use questionnaire,

as well as open-ended questions. Prior to beginning the interview, the researcher told the athletes there were no wrong or right answers and encouraged the athletes to be honest with all answers.

Semi-Structured Interview

Interviews started with general questions (e.g., how long they have been participating in the sport, details about career etc.) until rapport was established and the athlete felt comfortable disclosing information. Next, the questions from the semi-structured interview were asked (Appendix I). The interview was broken down into six sections pertaining to self-talk and anxiety. The first section related to performance, worrying, and self-talk; the second section asked about athletes' self-talk strategies; the third section asked about athletes' interpretation of their self-talk use; the fourth section included eight items from the modified STUQ with examples. The eight items were taken from a section of 12 items in the modified STUQ that pertained to what athletes say to themselves and the reason for it. The fifth section asked about the type of self-talk used; and lastly, the sixth section asked about the influence of self-talk on performance and for additional comments. The athletes were allowed to elaborate beyond what was asked by the interviewer and to take the interview where they wanted it to go; follow-up questions were used to probe further into answers.

To minimize interviewer effects, athletes were generally asked the same questions, in the same way and order, but this fluctuated somewhat as it was based on the athletes' responses. All interviews were digitally recorded by the interviewer. The tapes and transcripts from all the interviews were stored by the primary investigator in a private location. Pseudonyms were provided by the primary researcher to ensure participants'

confidentiality. After the interviews were transcribed, the tapes were destroyed and only the researchers had access to the transcribed interviews. The athletes had access to their respective transcriptions, as well.

Self-Talk Use Questionnaire

Revised questions from the 59- item Self-talk Use Questionnaire (STUQ; Hardy et al., 2005; Appendix J) were administered verbally as part of the interview in section 4. The STUQ has three sections and focuses mainly on the cognitive and motivational components of self-talk. The first section is for demographic information and the second section contains a definition of self-talk and instructions for completing the questionnaire. The third section consists of the specific STUQ items, which are further subdivided into four subsections. Seven questions in subsection one are concerned with when and where athletes generally use self-talk. Subsection two contains nine questions related to three dimensions of the content of athlete self-talk. Subsection three has twenty-four items associated with why athletes talk to themselves. This subsection is assessed for both practice (twelve items) and competition (twelve items) settings. Finally, subsection four contains general questions about athletes' use of self-talk (e.g. items assessing athletes' use of self-talk in combination with imagery, physical (slow motion) practice, and alone).

Since each item on the STUQ is a single measurement of a particular aspect of self-talk, there are no true subscales. Therefore, internal consistency and factor validity is not appropriate (Hardy et al., 2005). The revised version of the STUQ in this study used only the 24 questions in subsection three worded so that athletes responded verbally on a scale from 1-10, as opposed to the original 1-9. The 1–10 scale was used since it is a more common ranking scale and is easily thought of in terms of 10%- 100%. Athletes

were encouraged to elaborate on the particular item being rated and probing questions were used to delve further into responses.

Data and Statistical Analysis

Data from the statistical analysis of the revised Cognitive State Anxiety and Self-Talk Use Questionnaire were used to address the first two purposes. The first purpose was to retrospectively determine pre-competition anxiety levels and self-talk use in collegiate division III athletes. The second purpose was to investigate the relationship between anxiety levels and self-talk use of the athletes.

CSAI-2R and STUQ Questionnaire

The scores of the cognitive anxiety sub scale from the CSAI-2R and each of the eight STUQ items were calculated for each athlete using SPSS (Version 17.0; Appendix K). The STUQ items are as follows: skill, psych themselves up, nerves, focus, confidence, mental preparation, motivation, and effort. In addition, Cronbach alpha's were calculated for internal consistency of the CSAI-2R and STUQ (α=836). Pearson correlation and linear regression analyses were conducted between each of the STUQ subscales scores and the CSAI-2R to determine if there was a relationship between any of the items. The alpha level was set to .05.

Qualitative Analysis

The investigation of athletes' thoughts and feelings about their use of self-talk, anxiety, and performance were conducted through one-on-one interviews. These semi-structured interviews were analyzed with an introspective analysis procedure.

The introspective analysis procedure was used to develop the main themes for this study. The following steps were adapted from Pollio, Henley, and Thompson (1997): All

interviews were transcribed verbatim. The researcher read and reread each interview to gain understanding of what was discussed. From each interview, significant statements that directly pertained to the study were identified and extracted. From here, significant statements were categorized into meaning units for each athlete. Meaning units, for each participant, were then synthesized into clusters of lower-ordered themes. Lower order themes were integrated into high-ordered themes of each participant. Then, the higher-ordered themes were reviewed and combined for each participant. Lastly, the higher-order themes from each question set were analyzed across participants to develop common themes.

To ensure trustworthiness, the research used member checking and peer debriefing. Member checking evaluated the accuracy of interpretation by allowing participants to read over their interview transcripts to make sure what they said is accurate (Lincoln & Guba, 1985). All participants had access to their original transcript and none of the athletes made changes to the original transcript.

CHAPTER 4

RESULTS

This study was designed to examine self-talk patterns among Division III athletes and to investigate the primary research questions: (1) What were the levels of cognitive state anxiety in collegiate athlete prior to competition, (2) What were the relationships between anxiety level prior to competition and self-talk use during competition, (3) What self-talk strategies did Division III athletes use when they experienced cognitive state anxiety, and (4) What were their thoughts and feelings about their self-talk strategies, anxiety, and performance? This chapter presents the findings for the relationship between anxiety and self-talk among collegiate athletes.

Anxiety Levels

CSAI-2R

The scale for the CSAI-2R questionnaire ranged from ten (not anxious at all) to forty (most anxious). Athlete anxiety levels varied greatly. The lowest anxiety level was 10 and the highest level was 34. The average anxiety levels for the participants, as measured by the CSAI-2R, are in Table 1.

STUQ

Each item from the STUQ is a single item measuring a particular aspect of self-talk. The eight STUQ items demonstrated acceptable levels of internal reliability of $\alpha = .836$. Self-talk use ranged from 1 to 10 for each of the eight STUQ items (Appendix K). The item with the highest reported use of self-talk was for skill acquisition (M = 8.05, SD

= 1.31) and the lowest reported use was nerves (*M* = 4.86, *SD* = 3.80). The minimum, maximum, mean, and standard deviation for each item are in Table 2.

Table 1: Competitive State Anxiety Inventory Questionnaire- 2R Scores

Participant	Score (out of 40)
1	26
2	34
3	26
4	10
5	14
6	18
7	16
8	16
9	26
10	24
11	18

Table 2: STUQ Descriptive Statistics

Item	N	Minimum	Maximum	Mean	SD
Skill	11	6.00	10.00	8.05	1.31
Confidence	11	4.00	10.00	7.82	1.99
Mental Prep.	11	4.00	10.00	7.55	2.26
Motivation	11	2.00	10.00	6.32	3.18
Psych	11	2.00	10.00	5.45	2.92
Nerves	11	1.00	10.00	4.86	3.80
Focus	11	1.00	10.00	5.50	2.85
Effort	11	1.00	10.00	5.36	2.81

There were no significant correlations between cognitive state anxiety and using self-talk for any of the eight subscales (Table 3; full version Appendix L). The subscales “skill” (*r* = .050), “mental preparation” (*r* = .036), motivation” (*r* = .173), and “confidence” (*r* =-.162) had a correlation that did not exceed Cohen’s convention for a small effect *(r* =.23). Cohen’s states that an R-value of .23 or greater is necessary for a small effect size. However, the confidence subscale correlation with cognitive state anxiety had a small negative effect size (*r* = -.162) and the “focus” subscale, had a medium effect size (*r* =.340) Lastly, the “nerves”, “effort”, and “psych” correlations with cognitive state anxiety had effect sizes that exceeded Cohen’s convention for large effect (*r* =.37). This suggests self-talk has the most positive affect on nerves, effort, and psyching the athletes up. In comparison, self-talk played less of a role in mental preparation (*r* =.036) and skill (*r* =.050). Lastly a significant relationship between the motivation and mental preparation STUQ subscales emerged (*r* =.017, *p* = .699)

Table *3: Cognitive State Anxiety and Self-Talk Correlation for each STUQ Subscale*

Subscale	R-Value	P-Value
Skill	.050	.883
Psych	-.478	.137
Nerves	.452	.163
Focus	.340	.306
Confidence	-.162	.635
Mental Prep.	.036	.917
Motivation	.173	.612
Effort	.580	.110

Self-Talk Strategies

The higher-order themes developed for each participant within each section of the semi-structured interview are presented in Appendices M-W. The sections of the interview were: (a) performance, worrying, and self-talk, (b) athletes' self-talk strategies, (c) athletes' interpretation of their self-talk use, (d) modified STUQ with self-talk examples, (e) type and frequency of self-talk used and (f) influence of self-talk on performance and additional comments.

Question Set I: Performance, Worrying, and Self-talk

The interview began with the athletes being asked to describe their most recent performance., They were then asked if they experienced worrying, used self-talk, and why.

Although the majority of athletes were very content with their performance, a couple of athletes wished for a better outcome. A lacrosse player with anxiety level of 26, Alice, believed she made less mistakes, thought she made the plays she needed, and was satisfied with her performance during that particular game compared to previous performances:

> I think my job on the team is to always have a couple goals, or run the plays that I'm good at, and I think today, I did that. I mean I got 2 goals and that was my 2 that I contributed. I don't think my coach looks to me to score 5 goals a game but as long as I do my role, I think I definitely did that today. I had less mistakes and I think that goes back to the beginning of the game and the mentality I go in with and then, those first couple plays, if they're good then the mistakes are fewer later on in the game.

A golf player with anxiety level of 34, Brenda, was struggling mentally in past performances but on this particular day, she had one of her best performances. She talked about how she normally has trouble staying on even keel so her performance would not suffer. One of her trouble areas in performance is putting and she described how her positive performance in that area is what helped her succeed:

> I actually hit everything fairly well. My drives went a lot straighter than they normally do. My putting was actually A LOT better than it normally is too. I was just focusing on putting. I was making sure that I wasn't going to leave it open, like let putt leak out to the side. So, I am VERY satisfied with the result.

Also, Julianna (pole-vaulter) with anxiety score of 24, Peggy (short distance runner) with anxiety score of 16, and Kim (discus thrower in track and field) with a anxiety score of 24, got their personal records, (pole-vaulter set a school record, as well). However, the women's softball player with an anxiety score of 14, Mary, talked about how she was not on her game that day after losing to a big Division I competitor:

> Definitely not one of my best. I started out well in the field but I haven't been on with my hitting this whole season so that was kind of expected. I had some good at bats, but in the field, I don't know what, I just wasn't aggressive enough and it just wasn't my typical play.

The main themes found in this area were (1) using self-talk to calm themselves when they worried, and (2) using motivational self-talk when they experienced worrying. When participants were asked if they experienced worrying at any point during competition, all of the athletes did encounter worrying either throughout the entirety of

competition or during small moments throughout competition. Alice explained that her worrying occurred in the beginning because of her concern for the outcome of the competition. At this point, her level and amount of anxiety was at its highest. In addition, the pressure of the game was very important to her as she entered competition:

> In the beginning of the game, with the nerves, it was just mainly because of the pressure of this game. We like, it's a team that we know, they know us and I think, just the expectations that we're going into this game, and knowing that we should beat them, but there's always that chance. The nerves of like, even I mean our coach, it's her mentality, that she'll pull you. We have depth on our team so she'll pull you if you make a mistake so the nerves, it's just like I can't make a mistake because I don't want to get pulled.

Interestingly enough, other athletes also experienced worrying only in the beginning of competition. The pole-vaulter, Julianna, got nervous right before her first jump because that was the start of her competition, although other competitors competed prior to her. At this time, she tried to tell herself "okay, I can jump this, this is what we practiced. I jumped high here in this exact spot before so like I know I can do it; I know my mark is right". In addition, Samantha, another lacrosse player, had a moment of worrying in the beginning when communication broke down among her teammates and the opponents scored. She had the distinct feeling that the opponents had the ability to beat them.

Other athletes had nerves present at the end of the competition, especially the track and field athletes. When athletes had to sprint the last leg of the race or the last lap,

their thoughts changed to worrying because they knew they needed to give their all and needed to pass opponents. Lastly, several athletes seemed to have minimal worry, if any, and it only occurred after a mistake. These athletes explained that they tried to remain calm and not make a mistake. Once the mistake was made, they had only a moment of worry, while trying to make up for their mistake.

All athletes engaged in self-talk strategies when they experienced worrying. Alice explained that her self-talk included saying, “just play my game,” to try and calm her:

> I think there was a lot about just play our game, do what I know how to do well, play in my element. I try to keep it as in like what I want to do rather than what I’m not supposed to do. I always say, “Just play my game,” like don’t let what other players on my team are doing affect me, don’t let what the other team is doing affect me, just have to play your game and I know that I’m capable of it so when I do play my game, to my capacity, that’s when I’m satisfied.

The softball player, Mary, lacrosse player, Samantha (anxiety score of 10), and pole-vaulter, Julianna, talked to themselves to calm down by saying phrases, such as, “just relax,” “take a deep breath,” “you’ve been here before,” “it’s nothing new, it’s the same game,” “I can do this,” and “I’ve done this before.” To calm themselves, golfer, Brenda, and discus thrower, Kim, relied on technical self-talk. After making a mistake and hitting the golf ball out of bounds, Brenda needed to use instructional, short phrase style of self-talk, “straight back, straight through; don’t try to rush anything” to get back on track.

Kim always got nervous before she threw and she spoke of very specific key words that she uses that were technical in nature:

> I have key words that I use in my head as I'm stepping in the circle and it's like to keep my arm back, to stay low, and to put my feet in the right spot. I worry right before I throw but to get out of that, I just kind of calm myself down, by just saying, "I want to do well," "I've just got to do it." So I get in the circle and then that's when I hit my key words by saying, like I stand there and I breathe and I relax, I say "okay feet in the right spot," uh "stay low," um "keep my arm back," and then I'm like "okay, let's do this," and then I do it.

Finally, some of the track and field athletes used self-talk for focus purposes. Hurdler, Linda (anxiety score of 26), told herself to "focus on the next hurdle," while runner Peggy used words such as, "chase" and "go" to get momentum and motivation to finish strong. In addition, Cassie (anxiety score of 18), Julianna, Samantha, and Mary used self-talk to focus on the task at hand, eliminating any distractions and to think about what they will do during competition.

Question Set II: Self-Talk Strategies

Athletes were asked why they use self-talk strategies, how did it help their performance, when self-talk occurred most often, and when they began. The higher order themes that emerged in this set were that self-talk was used (1) focusing, (2) calming, (3) motivation, (4) confidence building.

Four athletes strongly believed self-talk was a way to focus. The women's lacrosse player believed that it helped her focus on relevant information and not any distractions that were around her:

> If I didn't, I'd be nervous the whole game. I think, self-talk is just a way to just focus yourself more and not get caught up in a big game or how much it means. Its more what I have to do and what my role is on the team. The self-talk just crosses out all the background noise, its crosses out the fans that are there, it crosses out what even what my coach just said to me, even crosses out sometimes I've had a bad warm up. It just focuses me in to what I'm doing right now at that second and what I need to do so.

Mary, talked about self-talk helping her remain calm and focused on the task at hand:

> When I was nervous, I would just say, "just relax," "take a deep breath," "you've been here before," like, "it's nothing new, it's the same game." It keeps me focused and it helps calm me. I think mostly because it helps calm me down because I usually, I really kind of speed up and everything kind of races in the head, so it really takes me down a couple steps, makes me focus on the task.

