UNIVERSITY OF EDUCATION, WINNEBA

INVESTIGATING THE INFLUENCE OF ANXIETY ON SPORTS PERFORMANCE AMONG BASIC SCHOOL ATHLETES IN THE CENTRAL REGION OF GHANA.

SIMON KORMLA DONKOR

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SIMON KORMLA DONKOR

A Thesis in the Department of Health, Physical Education, Recreation and Sports (HPERS), Faculty of Science Education, submitted to the School of Graduate Studies, University of Education, Winneba in partial fulfilment of the requirements for the award of Master of Philosophy (Physical Education) Degree.

OCTOBER, 2014

DECLARATION

STUDENT'S DECLARATION

I, Simon Kormla Donkor, declare that this thesis, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

SIGNATURE……

DATE……..

SUPERVISORS'S DECLARATION

I, hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for the supervision of thesis as laid down by the University of Education, Winneba.

NAME OF SUPERVISOR: Prof. HAKA Pufaa

SIGNATURE:……..

DATE……..

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DEDICATION

This work is dedicated to my mother, Augustine Akosua Gbey, who gave me formal education. My beloved wife Believe A. Gaglozu, whose love, unending care, spiritual support, encouragements enabled me to fulfill this dream, not forgetting all my sons Bismark and Percy.

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ABSTRACT

This research investigated the influence of anxiety on sports performance among self-selected Basic School athletes in the Central Region of Ghana. The study is a quasi-experimental research of static group comparison design. This design involves a group that has experienced treatment compared to another without treatment (control group). The sample for the study was made up of sixty (60) self selected and purposively selected male and female track athletes at the 31st Inter-Regional Basic School Sports Festival at Ho. A simple random sampling technique was used to group the participants into two groups of 30 experimental and 30 control groups respectively, of equal gender representation (15 males and 15 females experimental group & 15 males and 15 females control group). The research was conducted using 20 items questionnaires adapted from the State-Trait Anxiety Inventory (STAI) by Spielberger (1968). The instrument was revalidated using test re-test method with a reliability coefficient of Cronbach alpha of .78 (α = .78). Three research questions were answered and one hypothesis was tested. Data collected was analysed using descriptive statistic of frequency counts and percentage for demographic information and Pearson product moment correlation to test the hypothesis at 0.05 significant level. The findings revealed that anxiety had a negative impact on performance. The higher the STAI score in the controlled group, the more poorly the athlete performed in an event as compared to those that obtained lower score of STAI due to the treatment intervention. It is recommended that coaches from basic school should be educated on the negative effects of anxiety on student athletes to ensure that they provide various intervention support systems for the athletes for improved performanc

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The issue of whether anxiety has positive or negative influence on human behaviour has been of controversial in nature in the field of psychology. Professionally, all athletic trainers should be concerned with how stress and anxiety affect their athletes. Many athletes struggle with anxiety on a daily basis. According to Worchel and Goethals (1989), certain amount of anxiety is actually useful to athletes. Anxiety helps us focus as well as allows us to perform with more energy. Unfortunately, our bodies cannot differentiate between performance and lifestyle anxiety (Jones& Swain, 1995).

Worchel and Goethals (1989) defined anxiety as the uncertainty in how to cope with stress. That is, when one feels that he or she does not have the capacity to deal with stress or that the stress is overwhelming. Anxiety is an unpleasant emotion characterized by a feeling of vague, unspecified harm. According to Worchel and Goethals, (1989), anxiety is experienced when approaching or perceiving stress which is rooted in an increased state of arousal. This anxiety (arousal) may produce a positive or a negative effect, including drive, fear, motivation, pressure, excitement, and exhilaration. Aguocha, (2011) noted that gender is associated with differences in anxiety manifestations and management.

Central Region is in tune with nature; abundant hills, highlands and other distinguishing features that make it a delight to behold. In fact, the topography of the

region made it possible for the strong athletic prowess and threats posed when it comes to athletics, sports and games. Walking in the environment is energy tasking as such athletes who are able to endure training pose treats.The regional athletics championship is held biennially. The region is endowed with numerous talented sports men and women over the past decades. Many trophies, medals and cups have been won by the Central Region in the past with very wide point's differences but that cannot be said today. There has been a sharp decline in their performance the Inter-Regional Basic School Sports Festivals in the past four years. This has raised several dialogues and action plan at different stakeholders meetings.

Meanwhile, the investigator is a physical education tutor at Winneba Secondary School who observed that all students from the Effutu Municipality admitted into the school and who double as school athlete exhibit signs and symptoms of anxiety during intramural and extramural competitions (inter-house and inter-school athletics championship). This actually prompted me to investigate further influence of anxiety on sports performance at the basic level in the region. Investigation is the process of inquiring into a matter through research, follow-up, study, or formal procedure of discovery.

Investigation refers to critical examination and interrogating the particular issue so as to learn about something hidden, unique, or complex, especially in an attempt to find a motive, cause. Investigation is a way of learning from incidents that occur over the life of a facility/person and communicating the lessons learned to both internal personnel and other relevant stakeholders. Depending upon the depth of the

analysis, feedback can apply to the specific incident under investigation or a group of incidents sharing similar root causes. The main products of an incident investigation system are: basic data for all recorded incidents, including those that do not qualify for immediate investigation (trend-only incidents), analysis reports, identification of the causes of the incidents that are investigated, and implemented recommendations (lessons learned and action items) that will reduce the risk of similar incidents. The results of the investigation process should be documented in a standard incident report form.

Track events are those events that are performed in lane around an athletics oval and therefore all athletes who take part in this form of race are track athletes. Sports performance refers to capacity of someone to carry out a specific physical routine or procedure by someone who is trained / skilled in physical activity. Performance is always affected by a combination of physiological, psychological and socio-cultural factor.

1.2 Statement of the Problem

Psychological pressure is a common problem among athletes, but results show that increase in this pressure has an impact on the performance (Daniel, 2002). This psychological pressure in sport competitions can provide the athlete's anxiety, and excessive anxiety can be effective on their skills and reduce the quality of their skills. Thus, trait anxiety is a predisposition to appraise sport situations in which athletic performance can be evaluated as threatening, and to respond with state anxiety reactions of varying intensity. These reactions include high levels of autonomic arousal, worry, and self-oriented cognitions that can disrupt attention processes and other cognitive functions.

Although some athletes report that anxiety facilitates task performance, Jones and Swain, (1995) are of the view that growing body of research indicates that performance anxiety can have deleterious effects on performance, enjoyment of sport participation, and physical well-being in both adults and children. Children who are high in sport performance anxiety appear to be especially sensitive to fears of failure and resulting negative social and self evaluation. Passer (1983) found that high anxiety children worried more frequently about making mistakes, not playing well, and losing than did their low-anxiety counterparts.

Some works have been done by researchers in the field of stress in pharmacology. Other researchers also worked on anxiety and the influence it has in the performance of gymnastics, music, psychology and the like. Much work has not been done by researchers into effects of anxiety levels on sprinters in athletics performance in the country. Meanwhile, traumatic events evoke strong feelings of helplessness, fear and anxiety among sprint athlete. Therefore, this work sought to investigate the influence of anxiety on sports performance of track athletes under competitive conditions.

1.3 Purpose of the Study

The purpose of this research was to investigate the influence of anxiety on sports performance of track athletes in the Basic Schools. Identify the impact of anxiety on sports performance among genders, anxiety and age of track athletes in the 31st Inter-Regional Basic School Sports Festival at Ho.

1.4 Objectives of the Study

This study sought to achieve the following objectives:

1. To identify the influence of anxiety among track athletes in the Basic Schools in the Central Region.
2. Examine the influence of anxiety among genders (male and females) of Basic School track athletes in the Central Region.
3. Advance some measures that can be put in place to mitigate if not totally eradicate anxiety among track athletes at the Basic school levels in Central Region, Ghana.

1.5 Research Questions

Every good research study establishes some critical and very relevant questions which when addressed helps find solution to the problem. For this study, the researcher sought answers to the following research questions.

1. What are the types of anxiety found among track athletes at this level?
2. What are the influences of anxiety on track athletes' performance in the 31st Inter-Regional Basic School Sports Festival?
3. What is the relationship between anxiety and athletics performance among genders i.e. male and females in the Central Region?

1.7 Significance of the Study

This work would add to the existing body of knowledge to existing literature on how anxiety can obviously or otherwise affect the lives of track athletes. The findings

would be made available to coaches and teachers of physical education and sports through publications in journals to appropriately manage the anxiety levels of their athletes and students under their disposition. Assist physical education tutors, parents and other stakeholders to develop sound programmes that foster performance-oriented attitudes and provide support systems to enable student athletes perform better in their events, to drastically reduce stress and anxiety levels of athletes. Finally, this work would serve as a reference material for students who want to carry out further research in this area.

1.8 Delimitation of the Study

This research work was delimited to self-selected track athletes who formed the contingent for Central Regional team. This study was further delimited to the track athletes were present the 31st Inter-Regional Sports Basic School's Festival at Ho.

1.7 Limitations of the Study

This work was limited to only track athletes and not field athletes or other areas of the game. The basic limitations of this study were time and resource constraints. A study of this nature should have covered the whole of the ten (10) regions of Ghana but the wideness of the nation has compelled the researcher to narrow the study to only the Basic School Athletes of the Central Region. Moreover, Central Region was selected for study because of the decline in their performance as reported by Municipal Physical Education Coordinator. A broader view of the work could therefore not be ensured.

1.10 Organization of the Study

This research consists of five chapters. The first chapter dealt with the background of the study, the statement of the problem, purpose of the study, research questions, and objectives of the study, significance of the study, delimitations and operational definitions. Chapter two touched on the review of related theoretical and empirical literature while chapter three dealt comprehensively on methodology. This included the research design, the study population, the sample size and sampling procedure, instrumentation, data collection and data analysis procedures. Chapter four focused on the presentation and discussion of study results and finally chapter five dealt extensively with summary of findings, conclusion and recommendations.

1.11 Operational Definition of Terms

Anxiety: Anxiety is a general term for several disorders that cause nervousness, fear, apprehension, and worrying.

Sports: This is all forms of usually competitive physical activity which, through casual or organized participation, aim to use, maintain or improve physical ability and skills while providing entertainment to participants, and in some cases, spectators.

Sports performance: The capacity of someone to carry out a specific physical routine or procedure by someone who is trained / skilled in physical activity.

Performance: An activity that a person or group does to entertain an audience.

CHAPTER TWO

LITERATURE REVIEW

This Chapter focuses on review of relevant literature pertinent to the area of study. The researcher has tried to evaluate previous studies, observations, opinions and comments related to this research. Literature review is necessary to avoid the risk of duplicating previous studies, using unproductive techniques, and therefore not contributing much to the advancement of human knowledge. It is also to acknowledge works of other authorities so as to avoid plagiarism. The literature was therefore reviewed on conceptual framework and on the following headings which served as guides i.e. anxiety, types of anxiety, causes of anxiety, anxiety disorders, classification of anxiety, anxiety disorders in children, causes of anxiety in children, prevention of anxiety, treatment of anxiety, treatment of anxiety in children, theoretical constructs of anxiety, anxiety and athletes, influence of anxiety in athletics, theoretical background, sources of pre-competitive anxiety, common signs and symptoms of pre-competitive anxiety, effects/influence of pre-competitive anxiety on sports performance and coping with pre-competitive anxiety in sports.

2.1 Theoretical Framework of Anxiety

Seligman, Walker & Rosenhan (2001) defined anxiety as an unpleasant state of inner turmoil, often accompanied by nervous behavior, such as pacing back and forth, somatic complaints and rumination. It is the subjectively unpleasant feelings of dread

over something unlikely to happen, such as the feeling of imminent death (Davison, 2008).

Descriptions of Anxiety

Anxiety is not the same as fear, which is a response to a real or perceived immediate threat; whereas anxiety is the expectation of future threat (American Psychiatric Association, 2013). Spielberger (1972) defines anxiety as an increasing level of excitation that is independent of nervous system and is along with perception of negative and movement effects and in fact is some sort of excitation that is along with feelings and subjective perception.

Paskuall (1989) describe the properties of anxiety as follows: anxiety is an energy that is not observable directly, but its effects on behaviour are observed. Anxiety is a physical, sensational, rational, cultural and spiritual experience. Anxiety is a feeling of fear, worry, and uneasiness, usually generalized and unfocused as an overreaction to a situation that is only subjectively seen as menacing (Bouras & Holt, 2007). It is often accompanied by muscular tension, restlessness, fatigue, and problems in concentration (American Psychiatric Association, 2013). Anxiety can be appropriate, but when it is too much and continues too long, the individual may suffer from an anxiety disorder (American Psychiatric Association, 2013).

Anxiety is distinguished from fear, which is an appropriate cognitive and emotional response to a perceived threat and is related to the specific behaviors of fight-or-flight responses, defensive behavior or escape. Anxiety occurs in situations only perceived as uncontrollable or unavoidable, but not realistically so (Öhman, 2000).

Barlow (2000) defines anxiety as "a future-oriented mood state in which one is ready or prepared to attempt to cope with upcoming negative events," and that it is a distinction between future and present dangers which divides anxiety and fear. Another description of anxiety is agony, dread, terror, or even apprehension (Lacovou, 2011). In positive psychology, anxiety is described as the mental state that results from a difficult challenge for which the subject has insufficient coping skills (Csíkszentmihályi, 1997).