When golfer, Laurie (anxiety score of 26), was asked the same question, she has one statement she consistently used to calm her and giver her confidence:

> It calms me and I've only been playing golf for like two years now. I just say, "play golf," and it just calms me. I always convince myself that I'm

> not as good as I am. And I always doubt myself and I'm never confident, so when I say "just play golf," I just calm myself or take a deep breath, its relaxing to me, it gives me more confidence.

Lacrosse player, Samantha, responded the same as some other athletes by mentioning how self-talk calms her down because she has horrible butterflies:

> I normally I get really bad butterflies in my stomach when I feel that way, so I think to myself of something really positive that I can do, or imagine myself doing something positive, and talk through it. It's kind of relaxing and it usually helps a lot.

She tended to think more positively and visualized seeing herself doing something positive. This way, she was able to relax and calm herself to a level where she would be able to perform. In addition, the pole-vaulter, Julianna, had time to think and re-evaluate her performance in between jumps. To prepare for her upcoming jump, she focused on what she needs to do through the use of self-talk so she does not get distracted or let other things affect her:

> I think about whatever my coach just told me to do, like "Okay, I need to spring farther and just lean back farther" so I think about that and I'll just try to keep myself in check and focus on what I need to do, and try to not let other distractions bug me.

Furthermore, softball player, Cassie, believed self-talk helped her with both her confidence and focus levels to stay in the game. The hurdler, Linda, and short distance

runner, Peggy, liked to use self-talk for motivational purposes to keep going and to focus on the next hurdle:

> Linda: It does in that if I start feeling like "oh I don't feel fast today" like my strides feel slow then that affects me like I'll start telling myself "alright, you've been running this time at practice, you've been consistently doing this, the same thing that you've been doing this season, and you've made these times before, so you can still do these times this year." So, if it's something with hurdles like, I stumble over a hurdle in drills, then I start focusing on like "alright, I've been doing these for 8 years now, I've done hurdles forever, I just need to focus on, I, I know how to drive my trail leg through, I'll get over it so it depends on where I'm feeling I'm lacking that I use my self-talk.
>
> Peggy: In the beginning, I said "I just, I just gotta go" and um, I saw people passing me and I said "alright, I have a little bit of time to catch up to them," and then they were getting farther away from me, I said, "its time to get through it," because I said, "it's only such a short time and you just gotta keep going."

Athletes were then asked when they most often engaged in self-talk strategies. They were given the choice of three responses to better understand the question. The majority of the athletes stated they used self-talk the most during competition. Common responses from softball players, Mary, Cassie, and golfer, Laurie, were that they used self-talk mostly during competition since the talking stayed constant, through the entire game. Peggy, short distance runner, mentioned using self-self-talk the most during

performance because that is when it counts for a runner, and as she puts it, “that is where the running takes place and where it counts.”

Numerous participants used self-talk prior to competition. Samantha, lacrosse athlete, liked to talk out all the things she wanted to do in the game:

> When we are lining up for the draws, right at the first whistle of the game, I probably do the most talk too; just thinking of all the things I want to do in the game and the goals that I have for myself and our team goals. So that’s like at the first whistle I talk the most.

The other lacrosse player, Stephanie, also talked mostly before competition because there is so much time to think whereas during competition, the game is so fast paced that she does not prefer to stop and think about what to say. For track and field competitors, Linda and Tiffany (anxiety score of 18), they engaged in self-talk the most before competition because it gets them focused on what needed to be done during competition. Interestingly enough, Brenda, golfer, was the one athlete who talked about how she preferred to use self-talk at all three points of competition:

> I’d say all three. Before in my warm ups- if I’m hitting right, I’ll talk to myself about turning my body all the way through instead of like letting it like my hips come before my hands, and my hands follow the lead. Then during the round, I talk to myself a lot, especially when I’m reading putts. I have to actually visualize it and tell myself exactly where the ball is going to go because if I don’t then I can’t putt for my life. And after, I just think about all the bad shots that I had and like what I can actually do better for next week.

In conjunction with that question, athletes were then asked when they believed their self-talk strategies began. Athletes' self-talk strategies began immediately prior to competition and more specifically, during warm up. At this time, they tried to alleviate distractions from the day and start thinking about the upcoming competition by running through plays, goals, and tactics prior to game time. The women's lacrosse player, Samantha, knew her worrying always begins before the competition even starts. Since her worrying was the highest at this time, as well, she began engaging in self-talk patterns early. During her warm up and before the whistle blew, she talked phrases to herself on keeping calm, positive, what she will do in the game, past positive performances, and technical aspects of her game:

> When we're first starting our warm ups and just focusing on like catching and throwing. I try not to like think of anything negative like when I start to worry. I kind of like use it as more like a constructive thing, like think about what I can do better or what our team can do better instead of being like all negative and all like "oh no," even though it does come into my head every once in a while. I try to focus more on constructive parts… I just think of something specific like, "stick on stick" when playing defense or "move your feet faster."

The 200M women's track and field participant, Linda, began her self-talk as she was warming up. She went through the race in her mind and what she was going to do:

> They start probably right when I start to warm up and when I start to think about my race. I start to go through strategies and talk to myself about what to do with goal times and goals, as far as like strategy and form.

Alice, the women's lacrosse player, strongly emphasized the importance of a good warm up prior to competition. Since the warm up was crucial for her, and her team, her self-talk began an hour before competition. The main reason for this was to eliminate any distractions from the day and to focus on the upcoming competition:

> Not before the game but when pregame an hour before game; before we even start warming up because the warm up is (inaudible)… There's, I mean our team, the whole pregame I think self-talk is huge especially like when you're going to school and playing lacrosse, because you have to switch that mentality and it can be really hard to switch out of senior friends and all the work you have to do to you have a big game, this is what you need to do, and I think self- talk is that important at that stage because if not, your mind is just going to be wandering, and then when you get here, your mind is still going to be wandering um, I mean self-talk even to mine, I always say "flip the switch," because it's just like that mentality that whatever happened during the day is over and like lacrosse is on right now and like what I have to do.

The athletes knew how valuable self-talk was and knew to take a proactive approach of getting heightened anxiety by starting self-talk very early in the game.

<u>Question Set III: Facilitative or Debilitative Self-Talk</u>

Athletes were asked how they thought they performed and if they were at all worried. If they were worried, or nervous, they were then were asked how they interpreted that worrying. The higher order theme was that athletes had a positive interpretation of their worrying. If the interpretation was positive, the athletes had a

heightened sense of excitement, confidence, and positive self-talk. Four athletes had a negative interpretation of their worrying. When this occurred, they attributed it strictly to a lack of confidence. Tiffany, a 400M hurdler, talked about how her interpretation was between positive and negative; she was the only athlete to have this interpretation. She went on to say how she did not see her nerves as completely negative. She was jittery anxious, which was a little bit positive for her:

> If depends, if I worry too much, then it hinders it. Overall today, it was moderate. I wasn't "oh my god, I've got to do that, that, and that." I'm always like ready and jittery and anxious.

Julianna, a pole-vaulter for the track and field team, mentioned that she started second guessing her technique and believed her confidence level played a crucial role in how she interpreted her worrying:

> Well, I think it's probably a bad thing for me, like I do better when I'm confident about my jumps which is why when I think when I start to jump higher, I jump more technical, technically well because I get more confident so I start doing things right, like when you're really not sure if you're going to clear a bar, there's a little bit of anxiety, like the actual technique of the vault kind of changes, you'll instead like really jumping through hard, you'll kind of like pull a little or try to like feel more secured, which in a vault is more dangerous and not all what you want to do.

In addition, Mary, a sophomore softball player who played as an outfielder and short stop, relied on self-talk to keep her thinking positive and confident when she had a negative interpretation of her worrying:

> I interpret it negatively. I mean it's really what I need to work on, but if I interpret it negatively, that's why I resort to self-talk to help me stay positive and keep my head up.

A talented women's golfer, Laurie, interpreted her worrying as negative and stated she doesn't want to worry, yet it was it like a vicious cycle that she couldn't stop. She explained it by saying how she realized she was worrying, and then she worried over worrying. Furthermore, when she tried to stop the worrying, it always got worse. Her self-talk strategies included, "don't worry," "it's just a game," and "learn from your mistakes," which all seemed not to work. However, she did not use self-talk to calm herself down when she needed to, because by that point, it was too late:

> Well, if I worry about worrying, then I don't know how to go back. So it's like, this is influencing the rest of my round because I don't know how to go back to a level head, then I don't know sometimes I don't know what to say to myself to stop me from worrying so it's hard to get back where I began.

Next, athletes were asked if the interpretation they just described influenced what they said to themselves. All of the athletes strongly believed their worrying interpretation affected their self-talk patterns:

Alice: Yes, definitely because the nerves are there in warm up and they affect my warm up. I'll say different things to myself. So if I shoot in the goalies stick, my self-talk is going to be "fake, shoot low" or my self-talk is going to be "fake shoot high." So I think because the nerves are there in warm up and what I do in my warm up affect my self-talk, it definitely goes hand in hand.

Mary: When I worry, my self-talk is more reassuring but when I'm more confident, my self-talk is more game oriented, like "okay, if the ball comes to me, I want to go here" but if I'm worrying, it's like "okay, stay positive," "you can do this."

Brenda: If I'm very worried I'll get really hard on myself, which is kind of a very bad thing to do because then I worry myself even more. If I'm not too worried though, I'll like pump myself up a little bit, like congratulate myself for a shot I just made. If it's a bad shot, I'll get down on myself and then I'll have to pump myself back up before I do anything more.

Laurie: If I worry about worrying, then I don't know how to go back. So it's influencing the rest of my round because I don't know how to go back to a level head. Then sometimes, I don't know what to say to myself to stop me from worrying so it's hard to get back where I began.

Peggy: I think it usually influences what I say; the more positive talk, the more positive result.

> Samantha: If I am having a bad game or an off game, and I start to worry I will get a little negative with myself and it will actually help. I found just a little bit of, "c'mon, you gotta pick it up" or "stop doing this, stop doing that."

Regardless of their thought process while using self-talk, they all knew and were aware that their interpretation affected what they said to themselves.

Question Set IV: STUQ and Reason; Self-Talk Examples

Throughout the interview, athletes gave numerous examples of situations in which they engaged in self-talk without being asked. Plus, they were asked to provide examples of self-talk during the adopted STUQ. The higher order themes that emerged in this section were that self-talk was used for (1) motivation, (2) skill acquisition and (3) confidence.

When athletes were asked to give an example of a situation in which they used self-talk during an anxious moment in competition, Mary explained how she needed to say the same thing twice in order to succeed after making the same mistake twice. Her talk was motivational in nature by saying, "okay, get the next one, you can do this, just come back, play your game." The generally anxious golfer, Brenda, found herself almost getting into a negative talk pattern but then caught herself and turned it around:

> Right after I hit that shot I was like, "that was horrible…really bad," then I came back, to like, I walked behind the ball, just sat there, took deep breath and I was like, "alright, as long as you hit it straight back, straight through, and get it in the fairway, you'll be okay."

During this situation, she initially started getting anxious and worried but to calm herself she starting speaking positively and focusing on her form. Likewise, the 200M hurdler, Linda, and short distance runner, Peggy, focused on technique and motivation when they experienced slight worrying:

> Linda: I stopped in front of that hurdle and at that point of the race, it hurts the most; you just want to be done. So at that point, I told myself "quicken the stride, keep going quick, focus on the second hurdle, negotiate, you can stay with this girl."

> Peggy: I knew that I didn't go out hard with my teammate as I should have so what I wanted to do was just try to get as close to her within that lap as possible. I had to open up my stride so I said, "stride, stride," or "arms" and I tried to close the gap and I ended up doing that, passing her, and it gave me a little bit motivation. So, I just said "try to go after the next girl, next girl, next girl" and I didn't catch the next girl, but I tried to get as close to her with saying "go, go, go."

Women's lacrosse player, Alice, strongly relied on having confidence when she was performing. Right before competition play, she had a small pep talk with herself:

> Before the game, as we were walking out to the field, I said "PLAY YOUR GAME, don't let them affect you; don't let whatever their standards are, how they play affect you, just play your game, like know what I have to do, know my role and go with it."

Another track and field athlete, Tiffany, needed to instill focus to catch up to a girl that initially passed her:

> The 200 meter mark was like right there and the girl was coming so I was like "uh no, she can't catch me." She caught up to me though, so at the 100 meters to the 300 meters, I was like "focus, just need to stay focused, don't worry about her." Although I was worried about that the whole time. I kept saying "Just keep going, focus."

When the athletes were experiencing situations that worried them, most tended to rely on increasing their confidence, technical skill, and/or focus to attain success.

The athletes strongly relied on self-talk for technique to reach their goal. The women's pole-vaulter told herself to just "jump off" so she does not over think her technique and keeps it simple:

> When I'm trying to jump off the runway, I'm trying to have a really good take off and getting in the air before the pole hits the back of the box, so if I think about my arms or something, like that, then I kind of mess up. I always think about it too much so I told myself "okay, I'm just going to jump off" and I know by saying that to myself, it's like a key word that works really well for me.

The women's softball outfielder, Mary, reminded herself of proper technique by using self-talk and stated, "like in hitting, I would say "keep your shoulder down, keep your head on it." Similarly, Samantha, another women's lacrosse player, kept telling

herself to keep her arms tucked in when she was carrying the ball and rated herself on often she used self-talk fore technique purposes:

> I'd say like an eight. Um, like running the ball down the field, um "keep it tucked in, can't check it," that's something I always keep in the back of my head because sometimes I have trouble with that and like "always keep it tucked in."

A track and field athlete, Linda, who performs in the 200M hurdles, kept reminding herself of her strides as she was running by saying "negotiate," "lengthen," "quicken." Another track and field athlete, Kim, who is a discus thrower, talked herself through every step she needed to complete immediately prior to throwing the discus by saying, "okay, feet in the right spot," "stay low," "keep my arm back." Then I'm like "okay, let's do this" and then I do it." Another women's golf player, Brenda, rated herself on how often she preferred to talk herself through exactly how she will hit the putt:

> I want to say a 9, for putting because with every different putt, you have to read the green and you have to talk yourself through how exactly you're going to hit the putt. Like, I don't I don't say it out loud or anything, but like in my head, I talk myself through it so that's when I use it so I kind of have to use that all the time.

Technique is an important aspect of athletes' performance. The athletes used self-talk for technical purposes to serve as a reminder on how to perform an action correctly. In addition, this may have served as a way to take their mind off of distractions by focusing on what they needed to do.

When athletes were asked how often they used self-talk to psych themselves up, the majority of them rarely used it. More specifically, they only found this necessary during one or two situations during competition. It was interesting that most participants needed to be calmed down, not psyched up. The anxious golfer, Brenda, explained that she normally has to psych herself down. Also, she psyched herself up to keep up her good performance instead of using it when her performance was deteriorating. On that particular day, the pole-vaulter, Julianna, was already fairly excited and pumped and needed to decrease her level of excitement so she could focus, but for Mary, the softball athlete, she would only pump herself up after she made a mistake to give her confidence and motivation to try again. Interestingly enough, three athletes used this method of self-talk prior to their personal performance, whether it was batting or running, and one athlete relied on her team to psych herself up instead of talking to herself.

Athletes used self-talk to control their nerves at a very minimal level. In fact, only two participants rated themselves extremely high in this category because they were always nervous or always hyped up. The rest of athletes rated themselves to be on even keel and did not tend to use self-talk to control their nerves.

Some athletes ranked themselves moderately to fairly high on implementing self-talk for focus. The five athletes that ranked themselves at this level mentioned how this was especially important after they made a mistake. For example, Alice, the golfer, said that after she made a mistake, she wouldn't allow it to affect her next play and to prevent this from happening, she said "just play my game" to remain focused. Similarly, the anxious golfer, Brenda, made a mistake and hit a ball out of bounds and she needed to refocus and calm down to save the next shot. She would implement self-talk to get her

mind off of the mistake she just made. Also, Linda, track hurdler, told herself to "ignore that, keep going" and to "quicken, quicken." She talked technically to herself to refocus and get back on track. Lastly, Samantha told herself that she "couldn't be flat anymore" when she made a bad defensive error.

Nine out of eleven athletes strongly used self-talk for confidence. This seemed to be the center of importance for athletes. Athletes used self-talk for confidence when they made a mistake. This is interesting because they used self-talk for focus and confidence both before and after they made a mistake. Athletes mentioned how they used it on a constant basis to keep telling themselves they can do it, that they have the ability to perform well, and that they know they are better than their opponent. Brenda explains how this related to her golfing performance:

> If my putting is pretty bad, I have to like boost myself up, because sometimes I'm not confident at all with making my putts. I had one hole where I three-putted and I had to regain my confidence on the next green because I, I didn't think I would going to make the putt. I told myself that I've worked on it all week and I know I can make the putt; if I just keep my head down, swing through, don't try to peek at the hole, I'll always make it. I ended up two-putting the second one, which wasn't that bad.

In addition, Linda needed a big confidence boost when she found out she was running against Division I athletes:

> Before this race, I got a little psyched out because the coach has ranked me a lot faster than what I should be ranked this season, and ranked me with a faster time than last year. So I got psyched out because that's a lot

> of DI schools that are a little higher than me. So I had to remember "you can do this, I've run these times before," and "I can stay with these girls."

A majority of athletes also used self-talk for mental preparation. This was especially true for both softball players and a track athlete. These softball players used imagery and visualization for situational purposes, where they thought about what they were going to do before the ball came to them and the goals they had for themselves and their team. Linda visualized having proper form and going over the hurdles successfully, while a golfer, Brenda, started mentally preparing the night before and told herself that it was going to be a big day and to not hold herself back. For some participants (track, pole-vaulters and discus thrower), the talk was as simple as saying "don't over think it" or "I can do well" and "just focus."

Lastly, about half the athletes used self-talk for motivation and the other half did not. Athletes who gave a high rating for self-talk use for motivation were highly motivated throughout the competition. However being highly motivated throughout the competition did not guarantee use for self-talk for motivation. A couple athletes that were highly motivated throughout the whole competition gave a low rating for the use of self-talk use for motivation. Thus, some people may need or use self-talk to maintain motivation, while others may rely on other sources or strategies to maintain their motivation. Regardless, all athletes reported high levels of motivation. They either said they already had it, in which, self-talk was not necessary or they used self-talk to maintain their motivation. For example, one team participant mentioned she got her motivation from what other athletes were saying and doing and not necessarily from herself.

<u>Question Set V: Type of Self-Talk</u>

For this question set, the main theme for the type of self-talk used was self-talk that was short, simple, and to the point. The athletes mentioned they did not have enough time or that it was too complicated to think of long and drawn out sentences. Julianna, track and field athlete, used short phrases most of the time. She jumped by saying, “calm down, I just need to breathe, calm down, I’m fine.” Also, Laurie, golf athlete, believed that the more simple the self-talk, the better: “I don’t really see myself using complete sentences; get forward and to the point is what I use.” The majority of Kim’s (track and field) self-talk were phrases: “Short phrases or single words…All the time. I’d say 75% phrases, 25% words.” To clarify, Kim used words such as “relax” when she mentioned how 25% of her self-talk was through the use of those words. Likewise, Alice (lacrosse) had the same style of self-talk: “um, short phrases, like “play your game” or “gotta have confidence…Definitely within 3 or 4 words.” She added that she too used phrases 75% of the time and the rest of the time it were words such as “fake.” The amount of short phrases used by athletes was at minimum 50% of the time during competition, with an average of 69% of the time. Athletes found it necessary to use single words, at times. Naturally, single words were used at most 50% of the time and averaged at approximately 35%. Finally, only a few athletes used complete sentences but surprisingly, they used this approximately 50% of the time.

The explanations given on when the preferred type of self-talk was utilized varied across the athletes, as did the rationale for why they believed self-talk changed during any given time in competition. This was not unexpected. The use of self-talk depends on the situation and function. Three athletes mentioned how they used two different types of

self-talk, depending on what position they were playing or where the ball was on the field. Other athletes talked about needing a change of focus, which depended on the game situations or what action needed to be completed, and a couple participants said it was as simple as changing it up because the original self-talk did not work or they needed a change.

Questions Set VI: Influence on Performance

Finally, the main themes in this area were that athletes relied on self-talk to (1) help increase their performance, (2) decrease anxiety, and 3) have a positive effect on performance:

> Julianna: It definitely helped a lot and I probably don't think I would be able to jump if I didn't talk to myself while I was doing it. I am an anxious person and I like to try to relax and that stuff just like helps me so much.
>
> Cassie: I think it's important because it keeps you in the game so I'd say it definitely benefited my performance. It helped me stay focused, it helped me stay confident at the plate, also.
>
> Linda: I think it helped a lot today because when I got myself psyched out when I saw the check-ins, I needed to convince myself that I could do it and not get myself so down that I was thinking that I wouldn't be able to stay with these girls. I tried to stay with them and I convinced myself that I'm capable of running these times and that I can focus and do all the things that coach is always telling me to.

Laurie: Today it really helped me play like I should play, because I'm on the verge of being a very good golfer and today helped me prove myself that I really am on the verge.

Brenda: Today, it was very positive for me because I let myself stay on the same emotional level the whole entire time.

Samantha: I think, I think it really does help a lot, um especially because they're a good team and they did go on a run at one point of the game and it's good to just zone in and not just I mean freak out or worry or like um, because once you do that, you start becoming negative and it shows to your teammates. I think it's important because it's just a way, especially for me, to just kind to relax myself and focus back on what is important and what I can control instead of like worrying about a different bunch of things.

Peggy: It definitely helped me with my race because I got my PR, I decreased my time by 4 seconds. Last time I had 5:20 and I said, I wanted to get the closest time in my head as I want, because at the time I was seated at 5:10 and I wanted to get 5:15ish. I was only a second off from that, I got 5:16 so the entire talk I said "PR, PR" because I knew I wanted to achieve that.

Alice: It definitely did. I think it helped me play the whole 60 min, if not, it would be hard to stay in a game like that and play well for that long of time and it helps me pregame, I think, I mean after this, I feel like I should

> do it more in pregame and it helps me calm down the nerves that I do have.
>
> Mary: I think it helped me in different ways, I think. When we were losing, it helped me stay motivated and keep motivation and playing hard. I think when I messed up, it helped me stay in the emotional control game and not fall apart.
>
> Kim: It definitely does, every single time I use it. By talking to myself, I'm more focused, I'm ready to compete, and I definitely do better every time I do. I know from previous performances that it works so I'm going to use it all the time. It's kind of a given to use it because if I didn't, I feel like I would do badly.
>
> Tiffany: I think it influenced it a lot. When you think positive thoughts, positive things happen; you think negative, negative things happen. If you think you're going to do well, you'll do well; you think you're going to PR, hopefully you'll PR. You just want to say positive thoughts.

Common Themes

All sixty-nine main themes across the categories of questions were combined to form common themes (Appendix X). In this study four common themes emerged: Self-talk was used for (1) calming and relaxing, (2) motivation, (3) focus, and (4) confidence.

Calming and Relaxing

One of the most important factors of self-talk for the participants in the current study was how they used self-talk to calm and relax themselves at any point of the

competition. The athletes immediately gravitated to cognitively calming self-talk functions when they experienced anxiety. It was strongly believed, by the athletes, that if they were calm, cool, and collected that their worrying would decrease, they would be more focused, and they would have a more successful outcome. The women's track and field pole-vaulter Julianna, tended to get anxious before a competition. As a result, she strongly tried to talk herself through the anxiousness in attempt to calm herself down:

> I can get anxious about like meets, just like any kind of pressure when performing and so I try to kind of talk, I talk myself down and say "ok, take a deep breath, calm down" like "just take it one jump at a time" and "this is your first attempt, so I have a couple more and just jump…like run down the runway hard and jump high."

In addition, that became especially important to her as she attempted to reach for new heights in her performance:

> It kind of makes me calm down, especially in like those types of jumps because I was trying to jump for a height that I've never even attempted at before, that was the highest that I've ever seen like a bar, so trying to make myself calm down and like after PRing, you get so much energy, you have to like dial it down and you can just jump after that.

Linda, who runs the 400M hurdles, got anxious because of pressure from herself and her coaches to perform better than she did the previous week. For this reason, she engaged in self-talk to calm down her anxious feelings by saying short, little phrases, such as "just calm down" or "you can do this." Similarly, softball player Mary engaged in the same tactic when she was feeling nervous. She kept reminding herself that she has

done this before and that she knows the game by saying, “When I was nervous, I would just say “just relax,” “take a deep breath,” “you’ve been here before” like, “it’s nothing new, it’s the same game.” The golfer, Laurie, tended to get anxious when she was approaching difficult shots or when the ball was not going to lay perfectly. During these times, she knew she needed to not only calm herself down, but to increase confidence to perform well. In this situation, self-talk to relax served as two different functions: confidence and anxiety control.

> I always convince myself that I’m not as good as I am. And I always doubt myself and I’m never confident, so when I say “just play golf,” and I just calm myself or take a deep breath, its relaxing to me, it gives me more confidence.

A lacrosse player, Alice, liked to calm herself down by saying, “just play my game.” She was never known to be the star player or even the go-to girl, but she always knew what her job was on the team and did it well. She completed runs and plays and remained a consistent, reliable player for the team. To keep her consistency, she talks about how she tried to remain calm, especially very early in the competition, because she had the fear of getting pulled from the game:

> I think there was a lot about just play our game, do what I know how to do well, um, play in my element, don’t, I mean, I try to keep it as in like what I want to do rather than what I’m not supposed to do and like, I always say um, “Just play my game,” like don’t let what other players on my team are doing affect me, don’t let um, what the other team is doing affect me, just have to play your game and I know that I’m capable of it so when I do

> play my game, to my capacity, that's when I'm satisfied and whether or not it's the star of the game or it's that role I'm supposed to play, it's like my game, and to tell myself that (inaudible), it calms me, definitely.

Finally, the second golfer, Brenda, tended to be anxious during most of her past performances. She knew she has a difficult time trying to control her high anxiety level, and because of this she heavily relied on calming herself to cope with the pressure of performing:

> I tell myself to just calm down a little bit and normally when I try to calm myself down, I'm probably swinging too hard so and I tell myself to slow it back down a little bit and take it easy-one shot at a time.

She continued to talk about her self-talk strategies when she was worried during her competition. She mentioned how she talked herself through the technique of swinging a golf club only to find herself not swinging well. At this point, she had some negative talk and then told herself to "just let it go." Her technique to do this was by thinking of a moment she had with her coach earlier that week:

> I was thinking back to a talk I had with my coach last week because I was on the driving range before a match and I could not hit anything and he gave me a little pep talk about how he knows how good I want to be but I need to take all of my emotions and just keep them on even keel because I, tend to get all over the place and when I get all of the place that's when I start playing bad, so. As long as I keep my emotions in check- then, I'll play fine so I was trying to tell myself to calm down a little bit.

Lastly, she described a scenario where her performance did not go as planned and how she, once again relied on calming self-talk to turn her performance around:

> Right after I hit that shot I was like, “that was horrible…really bad,” then I came back, to like, I walked behind the ball, just sat there, took deep breath and I was like, “alright, Brenda as long as you hit it straight back, straight through and get it in the fairway, you’ll be okay.”

As a result, she did it and got a bogey on the hole.

For the athletes in the current study, the idea of being calm and having confidence was the center of what makes them great performers. They needed to remind themselves that they know how to play the game, they’ve done it for years, they have the skills, and that the only aspect getting in the way of their performance is the ability to decrease their nervousness or worrying. Their use of self-talk got them to a more relaxed state to where they could concentrate more on what they are doing and “just playing their game” instead of what they are feeling inside.

Motivation

Some athletes seemed to use motivational self-talk often, and even more so in conjunction with self-talk that gave them confidence. The lacrosse player, Samantha, liked to think back to previous years to give her motivation:

> I always try to be loud and communicative as possible, like when we’re actually warming up and stuff, and um, kind of listening to my teammates and as far as self-talk I would say as one of the questions as before, like

> thinking about last year motivated me a lot and thinking of different scenarios from last year's game.

In addition, the 1500M, Peggy, kept the end in sight to maintain her motivation:

> And then they were getting farther away from me, I said, "it's time now, I have to go especially with 800 to go" and I think that, helped me get through it because I said, "it's only such a short time and you just got to keep going." I used the positive talk because it gets me motivated and I think um, you don't want to put yourself down when someone is ahead of you, saying "oh I'm never going to catch her," you want to try to have some positive mentality going in your head saying "you got to catch her, you got to catch her" because it will just make your time better.

Lastly, the highly anxious golfer, Brenda, had to constantly motivate herself as she tried to get through tough situations during her performance:

> Well the 18th hole, my coach came up to me and right before, I, my chip and told me "if you par this hole you tie the school record" so that was a lot of pressure, and then um, I just had to like calm myself back down because I knew that I was going to freak myself out when I hit the shot, which I ended up doing a little bit. I ended up leaving my chip like 9 feet to the left of the hole and then I had to actually go for the foot (inaudible), and I had to maintain my motivation to make the putt, I could babied it, I had to actually like try to get through it and I ended up missing it, which is frustrating, but then I had to make sure that I got the next one in because I didn't want to throw the hole away. But I was mad at myself and then I

> had to let it go and then I had to refocus and re-motivate myself to actually make that putt coming back.

In general, the athletes seemed to have high innate motivation levels. However, there might have been moments during competition that affected their motivation levels and they needed to use self-talk to raise their levels. This may be why motivational self-talk is at the bottom of the list, but athletes still used self-talk for motivation at least 50% of the time during competition.

Focus

These athletes strongly relied on self-talk to stay focused on their goal. The pole-vaulter, Julianna, seemed to have difficulty keeping herself focused. To correct that problem, she liked to think back to previous practices when she was successful:

> Lately, I have been getting better. I know that I can and I had a good practice Thursday so I just try to focus on that; like "okay, I can jump this, this is what we practiced. I jumped high here in this exact spot before so like I know I can do it; I know my mark is right."

Also, she tried to focus on the task at hand and not on other distractions around her:

> I think about whatever my coach just told me to do, like "Okay, I need to spring farther and just lean back farther." So, I think about that and I'll just try to keep myself in check, you know, like focus on what I need to do and try to not let other distractions bug me or anything.

Similarly, her 200M-hurdle teammate, Linda, disliked distractions and tried to focus on the upcoming race:

> I think it helps me to stay focused on the race and not like start "hey, oh what's going on over here and what's going on over here." It makes me realize, "alright now I really need to focus on these things." It makes me focus my warm up towards what I'm feeling really comfortable at that time.

The lacrosse player, Alice, used self-talk to focus her attention away from distractions. She would get so focused that she may not even hear fans or coaches. She heavily relied on focusing away from the importance of the game and more on what she was doing at that very particular moment:

> If I didn't, I'd be nervous the whole game. I think, self-talk is just a way to focus yourself more and not get caught up in a big game or how much it means. It's more what I have to do and what my role is on the team. The self-talk crosses out all the background noise, its crosses out the fans that are there, it crosses out what even my coach just said to me, even crosses out sometimes I've had a bad warm up, and it can cross that out. It just focuses me in to what I'm doing right now, at that second and what I need to do.