Fear and anxiety can be differentiated in four domains: (1) duration of emotional experience, (2) temporal focus, (3) specificity of the threat, and (4) motivated direction. Fear is defined as short lived, present focused, geared towards a specific threat, and facilitating escape from threat; while anxiety is defined as long acting, future focused, broadly focused towards a diffuse threat, and promoting excessive caution while approaching a potential threat and interferes with constructive coping (Sylvers, Lilienfeld,& Laprairie, 2011). Symptoms of anxiety can range in number, intensity, and frequency, depending on the person. While almost everyone has experienced anxiety at some point in their lives, most do not develop long-term problems with anxiety. The behavioral effects of anxiety may include withdrawal from situations which have provoked anxiety in the past (Barker, 2003). Anxiety can also be experienced in ways which include changes in sleeping patterns, nervous habits, and increased motor tension like foot tapping (Barker, 2003). The emotional effects of anxiety may include "feelings of apprehension or dread, trouble concentrating, feeling tense or jumpy, anticipating the worst, irritability, restlessness, watching (and waiting) for signs (and occurrences) of danger and feeling like your mind has gone blank" (Smith, 2008) as well as nightmares/bad dreams, obsessions about sensations, a trapped in your mind feeling and

feeling like everything is scary. The cognitive effects of anxiety may include thoughts about suspected dangers, such as fear of dying.

Previous research conducted relating to anxiety and performance in athletics has been difficult to synthesize for a variety of reasons including methodological flaws such as a lack of clear operational definitions and a clear theoretical construct. The main problem that research on the relationship between anxiety and performance has encountered is that researchers have not adequately operationally defined the construct of anxiety. Instead, terms such as stress, anxiety, arousal and activation have been used interchangeably. For the purposes of this paper the following operational definitions will be used for the terms anxiety and stress. Stress is a state that results from the demands that are placed on the individual which require that person to engage in some coping behaviour (Jones, 1990). Arousal can be considered to be a signal to the individual that he or she has entered a stressful state and is characterized by physiological signs (Hardy et al., 1996).

Anxiety results when the individual doubts his or her ability to cope with the situation that causes him or her stress (Hardy et al., 1996). Another important point that needs to be clarified is the difference between state and trait anxiety (Spielberger, 1966). State anxiety can be considered to be more situational in nature and is often associated with arousal of the autonomic nervous system, trait anxiety (Hardy et al., 1996). Previous research outside of sport and exercise psychology has indicated that individuals with high trait anxiety who are state anxious attend to threat related information, while individuals with low trait anxiety who are state anxious will attend away from threat related

information (MacLeod, 1990). Within the context of sports, those individuals who are low trait anxious and experience high state anxiety would find it facilitative to a peak performance; but, those individuals with who are high trait anxious and experience state anxiety will find it debilitative to athletic performance (Hardy et al., 1996). One of the earliest models that attempted to explain the relationship between arousal and performance was the inverted-U hypothesis (Broadhurst, 1957; Hebb, 1955). It stated that as arousal increased performance would increase as well; but, if arousal became too great performance would deteriorate. In other words, as stress began to build an individual still felt confident in their ability to control it and performance would improve.

However, once a stressor became so great that the individual started to doubt the ability to cope with, performance began to decline. Although this model gave some explanation as to why performances deteriorated when individuals felt stress, it did not account for the differences in the performance of athletes who are exposed to the same stressor.

Theories of Anxiety:

Five theories are used for this literature review; Multi-dimensional Anxiety Theory, General Adaptation Syndrome, Catastrophe Theory, Optimal Arousal Theory and Inverted 'U' Hypothesis Theory.

Multi-Dimensional Anxiety Theory

Multi-dimensional Anxiety Theory developed by Martens, Burton, Vealey, Bump & Smith (1990) focused primarily on competitive sport anxiety. This theory describes competitive sport anxiety in a model composed of two main sub-components: cognitive

anxiety and somatic anxiety. Cognitive anxiety is defined as worry or an individual's negative thoughts or concerns about performance, as well as attention disruption and lack of concentration. Somatic anxiety can be identified as the physical reaction symptoms that may occur in the individual which include excessive sweating, increased heart rate, shakiness, or tension (Martens et al, 1990). The theory predicts that somatic anxiety should decline once performance begins but cognitive anxiety may remain if confidence is low.

General Adaptation Syndrome Theory

The General Adaptation Syndrome (GAS) is a term used to describe the body's short-term and long-term reaction to stress. Originally described by Hans-Selye (1907-1982), an Australian-born physician, the general adaptation syndrome represents the three-stage reaction to stress. He thought that the general adaptation syndrome involved two major systems of the body, the nervous system and the endocrine (hormonal) system.

Hans-Selye (1907-1982), then went on to outline what he considered as three distinctive stages in the syndrome's evolution as listed below:

Stage 1: Alarm Reaction: The First stage of the general adaptation syndrome, the alarm reaction, is the immediate reaction to a stressor at the initial phase of stress; humans exhibit a "fight or flight" response, which prepares the body for physical activity.

Stage 2: State of Resistance: Stage two might also be named the stage of adaptation instead of the stage of resistance. During the phase, the body adapts to the stressors it is exposed to. Stage 3: Stage of Exhaustion: At this stage, the stress has continued for some

time. The body's resistance to the stress may gradually be reduced, or may collapse quickly. Generally this means the immune system and the body's ability to resist maybe almost totally eliminated.

Catastrophe Theory

Catastrophe Theory propounded by Hardy, (1987) suggests that anxiety influence performance and that each athlete will respond in a unique way to competitive anxiety.

Hardy (1987) suggests that stress and anxiety will influence performance; each athlete will respond in a unique way to competitive anxiety and performance will be affected in a unique way which may be difficult to predict using general rules. Hardy (1987) concludes that increases in levels of cognitive anxiety will help performance if somatic anxiety is low. So if the body is relaxed but the performer is feeling anxious then this anxiety can help to improve performance. If there is an increase in cognitive anxiety & somatic anxiety is high then performance will decline.

Optimal Arousal Theory

According to Hanin (1997), Optimal Arousal Theory predicts that each athlete will perform at his or her best if his or her level of arousal or competitive anxiety falls within the optimal functioning zone.

Inverted 'U' Hypothesis Theory

Inverted 'U' Hypothesis Yerkes, (1908) predicts that a relationship between arousal to approximate an Inverted 'U' shape. This hypothesis posited a curvilinear

relationship between physiological arousal and performance. The theory indicates that as arousal is increased then performance improves but only to a certain point (top of the Inverted 'U'). If the athlete's arousal is increased beyond this point then performance diminishes. According to the Drive Theory propounded by Zajonc (1965), if an athlete is appropriately skilled then it will help them to perform well if their drive to compete is aroused - they are "psyched up".

2.1.1 Types of Anxiety

Existential

The philosopher Kierkegaard (1844), in the Concept of Anxiety, described anxiety as dreads associated with the "dizziness of freedom" and suggested the possibility for positive resolution of anxiety through the self-conscious exercise of responsibility and choosing. Art and Artist (1932) cited the psychologist Otto Rank that the psychological trauma of birth was the pre-eminent human symbol of existential anxiety and encompasses the creative person's simultaneous fear of and desire for separation, individuation and differentiation. The theologian Tillich (1952) characterized existential anxiety as "the state in which a being is aware of its possible nonbeing" and he listed three categories for the nonbeing and resulting anxiety: ontic (fate and death), moral (guilt and condemnation), and spiritual (emptiness and meaninglessness). According to

Tillich (1952), the last of these three types of existential anxiety, i.e. spiritual anxiety is predominant in modern times while the others were predominant in earlier periods. Tillich (1952) argues that this anxiety can be accepted as part of the human

condition or it can be resisted but with negative consequences. In its pathological form, spiritual anxiety may tend to "drive the person toward the creation of certitude in systems of meaning which are supported by tradition and authority" even though such "undoubted certitude is not built on the rock of reality" (Tillich, 1952). According to Viktor-Frankl (1959), the author of Man's Search for Meaning, when a person is faced with extreme mortal dangers, the most basic of all human wishes is to find a meaning of life to combat the "trauma of nonbeing" as death is near.

Test and Performance

According to Yerkes-Dodson (1908) law, an optimal level of arousal is necessary to best complete a task such as an exam, performance, or competitive event. However, when the anxiety or level of arousal exceeds that optimum, the result is a decline in performance (Parahoo, 1997), (Burns & Groove, 2003) (Tiegen, 1994). Test anxiety is the uneasiness, apprehension, or nervousness felt by students who have a fear of failing an exam. Students who have test anxiety may experience any of the following: the association of grades with personal worth, fear of embarrassment by a teacher, fear of alienation from parents or friends, time pressures or feeling a loss of control. Sweating, dizziness, headaches, racing heartbeats, nausea, fidgeting, uncontrollable crying or laughing and drumming on a desk are all common because test anxiety hinges on fear of negative evaluation. Liebert & Morris (1967), debate exists as to whether test anxiety is itself a unique anxiety disorder or whether it is a specific type of social phobia (Beidel & Turner, 1988). The DSM-IV classifies test anxiety as a type of social phobia (Rapee & Heimberg, 1997). Mathur & Khan, (2011) observed that the term "test anxiety" refers

specifically to students many workers share the same experience with regard to their career or profession. The fear of failing at a task and being negatively evaluated for failure can have a similarly negative effect on the adult. Management of test anxiety focuses on achieving relaxation and developing mechanisms to manage anxiety (Mathur & Khan, 2011).

Stranger, Social, and Intergroup

Humans generally require social acceptance and thus sometimes dread the disapproval of others. Apprehension of being judged by others may cause anxiety in social environments (Hofmann & DeBartolo, 2010). Anxiety during social interactions, particularly between strangers, is common among young people. It may persist into adulthood and become social anxiety or social phobia. "Stranger anxiety" in small children is not considered a phobia. In adults, an excessive fear of other people is not a developmentally common stage; it is called social anxiety. According to Thomas, Hardy, & Cutting (1997), social phonics do not fear the crowd but the fact that they may be judged negatively. Social anxiety varies in degree and severity. For some people it is characterized by experiencing discomfort or awkwardness during physical social contact (e.g. embracing, shaking hands, etc.), while in other cases it can lead to a fear of interacting with unfamiliar people altogether. Those suffering from this condition may restrict their lifestyles to accommodate the anxiety, minimizing social interaction whenever possible. Social anxiety also forms a core aspect of certain personality disorders, including Avoidant Personality Disorder (Settipani & Kendall, 2012). To the extent that a person is fearful of social encounters with unfamiliar others, some people

may experience anxiety particularly during interactions with out-group members, or people who share different group memberships (i.e., by race, ethnicity, class, gender, etc.).

Depending on the nature of the antecedent relations, cognitions, and situational factors, intergroup contact may be stressful, and lead to feelings of anxiety. This apprehension or fear of contact with out-group members is often called interracial or intergroup anxiety (Stephan & Stephan, 1985). As is the case in the more generalized forms of social anxiety, intergroup anxiety has behavioral, cognitive, and affective effects. For instance, increases in schematic processing and simplified information processing can occur when anxiety is high. Indeed, such is consistent with related work on attention bias in implicit memory (Richeson & Trawalter, 2008), (Mathews, Mogg, May & Eysenck, 1989), (Richards & French, 1991). Additionally recent research has found that implicit racial evaluations (i.e. automatic prejudiced attitudes) can be amplified during intergroup interaction (Amodio & Hamilton, 2012).

Negative experiences have been illustrated in producing not only negative expectations, but also avoidant, or otherwise antagonistic, behavior such as hostility (Plant & Devine, 2003). Furthermore, when compared to anxiety levels and cognitive effort (e.g., impression management and self-presentation) in intra-group contexts, levels and depletion of resources may be exacerbated in the intergroup situation.

Trait

Anxiety can be either a short term 'state' or a long term "trait". Trait anxiety reflects a stable tendency to respond with state anxiety in the anticipation of threatening

situations (Schwarzer, 1997). It is closely related to the personality trait of neuroticism such anxiety may be conscious or unconscious (Giddey & Wright, 1997).

Choice or decision

Anxiety induced by the need to choose between similar options is increasingly being recognized as a problem for individuals and for organizations (Downey, 2008). "Today we are all faced with greater choice, more competition and less time to consider our options or seek out the right advice." (Downey, 2008). In a decision context, unpredictability or uncertainty may trigger emotional responses in anxious individuals that systematically alter decision-making (Hartley & Phelps, 2012). There are primarily two forms of this anxiety type. The first form refers to a choice in which there are multiple potential outcomes with known or calculable probabilities. The second form refers to the uncertainty and ambiguity related to a decision context in which there are multiple possible outcomes with unknown probabilities (Hartley & Phelps, 2012).

In some Buddhist meditation literature, this effect is described as something which arises naturally and should be turned toward and mindfully explored in order to gain insight into the nature of emotion, and more profoundly, the nature of self (Gunaratana, n.d.). Anxiety disorders are a group of mental disorders characterized by feelings of anxiety and fear, where anxiety is a worry about future events and fear is a reaction to current events (American Psychiatric Publishing, 2013). These feelings may cause physical symptoms, such as a racing heart and shakiness (American Psychiatric Publishing, 2013). There are various forms of anxiety disorders, including generalized anxiety disorder, phobic disorder, and panic disorder. While each has its own

characteristics and symptoms, they all include symptoms of anxiety (Gelder, Mayou & Geddes, 2005).