Brenda, the golfer, did not need to focus on the task at hand or to eliminate distractions, but she preferred to refocus herself after a poor swing or hit to get the best possible score, or to save par:

> After I just hit it out of bounds, I had to refocus myself and make sure that like I could save (inaudible) however good of a hole, like however many strokes I put on that hole after I did so bad. There was another hole where I topped a ball and it went like ten yards in front of me and I had to tell myself to like calm down, focus and actually get the ball on the green the next shot to save par.

The athletes believed that distractions were the main reason for losing focus. These athletes tended to eliminate distractions by focusing on the task at hand and what needed to be accomplished through the use of self-talk patterns.

Confidence

Athletes constantly mentioned confidence as being one of the key factors to their performance. Regardless of the question being asked, they somehow brought the conversation back to either lacking or having confidence during competition. The highly successful lacrosse player, Samantha, mentioned how her self-talk changes when she is worried compared to when she is confident:

> When I worry, my self-talk is more reassuring but when I'm more confident, it's just more like, my self-talk is more game oriented; like "okay, if the ball comes to me, I want to go here," but if I'm worrying, it's like "okay, stay positive, you can do this."

In agreement, Alice, the lacrosse player, believed that an increase in confidence lessens her worrying: "It's definitely gone down. I think that just like the confidence aspect; if you have confidence, the worrying like goes down." Additionally, various participants had key phrases such as, "play with confidence" or "play my game," that

reminded them to have confidence and that confidence was very important to their success. Confidence was so important to Alice, that she wrote it on her hand or arm before each game. She relied on those couple of phrases because her warm ups are not the strongest due to her worrying prior to game time. She believed her interpretation of her nerves affected her warm up and thus confidence was a key factor in her performance. Her confidence was needed at the onset of the competition so that it would carry her through the end of the competition. Lastly, Brenda, the golfer, who struggled with confidence, used positive self-talk to regain confidence before she continued going any further in her competition:

> If I'm very worried, I'll get really hard on myself which is kind of a very bad thing to do because then I worry myself even more, but if I'm not too worried though, I'll like pump myself up a little bit, like congratulate myself for a shot I just made. If it's a bad shot, I'll get down on myself and then I'll have to pump myself back up before I do anything more.

Some of the athletes, preferred to motivate themselves, others spoke more about gaining confidence. Whatever the reason, athletes strongly believed confidence was the most important aspect to have when their worrying level intensified.

Summary

This chapter outlined the common themes that emerged from Division III, athletes. The preceding themes gave insight to the research questions of this study.

Question 1- What are the levels of cognitive state anxiety in collegiate athlete prior to competition?

Results from this study show that cognitive state anxiety levels of athletes vary a great deal, not only prior to competition, but also throughout competition.

Question 2- What are the relationships between anxiety level prior to competition and self-talk use during competition?

The relationship between anxiety levels prior to competition and self-talk use during competition varied. For some athletes, higher or lower levels of anxiety did not determine the amount of self-talk that was used during competition. For others, as anxiety developed, they turned to positive self-talk. This could mean that the quality of self-talk was more important than frequency, or that athletes used other strategies to keep their anxiety at an optimal level.

Question 3- What self-talk strategies do Division III athletes use when they experience cognitive state anxiety?

The athletes used self- talk to calm and relax themselves, motivate themselves, making themselves focused, and increase their confidence. In addition, self-talk patterns were simple and to the point, especially when they experiences anxious moments.

Question 4- What are their thoughts and feelings about their self-talk strategies, anxiety, and performance?

Athletes' had positive thoughts and feelings about self-talk and its relationship to anxiety and performance. Most athletes found themselves interpreting worrying as a negative influence on performance or to recover from a mistake, and used self-talk patterns to get past this or re-channel these negative thoughts and feelings. They rarely used self-talk during positive aspects of performance. Instead, they tried to remain

focused since performance was going well. They all believed self-talk dictated their performance and anxiety levels to some degree.

CHAPTER 5

DISCUSSION

The purpose of this study was to provide an assessment of self-talk strategies and cognitive state anxiety in sport performance. More specifically, the study used NCAA, Division III student-athletes from women's lacrosse, women's golf, women's track and field, and women's softball teams for the purpose of: (1) determining pre-competition anxiety level as measured by the Competitive State Anxiety Questionnaire, and self-talk use, as measured with a modified (STUQ), (2) self-talk strategies that Division III athletes use when they experienced cognitive state anxiety, (3) the relationship between anxiety level prior to competition and self-talk use during competition, and (4) to investigate athletes' thoughts and feelings about their use of self-talk, anxiety, and performance with one-on-one interviews.

The anxiety levels of the participating athletes varied from 10 to 34, with the average score being 21 out of a possible 40. This demonstrated that on average, the current athletes had moderate anxiety levels before entering competition play. This is not surprising as current athletes wanted to control the small jittery feelings due to wanting competition to begin and/or to execute their skills properly. The highest reported use of self-talk was during tasks that required skilled acquisition and the lowest use of self-talk was to control nerves. Statistical analysis did not show a significant relationship between cognitive state anxiety and any form of self-talk used by the athletes, as evidenced by the nonsignificant correlations between cognitive state anxiety and the skill, psych, nerves, focus, confidence, mental preparation, motivation, and effort items of the STUQ. It is possible athletes used self-talk for various reasons interchangeably, in which determining

a relationship would be difficult. Moreover, the sample size of this study was purposely held small for the interview and qualitative analysis which lowered the power of the correlation analysis. However, despite no significant correlations between the scales, there were some strong effect sizes with the psych, nerves, and effort items. This is also evidenced in the semi-structured interview where Alice, Julianna, Samantha, and all the track athletes spoke about being nervous prior to competition starting. In addition, the effort item could have been easily used interchangeable with motivation, as it was common for the current athletes to refer to both when speaking about using self-talk to increase effort or motivation to exert more energy when it was needed. Interview analysis yielded four common themes for self-talk use: (1) calming, (2) motivation, (3) focus, and (4) confidence building. The relationships found between anxieties and self-talk, and these themes are discussed in context of the current sport literature.

Self-Talk Strategies

All of the athletes felt that the use of self-talk greatly improved their performance when they were experiencing cognitive state anxiety, even for those athletes who reported low cognitive state anxiety on the CSAI-2R. These results validate numerous researchers that advocate using self-talk to reduce anxiety levels (Conroy & Metzler, 2004; Hamilton et al., 2007; Hardy et al., 2005; Mamassis & Doganis, 2004).

Results from the current study also showed that most of the athletes started implementing cognitive strategies at the early onset of anxiety. It is plausible that athletes were able to recognize anxiety symptoms and knew how to alleviate them before the symptoms increased. Alexander and Krane (1996) and Campen and Roberts (2001) indicated cognitive anxiety is lower if experiences in the past were successful or if the

athlete’s personal appraisal was positive. For the current study, athletes began talking to themselves as early as the night before competition because they believed this worked well for them in the past. They perceived their anxiety levels starting the night before a competition and continuing until the beginning of the competition. In the current study, athletes reported feeling lower anxiety and arousal during competition, knowing they had experienced these feelings before. Feeling lower anxiety during competition may also be due to focusing on the task at hand and not about their feelings. This may account for why the athletes on average had moderate levels of anxiety, although the anxiety levels varied greatly between athletes.

A common trend in the current study was to lower anxiety levels by focusing on the fundamental skills that the athletes already knew well. The athletes believed that focusing on these fundamental skills increased their confidence. While their individual self-talk strategies were different and were based on the situation at hand, they relied on the same fundamentals to have motivation, believe in themselves, and keep focused on the task at hand. The athletes in this study did not engage in negative self-talk which is different from most previous research. Van Raalte (2000), Hatzigeorgiadis & Biddle (2008), and Elko and Ostro (1991) found that cognitive state anxiety had a negative influence on athletes due to out of control anxious feelings and negative self-talk. However, in the current study, when athletes experienced anxiety they had the ability to control what they said and change their approach. If an athlete did use negative self-talk, it was used for a split second and usually after a mistake. At this point, they had the ability to move on from their mistake, which they believed helped them. They told themselves to look forward and forget about what just happened. For the athletes to have

the ability to change their cognitive thoughts shows the importance of the quality of self-talk and what can happen when it is used effectively.

The use of facilitative versus debilitative self-talk, as was found in this study, relates to how athletes perceive a situation (Hatzigeorgiadis & Biddle, 2008). According to these researchers, if athletes view the situation as positive, self-talk tends to be more facilitative, but if they see the situation as negative, their self-talk tends to be more debilitative. In this study, when athletes interpreted a situation as being negative, some strongly attempted to think positively through the use of positive self-talk, which contradicts Hatzigeorgiadis & Biddle's study in 2008. However, when the athletes interpreted anxiety in a positive manner, they used less negative self-talk, according to Hatzigeorgiadis & Biddle. The athletes in the current study may have had a positive interpretation of anxiety, which would explain the small amount of negative self-talk and the large use of positive self-talk. These results are similar to those of Hatzigeorgiadis and Biddle (2008) and Alexander and Krane (1996) and as a result, they saw their anxiety as positive and negative self-talk was limited.

All athletes of the current study described using self-talk strategies to help control their cognitive state anxiety. Once the athletes experienced anxiety, they immediately resorted to talking to themselves, even before performance could be affected. Yet, there were moments in some athletes' performances that resulted in a less than satisfactory outcome for that particular moment. However, these athletes still managed to have what they considered a successful performance, despite the occasional misfortunes, thus explaining the overwhelming amount of positive self-talk.

A new finding was presented in the current study. Athletes tended to use phrases for instructional self-talk and not cue words or long sentences. This does not support a host of researchers who stated phrases were largely used for motivational purposes. It seems that the athletes did not want to think too much and kept the conversations to themselves at a minimum. Some preferred to keep the phrases short and not waste time. Others did not know of any other way to speak to themselves but in that form. Most of the athletes never got taught how to use self-talk effectively and when to use different forms of self-talk. For this reason, they fell back to what they knew due to personal experience. Another possible reason for this could be that most previous research was conducted in an experimental setting. While in this setting, cue words and phrases were provided for the athletes to fit either instructional or motivational functions. In the current study, athletes were free to use any self-talk they wanted. Athletes may feel that cue words do not help them carry out a demand because it does not provide for enough instruction. Gibson and Foster (2007) defined a self-talk phrase as something that is short enough but gets the main demand across and therefore, it could be the reason the current athletes preferred this type of self-talk for instructional purposes.

Cognitive State Anxiety, Self-Talk Use, and Performance

Results from this study show cognitive state anxiety was not significantly correlated with self-talk. This also was demonstrated when comparing athletes' anxiety levels and self-talk patterns from the interview. For example, Brenda had the highest anxiety level of thirty-four out of forty. She utilized self-talk as much as possible because she knew she was an anxious person. Brenda was very anxious going into her golf match,

knowing she had to perform well. She knew she needed to remain calm and keep her emotions and thoughts on “even keel.”

However, Julianna rated herself to have low anxiety, 16 out of 40, but she had similar self-talk patterns to that of Brenda. This supports previous research, which states that the amount of anxiety doesn’t necessarily have to equate to the level of self-talk used but rather that it is the quality of the self-talk that truly matters in controlling anxiety (Hanton & Jones, 1999).

Laurie, Alice, and Linda had identical anxiety levels, 26 out of 40, used different amounts and styles of self-talk. Perhaps an athlete’s interpretation of anxiety is more important to self-talk use than anxiety levels itself, as Hardy et al. (2005) reported. It is also possible that the level of anxiety influenced the athletes self-talk use perceptions. In this study anxiety levels were measured prior to competition with the CSAI-2R, however, self-talk use and athletes’ perception of anxiety and self-talk were obtained after the competition which may have influenced the results. Athletes’ anxiety levels and interpretation of those levels may have been quite different before and after the competition. Thus, the correlation between anxiety level and self-talk use may not accurately reflect the relationship between anxiety, competition, and self-talk. Future studies may benefit from measuring anxiety before and after the competition or measuring both anxiety and self-talk use prior to competition.

All athletes of the current study implemented self-talk strategies to help control their cognitive state anxiety, as stated by each athlete in the interview. Once the athletes experienced anxiety, they immediately resorted to talking to themselves, even before performance started to decline. Perhaps, because athletes didn’t let anxiety get to a

catastrophic level, they had stronger performances and their overall performance did not suffer. Also, it is very interesting that not one athlete had self-talk not work in their favor.

A pattern between anxiety, self-talk, and performance was found. It appeared that the athletes were able to control their anxiety levels and keep it at a consistent level on the anxiety continuum or anxiety point, which is also suggested by the Individualized Zone of Optimal Functioning and the Inverted-U Hypothesis theories. These theories place heavy emphasis on individuals finding their perfect balance by adjusting their stress or anxiety levels when they go too high or too low with anxiety. This was evident in the current study when athletes “played down” the situation, by using self- talk to get to a level at which they were most comfortable performing. The participants believed this helped increase their performance.

Thus, in the current study, athletes interpreted excessive anxiety as negative and talked themselves through it to either perceive their anxiety in a positive manner and actually lower their anxiety and reach their optimal level of performance. In addition, this tactic was also used to gain confidence and focus. This became especially relevant when athletes lacked control of their thoughts after making a poor decision or making a mistake, in which they may have used positive self-talk to keep their anxiety levels under control. This is supported by past research by Conroy and Metzler (2004) and Mamassis and Doganis (2004) who found that when athletes are in an anxious state, they can use self-talk to regain focus, confidence, and lower anxiety as explained by the Individualized Zone of Optimal Functioning and the Inverted- U Hypothesis theories. Lastly, when athletes had the occasional misfortunes and did not get the desired outcome they were

able to control the situation so it did not carry through the whole competition, which would have resulted in the slow decline of performance.

Common Themes

Self-Talk Served as a Relaxing and Calming Function

Results from the current study indicate that when athletes got anxious or worried, they used calming and relaxing self-talk strategies. These results support previous findings, which suggest athletes utilize self-talk when building confidence and calming themselves (Conroy & Metzler, 2004; Hamilton et al., 2007; Hatzigeorgiadis & Biddle, 2008; Mamassis & Doganis, 2004; Theodorakis et al., 2008). Specifically, athletes used statements that helped them to calm down, breathe, and relax. It seems like the athletes, in the current study, had a good grasp on when their anxiety levels were about to get out of hand and they knew how to prevent it from happening; if it did happen they knew how to bring themselves back to a normal state. In addition, past research suggests how having anxiety present leading up to competition will hinder performance (Campen & Roberts, 2001). In the current study, athletes engaged in self-talk strategies to not allow this to happen. The athletes knew they had the skills they needed to perform well and were able relax, get calm, and achieve their optimal level of arousal for their performance.

Self-Talk Was Used for Motivation

Some athletes used self-talk for motivational purposes. This was either done by thinking back to previous years or keeping the end goal in sight to increase motivation. Past research suggests motivational self-talk enhances confidence (Zervas, Stavrou, & Psychountaki, 2007), effort (Hatzigeorgiadis et al., 2004), energy, and concentration (Hardy et al., 2001). This seemed to be true for the athletes in the current study. For

example, Brenda had an anxiety level of thirty-four and when she needed motivation, she used a phrase such as “Brenda, you can do this.” When Julianna, with a score of sixteen, need confidence, she often said, “you’ve practiced this before, you can do it.” It appears as if they reverted to previous experience to carry them through current situations.