Psychiatric

Anxiety disorders are partly genetic but may also be due to drug use including alcohol and caffeine, as well as withdrawal from certain drugs. They often occur with other mental disorders, particularly major depressive disorder, bipolar disorder, certain personality disorders, and eating disorders. The term anxiety covers four aspects of experiences that an individual may have: mental apprehension, physical tension, physical symptoms and dissociative anxiety (Healy, 2008).The emotions present in anxiety disorders range from simple nervousness to bouts of terror (Barker, 2003). There are other psychiatric and medical problems that may mimic the symptoms of an anxiety disorder, such as hyperthyroidism. Common treatment options include lifestyle changes, therapy, and medications. Medications are typically recommended only if other measures are not effective (Patel & Fancher, 2013). Anxiety disorders occur about twice as often in females as males, and generally begin during childhood (American Psychiatric Association, 2013). As many as 18% of Americans and 14% of Europeans may be affected by one or more anxiety disorders (Kessler, Chiu, Demler, Merikangas & Walters, 2005).

2.1.2 Causes of Anxiety

Early life experiences

Anxiety risk factors include family history (e.g. of anxiety) (Bienvenu, Ginsburg & Golda, 2007) and parenting factors including parental rejection, lack of parental warmth, high hostility, harsh discipline, high maternal negative effect, anxious childrearing, modeling of dysfunctional and drug-abusing behaviour, and child abuse (emotional, physical and sexual) (O'Connell, Boat, Warner & Kenneth, 2009).

Biological vulnerabilities

Research upon adolescents who as infants had been highly apprehensive, vigilant, and fearful finds that their nucleus accumbens is more sensitive than that in other people when deciding to make an action that determined whether they received a reward (Bar-Haim, Fox, Benson, Guyer, Williams, Nelson, Perez-Edgar, Pine & Ernst, 2009). This suggests a link between circuits responsible for fear and also reward in anxious people. As researchers note, "a sense of 'responsibility', or self-agency, in a context of uncertainty (probabilistic outcomes) drives the neural system underlying appetitive motivation (i.e., nucleus accumbens) more strongly in temperamentally inhibited than non-inhibited adolescents" (Bar-Haim, Fox, Benson, Guyer, Williams, Nelson, Perez-Edgar, Pine & Ernst, 2009).

Anxiety is also linked and perpetuated by the person's own pessimistic outcome expectancy and how they cope with feedback negativity (Gu, Huang & Luo, 2010). Temperament and attitudes (e.g. pessimism) have been found to be risk factors for

anxiety (Bienvenu, Ginsburg & Golda, 2007). Some writers believe that excessive anxiety can lead to an over potentiating of the limbic system, giving increased future anxiety, but this does not appear to have been proven.

Social Issues - Gender

Contextual factors that are thought to contribute to anxiety include gender socialization and learning experiences. In particular, learning mastery (the degrees to which people perceive their lives to be under their own control) and instrumentality, which includes such traits as self-confidence, independence, and competitiveness fully mediate the relation between gender and anxiety. That is, though gender differences in anxiety exist, with higher levels of anxiety in women compared to men, gender socialization and learning mastery explain these gender differences (Zalta & Chambless, 2012). Research has demonstrated the ways in which facial prominence in photographic images differs between men and women. More specifically, in official online photographs of politicians around the world, women's faces are less prominent than men's. Interestingly enough, the difference in these images actually tended to be greater in cultures with greater institutional gender equality (Zalta & Chambless, 2012).

Evolutionary psychology

An evolutionary psychology explanation is that increased anxiety serves the purpose of increased vigilance regarding potential threats in the environment as well as increased tendency to take proactive actions regarding such possible threats. This may cause false positive reactions but an individual suffering from anxiety may also avoid real

threats. This may explain why anxious people are less likely to die due to accidents (Andrews & Thomson, 2009). Neural circuitry involving the amygdala and hippocampus is thought to underlie anxiety (Rosen, & Schulkin, 1998). When people are confronted with unpleasant and potentially harmful stimuli such as foul odors or tastes, PET-scans show increased blood flow in the amygdale (Zald & Pardo, 1997; Zald, Hagen, & Pardo, 2002). In these studies, the participants also reported moderate anxiety. This might indicate that anxiety is a protective mechanism designed to prevent the organism from engaging in potentially harmful behaviours.

Genes

Although single genes have little effect on complex traits and interact heavily both between themselves and with the external factors, research is under-way to unravel possible molecular mechanisms underlying anxiety and comorbid conditions. One candidate gene with polymorphisms that influence anxiety is PLXNA2 (Wray, James, Mah, Nelson, Andrews, Sullivan, Montgomery, Birley, Braun, & Martin, 2007).

Medical

Anxiety can be a symptom of underlying health problems such as Chronic Obstructive Pulmonary Disease (COPD), heart failure, or heart arrhythmia (NPS Medicine Wise, 2009). Anxiety and depression can be caused by alcohol abuse, which in most cases improves with prolonged abstinence. Even moderate, sustained alcohol use may increase anxiety levels in some individuals (Evans, Sullivan & Michael, 2001). Caffeine, alcohol and benzodiazepine dependence can worsen or cause anxiety and panic

attacks (Lindsay, Powell & Graham, 1998). Anxiety commonly occurs during the acute withdrawal phase of alcohol and can persist for up to 2 years as part of a post-acute withdrawal syndrome, in about a quarter of people recovering from alcoholism (Johnson, 2011). In one study in 1988–1990, illness in approximately half of patients attending mental health services at one British hospital psychiatric clinic, for conditions including anxiety disorders such as panic disorder or social phobia, was determined to be the result of alcohol or benzodiazepine dependence. In these patients, an initial increase in anxiety occurred during the withdrawal period followed by a cessation of their anxiety symptoms (Cohen, 1995).

There is evidence that chronic exposure to organic solvents in the work environment can be associated with anxiety disorders. Paintings, varnishing and carpet-laying are some of the jobs in which significant exposure to organic solvents may occur (Morrow et al, 2000). Ingestion of caffeine may cause or exacerbate anxiety disorders (Winston, 2005; Scott, 2011). A number of clinical studies have shown a positive association between caffeine and anxiogenic effects and/or panic disorder (Hughes, 1996; Vilarim, Rocha & Nardi, 2011). Those with anxiety can have high caffeine sensitivity (Bruce, Scott, Shine & Lader, 1992).

Anxiety disorders can arise in response to life stresses such as financial worries or chronic physical illness. Anxiety is also common among older people who have dementia. On the other hand, anxiety disorder is sometimes misdiagnosed among older adults when doctors misinterpret symptoms of a physical ailment (for instance, racing heartbeat due to cardiac arrhythmia) as signs of anxiety (Calleo & Stanley, 2008).GAD

runs in families and is six times more common in the children of someone with the condition (Patel & Fancher, 2013). While anxiety arose as an adaptation, in modern times it is almost always thought of negatively in the context of anxiety disorders. People with these disorders have highly sensitive systems; hence, their systems tend to overreact to seemingly harmless stimuli. Sometimes anxiety disorders occur in those who have had traumatic youths, demonstrating an increased prevalence of anxiety when it appears a child will have a difficult future (Grinde, 2005). In these cases, the disorder arises as a way to predict that the individual's environment will continue to pose threats. At a low level, anxiety is not a bad thing. In fact, the hormonal response to anxiety has evolved as a benefit, as it helps humans react to dangers. Researchers in evolutionary medicine believe this adaptation allows humans to realize there is a potential threat and to act accordingly in order to ensure greatest possibility of protection. It has actually been shown that those with low levels of anxiety have a greater risk of death than those with average levels. This is because the absence of fear can lead to injury or death (Grinde, 2005).

Additionally, patients with both anxiety and depression were found to have lower morbidity than those with depression alone (Bateson, Brilot, Nettle, 2011). The functional significance of the symptoms associated with anxiety includes: greater alertness, quicker preparation for action, and reduced probability of missing threats (Bateson, Brilot, & Nettle, 2011). In the wild, vulnerable individuals, for example those who are hurt or pregnant, have a lower threshold for anxiety response, making them more alert (Bateson, Brilot & Nettle, 2011). This demonstrates a lengthy evolutionary history of the anxiety response.

It has been theorized that high rates of anxiety are a reaction to how the social environment has changed from the Paleolithic era. For example, in the Stone Age there was greater skin-to-skin contact and more handling of babies by their mothers, both of which are strategies that reduce anxiety (Grinde, 2005). Additionally, there is greater interaction with strangers in present times as opposed to interactions solely between close-knit tribes. Researchers posit that the lack of constant social interaction, especially in the formative years, is a driving cause of high rates of anxiety. Many current cases are likely to have resulted from an evolutionary mismatch, which has been specifically been termed a "psychopathogical mismatch." In evolutionary terms, a mismatch occurs when an individual possesses traits that were adapted for an environment that differs from the individual's current environment. For example, even though an anxiety reaction may have been evolved to help with life-threatening situations, for highly sensitized individuals in Westernized cultures simply hearing bad news can elicit a strong reaction in sensitive individuals (Price, 2003).

An evolutionary perspective may provide insight into alternatives to current clinical treatment methods for anxiety disorders. Simply knowing some anxiety is beneficial may alleviate some of the panic associated with mild conditions. Some researchers believe that, in theory, anxiety can be mediated by reducing a patient's feeling of vulnerability and then changing their appraisal of the situation (Price, 2003).

Mechanisms: *Biological*

Low levels of GABA, a neurotransmitter that reduces activity in the central nervous system, contribute to anxiety. A number of anxiolytics achieve their effect by

modulating the GABA receptors (Enna, 1984; Lydiard, 2003; Dunlop & Davis, 2008). Selective serotonin reuptake inhibitors, the drugs most commonly used to treat depression, are frequently considered as a first line treatment for anxiety disorders (Dunlop & Davis, 2008). People with obsessive-compulsive disorder (sometimes considered an anxiety disorder), have increased grey matter volumes in bilateral lenticular nuclei, extending to the caudate nuclei, while decreased grey matter volumes in bilateral dorsal medial frontal/anterior cingulate gyri (Radua & Mataix-Cols, 2009; Radua, van den Heuvel, Surguladze & Mataix-Cols, 2010). These findings contrast with those in people with other anxiety disorders, who have decreased (rather than increased) grey matter volumes in bilateral lenticular / caudate nuclei while also decreased grey matter volumes in bilateral dorsal medial frontal / anterior cingulate gyri (Radua & Mataix-Cols, 2009; Radua, van den Heuvel, Surguladze & Mataix-Cols, 2010). Alterations of circadian rhythms associated with obsessive-compulsive disorder have recently come into the focus of research (Lange et al, 2012).

Amygdala

The amygdala is central to the processing of fear and anxiety, and its function may be disrupted in anxiety disorders (Etkin, Prater, Schatzberg, Menon & Greicius, 2009). Sensory information enters the amygdala through the nuclei of the basolateral complex (consisting of lateral, basal, and accessory basal nuclei). The basolateral complex processes sensory-related fear memories and communicates their threat importance to memory and sensory processing elsewhere in the brain, such as the medial prefrontal cortex and sensory cortices. Another important area is the adjacent central

nucleus of the amygdala, which controls species-specific fear responses, via connections to the brainstem, hypothalamus, and cerebellum areas. In those with general anxiety disorder, these connections functionally seem to be less distinct, with greater gray matter in the central nucleus (Parahoo,1997). Another difference is that the amygdala areas have decreased connectivity with the insula and cingulate areas that control general stimulus salience, while having greater connectivity with the parietal cortex and prefrontal cortex circuits that underlie executive functions (Etkin, Prater, Schatzberg, Menon & Greicius, 2009).

The latter suggests a compensation strategy for dysfunctional amygdala processing of anxiety. Researchers have noted "Amygdalofrontoparietal coupling in generalized anxiety disorder patients may reflect the habitual engagement of a cognitive control system to regulate excessive anxiety."(Etkin, Prater, Schatzberg, Menon & Greicius, 2009).This is consistent with cognitive theories that suggest the use in this disorder of attempts to reduce the involvement of emotions with compensatory cognitive strategies. Clinical and animal studies suggest a correlation between anxiety disorders and difficulty in maintaining balance (Kalueff, Ishikawa & Griffith, 2008; Nagaratnam, & Bou-Haidar, 2005; Lepicard, Venault, Perez-Diaz, Joubert, Berthoz & Chapouthier, 2000; Simon, Pollack, Tuby & Stern, 1998).

A possible mechanism is malfunction in the parabrachial area, a brain structure that, among other functions, coordinates signals from the amygdala with input concerning balance (Balaban & Thayer, 2001). Anxiety processing in the basolateral amygdala has been implicated with dendritic arborization of the amygdaloid neurons. SK2 potassium

channels mediate inhibitory influence on action potentials and reduce arborization. By over expressing SK2 in the basolateral amygdala, anxiety in experimental animals can be reduced together with general levels of stress-induced corticosterone secretion (Mitra, Ferguson & Sapolsky, 2009).

2.1.3 Anxiety Disorders

American Psychiatric Association, (2013) opined that anxiety disorders are a group of mental disorders characterized by feelings of anxiety and fear where anxiety is a worry about future events and fear is a reaction to current events. These feelings may cause physical symptoms, such as a racing heart and shakiness (American Psychiatric Association, 2013). There are various forms of anxiety disorders, including generalized anxiety disorder, phobic disorder, and panic disorder. While each has its own characteristics and symptoms, they all include symptoms of anxiety (Gelder, Mayou & Geddes, 2005).

Anxiety disorders are partly genetic but may also be due to drug use including alcohol and caffeine, as well as withdrawal from certain drugs. They often occur with other mental disorders, particularly major depressive disorder, bipolar disorder, certain personality disorders, and eating disorders. The term anxiety covers four aspects of experiences that an individual may have: mental apprehension, physical tension, physical symptoms and dissociative anxiety (Healy, 2008).The emotions present in anxiety disorders range from simple nervousness to bouts of terror (Barker, 2003). There are other psychiatric and medical problems that may mimic the symptoms of an anxiety

disorder, such as hyperthyroidism. Common treatment options include lifestyle changes, therapy, and medications. Medications are typically recommended only if other measures are not effective (Patel & Francher, 2013). Anxiety disorders occur about twice as often in females as males, and generally begin during childhood (American Psychiatric Association, 2013). As many as 18% of Americans and 14% of Europeans may be affected by one or more anxiety disorders (Kessler, Chiu, Demler, Merikangas & Walters, 2005).

Generalized Anxiety Disorder (GAD)

Generalized Anxiety Disorder (GAD) is a common, chronic disorder characterized by long-lasting anxiety that is not focused on any one object or situation. Those suffering from generalized anxiety disorder experience non-specific persistent fear and worry, and become overly concerned with everyday matters. According to Schacter, Gilbert, and Wegner (2011), generalized anxiety disorder is "characterized by chronic excessive worry accompanied by three or more of the following symptoms: restlessness, fatigue, concentration problems, irritability, muscle tension, and sleep disturbance" (Schacter, Gilbert, & Wegner, 2011). Generalized anxiety disorder is the most common anxiety disorder to affect older adults (Calleo & Stanley, 2008). Anxiety can be a symptom of a medical or substance abuse problem, and /influence medical professionals must be aware of this. A diagnosis of GAD is made when a person has been excessively worried about an everyday problem for six months or more (Barker, 2003). A person may find that he/she has problems making daily decisions and remembering commitments as a result of lack of concentration/preoccupation with worry (Passer, Smith, Holt, Bremner,

Sutherland & Vliek, 2009). Appearance looks strained, with increased sweating from the hands, feet, and maxillae, and he/she may be tearful, which can suggest depression (Gelder, Mayou & Geddes). Before a diagnosis of anxiety disorder is made, physicians must rule out drug-induced anxiety and other medical causes (Varcarolis, 2010). In children GAD may be associated with headaches, restlessness, abdominal pain, and heart palpitations (Keeton, Kolos, & Walkup, 2009). Typically it begins around 8 to 9 years of age (Keeton, Kolos, & Walkup, 2009).

Phobias

The single largest category of anxiety disorders are that of phobic disorders, which includes all cases in which fear and anxiety is triggered by a specific stimulus or situation. Between 5% and 12% of the population worldwide suffer from phobic disorders (Barker, 2003). Sufferers typically anticipate terrifying consequences from encountering the object of their fear, which can be anything from an animal to a location to a bodily fluid to a particular situation. Sufferers understand that their fear is not proportional to the actual potential danger but still are overwhelmed by the fear (Passer, Smith, Holt, Bremner, Sutherland & Vliek, 2009).

Panic disorder

With panic disorder, a person suffers from brief attacks of intense terror and apprehension, often marked by trembling, shaking, confusion, dizziness, nausea, and/or difficulty breathing. These panic attacks, defined by the APA as fear or discomfort that abruptly arises and peaks in less than ten minutes, can last for several hours. Attacks can

be triggered by stress, fear, or even exercise; the specific cause is not always apparent. In addition to recurrent unexpected panic attacks, a diagnosis of panic disorder requires that said attacks have chronic consequences: either worry over the attacks' potential implications, persistent fear of future attacks, or significant changes in behavior related to the attacks. As such, those suffering from panic disorder experience symptoms even outside specific panic episodes. Often, normal changes in heartbeat are noticed by a panic sufferer, leading them to think something is wrong with their heart or they are about to have another panic attack. In some cases, a heightened awareness (hyper vigilance) of body functioning occurs during panic attacks, wherein any perceived physiological change is interpreted as a possible life-threatening illness.

Agoraphobia

Agoraphobia is the specific anxiety about being in a place or situation where escape is difficult or embarrassing or where help may be unavailable (Craske & Gorman, 2000). Agoraphobia is strongly linked with panic disorder and is often precipitated by the fear of having a panic attack. A common manifestation involves needing to be in constant view of a door or other escape route. In addition to the fears themselves, the term agoraphobia is often used to refer to avoidance behaviours that sufferers often develop.

For example, following a panic attack while driving, someone suffering from agoraphobia may develop anxiety over driving and will therefore avoid driving. These avoidance behaviors can often have serious consequences.

Social Anxiety Disorder

Social Anxiety Disorder (SAD; also known as social phobia) describes an intense fear and avoidance of negative public scrutiny, public embarrassment, humiliation, or social interaction. This fear can be specific to particular social situations (such as public speaking) or, more typically, is experienced in most (or all) social interactions. Social anxiety often manifests specific physical symptoms, including blushing, sweating, and difficulty speaking. As with all phobic disorders, those suffering from social anxiety often will attempt to avoid the source of their anxiety; in the case of social anxiety this is particularly problematic, and in severe cases can lead to complete social isolation.

Obsessive–Compulsive Disorder

Obsessive Compulsive Disorder (OCD) is a type of anxiety disorder primarily characterized by repetitive obsessions (distressing, persistent, and intrusive thoughts or images) and compulsions (urges to perform specific acts or rituals). It affects roughly 3% of the population worldwide (Barker, 2003). The OCD thought pattern may be likened to superstitions insofar as it involves a belief in a causative relationship where, in reality, one does not exist. Often the process is entirely illogical; for example, the compulsion of walking in a certain pattern may be employed to alleviate the obsession of impending harm. And in many cases, the compulsion is entirely inexplicable, simply an urge to complete a ritual triggered by nervousness. In a slight minority of cases, sufferers of OCD may only experience obsessions, with no overt compulsions; a much smaller number of sufferers experience only compulsions (American Psychiatric Association, 2013).

Post-Traumatic Stress Disorder

Post-Traumatic Stress Disorder (PTSD) is an anxiety disorder that results from a traumatic experience. Post-traumatic stress can result from an extreme situation, such as combat, natural disaster, rape, hostage situations, child abuse, bullying, or even a serious accident. It can also result from long term (chronic) exposure to a severe stressor (Barker, 2003). For example soldiers who endure individual battles but cannot cope with continuous combat. Common symptoms include hyper vigilance, flashbacks, avoidant behaviours, anxiety, anger and depression (Psychologies Anglophone, n.d.). There are a number of treatments that form the basis of the care plan for those suffering with PTSD. Such treatments include cognitive behavioral therapy (CBT), psychotherapy and support from family and friends (Barker, 2003).

Separation Anxiety Disorder

Separation Anxiety Disorder (SepAD) is the feeling of excessive and inappropriate levels of anxiety over being separated from a person or place. Separation anxiety is a normal part of development in babies or children, and it is only when this feeling is excessive or inappropriate that it can be considered a disorder (Siegler, 2006). Separation anxiety disorder affects roughly 7% of adults and 4% of children, but the childhood cases tend to be more severe; in some instances, even a brief separation can produce panic (Shear, Jin, Ruscio, Walters & Kessler, 2006). Situational anxiety is caused by new situations or changing events. It can also be caused by various events that make that particular individual uncomfortable. Its occurrence is very common. Often, an individual will experience panic attacks or extreme anxiety in specific situations. A

situation that causes one individual to experience anxiety may not affect another individual, at all. For example, some people become uneasy in crowds or tight spaces, so standing in a tightly packed line, say at the bank or a store register may cause them to experience extreme anxiety, possibly a panic attack (Situational Panic Attacks, n.d.). Others, however, may experience anxiety when major changes in life occur, such as entering college, getting married, having children, etc.

Children may experience anxiety disorders similar to adults. A common anxiety disorder in children is school phobia, which in some cases can be a type of separation anxiety. Sometimes the anxiety has no obvious cause. In other instances, the child may experience bullying from classmates, or even a teacher. They could also be stressed from the workload they are given. School phobia may also be a form of social phobia, also known as social anxiety. Children with this disorder may avoid speaking in front of their classmates or meeting new people. Typically, social phobia in children is caused by some traumatic event, such as not knowing an answer when called on in class (Biegel, 1995). The symptoms for both disorders are the same in children as they are in adults. If a child has GAD, they may worry about anything, even if it is seemingly minor. They long for attention, approval, and encouragement from others. The only difference is they are more likely to worry about things that relate to them. Those things may include, grades, bullies, getting hurt, storms, etc. The symptoms of OCD include repetitive and/or compulsive behaviors (Harvard Medical School, 2004a).

2.1.4 Relationship Between Anxiety, Gender and Athletics Performance.

Differences between male and female exist in many domains. Some are considered as unfair and unacceptable, but others appear as legitimate. For example, whereas the lower scores females obtain in math classes relative to males are considered a major social issue (Spencer, Steele, & Quinn, 1999), the fact that they run on average slower than males seems to go without saying (Messner, 2002). Why are the sex differences observed in athletics less questioned than in other areas? A possible reason is that these differences are perceived as resulting from natural biological factors. During the pubescent development, physical capacities develop more among males than females. As a result, from puberty on, males perform better in motor tasks that require strength or speed (Knisel, Opitz, Wossmann, & Keteihuf, 2009).

Although biological factors may in part explain these sex differences, other factors may be involved. First, sex differences are not as important as they appear: sex has been shown to predict only 5% of the variance in physical abilities (Eagly, 1995). Second, observing sex differences does not inform us on their origin, which maybe natural but also environmental (Wood & Eagly, 2012). Indeed, since childhood males participate more in motor activities than females (Hines, 2004). In addition, there is evidence of sex differences in important psychological determinants of performance: boys are more motivated than girls to participate in sport (Knisel et al., 2009) and physical education classes (Chen & Darst, 2002), and hold higher perceptions of sport competence (Biddle, Atkin, Cavill, & Foster, 2011; Fredricks & Eccles, 2005).

According to U.S. community surveys, women are significantly more likely than men to develop panic disorders (7.7% vs. 2.9%), GAD (6.6% vs. 3.6%), PTSD(12.55 vs. 6.2%) during their lifetime. .Women with a lifetime diagnosis with anxiety disorder were more likely than men to also be diagnosed with another anxiety disorder, bulimia nervosa, and major depressive disorder(American Psychiatric Association, 2013) differences in sex hormones may be a factor. Scientist know that estrogen interacts with serotonin- a neurotransmitter involved in regulating moods, sleep and appetite and girls and women are likely than males to victims of physical or mental abuse, also known as risk factor for PTSD Again, anxiety disorders were associated with a greater illness burden in women than in men, particularly among European American women. This suggests that anxiety disorders are not only more prevalent but also more disabling in women than in men (American Psychiatric Association, 2013).

2.1.5 Prevention and Treatment of Anxiety

Focus is increasing on prevention of anxiety disorders (Bienvenu & Ginsburg, 2007). There is tentative evidence to support the use of cognitive behavior therapy (Bienvenu & Ginsburg, 2007). As of 2013 there are no effective measures to prevent GAD in adults (Patel & Fancher, 2013).

Diagnosis

Anxiety disorders are often severe chronic conditions, which can be present from an early age or begin suddenly after a triggering event. They are prone to flare up at times of high stress and are frequently accompanied by physiological symptoms such as

headache, sweating, muscle spasms, tachycardia, palpitations, and hypertension, which in some cases lead to fatigue or exhaustion. In casual discourse the words "anxiety" and "fear" are often used interchangeably; in clinical usage, they have distinct meanings: "anxiety" is defined as an unpleasant emotional state for which the cause is either not readily identified or perceived to be uncontrollable or unavoidable, whereas "fear" is an emotional and physiological response to a recognized external threat. The term "anxiety disorder" includes fears (phobias) as well as anxieties.

Standardized screening clinical questionnaires such as the Taylor Manifest Anxiety Scale or the Zung Self-Rating Anxiety Scale can be used to detect anxiety symptoms, and suggest the need for a formal diagnostic assessment of anxiety disorder (Zung, 1971). Anxiety disorders often occur along with other mental disorders, in particular depression, which may occur in as many as 60% of people with anxiety disorders. The fact that there is considerable overlap between symptoms of anxiety and depression, and that the same environmental triggers can provoke symptoms in either condition, may help to explain this high rate of comorbidity (Cameron, 2007).

Studies have also indicated that anxiety disorders are more likely among those with family history of anxiety disorders, especially certain types (McLaughlin, Behar & Borkovec, 2005). Sexual dysfunction often accompanies anxiety disorders, although it is difficult to determine whether anxiety causes the sexual dysfunction or whether they arise from a common cause. The most common manifestations in individuals with anxiety disorder are avoidance of intercourse, premature ejaculation or erectile dysfunction among men and pain during intercourse among women. Sexual dysfunction is

particularly common among people affected by panic disorder (who may fear that a panic attack will occur during sexual arousal) and posttraumatic stress disorder (Coretti & Baldi, 2007).

Treatment of Anxiety

Treatment options available include lifestyle changes, therapy, and medications. Medications are only recommended if other measures are not effective (Patel & Fancher, 2013). Stopping smoking has benefits in anxiety as large as or larger than those of medications (Taylor, McNeill, Girling, Farley, Lindson-Hawley & Aveyard, 2014).

Therapy

Cognitive Behavioral Therapy (CBT) is effective for anxiety disorders (Cuijpers, Sijbrandij, Koole, Huibers, Berking & Andersson, 2014; Otte, 2011). CBT, as its name suggests, has two main components: cognitive and behavioral. In cases of social anxiety, the cognitive component can help the person question how they can be so sure that others are continually watching and harshly judging him or her. The behavioral component seeks to change people's reactions to anxiety-provoking situations.CBT appears to be equally effective when carried out via the internet (Mewton, Smith, Rossouw & Andrews, 2014). As such it serves as a logical extension of cognitive therapy, whereby people are shown proof in the real world that their dysfunctional thought processes are unrealistic. A key element of this component is gradual exposure, in which the patient is confronted by the things they fear in a structured, sensitive manner. Gradual exposure is an inherently unpleasant technique; ideally it involves exposure to a feared social situation that is anxiety provoking but bearable, for as long as possible, two to three times

a week. Often, a hierarchy of feared steps is constructed and the patient is exposed to each step sequentially.