Although self-talk motivation was reported at a moderate level on the STUQ portion of the interview, it could have been used interchangeably as a confidence booster. When athletes reported self-talk use for motivation purposes on the STUQ, it is possible they may have been associating it as a confidence booster. Although the two are considered as two separate and distinct items, the athletes interpreted the two similarly. Feelings that are brought about through self-talk whether for confidence or motivation can be closely related and may be difficult to differentiate.

Van Raalte et al. (1994) suggest that athletes use positive self-talk compared to negative self-talk since it has the ability to increase both confidence and motivation. The need for motivation and confidence is important regardless of anxiety level and therefore is equally used to achieve the desired emotion or action.

Used Self-Talk for Focus

Athletes used self-talk strategies for focus at a moderate level throughout competition. Athletes narrowed their attentional focus when superior technique was needed or when they were going through a difficult moment during their competition, which has been shown in previous research findings (Conroy & Metzler, 2004; Elko & Ostro, 1991; Hamilton & MacDougall, 2007; Hardy et al., 2001; Hatzigeorgiadis et al., 2004; Mamassis & Doganis, 2004). Notably, when the athletes used self-talk to focus, it was not just for focusing on the task at hand, but to focus on technique and skill

acquisition. The athletes talked about how instead of focusing on factors such as their own negative thoughts and worries or distractions, they liked to think about what they were about to do and how they were going to do it. They talked about how they needed to lean back farther when jumping and not think about other distractions (Julianna) or focus on their movements right now instead of the importance of the game (Alice). In general, Theodorakis et al. (2000) and Hatzigeorgiadis et al. (2004) found that participants who were instructed to use either motivational or instructional self-talk improved performance. However, the task being performed dictated which form of self-talk worked best. For example, if a soccer player is about to take a penalty kick. She is more likely to use instructional self-talk because she needs to focus on where the ball is going to go and how she will make it happen. The athlete may think about where to place the foot on the ball, how hard she must hit the ball, or if it is more important to have great placement over the speed of the ball. During this situation, the soccer player has a lot to consider, except for their motivation level. This is not a concern at this time because they are too busy thinking of these other things. At the Division III level, athletes might still be learning new skills and technical aspects of their performance and thus using instructional self-talk instead of motivational self-talk. They may have no yet reached the point of automation to where they do not need to think about their technique. In addition, instructional self-talk was used when they needed focus and motivation in order to fulfill their purpose.

Athletes in the current study seemed to tell themselves to focus more when they needed to exert more effort, made a mistake, or were close to the end. For the runners on the track and field team, they needed to use all their energy towards the end, and

therefore, they needed to focus on how close they were to the end instead of how tired they were getting. For these athletes, it was easier to think about what they needed to do compared to how they were feeling. Also, some athletes found it easier to focus on specific steps and situations that should occur instead of thinking about how worried they were. These results corroborate findings from Theodorakis et al. (2008) who reported that athletes from various sports used self-talk to improve attentional focus, regulate effort, and control cognitive reactions. Also, Hardy (2006) suggested that self-talk is used to both switch focus and maintain focus on a particular task.

A different form of focus used by half the athletes was the use of imagery in conjunction with self-talk. Athletes saw themselves doing positive actions and getting success from it. It is very possible that athletes need to tell themselves and see themselves succeed. The idea of using imagery in conjunction with self-talk has been widely researched. Hardy et al. (2001) belived athletes would highly benefit from using imagery along with self-talk when executing skills. Furthermore, Mamassis and Doganis (2004) highlighted the work of Vadocz and Hall (2007), stating that they believed imagery was a predictor of cognitive state anxiety. Therefore, it is possible that the current athletes used self-talk in conjunction to imagery to control their anxiety. Lastly, Cumming, Nordin, Horton, and Reynolds (2006) conducted a study where undergraduate students were asked to throw darts after they received facilitative or debilitative imagery and self-talk interventions. The groups were most successful after they received both imagery and self-talk interventions compared to the control groups. Although the uses of self-talk in conjunction with mental preparation and imagery were not the sole focus of the current study, it is quite possible that imagery and visualization of success had as much influence

as self-talk on anxiety and performance. This would be an excellent route for further study.

Athletes also used self-talk to keep reminding themselves what they needed to do. Instead of being distracted by irrelevant cues such as worrying and mistakes, they narrowed their attention to what they needed to accomplish. Making mistakes was a distraction for many athletes. When the athletes made mistakes, they constantly needed to tell themselves to keep focusing. They focused their attention toward moving forward and not looking back.

Used Self-Talk for Confidence

Results of this current study indicate that athletes felt that the use of self-talk for confidence building was imperative to control anxiety. When athletes started to worry, and interpreted the worrying as negative, they fell back on using phrases like, “you can do this,” “play with confidence,” or “play your game” to get them thinking more positively and confidently. These athletes strongly believed that confidence lessened their worrying and got them more focused on the competition. The finding that athletes talk positively to increase confidence and help focus on what is occurring in the present, instead of the past, has been supported by the research (see Theodorakis et al., 2000). Additionally, Hamilton et al. (2007) reported similar results in that positive self-talk can increase confidence and improve performance in cyclists when they did a twenty minute cycling workout.

However, Van Raalte et al. (1994) refuted Hamilton et al.’s results and found that athletes use the same self-talk during their best and worst performances. Van Raalte’s tennis participants used negative self-talk 81% of the time and although some of those

participants performed poorly, not all participants had poor performances and positive self-talk did not yield better performances. However, confidence was not specifically measured. Additionally, Van Raalte recorded statements the athletes said out loud. The current study and that of Hamilton (2007) used self-talk surveys. Since self-talk can be silent and said in one's head, Van Raalte et al. (1994) may have missed a critical portion of the athletes' self-talk. Lastly, the age of Van Raalte at al.'s participants ranged from 16-18, whereas the current study's age ranged 18-21. The use of self-talk in junior athletes compared to that of collegiate athletes may vary greatly. Collegiate athletes may have more experience and knowledge of self-talk strategies and how they affect their performance; possible age differences with self-talk strategies should be investigated more in depth. In the current study, athletes used confidence building self-talk as the best way to improve their performance, which is best demonstrated by Brenda:

> If I'm very worried, I'll get really hard on myself, which is kind of a very bad thing to do because then I worry myself even more. If I'm not too worried though, I'll like pump myself up a little bit, like congratulate myself for a shot I just made. But, if it's a bad shot, I'll get down on myself and then I'll have to pump myself back up before I do anything more.

An important aspect of the above common themes is that anxiety and performance interacted with each other through the use of self-talk. This was evident through the many examples provided and the amount of the success each athlete thought they had in controlling their anxiety level and increasing performance when self-talk was utilized.

Although the order of common themes were ranked on how the athletes used self-talk to control their anxiety in hopes of improving their performances based on the number of supported statements, it is safe to say a particular use of self-talk did not serve one sole purpose. For the current athletes, they used a couple of phrases that would give them focus, motivation, calming, and confidence all at one time. When athletes used self-talk for confidence, it also provided them with focus, motivation, and calming with just one statement. This is an important finding because maybe self-talk is not as intricate as past research has made it out to be.

Summary

This chapter discussed the relationship between self-talk use and anxiety and the common themes that emerged from the interviews of Division III athletes. The current study shows that cognitive state anxiety levels of athletes vary a great deal. Athletes use self- talk to calm and relax themselves, motivate themselves, make themselves focused, and increase their confidence; self-talk patterns were simple and to the point; Correlations between anxiety and self-talk use were small, but moderate levels of anxiety did correspond to moderate self-talk use during competition in some cases. For other athletes, higher or lower levels of anxiety did not determine the amount of self-talk that was used during competition. Athletes had positive thoughts and feelings about self-talk and its relationship to anxiety and performance. Most athletes found themselves interpreting worrying as a negative influence on performance and used self-talk patterns to get past this or re-channel these negative thoughts and feelings or to recover from a mistake.

The current findings of using self-talk for calming, motivation, focus, and confidence supports past research, in general, but additional findings emerged. First, the

use of imagery was important to some athletes and was helpful, in conjunction with self-talk; second, self-talk was very common when athletes need to redirect their attention away from distractions; third, it is possible that self-talk is not as complicated as once thought because the current athletes wanted to keep everything as simple as possible, and lastly, the athletes believed there is a definite interaction between anxiety, performance, and self-talk.

CHAPTER 6

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The primary purpose of this study was to provide a qualitative assessment of athletes thoughts, beliefs, and feelings regarding their experience when using self-talk strategies while experiencing cognitive state anxiety. The secondary purposes were to determine their pre-competition anxiety levels and to investigate the relationship between their anxiety levels and self-talk use.

NCAA, Division III athletes at Ithaca College, participating in women's track and field, women's lacrosse, softball, and women's golf, were assessed for cognitive state anxiety and then interviewed, using a semi- structured interview guide, following their performance. Since performing during competition is considered to be a stressful situation by athletes, their anxiety levels were evaluated using the CSAI-2R one hour before competition. Then as part of a semi-structured interview, a modified STUQ was administered.

The mean level for cognitive state anxiety, as measured by the CSAI-2R was 21 (*SD*= 7). The eight items in the modified STUQ reveled self-talk was used most for skill acquisition and the least for anxiety.

Each of the athletes reported using self-talk for building confidence, to execute a skill and to maintain focus. Self-talk was used most in short phrases and began just prior to competition. Results also indicated self-talk was used to relax, to calm down, for mental preparation, and for motivation purposes.

Four common themes emerged and were supported in past literature; although the qualitative interview brought new information and insight to the current literature. Specifically, the interviews revealed that athletes perceived self-talk as an effective tool to control anxiety and increase performance level. Also, the use of self-talk may be simpler than originally thought. Athletes in the current study had to select few key words that they used, regardless of the situation. These keys words served multiple purposes. Athletes tended to use not only words to increase confidence, but they used the same words to calm down or to motivate themselves.

Conclusions

The following conclusions were drawn from the results of the current study:

1) When athletes worried, it was due to a fear of making a mistake and usually occurred before competition. In addition, they were worried because they lacked motivation and/or confidence. All athletes used self-talk during moments of worrying and athletes mainly used self-talk to calm down, focus, and motivate themselves.

2) Self-talk use for focus, confidence, mental preparation, and skill execution were rated the highest by the athletes. Skill execution and instructional self-talk were important for most of the athletes, especially track and field competitors, but motivation was overwhelmingly what was relied on most to improve performance.

3) Cue words and phrases were preferred the most by the athletes. They liked the words to be short, simple, and to the point. However, a couple of athletes did use sentences depending on the situation.

4) Athletes' interpretation of their anxiety was mainly positive and it gave them confidence, excitement, and allowed themselves to talk more positively. However, when the interpretation was negative, it was solely due to the lack of confidence.

5) Athletes used self-talk to calm, motivate, focus, and for confidence while they were performing. Once athletes experienced any level of anxiety, the first thing they did was to calm themselves down.

6) Findings of self-talk use overlapped. A phrase by an athlete was used for not only confidence, but to increase focus, motivation, and/or skills acquisition, also.

7) All athletes believed self-talk aided in their performance and without it, they would lose control and wouldn't be able to perform the full length of competition.

Recommendations for the Future

The first recommendation made when investigating self-talk strategies is to build off the current results and to focus more on the different components of anxiety. For example, future studies should include athletes who experience only high anxiety, instead of all levels, as done here. Once this is done, a comparison between high anxiety and low anxiety may be beneficial in distinguishing the types of self-talk strategies used.

In conjunction with the previous suggestion, the second recommendation is for the anxious athletes to complete the STUQ followed by an interview to see how this would relate to performance. If doing an interview is not plausible, athletes can wear a recording piece while playing to capture their self-talk use. This can be done in conjunction to the researcher being present at the competition to capture the athletes'

non-verbal self-talk, as well. Instead of the athlete trying to retrospectively recall moments during competition, this alternative may work better and may be more accurate.

The third recommendation is to interview athletes at different points of the season. An athlete's anxiety levels may be different at the start of the season compared to that of during or end of season. It is thought athletes' anxiety and self-talk patterns will change significantly as nearing toward the end of the season, due to coming close to play off time. The combination of interviews will give a more detailed description and possibly, a clear correlation, to athletes' self-talk patterns as it relates to anxiety.

The fourth recommendation is to concentrate on the varying individual aspects of an athlete. Studies should have different ages, genders, and levels so the results are more generalized. That is, males and females of different sports because self-talk and anxiety may vary greatly between gender and individual and team sports. Age is another factor that should be considered when choosing the population. In the current study, only four sports were included and they were all on a Division III level. Studies in the future should include males and different sports that are both individual and team sports because self-talk and anxiety may vary greatly between gender and individual and team sports. If studies can have a more variety of populations and levels the results will be more generalizable.

Finally, it is possible for athletes to be trained to use different self-talk strategies that may aid in performance. If this is to be done in the future, it may be possible to determine a cause and effect relationship between self- talk and performance.

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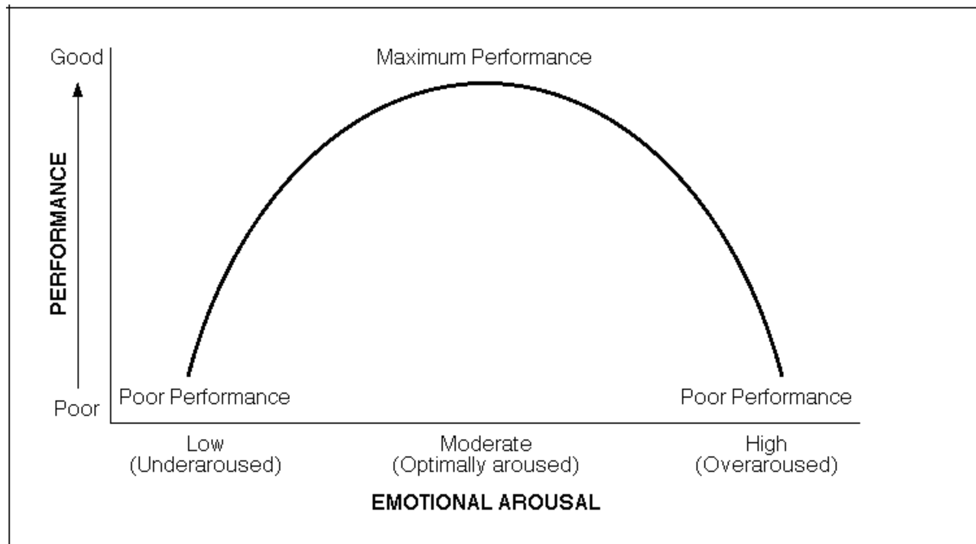
APPENDIX A

INVERTED-U HYPOTHESIS

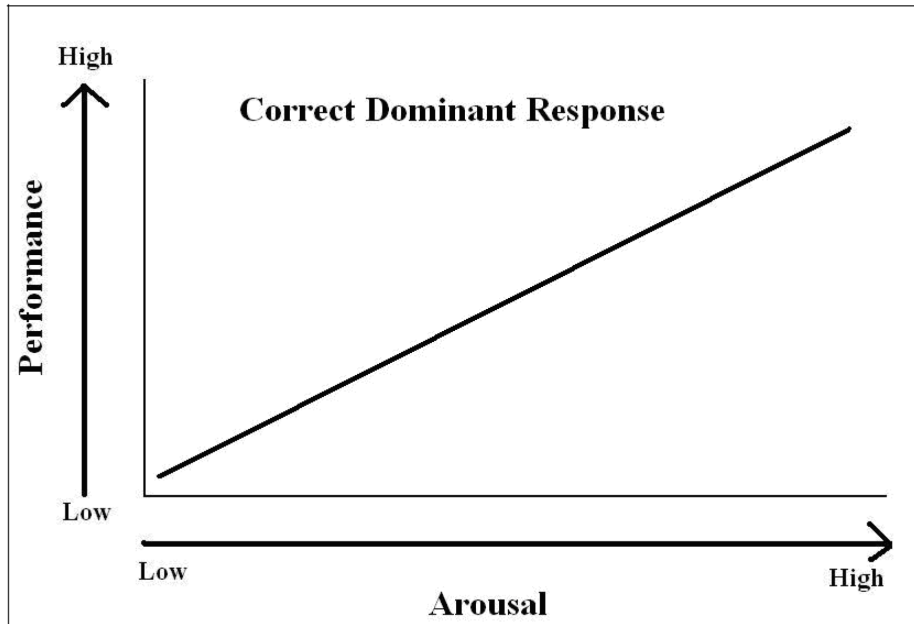
(Yerkes & Dodson, 1908)