The aim is to learn from acting differently and observing reactions. This is intended to be done with support and guidance, and when the therapist and patient feel they are ready. Cognitive-behavioral therapy for social phobia also includes anxiety management training, which may include techniques such as deep breathing and muscle relaxation exercises, which may be practiced 'in-situ'. CBT can also be conducted partly in group sessions, facilitating the sharing of experiences, a sense of acceptance by others and undertaking behavioral challenges in a trusted environment. Some studies have suggested social skills training can help with social anxiety (Mersch et al, 1991). However, it is not clear whether specific social skills techniques and training are required, rather than just support with general social functioning and exposure to social situations (Stravynski & Amado, 2001). Additionally, a recent study has suggested that interpersonal therapy, a form of psychotherapy primarily used to treat depression, may also be effective in the treatment of social phobia. In social phobia a specific form of short-term CBT, the central component being gradual exposure therapy. Self-help books can contribute to the treatment of people with anxiety disorders (Mansell, 2007).

Medications

Medications are only indicated if other measures have not been found to be effective or a person is not interested in trying them (Patel & Fancher, 2013). If medications are used SSRIs are recommended as first-line agents. Benzodiazepines are also sometimes indicated for short-term or "as needed" use. They are usually considered

second-line due to disadvantages such as cognitive impairment and risks of dependence (Stein, 2004). MAOIs such as phenelzine and tranylcypromine are considered an effective treatment and are especially useful in treatment-resistant cases, however, dietary restrictions and medical interactions may limit their use pregabalin may be effective (Baldwin, Ajel, Masdrakis, Nowak & Rafiq, 2013).

In children and adolescents, when a medication option is warranted, antidepressants such as SSRIs, SNRIs as well as tricyclic antidepressants can be effective. Buspar is not effective in children and adolescents who have an anxiety disorder (Strawn, Sakolsky & Rynn, 2012). These medications need to be used with care among older adults, who are more likely to have side effects because of coexisting physical disorders. Adherence problems are more likely among elderly patients, who may have difficulty understanding, seeing, or remembering instructions (Calleo & Stanley, 2008). The effectiveness and increased suicide risk of SSRIs has been subject to controversy. General side effects are common and may include headaches, nausea, insomnia, and changes in sexual behavior. Treatment safety during pregnancy has not been established. In late 2004 much media attention was given to a proposed link between SSRI use and suicide. For this reason, the use of SSRIs in pediatric cases of depression is recognized by the Food and Drug Administration as warranting a cautionary statement to the parents of children who may be prescribed SSRIs (Federal Drug Administration, 2004).

Other Drugs

The atypical antipsychotic quetiapine appears effective in generalized anxiety disorder, however rates of adverse effects is greater than that with SSRIs (Depping, Komossa, Kissling & Leucht, 2010). Evidence for risperidone and olanzapine is not enough to make any comments. (Depping, Komossa, Kissling & Leucht, 2010). For OCD the evidence for risperidone and quetiapine is tentative with insufficient evidence for olanzapine (Komossa, Depping, Meyer, Kissling & Leucht, 2010). Benzodiazepines are an alternative to SSRIs. These drugs are often used for short-term relief of severe, disabling anxiety (Westenberg, 1999). Although benzodiazepines are still sometimes prescribed for long-term everyday use, there is concern over the development of drug tolerance, dependency and recreational abuse. It has been recommended that benzodiazepines only be considered for individuals who fail to respond to safer medications (Aouizerate, Martin-Guehl & Tignol, 2004). Effects usually begin to appear within minutes or hours. Benzodiazepines are not however, effective in the treatment of children and adolescents who have an anxiety disorder (Strawn, Sakolsky & Rynn, 2012). Some people with a form of social phobia called performance phobia have been helped by beta-blockers. Taken in low doses, they control the physical manifestation of anxiety and can be taken before a public performance.

Treatment controversy arises because while some studies indicate that a combination of medication and psychotherapy can be more effective than either one alone, others suggest pharmacological interventions are largely palliative, and can actually interfere with the mechanisms of successful therapy (Hollon, Stewart & Strunk,

2005). Psychotherapeutic interventions have better long-term efficacy compared to pharmacotherapy (Gould, Otto, Pollack & Yap, 1997).

Caffeine

Caffeine can cause anxiety, along with more minor effects, such as muscle twitching, hand tremors, and headaches. The best way to prevent caffeinism is to either wean off of caffeine completely or reduce consumption (Hire, 1978). For some people, anxiety can be reduced by coming off caffeine (Bruce & Lader, 2009). Anxiety can temporarily increase during caffeine withdrawal (Prasad, 2005; Nehlig, 2004; Juliano & Griffiths, 2004).

Alternative medicine

Regular exercise and reducing caffeine are often useful in treating anxiety (Herring, O'Connor & Dishman, 2010; American Psychiatric Association, 1994). There is tentative evidence that yoga may be effective (Li, & Goldsmith, 2012). Evidence is insufficient regarding meditation to make any conclusions (Krisanaprakornkit, Piyavhatkul & Laopaiboon, 2006). Many other remedies have been used for anxiety disorder. These include kava, where the potential for benefit seems greater than that for harm with short-term use in those with mild to moderate anxiety (Pittler & Ernst, 2003; Witte, Loew & Gaus, 2005).

The American Academy of Family Physicians (AAFP) recommends use of kava for those with mild to moderate anxiety disorders who are not using alcohol or taking other medicines metabolized by the liver, but who wish to use "natural" remedies (Saeed,

Bloch & Antonacci, 2007). Side effects of kava in the clinical trials were rare and mild.Inositol has been found to have modest effects in people with panic disorder or obsessive-compulsive disorder (Saeed, Bloch & Antonacci, 2007). There is insufficient evidence to support the use of St. John's wort, valerian or passionflower (Saeed, Bloch & Antonacci, 2007).

Treatment of Anxiety in Children

Several methods of treatment have been found to be effective in treating childhood anxiety disorders. Like adults, children may undergo psychotherapy, cognitive-behavioral therapy, or counseling. They may still be given medication such as SSRIs, but in much smaller doses. However, administering potent medications like antidepressants to children is controversial. As a result, other forms of treatment have become increasingly popular. Family therapy is a form of treatment in which the child meets with a therapist together with the primary guardians and siblings. Each family member may attend individual therapy, but family therapy is typically a form of group therapy. Art and play therapy are also used. Art therapy is most commonly used when the child will not or cannot verbally communicate, due to trauma or a disability in which they are nonverbal.

Participating in art activities allows the child to express what they otherwise may not be able to communicate to others (Kozlowska & Hanney, 1999). In play therapy, the child is allowed to play however they please as a therapist observes them. The therapist may intercede from time to time with a question, comment, or suggestion. This is often most effective when the family of the child plays a significant role in the treatment (Bratton & Ray, 2002).

Prognosis

The prognosis varies on the severity of each case and utilization of treatment for each individual. It is the most common cause of disability in the workplace in the United States (Ballenger, Davidson, Lecrubier, Nutt, Borkovec, Rickels, Stein & Wittchen, 2001). If these children are left untreated, they face risks such as poor results at school, avoidance of important social activities, and substance abuse. Children who have an anxiety disorder are likely to have other disorders such as depression, eating disorders, and attention deficit disorders both hyperactive and inattentive.

Epidemiology

Globally as of 2010 approximately 273 million (4.5% of the population) had an anxiety disorder (Vos, Flaxman, Naghavi, Lozano, Michaud, Ezzati, Shibuya, Salomon & Abdalla, 2012). It is more common in females (5.2%) than males (2.8%) (Vos et al, 2012). In Europe, Africa and Asia, lifetime rates of anxiety disorders are between 9 and 16%, and yearly rates are between 4 and 7%. In the United States, the lifetime prevalence of anxiety disorders is about 29% and between 11 and 18% of adults have the condition in a given year (Kessler, Berglund, Demler, Jin, Merikangas & Walters, 2005).

Anxiety and athletics

All athletes experience the anxious thoughts that so frequently occur in response to stress. Throughout the course of one's career, however, the sources of stress and the kinds of anxious thoughts experienced change. The increased stress of competitions can cause athletes to react both physically and mentally in a manner which can negatively

affect their performance abilities. Sports and performance anxiety often go hand-in-hand. While many athletes become "pumped up" during competition, when the rush of adrenaline is interpreted as anxiety, and negative thoughts begin to swirl, it can have devastating effect on his/her ability to perform. Before an athlete learns how to manage the symptoms of anxiety during competitions, it is important to understand the relationship between anxiety and athletic performance. Anxiety before or during athletic competitions can hinder athlete's performance as an athlete. The coordinated movement required by athletic events becomes increasingly difficult when his/her body is in a tense state.

A certain level of physical arousal is helpful and prepares us for competition. But when the physical symptoms of anxieties are too great, they may seriously interfere with athlete's ability to compete. Similarly, a certain amount of worry about how he/she perform can be helpful in competition, but severe cognitive symptoms of anxiety such as negative thought patterns and expectations of failure can bring about a self-fulfilling prophecy. If there is a substantial difference between how he/she performs during practice and how he/she does during competitions, anxiety may be affecting his/her performance. Research suggests that people with a family history of anxiety have increased risk of developing it. They have greater chance of suffering from anxiety disorder which results in constant worry (Kendler et al, 2002). Some types of athletes are more prone to feeling the effects of anxiety on performance.

Amateur athletes are more likely than seasoned professionals to experience anxiety that interferes with their ability to perform in competition- this makes sense due

to their relative lack of experience both in competition and in managing arousal. Douglas et al, (2006) states that the major sources of pre-competition anxiety include: fear of failure, thinking too much on what people may say about the performance, and lack of confidence. They conclude however, that pre-competitive anxiety is dependent upon factors such as: skill level, experience and general level of arousal in daily activities. Athletes who participate in individual sports have also been found to experience more anxiety than those who play team sports. Common sense suggests that being part of a team alleviates some of the pressure experienced by those who compete alone.

Finally, there is evidence that in team sports, when a team plays at the venue of the opposition (known as an "away" game) anxiety levels tend to be higher than when playing at home. Again, common sense would indicate that having greater fan support and more familiarity with the venue plays a role in anxiety levels during competition. While inventing Sports Competitive Anxiety Test Martens et al. (1990) saw that pre-competitive anxiety as an arousal that is unpleasant or negative and occurs prior to competition. According to them, it is negative emotional state that is characterized with feeling of worry, nervousness and apprehension associated with activation of the body. How are elite athletes consistently able to rise to the challenge when faced with tough competition? Research shows that self-confidence plays a role in how you respond to symptoms of anxiety during athletic performance. People who are confident in their abilities are more likely to have a positive reaction to arousal and anxiety and thrive on the challenge of competition. Elite athletes are often so focused on their behaviour that they interpret arousal as excitement rather than anxiety. In general, self-confidence tends to be highest when you believe in your ability and feel that you have properly prepared

for a competition. Worry and confidence are at opposite ends of the spectrum-when confidence is strong, it tends to crowd worry out of the mind.

2.1.6 Concept, Signs and Symptoms of Pre-Competitive Anxiety

In sport psychology, pre-competitive anxiety refers to an unpleasant emotion which is characterized by vague but persistent feeling of apprehension and dread before an event. Anxiety is a reaction to impending danger: real or imaginary. It consists of two sub-components, namely cognitive and somatic, which influence performance before and during competitions. Cognitive is the mental component, characterized by negative expectation about success or self-evaluation, negative self-talk, worry about performance, images of failure, inability to concentrate, and disrupted attention (Jervis, 2002). The somatic is the physiological element which is related to autonomic arousal, and negative symptoms such as feeling of nervousness, high blood pressure, dry throat, muscular tension, rapid heart rate and butterflies in the stomach (Martens et al 1990). In support of this Karageorghis (2007) classified pre-competitive anxiety into three components which are: Cognitive, Somatic and Behavioural. Martins et al (1990) sees pre-competitive anxiety as an arousal that is unpleasant or negative and occurs prior to competition.

According to them, it is a negative emotional state that is characterized with feeling of worry, nervousness and apprehension associated with activation of the body. Lious (2006) opined that when athletes start to experience increase heart rate, sweating, rapid breathing and dry mouth prior to competition, it all indicate signs of pre-competitive anxiety. At this stage of their life, their thoughts become self-focused, self-

defeating and negative. However, the degree to which pre-competitive anxiety influence athlete's performance is largely dependent upon the interaction of the athletes, uniqueness and the competitive situation. In support of this, Krane (1994) observed that our bodies provide us with numerous cues such as muscle tension, butterflies, desire to urinate and cotton mouth that suggest that we are out of control. Cox (1990) stated that pre-competitive anxiety is such feelings that an athlete may endure during the week, hours and minutes leading up to the start of an event or competition.

Sources of Pre Competition Anxiety

One of the main sources of pre-competitive anxiety in sports could be due to perceived stress. How the athletes think about the sports competition and not the competition itself could be a source of pre-competitive anxiety. Alison (2006) Pre-competitive anxiety results from an imbalance between perceived capabilities and the elements of the sports environment. When the perceived demands are balanced by the perceived capabilities, athletes experience optimal arousal often referred to as the flow state. At this stage everything appears to go on smoothly. However, if athlete perceived capabilities exceed the sport challenge, arousal will decrease resulting in boredom or lack of motivation, if the opposite occur (perceived challenge) exceed capabilities; athlete will be over arousal resulting in worry and anxiety. Therefore pre-competitive anxiety results when skills and abilities are not perceived as equivalent to the sport challenge.

Alison (2006) classified factors that underlie pre-competitive anxiety as:

i. Physical Complaint: Digestive disturbances, shaking and yawning.

ii. Fear of Failure: Losing, choking, and living up to expectation and making mistake.

iii. Feeling of Inadequacy: Poor conditioning, unpreparedness, low skill/ability and feeling that something is wrong.

iv. Loss of Control: Bad luck, poor officiating and indecent weather.

v. Guilt: Concern about hurting an opponent and cheating.

Research suggests that people with a family history of anxiety have increased risk of developing it. They have greater chance of suffering from anxiety disorder which results inconstant worry (Kendleret al, 2002). Douglas et al (2006) stated that the major sources of pre-competitive anxiety include: fear of failure, thinking too much on what people may say about the performance, and lack of confidence. They concluded however, that pre-competitive anxiety is dependent upon factors such as: skill level, experience and general level of arousal in daily activities. Ikulayo (1990) enumerated sources of pre-competitive anxiety in sports. According to her, the major sources reported in individual and coaches in amateur and professional sport include: the fear of failure, concerns about social evaluation by others (particularly the coach), and loss of internal control over one's environment.

Common Signs and Symptoms of Pre-Competitive Anxiety

Pre-competitive anxiety is a social anxiety disorder that presents itself via various signs and symptoms. It usually affects people who are afraid of performing in public, such as athletes and players. Valerie (2013) enumerated the under-listed signs and symptoms as associated with pre-competitive anxiety.

Paralyzing Fear: Paralyzing fear is a common symptom associated with pre-competitive anxiety. It may appear in the form of stage fright, an experience of anxiety in present situation. As a result, the athlete may become unable to move or speak.

Inability to Concentrate: The inability to concentrate is another symptom of pre-competitive anxiety. Apprehensive thought may overtake the athletes mind, interfering with the necessary action needed to complete the present task. As a result, the athletes may become confused or lose focus while performing.

Sweating: Fear due to pre-competitive anxiety may cause athletes to sweat excessively on various places of their body, including the face and hands. The emotional stress may cause their brain to send signal to their body that will cause hot flashes and enormous amount of perspiration which may make them feel self-conscious and uncomfortable.

Shaking: While athletes are experiencing pre-competitive anxiety, their hands and knees may start to shake uncontrollably. That response is due to the large amount of adrenaline sent throughout their body as a defuse mechanism, also known as “fight or flight mode”.

Shortness of Breath: Shortness of breath is another symptom or sign of pre-competitive anxiety. When athletes are afraid of performing, they may begin to hyperventilate or start breathing really fast, while gasping for air.

Dizziness: Dizziness while performing is a symptom of pre-competitive anxiety. As a result, athletes may lose their balance due to their brain not getting enough blood and oxygen. They may begin to feel like the ground or hall is spinning and, if the anxiety is too intense, they can possibly faint.

Increase Heart Rate: While experiencing pre-competitive anxiety, the heart rate may increase due to the adrenaline being released into the body as a survival response. Sometimes the heart rate increases due to panic; therefore the more the athletes panic about competition, the faster their heart will beat. In support of these, Karageoghis (2007) classified signs of pre-competitive anxiety into three components: cognitive, somatic and behavioural. According to him, the cognitive aspects are indecision, sense of confusion, negative thought, images of failure, defeatist, self-talk and thought of avoidance.

The somatic signs and symptoms include: pounding heart, muscular tension, and increase in respiratory rate, dry mouth, need to urinate, yawning and distorted vision. The behavioural symptoms are: biting finger nails, playing safe, covering of face with hands and avoidance of eye contact. When pre-competitive anxiety strikes an athlete, the body reacts with a "fight or flight" reaction that leads to obvious physical, mental and behavioural symptoms. A high level of pre-competitive anxiety can affect the mental state of an athlete, enough so that he or she may not make decisions that normally would in a less stress state. He or she may be unable to concentrate on task and feels confused, (midlineplus.com). According to the website, other mental symptoms of anxiety include negative thinking, conviction of failure, indecision, unhappiness and inability to follow direction.

There are many ways that pre-competitive anxiety can affect sports performance. Firstly, for sports requiring endurance, power or both, pre-competitive anxiety can be very draining on the athlete's energy level. Secondly, in sport where calmness is critical (e.g. golf, archery, free throw shooting in basketball or direct free kick in football), pre-

competitive anxiety can significantly interfere with the athlete's ability to stay calm. Thirdly, anxious athletes will find it difficult to be able to remain focus on the task at hand and finally pre-competitive anxiety can increase tension in the muscle of the throat and chest to the point where it may seem impossible to swallow or expand the chest (Ikulayo, 1990).

According to Krane (1994), pre-competitive anxiety has been found to exert a powerful influence on athlete's performance. In his research, he observed that the cognitive interpretation an individual gives to a situation exerts an effect on his or her performance. He also added that successful athletes are those that can interpret pre-competitive anxiety to be facilitative in the course of their athletic performance. It is usual to experience pre-competitive anxiety indeed; a certain level of physical arousal is helpful and prepares athletes for competition. But when the physical symptoms of pre-competitive anxiety are too great, they may seriously interfere with athlete's ability to compete as the coordinated movements required in athletic events become increasingly difficult when the body of the athlete is in a tense state.

2.1.7 Effects of Pre-Competitive Anxiety on Athletics and Sports Performance

A great deal of research has been devoted to the effect of anxiety on sports performance. Researchers have found that competitive state anxiety is higher for amateur athletes in individual sports compared with athletes in team sports (Simon & Martens, 1977). In addition, participants in individual non-contact sports have been found to report lower levels of state anxiety than participants in individual contact sports (Lowe &

McGrath, 1971). Cognitive anxiety has been found to exert a powerful influence on performance. This statement holds true regardless of the individual's skill level. Participants in a collegiate softball tournament were put into one of two conditions: high situation criticality or low. While somatic anxiety did not differ in the two situations, those athletes in the high criticality condition had significantly higher levels of cognitive-anxiety (Krane, Joyce & Rafeld, 1994).

Clearly the cognitive interpretation an individual gives to a situation exerts an effect. Researchers have found that athletes that are successful interpret arousal to be facilitative. Research conducted with an elite group of swimmers found that anxiety intensity levels were higher in subjects who interpreted their anxiety more debilitative than those who reported it as being facilitative (Jones, Hanton & Swain, 1994). This has been found to be true of gymnasts (Jones, Swain, & Hardy, 1993) as well as basketball players (Swain & Jones, 1996). Gould, Petrchlikoff, and Weinberg (1984) have reported that the strongest predictor of cognitive anxiety was years of experience such that the more experience an individual had the lower the level of cognitive anxiety. This was supported by research conducted with a group of tennis players. Advanced subjects (individuals who had been participating in the sport for an extended period of time) reported more facilitative interpretations of their anxiety than novices (Perry & Williams, 1998). Similar results have been observed among a group of elite swimmers (Jones, Hanton, & Swain, 1994). Perhaps this is due to previous experience with arousal and how to cope. This conclusion is supported by the research of Jones, Swain, and Cale (1990) found that cognitive anxiety was best predicted by an evaluation of previous performances, individual's perception of preparedness, and goal setting.

The amount of self-confidence that an individual possesses has been found to differ among elite and novice athletes. Research with a group of tennis players indicated that the advanced players had significantly higher levels of self-confidence (Perry & Williams, 1998). This has been found to be true of gymnasts (Bejek & Hagyet, 1996) as well as swimmers (Jones, Hanton, & Swain, 1994). The predictors of self-confidence identified by research are perception of preparedness, and external conditions (Jones, Swain, & Cale, 1990). Other researchers have found that the strongest predictor of self-confidence has been found to be the amount of ability that an individual believed he or she had (Gould, Petrchlikoff, & Weinberg, 1984). This makes sense given an individual's previous experience in a given situation. Self-confidence has been found to account for a greater proportion of variance in performance than cognitive or somatic anxiety (Hardy, 1996). This suggests that the most powerful quality that elite performers possess is a high level of self-confidence which may act as a protective factor from cognitive anxiety.

Although the research conducted focusing on cognitive anxiety and self-confidence provides some insight into their effect on athletic performance, the interaction of these variables in conjunction with somatic anxiety provides a better understanding of the true effects. Among a group of 91 athletes ranging in age from 14 - 36 years old who participated in soccer, swimming, and track and field, those individuals with higher scores on self-confidence and lower scores on cognitive anxiety and somatic anxiety perceived their overall anxiety levels as more facilitative of athletic performance (Wiggins & Brustad, 1996).

Research conducted comparing athletes competing in team sports (basketball) with those competing in individual sports (track and field) has found that subjects competing in individual sports report significantly lower self-confidence and higher somatic anxiety than team sport athletes (Kirby & Liu, 1999). This is supported by research that has been conducted with figure skaters as well. Martin and Hall's (1997) research demonstrated that skaters experienced grater cognitive and somatic anxiety prior to an individual competitive event than prior to a team competition. Perhaps this is due to a diffusion of responsibility that occurs in the team framework but not in an individual framework. Important gender differences have also been found by researchers focusing on the relationship between cognitive anxiety, self-confidence, and somatic anxiety.

Females had lower self-confidence and higher somatic anxiety scores than males on the CSAI-2 (Thuot, Kavouras, & Kenefick., 1998). This research also focused on the location of an athletic event as well, finding that away games resulted in increased somatic anxiety and lower self-confidence. Finally, Thuot et al. (1998) found that adolescents, regardless of gender, experienced significantly higher levels of cognitive and somatic anxiety and lower levels of self-confidence as the ability of opponents increased. This is partially supported by research that has focused on the determinants of anxiety as well as gender. Among males, cognitive and somatic anxiety was more strongly affected by their perception of opponent's ability and probability of winning (Jones, Swain, & Cale, 1991). Female's cognitive anxiety and self-confidence is determined by readiness to perform and the importance they personally placed on doing well (Jones, Swain, & Cale, 1991). These gender differences are indicative of the need to develop interventions that

are tailored to individual needs and the importance of considering all factors when developing an intervention.

Clearly, anxiety exerts a variety of effects on athletic performance. These effects vary based on sport, gender and level of experience. In order to facilitate peak performances by athletes, sport psychologists must consider the three different facts of anxiety: cognitive anxiety, somatic anxiety, and self-confidence. (Jones et al, 1991) Given the research that indicates that successful athletes who interpret their anxiety as being facilitative is characterized by high scores on self-confidence and low scores on somatic and cognitive anxiety, sport psychologist should work towards achieving this ideal state among their clients.

Sports is littered with broken dreams of those whose performance collapsed when they are most needed to be in control of themselves and focus on the task at hand. It is not uncommon to see athletes "freeze" in big games or moments or commit unexplainable error in the course of their performance. When athletes do not perform well in relation to their abilities, nervousness in anticipation of the sporting challenges could be the root cause of anxiety. The problem of pre-competitive anxiety is one of the most pressing problems in modern sports psychology. It has been recognized for many years that psychological factors, in particular anxiety, play an important role in competition and in competitive sports, every athlete experience fear before, during and after events (Lizuka, 2005). Anxiety could make even the world most successful athlete feel nervous. According to Moran (2004), factors such as fear of failure and lack of confidence induce

feeling of anxiety in athletes. Anxiety is like worry; it is an unpleasant emotion that most athletes feel at sometimes when they are faced with challenges.

Anxiety in sports is such a huge issue for many athletes. The logic is that, the better you become, the higher the level of competition, the more anxiety you experience. Anxiety can have a devastating effect on the performance of an athlete. No matter how much talent or skill one may have, he will never perform at his or her best if he or she lives in fear before every event. The precise impact of anxiety on sporting performance depends on how you interpret your world. In the world today, nearly every concern of human endeavour is thought to be affected by anxiety. A number of theories exist concerning the effect of anxiety on performance, and while there seems to be an interaction effect between the amounts of anxiety necessary to maximally perform certain specific task, all theories seems to agree that maximum performance is reduced by too much anxiety.

Competitive anxiety should be viewed in two dimensions; trait and state anxiety. State anxiety may be conceptualized as a transitory emotional state or condition of human organism that varies in intensity and fluctuates over time (Spielberger, 1972 & 1983). This condition is characterized by subjective, consciously perceived feeling of tension, apprehension and activation of the autonomic nervous systems. It is an immediate or "right now" emotional response that can change from moment or situation to the next.

Trait anxiety is ingrained in a person's personality and the individual with this disorder tend to view the world as a dangerous and threatening place (Spielberger, 1972).It is noted that some athletes are more prone to anxiety than others. Amateur

athletes are more likely than seasoned professionals to experience anxiety that interfere with their ability to perform in competition–this makes sense due to their relative lack of experience both in competition and in managing arousal. Athletes who participate in individual sports have also been found to experience more anxiety than those who play team sports; common sense suggests that being part of a team alleviates some of the pressure experienced by those who compete alone.

A study conducted by Hanton and Jones (1994) established that high- and low-level athletes do not differ from one another in terms of cognitive and somatic anxiety levels but that high-level athletes interpret their symptoms as more facilitative of their sports performance. Those authors concluded that this may be due to high-level athletes' higher reported self-confidence. In the same vein, Jones (1995) argues that athletes who perceive themselves as capable of achieving the goals they strive towards interpret their anxiety symptoms as facilitative. Meanwhile, athletes with negative expectations about achieving their goals interpret their symptoms as detrimental to performance. Woodman and Hardy (2001), meanwhile, report that people with high anxiety levels (high intensity) usually perceive them as debilitative or as negatively affecting performance.