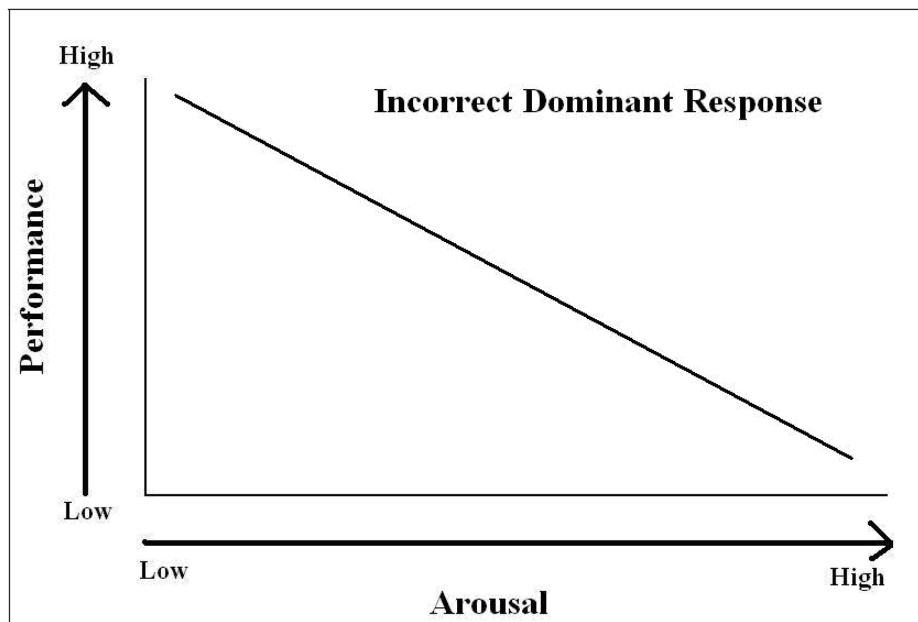


APPENDIX B

DRIVE THEORY

(Hull, 1943)

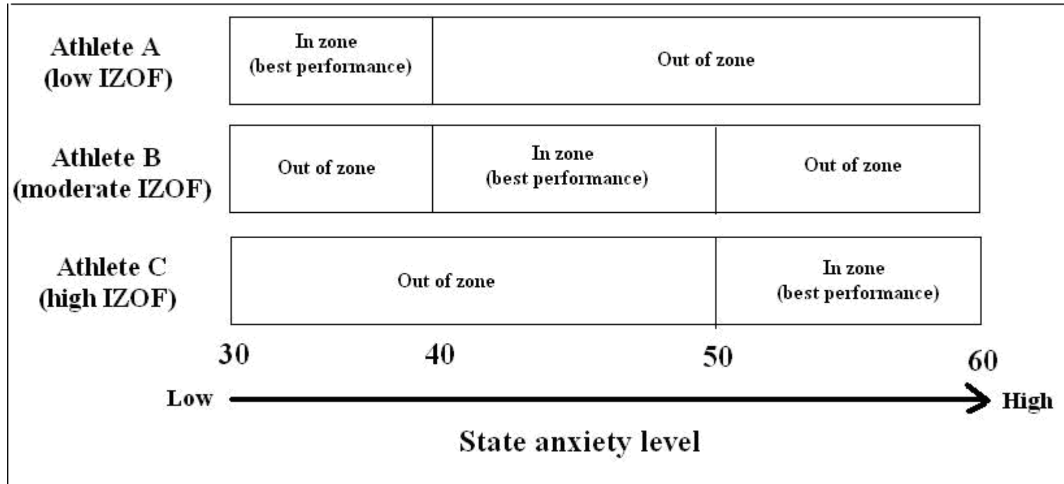




APPENDIX C

INDIVIDUALIZED ZONE OF OPTIMAL FUNCTIONING MODEL

(Hanin, 1978)



APPENDIX D

MULTIDIMENSIONAL ANXIETY THEORY

(Martens, Burton, Vealey, Bump, & Smith, 1990)

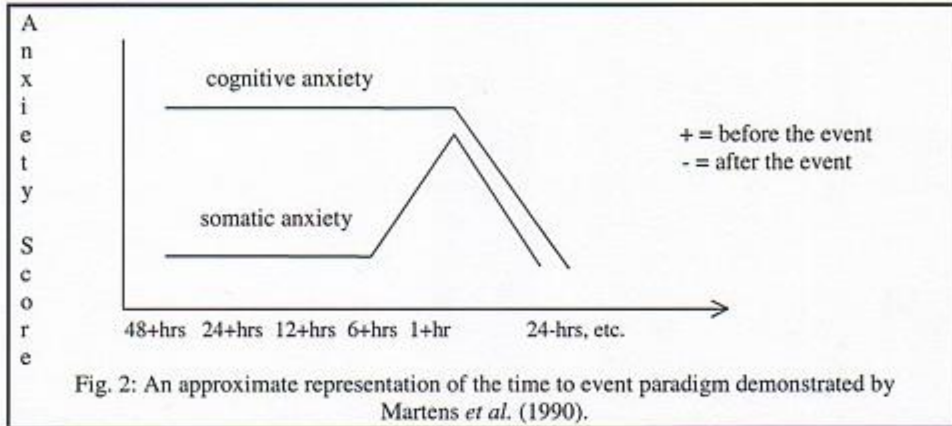
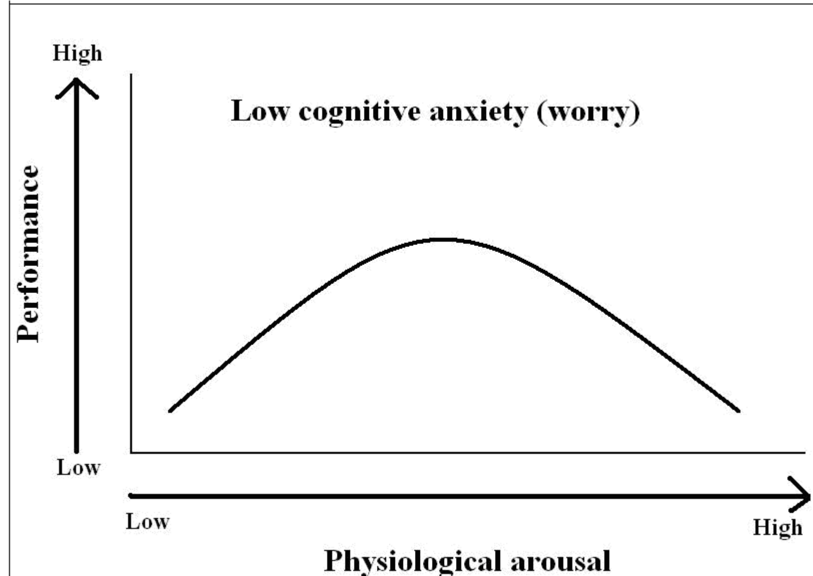


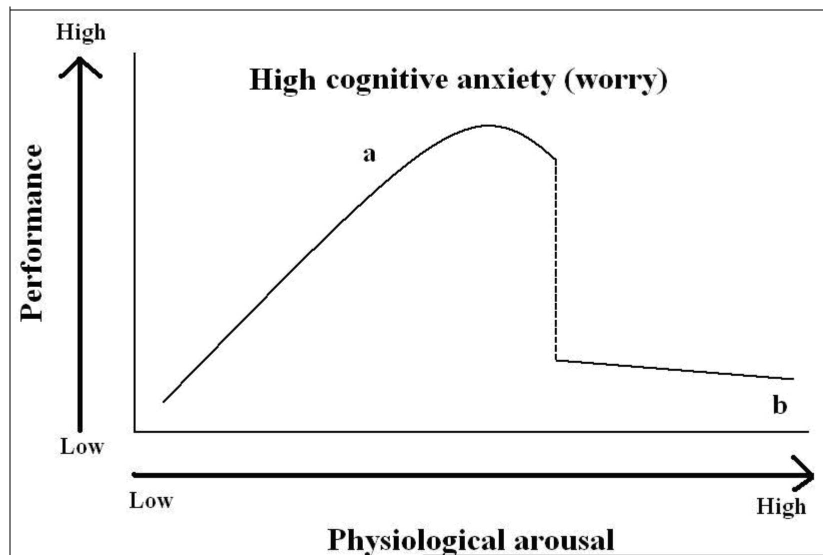
Fig. 2: An approximate representation of the time to event paradigm demonstrated by Martens *et al.* (1990).

APPENDIX E

CATASTROPHE MODEL

(Hardy, 1990)





APPENDIX F

DEMOGRAPHIC QUESTIONAIRE

Date: ______________________ Age: ________________

Gender: ____________________ Race: _______________

Name: ____

Address: ____

____

Phone number: ____

E-mail address: ____

Varsity Sport Played: ____

Level: ____

Total number of years playing sport? _________

APPENDIX G

INFORMED CONSENT FORM

1. Purpose of the Study

   The purpose of this study is to examine self-talk strategies during competition among Division III athletes.

2. Benefits of the Study

This study should provide information about use of self-talk strategies during competition. By participating in this study, you may also benefit by better understanding your own self-talk strategies as it relates to your performance.

3. What You Will Be Asked to Do

You will be asked to fill out a questionnaire concerning self-talk strategies you typically use, or have used, in past competitions. In addition, you will be asked to participate in an hour long interview in relation to your self-talk strategies during competition.

4. Risks

   There are no risks to you by participating in this study.

5. If You Would Like More Information about the Study

Please feel free to contact the primary investigator, Julia Spak at Jspak1@ithaca.edu or (315) 254-7381.

6. Withdrawal from the Study

   You may withdraw from the study at any time without penalty.

7. How the Data will be Maintained in Confidence

Your name will only be required on the informed consent form. Other paperwork that will be completed for this study will not require your name. Your participation will be kept confidential and your responses anonymous. The informed consent form will be kept in a secure location only accessible by the primary investigator.

I have read the above and I understand its contents. I agree to participate in this study. I acknowledge that I am 18 years of age or older.I wish to participate in the following study:

"Use of Self-Talk Strategies during Competition among Division III, Collegiate Athletes"

Initials ______

Print name of participant

____ ________________________

Participant's signature Date

APPENDIX H

COMPETITVE STATE ANXIETY INVENTORY

Directions: A number of statements that athletes have used to describe their feelings before competition are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate *how you feel right now*- at this moment. There are no right or wrong answers. Do *not* spend too much time on any one statement, but choose the answer which describes your feelings *right now*.

	Not at all	Somewhat	Moderately so	Very much so
1. I feel jittery	1	2	3	4
2. I am concerned that I may not do as well in this competition as I could	1	2	3	4
3. I feel self-confident	1	2	3	4
4. My body feels tense	1	2	3	4
5. I am concerned with losing	1	2	3	4
6. I feel tense in my stomach	1	2	3	4
7. I'm confident I can meet the challenge	1	2	3	4
8. I am concerned about choking under pressure	1	2	3	4
9. My heart is racing	1	2	3	4
10. I am confident with performing well	1	2	3	4
11. I am concerned with performing poorly	1	2	3	4
12. I feel my stomach sinking	1	2	3	4
13. I am confident because I mentally picture myself reaching my goal	1	2	3	4
14. I'm concerned that others will be disappointed with my performance	1	2	3	4
15. My hands are clammy	1	2	3	4
16. I'm confident of coming through under pressure	1	2	3	4
17. My body feels tight	1	2	3	4

APPENDIX I

SEMI- STRUCTURED INTERVIEW

1) Think back to your most recent performance and describe if for me.

1A) Were you satisfied with it?

1B) Was it one of your best/worst performances? Explain.

2) At any time during your most recent performance, did you experience any type of worrying?

2A) Can you describe your thoughts during this time.

3) During these times of worrying, did you talk to yourself? Explain.

4) Why do you engage in self-talk strategies?

4A) What does it do for you?

5) When do you talk to yourself the MOST OFTEN (before, during, after competition)?

6) When do your use self-talk strategies usually START? (Before, during, after competition)?

7) How do you interpret your worrying?

8) Do you think your interpretation (answer to question 7) influences what you say to yourself?

9) Can you give a specific example from this competition and what you might say to yourself?

10) Below is a series of statements that self-talk can be used for. I need for you to rate each statement on a scale from 1-10, 10 being the most often, on how often you used self-talk during the statement below. Then, can you give me an example of what you said and when you said it? For example, How often did you use self-talk to “execute a skill and what did you say to yourself? Do the same for all of these.

APPENDIX I, CONTINUED

SEMI- STRUCTURED INTERVIEW

10A) Execute a skill?

10B) To psych yourself up?

10C) To control your nerves?

10D) To regain or keep focus?

10E) To boost your self- confidence?

10F) To mentally prepare yourself?

10G) To increase of maintain your motivation?

10H) To control how much effort you exert?

11) During self-talk, did you usually use single words, short phrases, or complete sentences? Single words being 1 or 2 words, short phrases being 3-4 words, or long drawn out sentences?

11A) In your opinion, what percentage would you say it was used during this competition? (If you used a mix, give me percentage for both)

11B) When might you use single words, short phrases, or complete sentences?

11C) Why does your use of single words, short phrases, or complete sentences change?

12) Can you describe how you think self-talk influences your performance?

13) Is there anything else you would like to add with regards to self-talk or its connection to worrying?

APPENDIX J

SELF-TALK USE QUESTIONNAIRE

(STUQ; Hardey et al., 2005)

Definition and Instructions

''Self-talk, as the name suggests, is best thought of as what you say to yourself. You may talk to yourself out loud or you may talk to yourself in your mind, so that only you can hear what you are saying. For example, you may say things to get yourself psyched up or calmed down, to stay focused, to keep going, etc.'' The following questions/statements are concerned with what you say to yourself in relation to your sport. Your responses will be kept strictly confidential. Neither your coaches nor anyone other than the researcher will see your responses. There are no right or wrong answers but please give an honest reply. Unless instructed otherwise, use the scale below to rate how frequently you talk to yourself for each of the following questions. Thank you!

Never	Rarely		Sometimes		Often		All the time	
1	2	3	4	5	6	7	8	9

Temporal aspects of self-talk (When)

How often do you use self-talk in relation to your sport. . .
- before a practice?
- before a competition?
- during a practice?
- during a competition?
- after a practice?
- after a competition?

Functions of self-talk (Why)

do you say things to yourself. . .

- to refine an already learned skill?
- to refine a strategy/plays/plan/routine?
- to psych yourself up?
- to relax?
- to control your nerves?
- to regain or keep focus?
- to boost your self-confidence?
- to help mentally prepare yourself?
- to cope in tough situations?
- to increase or maintain your motivation?
- to control how much effort you exert?
- to remind yourself of your goals?