2.1.8 Coping with Pre-Competitive Anxiety in Athletics

Coping has been defined by Lazarus and Folkman (1984) as "constantly changing cognitive and behavioral efforts to manage specific external and/ or internal demands that are appraised as taking or exceeding resources of the person" (p.141). Emotion-focused coping is a strategy that involves changing the way a person feels or emotionally reacts to

a stressor (Ciccarelli and White 2009). One of the coping strategies which widely use is imagery. Imagery, known as mental rehearsal, mental visualization or mental practice, helps athletes to reduce anxiety and improve performance (Harris and Robinson 1986; Cox et al. 1993; Vealey and Walter 1993; Bull 2000; Cox 2007; Ampofo-Boateng 2009). According to Moran (1993), imagery not only focuses on visual senses but may include other senses as well. Vealey and Greanleaf (2001) defined Imagery as "using all the senses to re-create or create an experience in the mind' (p.248).Recognizing it and using the right techniques such as visualization, goal setting, and cognitive restructuring, developing self-confidence and focusing on what you can control rather than what you cannot control will help keep athletes free from pre-competitive anxiety.

Many athletes use visualization to improve performance, develop confidence and manage anxiety. Visualization also known as imagery or mental rehearsal involves imagining ourselves successfully competing at an athletic event (Cox 1990). In order to make visualization work, athletes and players should close their eyes and imagine the physical movements that they would make in order to be successful in competition. They should try to imagine themselves moving at the same speed as they would in real life. They should make sure their imaginations should be from their own perspective not that of the observers. They should view the scene (e.g. the crowd, the field) as they would if they were really there.

According to Cox (1990), the under-listed visualization exercises could be useful to athletes in enhancing their performance:

Exercise 1: Visualizing Yourself

Sit down in a quiet place with your eyes close.

Bring the whole of your body before you.

Take a look at your feet; examine your toes still with your eyes close.

Say to yourself "my toes are strong".

Take a look at your knees, say yourself "my knees are strong and can carry me throughout the game".

Bring your palm to your face, still with your eyes close.

Look at your fingers and palms and say "they are strong".

See your elbow, go through your upper arms and see your shoulders, say "they are strong".

Look at your intestine; say "there is nothing wrong with my intestine".

Look at your lungs; say "my lungs are strong".

Take a look at your heart; say "my heart is strong".

Say to yourself; "my toes, knees, fingers, arms, elbows, and shoulders are strong".

Say to yourself; "my intestine, lungs, and heart are strong".

Say to yourself "they cannot fail me".

Exercise II: Visualizing your Game:

Sit down in a quiet place with your eyes close.

Bring the game you are about to play before you as if you are watching a movie.

Look at yourself from the dressing room.

Take a look at the dress you are wearing, say to yourself, "I am well kitted".

Look at yourself again.

Take a look at yourself and the position you are playing.

Look at the first movement you want to make, say to yourself "this is the correct movement".

Look at yourself playing your game.

Tell yourself to do what you want in my game.

Exercise III: Visualizing your Opponents:

Sit down in a quiet place with your eyes close.

Bring to your memory the opponent you are about playing against.

Look at their height, and body size.

Say to yourself "my opponent are not stronger than I".

Take a look at the position of the opponent.

Say to yourself "I possess this game than my opponent".

See you opponent movement, say to yourself "my opponent movements are good but mine is better"

Feel the tension of your opponents attack go down you. Say "I am OK and in control".

See yourself blocking every attempt of your opponent to beat you at the game.

Enjoy your performance; say "I am in control".

Feel the joy of victory pass through your head to the whole body.

Say to yourself "I am happy with my performance".

Athletes should choose goals that are achievable but challenging. It is advisable to break task down with smaller parts with a series of short-term goals. These will help to keep them focus. Relaxation techniques are helpful for reducing the physical symptoms of pre-competitive anxiety such as an increased heart rate, tense muscles and quick shallow breathing. These techniques can be used at any time leading up to a performance or competition. Two of the techniques are: diaphragmatic breathing and progressive muscle relaxation. According to the free encyclopedia (Wikipedia), diaphragmatic breathing is breathing that is done by contracting the diaphragm, a muscle located horizontal between the chest cavity and stomach cavity. Air enters the lungs and the belly expands during this type of breathing. It involves slow and deep inhalation through the

nose, usually to a count of 10, followed by slow and complete exhalation for a similar count. This process may be repeated 5-10 times, several times a day.

Progressive Muscle Relaxation (PMR) is a technique for reducing anxiety by tensing and relaxing the muscle (Wolpeet al, 1966). The physical component involves the tensing and relaxing of the muscle groups over the legs, abdomen, chest, arms, and face. With the eye closed and in a sequential pattern, a tension in a given muscle group is purposefully done for approximately 10 seconds and then released for 20 seconds before the next muscle group. The mental component focuses on the different between the feeling of the tension and the relaxation. Because the eyes are closed one is forced to concentrate on the sensation of tension and relaxation. Cognitive restructuring refers to changing habitual ways of thinking. In athletic performance, cognitive restructuring helps evaluate bodily arousal; for example elite athletes channel arousal into excitement and the ability to rise to the challenge. Changing the way one thinks about a competition can also be helpful. Planning to always do our best regardless of how important we think a competition is allows us to attach less significance to major competitions, and in turn reduces pre-competitive anxiety. Craske et al (2006) stated that being aware of your thoughts and feelings is also a key to managing the cognitive symptoms of pre-competitive anxiety. They concluded that recognizing negative thoughts when they first enter your mind allows you stop them before they take hold, so you can replace them with more positive ones.

Sometimes it might be hard to imagine being confident in a competition if we usually crumble under pressure. However, athletes can be helped to take specific steps to

help increase confidence. Athletes should be made to focus on past successes instead of failure. They should make practice and preparation a priority and continue until they have no doubt left about their ability to succeed. It is true that distraction during competition reduces performance, but immediately before the event, we could talk to our team mate or fellow competitor, read books and listen to music. All these things help keep the mind away from negative thoughts. Athletes should not focus their attention on that which they cannot control. Whenever they find themselves warring about who is in the crowd watching them, or that other competitors are better than them, they should remind themselves that these are aspects of the competition that are out of their control. Since anxiety has been the main barrier on performance among athletes (Cox et al. 1993; Ortiz 2006), many psychological researches has been done on coping strategies to reduce the level of anxiety on athletes (Cox et al. 1993; Taylor 1996; Humara 2001; Richards 2004).

The athletes feel anxious in a competitive situation and try to use personal coping resources to reduce the anxiety (Cox 2007). They should know that what they can control is their performance, how well prepared they are, and how well they implement technique and strategies such as progressive muscle relaxation and mental imagery. In conclusion, coaches, athletes and managers should begin to see pre-competitive anxiety just as something their body does and should not be worried about it.). The athletes feel anxious in a competitive situation and try to use personal coping resources to reduce the anxiety (Cox 2007).

CHAPTER THREE

METHODOLOGY

This chapter presents the methodology that was used in the study. This is focused essentially on the following headings:

1. Research design
2. Target population,
3. Sample and sampling technique,
4. Instrumentation,
5. Procedure for data collection,
6. Data quality control,
7. Procedure for data analysis.

3.1 Research Design

The study was conducted using a quasi-experimental research of static group comparison design. This design involves a group that has experienced treatment compared to another without treatment (control group). A quasi-experiment is an empirical study used to estimate the impact of an intervention on its target population (Fraenkel & Wallen, 2006). Quasi-experimental research shares similarities with the traditional experimental design or randomized controlled trial, but they specifically lack the element of random assignment to treatment or control. Instead, quasi-experimental designs typically allow the researcher to control the assignment to the treatment

condition, but using some criterion other than random assignment (e.g., an eligibility cut off mark).

In some cases, the researcher may have control over assignment to treatment condition.The investigator lacks control over the scheduling but has control on whom and when measurements are taken. Observed differences between the two groups are assumed to be a result of the treatment. Therefore in this study, one group/level of independent variable received treatment and the other did not; then both are post tested.

3.2 Population

This research investigated the influence of anxiety on sports performance among selected Basic School athletes in the Central Region of Ghana. Identification of the population for the study is an important one as it is impossible to carry out research in a vacuum. It is therefore necessary to know the population in order to decide on what sample size would be feasible for the research. Nworgu (2006) classifies population as the target that is accessible. The target population refers to all the members of a specified group to which the investigation being carried out is related, while the accessible population is defined in terms of the elements in the group within the reach of the researcher. The population for the study was self selected male and female track athletes numbering sixty (60) that took part in the 31st Inter-Regional Basic School Sports Festival at Ho.

3.3 Sample and Sampling Technique

The sample for the study was made up of sixty (60) purposively self selected male and female track athletes that participated at the 31st Inter-Regional Basic School Sports Festival at Ho. The researcher used the entire population of sixty (60) for the study. This was due to the smaller size of the population so in order to get a fair representation for the study the entire population was used as the sample size. Purposive sampling was used to select the athletes by virtue of the fact that they were track athletes. In purposive sampling, the researcher handpicks the cases to be included in the sample on the basis of judgment of their typicality and uniqueness or particularly knowledgeable about the issues under study. Thus purposive sampling is also known as judgmental sampling and the researcher chooses the respondents whose opinions are thought to be relevant to the research topic (Amedahe & Gyimah, 2003). A simple random sampling technique was used to group the participants into two test units of 30 experimental and 30 control groups respectively, of equal gender representation (15 males and 15 females experimental group & 15 males and 15 females control group).

The simple random technique was used to enable the researcher get a proportionate representation in both groups and limit bias based on ability. The lottery technique was used to select the respondents randomly where sheets of papers with the numbers 1 and 2 were written on them and thrown into a bag and vigorously mixed. Female students were then asked to draw papers from the bag and those who picked sheets with one written on them were assigned to the control group and those who picked sheets with two on them were assigned to the experimental group. The same process was

followed for the males. Both non-probability and probability sampling techniques was adopted.

3.4 Instrument for Data Collection

This research work was conducted using 20 items questionnaires adapted from the State-Trait Anxiety Inventory (STAI) by Spielberger (1968). The instrument was revalidated using test-re-test method with a reliability coefficient of Cronbach alpha of .78 ($\alpha = .78$). The assessment of the questionnaire was on Likert scale of four summative rating of "Not at all"=1, "Somewhat"=2, "Moderately so"=3 or "Very much so"=4. Each of the athletes responded to the 20 items on the questionnaire. The items were in a statement form and athletes decide if you feel "not at all", "somewhat", "moderately so" or "very much so" this way when competing in your sport, and tick the appropriate box to indicate your response.

By analyzing an athlete's responses to a series of statements about how he / she feel in a competitive situation it is possible to determine their level of anxiety. A test that provides such functionality is the Speilbergers' State Trait Anxiety Inventory (1968). Structured questionnaire was the instrument used to gather the data for the study. Questionnaire, according to Seidu, (2006), is the most common technique for collecting data in social research. According to Kankam and Weiler (2010), the Likert type scale is a scaling technique where large numbers of items that are statements of beliefs or intensions are formulated.

The STAI test is a commonly used measure of trait and state anxiety (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). It can be used in clinical settings to diagnose anxiety and to distinguish it from depressive syndromes. It has often been used in research as an indicator of distress. Higher scores indicate greater anxiety. The STAI is appropriate for those who have at least a sixth-grade reading level. Internal consistency coefficients for the scale have ranged from .86 to .95; test-retest reliability coefficients have ranged from .65 to .75 over a 2-month interval (Spielberger et al., 1983). Considerable evidence attests to the construct and concurrent validity of the scale (Spielberger, 1989). Studies also have shown that it is a sensitive predictor of distress over time, and that it can vary with changes in support systems, health, and other individual characteristics (Elliott, Shewchuk, & Richards, 2001; Shewchuk, Richards & Elliott, 1998).

The respondents are literates therefore, researcher found it prudent to employed the STAI test questionnaire as instrument to collect data. Also, for the relatively large samples size for the research coupled with the limited duration within which the researcher is supposed to complete the research, questionnaire was more ideal and data collected through the use of questionnaire is easier to code and represented for analysis.

3.5 Validity of Instrument

It is crucial that any investigation is assessed with an instrument that has good technical characteristics if research conclusions are to be meaningful (Tapia & Marsh, 2004). Validity is defined as an instrument's ability to measure exactly what it is

supposed to measure (Eriksson & Wiedesheim-Paul, 2001). The meaning of validity is whether your methods, approaches and techniques actually measure and relate to the problem that has been explored (Blaxter, 2001). Hence validity is the appropriateness, meaningfulness, and usefulness of the specific inferences researchers make based on the data they collect (Fraenkel & Wallen, 2000).

Validation is necessary for collection of evidence to support inference making. Therefore, two types of validity were identified and addressed in this study. These included face validity, and content validity of the instruments. Face validity refers to the likelihood that a question will be misunderstood or misinterpreted by the subjects. Pilot-testing the instrument was carried out to increase face validity. Face validity of the instrument was further enhanced through assessment by the researcher's supervisor in the Department of Health, Physical Education, Recreation and Sports who is experienced, competent and well versed in research. Content validity refers to whether an instrument provides adequate coverage of a topic. As with face validity, content validity was assured by the supervisor's scrutiny of the instrument. The recommendations of the validation were used to revise the content material and the instructional package.