In competition, how often do you say things to yourself. . .
- to execute a skill?
- to execute a strategy/plays/plan/routine?
- to psych yourself up?
- to relax?
- to control your nerves?
- to regain or keep focus?
- to help mentally prepare yourself?
- to cope in tough situations?
- to increase or maintain your motivation?
- to control how much effort you exert?
- to remind yourself of your goals?
- to boost your self-confidence?

Content of self-talk (What)

In your opinion, . . .
- generally what percentage of your self-talk is positive in nature? ________% +
- generally what percentage of your self-talk is neutral in nature? ________% +
- generally what percentage of your self-talk is negative in nature? ________% =

In your opinion, . . .
- what percentage of what you say to yourself is said as single words? ______%
- what percentage of what you say to yourself is said as short (3 or 4 words) phrases? ________% +In practice, how often
- what percentage of what you say to yourself is said as complete sentences? ______%= 100%

In your opinion,. . .
- in general, what percentage of your self-talk is said out loud so others can potentially hear what you are saying to yourself? ______% +
- in general, what percentage of your self-talk is in a "muttered" fashion or under your breath so only you can hear what you are saying to yourself? _______% +
- in general, what percentage of your self-talk is said in your head so that only you can hear what you are saying to yourself ________% = 100%

APPENDIX K

SELF-TALK USE QUESTIONNAIRE RESULTS

Participant	STUQ Skill	STUQ Psych	STUQ Nerves	STUQ Focus	STUQ Confidence	STUQ M.Preparation	STUQ Motivation	STUQ Effort	STUQ Score (out of 80)
#1	8	4	10	8	7	6	8	8	59
#2	9	4	9	7	7	9.5	7.5	7	60
#3	6	2	3	8	5	5	3	3	35
#4	8	9.5	3	7	9	10	10	1	57.5
#5	7.5	4	2	5	4	8.5	3	3	37
#6	7	2.5	8.5	5	10	5	2	3	43
#7	9	9	6	4.5	8	7	3	3.5	50
#8	10	5	2	4	8	4	5	6	44
#9	10	7	1	10	8	10	10	6.5	62.5
#10	7	3	8	1	10	8	8	8	53
#11	7	10	1	1	10	10	10	10	59

APPENDIX L

BIVARIATE CORRELATION

		CSAItot	STUQskill	STUQpsych	STUQNerves	STUQfocus	STUQconf	STUQmprep	STUQmot	STUQeffort
CSAItot	Pearson Corr.	1	.050	-.478	.452	.340	-.162	.036	.173	.508
	Sig. (2-tailed)		.883	.137	.163	.306	.635	.917	.612	.110
	N	11	11	11	11	11	11	11	11	11
STUQskill	Pearson Corr.	.050	1	.333	-.130	.300	.042	.117	.236	.117
	Sig. (2-tailed)	.883		.316	.703	.370	.903	.732	.485	.732
	N	11	11	11	11	11	11	11	11	11
STUQpsych	Pearson Corr.	-.478	.333	1	-.463	-.138	.368	.572	.505	.051
	Sig. (2-tailed)	.137	.316		.151	.686	.265	.066	.113	.882
	N	11	11	11	11	11	11	11	11	11
STUQNerves	Pearson Corr.	.452	-.130	-.463	1	.003	.169	-.250	-.149	.133
	Sig. (2-tailed)	.163	.703	.151		.994	.619	.459	.661	.696
	N	11	11	11	11	11	11	11	11	11
STUQfocus	Pearson Corr.	.340	.300	-.138	.003	1	-.475	.015	.052	-.346
	Sig. (2-tailed)	.306	.370	.686	.994		.140	.964	.879	.298
	N	11	11	11	11	11	11	11	11	11
STUQconf	Pearson Corr.	-.162	.042	.368	.169	-.475	1	.146	.413	.317
	Sig. (2-tailed)	.635	.903	.265	.619	.140		.668	.207	.343
	N	11	11	11	11	11	11	11	11	11
STUQmprep	Pearson Corr.	.036	.117	.572	-.250	.015	.146	1	.699*	.194
	Sig. (2-tailed)	.917	.732	.066	.459	.964	.668		.017	.568
	N	11	11	11	11	11	11	11	11	11
STUQmot	Pearson Corr.	.173	.236	.505	-.149	.052	.413	.699*	1	.528
	Sig. (2-tailed)	.612	.485	.113	.661	.879	.207	.017		.095
	N	11	11	11	11	11	11	11	11	11
STUQeffort	Pearson Corr.	.508	.117	.051	.133	-.346	.317	.194	.528	1
	Sig. (2-tailed)	.110	.732	.882	.696	.298	.343	.568	.095	
	N	11	11	11	11	11	11	11	11	11

*. Correlation is significant at the 0.05 level (2-tailed).

APPENDIX M

ATHLETE 1: HIGHER-ORDER THEMES

H.1.1- Uses "just play golf" to calm down

L.1.10- Uses self-talk for calming purposes because she has only been playing golf for two years.

L.1.11- Uses "play golf" to calm herself down because when she was a runner she always used "just run."

L.1.12- Uses "just play golf" when she needs to relax and/or gain more confidence.

H.1.2- Always uses self-talk for confidence

L.1.13- She should have confidence so when she needs it, she likes to use "you can do this" and/or "you know you can hit this shot," but she tends to stay with "just play golf."

L.1.14.- She doubts her ability when she has no confidence and knows she has to use self-talk to regain her confidence.

L.1.15- She likes to use simple phrases to regain her confidence.

L.1.16- When she says the perfect phrases, her confidence increases.

L.1.17- She always uses self-talk to keep her confidence up.

H.1.3- Prefers short words that are straight and to the point

L.1.22- She tends to use one or two words.

L.1.23- 80-85% of her talk is short words.

L.1.24- She never sees herself using long sentences because she likes to forward and to the point.

L.1.25- Her key words are simple and to the point.

APPENDIX N
ATHLETE 2: HIGHER-ORDER THEMES

H.2.1- Uses self-talk to calm down and stay on "even keel"

L.2.2- When worried before competition, she uses self-talk to calm down-"you know you can do well."

L.2.3- Self-talk to calm down her emotions and to stay on an even keel.

L.2.4- Used negative self-talk after a bad shot; Used positive self-talk by telling herself to breathe before the next shot.

L.2.8- Uses self-talk to control nerves (rating scale 9) by telling herself to calm down and take it one hole at a time.

H.2.2- To execute a skill and for technique to overcome worrying

L.2.1- To overcome her worrying, she use self-talk to execute technically by saying, "Brenda, straight back, straight through. Don't try to rush anything;" result-perfect drive.

L.2.7- Uses self-talk to execute a skill (rating scale 9) in her head, during putting.

H.2.3- Uses self-talk for focus after a bad shot

L.2.9- Uses self-talk to refocus (rating scale 7) after a bad shot.

H.2.4- Uses self-talk for confidence

L.2.10- Uses self-talk to boost her confidence when she is putting and has a bad putt.

L.2.11- She tries to give herself more confidence by telling herself she's worked on putting all week long and knows she can make the putt if she just keeps her head down, don't swing too hard, and doesn't peek at the hole.

H.2.5- Mentally prepared the night before

L.2.12- Uses self-talk to mentally prepare (rating scale 9-91/2) the night before by telling herself "you can do well if you let yourself."

H. 2.6- Motivational self-talk is used before she putts

L.2.14- Uses self-talk for motivation (rating scale 7-8) when she had two bad putts and had to do well on the third putt.

L.2.15- Uses self-talk for motivation to make a putt that she knows she practiced that week since she missed it the week before.

APPENDIX N, CONTINUED

ATHLETE 2: HIGHER-ORDER THEMES

H.2.7- Prefers short phrases 100% of the time

L.2.16- Prefers to use short phrases by saying "straight back, straight through".

L.2.17- Uses short phrases 100% of the time during competition.

H.2.8- Self-talk begins prior to competition

L.2.5- She says self-talk starts before competition

APPENDIX O

ATHLETE 3: HIGHER-ORDER THEMES

H.3.1- Says “play with confidence”

L.3.9- Her big thing is confidence and she plays with confidence because she writes the word on her hand, or arm, before each game.

L.3.10- She likes to say “play your game” or “play with confidence” when she notices her confidence level decreasing.

L.3.11- She uses self-talk for confidence (rating scale 5) when she her personal performance is struggling.

L.3.12- When she has confidence, her worrying decreases.

H.3.2- Uses self-talk to focus on the game instead of distractions

L.3.16- Uses self-talk to focus so she does not get too caught up in the meaning of the game and it rids of all distraction around her.

L.3.17- Once the game starts, she uses self-talk to focus in on what she needs to do in the game.

L.3.18- Uses “play my game” to focus (rating scale 8) when she makes a mistake.

H.3.3-Uses self-talk to execute a skill and for technique when she is nervous

L.3. 20- Uses self-talk to execute a skill (rating scale 6) when she is shooting by saying “fake.”

L.3.21- Uses self-talk for skill execution when she is nervous.

H.3.4- Prefers short phrases: 75% phrases, 25% word

L.3.31- Self-talk is definitely within three or four words and tend to be “gotta have confidence” and/or “play your game”.

L.3.32- 75% of self-talk is phrases and 25% is words, such as “fake”.

L.33- uses phrases when it is more emotional self-talk and words when it requires skill acquisition.

H.3.5- Self-talk begins an hour before competition

L.3.29- Strongly believes her self-talk strategies begin an hour before competition and even before warm up.

H.3.6- Says “play your game” to calm down

L.3.13- Uses “play your game” to stay in her element.

L.3.14- It is calming and satisfying for her when she plays her game and to her capability.

APPENDIX P

ATHLETE 4: HIGHER-ORDER THEMES

H.4.1- Uses self-talk to calm down so she does not worry over multiple things

L.4.6- Uses positive self-talk to calm herself down when she has butterflies.

L.4.7- Uses self-talk to calm herself down if the other team goes on a scoring streak because it a negative sign to other teammates.

L.4.8- To not worrying about a bunch of things, she uses self-talk to calm herself down and focus.

H.4.2- Self-talk begins prior to competition during warm up

L.4.16- Self-talk begins during warm up while focusing on catching and throwing.

H.4.3- Execute a skill and for technique

L.4.19- Uses self-talk to execute a skill (scale range 8), such as "keep it tucked in."

H.4.4- Uses self-talk to focus after she makes a mistake

L.4.18- When she makes a mistake, she uses self-talk to focus on the play immediately happening after the mistake and not making the initial mistake.

L.4.22- Uses self-talk for focus (scale rating 7) when she makes a bad defensive play.

L.4.24- Said "stop the shot" in a particular play following her mistake to focus in on preventing a goal.

H.4.5- Uses self-talk for a confidence boost after a mistake

L.4.24- Uses self-talk for confidence (scale rating 9) by saying "forget it" after a turn over and losing possession.

H.4.6- Uses imagery and focuses on goals and opponents

L.4.9- Uses imagery and sees herself doing something positive so she can improve her performance.

L.4.10- Uses imagery when she needs to win a ball and sees herself getting to the ball first.

L.4.25- Uses mental preparation (rating scale 10) during warm up when she is focusing on key players and hers and her team's goals.

APPENDIX P, CONTINUED

ATHLETE 4: HIGHER-ORDER THEMES

H.4.7- Uses motivational self-talk when the competition is strong

L.4.26 Uses self-talk to motivation (rating scale 10) when she is against rivals or good teams. She thinks back to their previous meeting with them as motivation.

H.4.8- Prefers short phrases 70% of the time

L.4.27- uses short phrases such as, “pick it up,” “get on the ball,” and/or “talk on defense.”

L.4.28- Uses short phrase about 70% of the time.

L.4.29- Uses one words phrases when she is thinking of goals or thinking of the other team players.

L.4.30- Tends to use one word phrases when it is a fast paced game.

APPENDIX Q

ATHLETE 5: HIGHER-ORDER THEMES

H.5.1- Uses imagery and likes to think about what she will do in each situation

L.5.3- She runs through any situation that can occur and what she will do if it happens.

L.5.6- Tries to focus in on what she would like to see herself doing while performing.

L.5.7- Uses imagery to see previous successes and to see opportunities before they happen.

L.5.18- Thinks about what she will do before she gets the ball, bats etc. (rating scale- 8-9).

L.5.19- Mentally prepares to perform depending on if she is on defense or offense and runs through every situation that can occur in those positions.

H.5.2- Uses self-talk because it gives her confidence

L.5.4- Gives herself more confidence when she says, "this pitch is yours" so she gets more confidence that she can hit the ball.

L.5.5- Her reason for using self-talk is to give her more confidence and for focus.

L.5.17- Self-talk helped her performance because is allowed for her to be more focused and have more confidence.

H.5.3-Uses self-talk because it helps her focus

L.5.4- Her reason for using self-talk is for focus and to give herself more confidence.

L.5.16- Tells herself to relax, focus, and to think about what she will do so she does not get overwhelmed.

L.5.17- Self-talk helped her performance because is allowed for her to be more focused and have more confidence.

H.5.4- Self-talk begins prior to competition during warm up

L.5.11- Self-talk begins when she is hitting during warm up.

H.5.5- Execute a skill

L.5.14- Used self-talk to tell herself to step on first and look at runner at 2 before the ball came to her.

APPENDIX R

ATHLETE 6: HIGHER-ORDER THEMES

H.6.1- Uses self-talk to calm down and relax

L.6.2- When she is nervous, she says "relax"," take a deep breath", "you've been here" and/or "it's nothing new, it's the same game", to calm down.

L.6.3- Self-talk calms her down because everything races in her head and it makes her slow down and focus on the moment.

L.6. Tells herself to "breathe" or "relax" when she needs to calm down (rating scale 8-9).

H. 6.2- Uses self-talk for mental preparation and imagery for planning

L.6.4- Sees herself performing successfully and saying, "it's the same game," "I've done it before" and/or "still catching and throwing".

L.6.13- Uses mental preparation self-talk (rating scale 5) for situational things and for planning, but saying "okay, I need to throw the ball wherever."

H. 6.3- Self-talk begins when competition starts.

L.6.6- Self-talk begins as soon as she steps out on the field.

H. 6.4- Uses self-talk to execute a skill (7) when she is hitting

L.6.11- Self-talk is used to execute a skill when she is hitting (rating scale 7) by saying, "keep your shoulder down" and/or "keep your head on it."

H. 6.5- Uses self-talk for focus (5) by thinking of plan for each situation that can occur

L.6.14- If she messed up, she talks about the next situation that may occur so she is ready.

H. 6.6- Uses self-talk for confidence frequently (10) by saying, "I'm good"

L.6.15- Uses self-talk for confidence often (rating scale 10) and uses it all the time by saying, "I'm a good player."

H. 6.7- Prefers short words: 60% short words, 40% long sentences

L.6.16- prefers to use short words 60% of the time, 40% long sentences

L.6.17- Uses short words at bar when she needs to focus in on one or two key factors.

APPENDIX S

ATHLETE 7: HIGHER-ORDER THEMES

H.7.1- Self-talk begins right before competition

L.7.27- She begins talking to herself before she even takes her first step.

H.7.2- Prefers short phrases- "calm down"

L.7.24- She likes short phrases and says statements like "calm down" and/or "I need to breathe, calm down, I'm fine."

L.7.25- Uses phrases most of the time she jumps.

L.7.26- Tries to use phrases that focus in on one aspect of her previous jump that needs to be corrected. Examples of this could be "okay, swing!" or "get my arms up".

H.7.3- Mental preparation by thinking about technique

L.7.22- Uses self-talk for mental preparation (rating scale 7) to not over think so she can focus better.

L.7.23- Tries to think about technical aspect of what she needs to accomplish, so she can stop thinking too much.

H.7.4- Uses self-talk frequently to execute a skill (rating scale 9) and for technique to correct it for next time

L.7.8- Uses self-talk to correct a technique she did wrong so she can execute it better next time around.

L.7.21- To not over think too much about execution, she tends to keep it simple by saying, "okay, just jump off" which is a key words that works well for her.

H.7.5- Uses self-talk for motivation- "I can do this, I'm fine"

L.7.19- For motivation, she tries to talk herself through by having a plan and telling herself she knows what she needs to do.

H.7.6- Lack of confidence makes her interpretation of worrying a negative; Uses self-talk to overcome low confidence levels

L.7.17- Starts thinking technique aspects of her jump to regain confidence so she is not as worried because she strongly believes she has her technique down. As a result, her jumps get better and she becomes more confident.

L.7.18- Likes to remind herself of the positive things others have said to her to gain more confidence.

APPENDIX S, CONTINUED

ATHLETE 7: HIGHER-ORDER THEMES

H.7.7- Uses self-talk to calm down/relax (rating scale 9)-"deep breath", "calm down"

L.7.10- After a failed attempt, she tries to calm herself down by reminding herself she has a couple more to go, tells herself to "take it one jump at a time", and to "breathe".

L.7.11- After PRing- she was so excited that she need to talk herself down a few levels so she can continue to break records and jump at a height she has never jumped before.

L.7.12- After a failed attempt, she tells herself she knows she can do it and that she just needs to relax.

L.7.13-When she was being rushed to jump, she knew she had to try and calm herself down by thinking of what she needed to do and not to worry about her speed.

L.7.14-After reaching a new height, her heart was beating out of her chest and she need to calm down by saying, "deep breath".

L.7.15- Needed to control her nerves 9rating scale 9) by telling herself she is fine.

L.7.16- Strongly believes her self-talk for calm down helps tremendously because she is a highly anxious person, in general, and knows she need to bring it down a level so she can compete.

H.7.8- Self-talk (technical) is used for focus–"I know I can"

L.7.5- Uses self-talk for focus by telling herself she has jumped this height before and knows her step is correct.

L.7.6- Tries not to let other distractions bother her so she focuses on what technical aspect she needs to correct before she jumps.

L.7.7- When she loses focus, it is because she used the wrong self-talk cue words and got caught up in the moment instead of focusing on what she needs to accomplish.

APPENDIX T

ATHLETE 8: HIGHER-ORDER THEMES

H.8.1- Uses self-talk for getting/keeping motivation (rating scale5) by saying "you gotta catch her" and "go, go go"

L.8.8- Tells herself to move her arms when she needs motivation to run faster.

L.8.9- To keep motivation, she tells herself she has more time to catch up to people when she sees others passing her.

L.8.10- When she noticed she had little time to catch up to others, she told herself, "it's time, you just have to keep going".

L.8.11- Uses positive/motivational self-talk because she believes in helps to keep going and catch up to others, instead of saying, "oh I'm never going to catch up to her"

L.8.12- Uses self-talk to keep motivation, especially when she knows she will never catch the opponent, but is just trying to do her best.

L.8.13- After she passed a girl, she got more motivated but continued getting motivation by saying, "try to go after the next girl, next girl, next girl".

L.8.14- Trying to catch up with a girl, she said, "I have to, I have to go."

H.8.2- Uses self-talk to help with technique (when needed) and focus by using "stride, stride", "arm, arm"

L.8.15- Tried to make her motions different than from the beginning (longer strides, pumping arms) but using self-talk.

L.8.16- Said "stride, stride;" "arms" when she tried to close the gap between her and the opponent.

L.8.19- When the last bell goes off and she needs to refocus, she says, "fix the arms" or "open your stride."

L.8.20- Knew she needed to fix her form because she remembered her coach pointing it out previously, so she said, "I gotta move my arms."

L.8.25- To execute the skill (rating scale 10), she said you gotta go, you gotta go. Past her, past her, past her."

H.8.3- Uses self-talk for confidence (8) by saying, "you gotta go with them"

L.8.27- Used self-talk for confidence (rating scale 8), by saying, "you gotta go with them, you gotta go with them.

H.8.4- Self-talk begins prior to competition when she is on the line, before the gun goes off

L.8.7- Self-talk start when she is on the line, before the gun goes off , and knows she just has to go for it.

APPENDIX U

ATHLETE 9: HIGHER-ORDER THEMES

H.9.1- When worried, athlete tries to gain confidence

L.9.2- Uses self-talk because she wants to increase confidence.

L.9.18- Got psyched out because coach put her in a faster race so she used self-talk to increase her confidence (rating scale 8) by saying, you can do this, "I've run these times before," "I can stay with these girls," and/or "this girl's right next to me, I can stay with her the rest of the race."

H.9.2- Uses self-talk for motivation (10)- "keep going"

L.9.20- The whole race, she is telling her that "you can get through this," "it's only one minute, keep going keep going," to keep her motivation (rating scale 10).

L.921- Strongly believes self-talk helps her motivation level so she does not get down on herself.

H.9.3- Self-talk begins before competition and during warm up

L.9.6- During warm up, she starts talking about her strategies, goals, and her form.

H.9.4- Uses self-talk to focus on relevant things and on making the next hurdle

L.9.3- When she is worried, she tells herself to focus on aspects other than how nervous she is.

L.9.10- Uses self-talk for focus so she is not easily distracted on irrelevant things but on what she needs to do.

L.911- When she misses a hurdle, she likes to focus on making the next hurdle and forget about the one she just missed (rating scale 10).

L.9.12- kept telling herself she can do well if she just focuses.

H.9.5- Uses self-talk to execute a skill frequently (10) and for technique for form

L.9.15- Tell herself to "negotiate," "lengthen," "quicken" to execute proper form (rating scale 10).

L.9.4- Tries to think about her technique when she talks to herself prior to competition.

APPENDIX U, CONTINUED

ATHLETE 9: HIGHER-ORDER THEMES

H.9.6- Uses self-talk for mental preparation of her going over the hurdles successfully

L.9.19- Tries to mentally prepare herself as she is standing at her block for an extended period of time (rating scale 10).

L.9.26- Does mental imagery of herself going out of the blocks, going over hurdles smoothly, and negotiating smoothly through the race.

APPENDIX V

ATHLETE 10: HIGHER-ORDER THEMES

H.10.1- Prefers short phrases but uses single words and phrases equally

L10.9- Prefers short phrases

L10.10- Uses phrases 50% of the time.

L10.11- Uses words 50% of the time, but it depends on the situation.

H.10.2- Uses self-talk for motivation (8) by saying positive

L10.11.13- She tries not to doubt herself and be encouraging but using self-talk to motivate (rating scale 8) herself by saying positive things.

H.10.3- Uses self-talk for mental preparation (8) and for visualization

L10.5- Use visualization in combination with "pick it up".

L10.14- Uses self-talk for mental preparation by saying "just focus," "calm down," "don't worry about this race," and/or "if you don't do well this time, you'll do it in states."

H.10.4- Uses self-talk for confidence (10) frequently to not worry

L10.15- Noticed that other girls were faster than her so she told herself that she needed to run a fast time for confidence (rating scale 10).

L10.16- She used self-talk for confidence so she did not worry as often by saying, "be confident," "you're gonna get over this" and I, I just said, "Just run through it, just run."

H.10.5 - Uses self-talk to execute a skill (7) by saying "switch legs"

L10.17- Uses self-talk to execute a skill (rating scale 7) by saying, "switch legs, switch legs, switch legs".

H.10.6- Uses self-talk for focus during worrying- "focus"

L10.19- Uses self-talk for focus when she was even with a girl and told herself to "focus, just need to stay focused" and not to worry about the opponent.

L10.20- Kept telling herself to "focus" when she was worried.

H.10.7- Uses self-talk to calm down- "calm down"/ 9) Uses self-talk to control nerves (8) by saying "you can do this"

L10.7- When she is more calm, she uses short words.

L10.17- Uses self-talk to calm down (rating scale 8) by talking about her plan and telling herself to calm down.

APPENDIX V, CONTINUED

ATHLETE 10: HIGHER-ORDER THEMES

L10.23- Helps her calm down when she tells herself just to run her race.

L10.24- When she is anxious, she tends to use short little phrases, such as “you can do this”, “just calm down”.

H.10.8- Self-talk begins before competition

L10.25- Self-talk begins before the race starts.

APPENDIX W

ATHLETE 11: HIGHER-ORDER THEMES

H.11.1- Uses self-talk for focus

L.11.3- Talking to herself helps her focus more because if she didn't, she thinks she would do worse because her performance have improved since she start self-talking.

H.11.2- Uses self-talk for calming purposes- "I've just got to do it"

L.11.5- uses self-talk to calm herself down before she throws because that is when she worries most.

H.11.3- Uses self-talk to execute a skill (7) - "I can do this" or very technical self-talk

L.11.2- Always uses her key words to execute a throwing skill without even thinking.

L.11.6- When she is in her circle, she starts using her key words to get her through the technical aspects of her throw by saying, "okay feet in the right spot" uh "stay low", um "keep my arm back".

L.11.7- She has very technical key words that help her execute her discus throw.

L.11.8- To execute a skill, she uses self-talk all the time (rating scale 10) by saying, "I can do this", "I want to PR," and/or "I'm going to do well".

H.11.4- Uses self-talk for confidence frequently- "I can do this"

L.11.9- Uses self-talk for confidence (rating scale 10) all the time by saying, "I can do this, I can do this" and/or "if she can throw that, I can throw farther".

H.11.5- Uses self-talk for mental preparation frequently (10)- "I can do this"

L.11.1- Used visualization right before she threw.

L.11.4- uses key words and visualization almost every time she steps in the circle before she throws.

L.11.10- Mentally prepares for every meet (rating scale 10) and use self-talk for mental preparation all the time through the meet by saying, "I can do this," "I can do well," "I'm ready to go," "Let's do it."

H.11.6- Uses self-talk for motivation (5) constantly- "I can do this", "relax"

L.11.11- Uses motivational (rating scale 5) self-talk constantly and it never goes away.

APPENDIX W, CONTINUED

ATHLETE 11: HIGHER-ORDER THEMES

L.11.12- To increase motivation, if she needs to, she will say, “relax”, “I can do this,” “think technical things” and/or “when the technique comes, it will all come”.

H.11.7- Athlete prefers short phrases: 75% short words, 25% single word

L.11.13- Prefers short phrases or single words at all times.

L.11.14- 75% is short words and 25% is single words.

APPENDIX X

OVERALL COMMON THEMES

CONFIDENCE

H.1.2- Always uses self-talk for confidence
H.2.4- Uses self-talk for confidence
H.3.1- Says "play with confidence"
H.4.5- Uses self-talk for a confidence boost after a mistake
H.5.2- Uses self-talk because it gives her confidence
H. 6.6- Uses self-talk for confidence frequently (10) by saying, "I'm good"
H.7.6- Lack of confidence makes her interpretation of worrying a negative; Uses self-talk to overcome low confidence levels
H.8.3- Uses self-talk for confidence (8) by saying, "you gotta go with them"
H.9.1- When worried, athlete tries to gain confidence
H.10.4- Uses self-talk for confidence (10) frequently to not worry
H.11.4- Uses self-talk for confidence frequently- "I can do this"

TO EXECUTE A SKILL AND FOR TECHNIQUE

H.2.2- To execute a skill and for technique to overcome worrying
H.3.3-Uses self-talk to execute a skill and for technique when she is nervous
H.4.3- Execute a skill and for technique
H.5.5- Execute a skill
H. 6.4- Uses self-talk to execute a skill (7) when she is hitting
H.7.4- Uses self-talk frequently to execute a skill (rating scale 9) and for technique to correct it for next time
H.8.2- Uses self-talk to help with technique (when needed) and focus by using "stride, stride", "arm, arm"
H.9.5- Uses self-talk to execute a skill frequently (10) and for technique for form
H.10.5 - Uses self-talk to execute a skill (7) by saying "switch legs"
H.11.3- Uses self-talk to execute a skill (7) - "I can do this" or very technical self-talk

FOCUS

H.2.3- Uses self-talk for focus after a bad shot
H.3.2- Uses self-talk to focus on the game instead of distractions
H.4.4- Uses self-talk to focus after she makes a mistake
H.5.3-Uses self-talk because it helps her focus
H. 6.5- Uses self-talk for focus (5) by thinking of plan for each situation that can occur
H.7.8- Self-talk (technical) is used for focus–"I know I can"
H.9.4- Uses self-talk to focus on relevant things and on making the next hurdle
H.10.6- Uses self-talk for focus during worrying- "focus"
H.11.1- Uses self-talk for focus

RELAXING AND CALMING FUNCTION

H.1.1- Uses "just play golf" to calm down
H.2.1- Uses self-talk to calm down and stay on "even keel"

APPENDIX X, CONTINUED

OVERALL COMMON THEMES

H.3.6- Says “play your game” to calm down
H.4.1- Uses self-talk to calm down so she does not worry over multiple things
H.6.1- Uses self-talk to calm down and relax
H.7.7- Uses self-talk to calm down/relax (rating scale 9)-“deep breath”, “calm down”
H.10.7- Uses self-talk to calm down- “calm down”/ 9) Uses self-talk to control nerves (8) by saying “you can do this”
H.11.2- Uses self-talk for calming purposes- “I’ve just got to do it”

MENTAL PREPARATION

H.2.5- Mentally prepared the night before
H.4.6- Uses imagery and focuses on goals and opponents
H.5.1- Uses imagery and likes to think about what she will do in each situation
H.6.2- Uses self-talk for mental preparation and imagery for planning
H.7.3- Mental preparation by thinking about technique
H.9.6- Uses self-talk for mental preparation of her going over the hurdles successfully
H.10.3- Uses self-talk for mental preparation (8) and for visualization
H.11.5- Uses self-talk for mental preparation frequently (10)- “I can do this”

PREFER SHORT PHRASES

H.1.3- Prefers short words that are straight and to the point
H.2.7- Prefers short phrases 100% of the time
H.3.4- Prefers short phrases: 75% phrases, 25% word
H.4.8- Prefers short phrases 70% of the time
H.6.7- Prefers short words: 60% short words, 40% long sentences
H.7.2- Prefers short phrases- “calm down”
H.10.1- Prefers short phrases but uses single words and phrases equally
H.11.7- Athlete prefers short phrases: 75% short words, 25% single word

BEGINS PRIOR TO COMPETITION

H.2.8- Self-talk begins prior to competition
H.3.5- Self-talk begins an hour before competition
H.4.2- Self-talk begins prior to competition during warm up
H.5.4- Self-talk begins prior to competition during warm up
H.7.1- Self-talk begins right before competition
H.8.4- Self-talk begins prior to competition when she is on the line, before the gun goes off
H.9.3- Self-talk begins before competition and during warm up
H.10.8- Self-talk begins before competition

MOTIVATION 7

H.2.6- Motivational self-talk is used before she putts
H.4.7- Uses motivational self-talk when the competition is strong
H.7.5- Uses self-talk for motivation- “I can do this, I’m fine”

APPENDIX X, CONTINUED

OVERALL COMMON THEMES

H.8.1- Uses self-talk for getting/keeping motivation (rating scale5) by saying “you gotta catch her” and “go, go go”
H.9.2- Uses self-talk for motivation (10)- “keep going”
H.10.2- Uses self-talk for motivation (8) by saying positive
H.11.6- Uses self-talk for motivation (5) constantly- “I can do this”, “relax”