3.6 Reliability of Instrument

Reliability concerns the degree to which an experiment, test, or any measuring procedure yields the same results on repeated trials (Patton, 2007). To determine the reliability of this instrument, internal consistency estimate of reliability procedure was used. The STAI questionnaire items were pilot tested Winneba secondary school athletes.

A sample size of six athletes was used i.e. 3 males and 3 females. This was because pilot study helps the researcher to decide whether the study is feasible and whether it is worthwhile to continue. It provides the opportunity to assess the appropriateness and practicality of the data collection instruments. It permits a preliminary testing of the hypothesis and research questions, which may give some indication of its tenability and suggest whether refinement is needed. It will be able to demonstrate the adequacy of the research procedures and the measures that may have been selected for the variables. Unanticipated problems that appear may be solved at this stage, thereby saving time and effort later (Ary, Jacobs and Razavied, 1990). To estimate internal consistency of the scores, Cronbach alpha was calculated and the reliability coefficient found to be 0.78. This reliability coefficient was considered very appropriate. According to Fraenkel and Wallen (2000), reliability should be at least 0.70 and preferably higher.

3.7 Data Collection Procedure

The researcher sought permission from the Effutu Municipal Physical Education Coordinator of Basic School Sports and the Regional Physical Education Coordinator through a letter from the Department of Health, Physical Education, Recreation and Sports, University of Education, Winneba. The researcher met with the experimental group and provided the intervention before their participation in the various events. The researcher then administered the adapted STAI test before both groups participated in their events on an individual basis. The purpose of this was to encourage respondents to independently respond to the instruments. 45 minutes before competition, the researcher

gave the questionnaires to athletes in each group. After filling by athletes, questionnaires were collected and prepared for statistical analysis

3.8 Data Analysis Procedure

To Ary, Jacobs and Razavieh (1990), data analysis is the ordering and breaking down of data into constituent parts and performing of statistical calculations with the raw data to provide answers to the research questions which guided the research. The researcher after administration of the tests and collection of results prepared a data file using the statistical computer application software by assigning identity numbers to cases and preparing variable list and names.

Data collected was analysed using descriptive statistic of frequency counts and percentage for demographic information and Pearson product moment correlation to test the hypothesis at 0.05 significant level. Pearson product moment correlation analysis was conducted to examine whether there is a relationship between anxiety and athletes' performance among genders.

CHAPTER FOUR

RESULTS, FINDINGS AND DISCUSSIONS

The purpose of this research was to investigate the influence of anxiety on sports performance of track athletes in the Basic Schools. It also tried to identify the correlation between anxiety and gender, anxiety and age of track athletes of Basic Schools in the Central Region.

4.1 Demographic Characteristics of Sample

The study sample was made up of sixty (60) self selected track athletes (30 males and 30 females) that took part in the 31st Inter-Regional Basic Schools Sports Festival held in Ho. The figure below shows that for the study sample 50% (n=30) were males and 50% (n=30) were females.

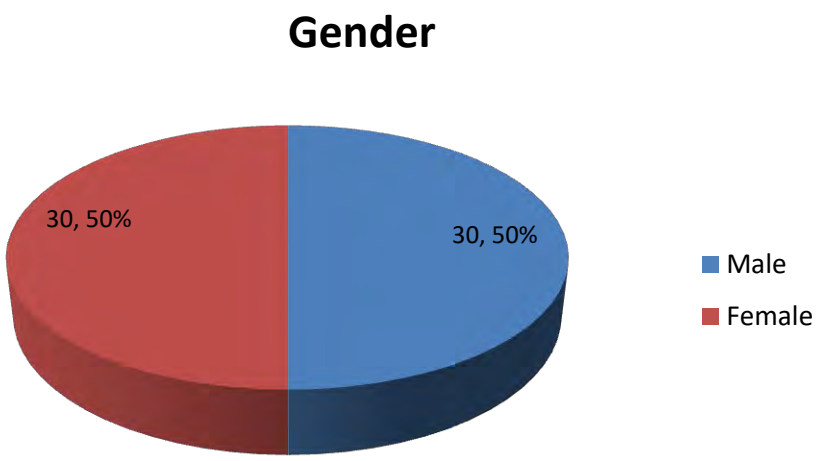

Figure 1: Gender of Respondents

Table 1: Age Distribution of Respondents

Age (Years)	Frequency	Percentage (%)
5 – 10	14	23
11 – 15	39	65
16 – 20	7	12
21+	0	0
Total	**60**	**100**

Table 1 provides the age distribution of the sample as presented in the study. The dominant age group ranges between 11 – 15 years (65%, n=39) followed by 5 – 10 years (23%, n=14) and 16 – 20 years (12%, n=7).

Vital signs or statistics refer to the measures including blood pressure, height, weight, temperature of a person.

Table 2: Body Temperature of Respondents

Grouping	Average Temperature (^{0}C)
Total Sample	41
Control Group	42
Treatment Group	38

Table 2 provides the average temperature distribution presented in the study. It evaluates the effectiveness of body temperature on performance and recovery. Results show that lowering core body temperature results in lower overall relative oxygen consumption during prolonged exercise (Gleeson, 1998). The researcher concluded that the cause of the decrease in performance was the reduction in peak oxygen uptake.

Studies have demonstrated that elevated temperature can be a source of fatigue (Brooks, Fahey, White, 1996). During exercise metabolism, core body temperature, metabolite buildup, and muscle efficiency are significantly affected by elevated core body temperature (Fletcher, & Hanton, 2001).

Circulation issues related to heat exist in two forms: dehydration and blood redistribution. One main cause of dehydration is loss of fluids through increased sweating in response to demands for greater cooling (Gleeson, 1998). Dehydration decreases blood and plasma volume, rate of sweating, muscle strength and capacity, as well as liver glycogen. In addition as the body temperature rises, more blood is shunted to peripheral tissues to aid in cooling and less oxygenated blood is available for muscle tissues, the lungs, heart and other internal organs and tissues. Therefore, there is a direct relationship between exercise performance and temperature during exercise. Therefore rises in core body temperature will limit performance in cases of prolonged or hypothermic exercise conditions.

There is also a centrally mediated component of fatigue related to heat exposure. A study by Nybo et al (2011), demonstrated that heat-related fatigue was related to changes in cerebral activity. These results demonstrate that there is altered brain activity associated with hyperthermia-induced fatigue, although the actual mechanism was not found. Therefore, it appears that there exists a threshold core temperature of 40 ^{O}C that limits individuals from performing exercise controlled by the central nervous system Nybo et al (2011). The balance of substrate use may also change as a result of elevated core body temperature, resulting in a decrement of exercise performance. A study by

Jentjens et al (1979) demonstrated that more muscle glycogen and less ingested carbohydrates are utilized during sub-maximal exercise in a heated environment compared to a cooler environment. Prolonged exercise with a corresponding increase in core temperature could lead to substrate-related fatigue (Cooper, 2002).

Table 3: Body Weight of Respondents

Grouping	Average Weight (Kg)
Total Sample	47
Control Group	46
Treatment Group	47

Table 3 provides the average weight distribution presented in the study. Athletes often feel substantial pressure to conform to a body weight or fat ideal or their sport, but there is generally a range of weight and body fat levels considered optimal (Kerr & Ackland, 2000). Unfortunately, in most sports this range is reasonably wide e.g. soccer while in other sports like athletics the range is narrow. This unfortunately means that athletes may struggle to meet weight and body fat expectations imposed by the sports or their discipline. Scientific evidence and common sense both support the need to be light and lean in endurance sports like marathon running, where body weight must be carried over a significant distance (Tittel, 1987).

Low body weight decreases the energy cost of moving and improves body temperature control, especially when exercising in hot, humid weather (Cureton & Sparling, 1980). In other sports such as football, sprinting and jumping, a more

substantial muscle mass is required for strength, so the ratio of muscle mass to fat is more important (Malina, 1975). Surprisingly, there is little published research specifically investigating the effect of body weight or fat on performance. Many of the optimal ranges suggested come from measures taken on elite performers or from a coach's institution or experience. Athlete's body weight should be individualized rather than by comparing with other athletes. If the time between weigh-in and competition is less than 5 hours, rapid bodyweight reduction should not exceed 4% of bodyweight. If the time frame is longer, a body reduction of less or equal to 8% might be acceptable (Burns, Groove, 2003).

Table 4: Blood Pressure of Respondents

Grouping	Systolic	Diastolic
Total Sample	143	95
Control Group	167	99
Treatment Group	123	84

Table 4 provides the average blood pressure of the sample presented in the study. Blood pressure (BP), sometimes referred to as arterial blood pressure, is the pressure exerted by circulating blood upon the walls of blood vessels and is one of the principal vital signs. There are some factors that affect blood pressure; height and consequently, the length of the blood vessel. Firstly, the longer blood has to travel to reach its destination, the greater the affect resistance will have on slowing blood pressure down. This trait will not necessarily raise blood pressure as its effect is more likely to be noticed at the extremities. Therefore, your height will have the slightest effect on blood pressure.

Secondly, is the thickness of the blood; Blood's thickness is affected by its contents and the overall volume. The content of the blood could include water, red blood cells, white blood cells, plasma proteins, glucose (sugar), electrolytes (sodium) and other nutrients and hormones. The main components that affect the thickness or viscosity are the plasma proteins and the red blood cell counts. Nutrient deficiency such as B 12 could increase the red blood cells; thus thickening the blood. This could seriously affect the athletes if they are not carefully monitored (Winget, DeRoshia & Holley 1985).

4.2 Data Presentation

Research Question 1: What are the types of anxiety found among track athletes at the Basic School level?

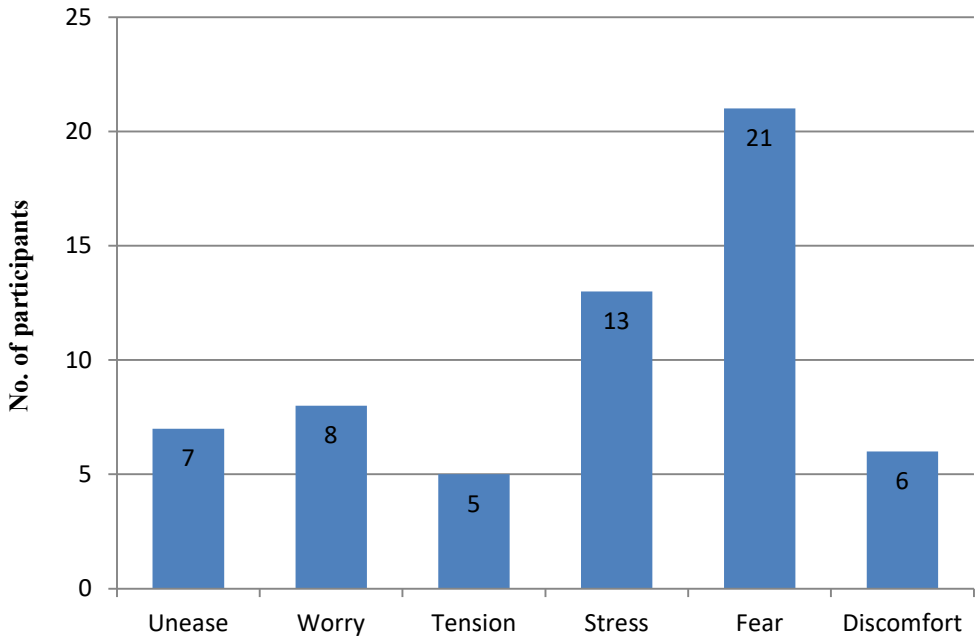

Figure 2: Anxiety Types Experienced by Students Athletes

Figure 2 provides the breakdown of the anxiety types faced by the sample. The dominant anxiety type was fear (35%, n=21) followed by Stress (22%, n=13), followed by Worry (13%, n=8), followed by Unease (12%, n=7), Discomfort (10%, n=6) and

finally the least experienced anxiety type was Tension (8%, n=5). It was therefore concluded that 21 out of 60 athletes representing 35% reported of fear. The findings of Douglas et al, (2006) which states that the major sources of pre-competition anxiety include: fear of failure, thinking too much on what people may say about the performance and lack of confidence are similar to the findings in this study.

Research Question 2: What are the influences of anxiety on athletes' performance in the Regional Basic School Sports Festival?

In answering this research question, the STAI results for the two groups of athletes i.e. the control group and treatment group were computed and summarized below.

Control Group

Table 5: STAI Results of Control Group

Statements	Not at all	Somewhat	Moderately So	Very much so	Mean	Interpretation
I feel calm	23	3	2	0	4	Not at all
I feel secure	21	7	1	1	4	Not at all
I am tense	1	3	6	20	4	Very much so
I am regretful	5	2	1	22	3	Moderately so
I feel at ease	19	5	3	3	3	Somewhat
I feel upset	1	5	9	15	3	Moderately so
I am presently worry about possible misfortune	0	2	1	27	4	Very much so
I feel rested	8	12	6	4	3	Somewhat
I feel anxious	0	3	7	20	4	Very much so
I feel comfortable	17	3	4	6	3	Somewhat
I feel self-confident	22	4	3	1	4	Not at all
I feel nervous	3	3	5	21	4	Very much so
I am jittery	1	2	4	23	4	Very much so
I feel “high strung”	5	7	9	9	3	Moderately so
I am relaxed	17	5	3	5	3	Somewhat
I feel content	18	6	3	3	3	Somewhat
I am worried	5	2	3	22	4	Very much so
I feel over-excited and rattled	3	8	1	18	3	Moderately so
I feel joyful	17	8	3	2	3	Somewhat
I feel pleasant	21	9	0	0	4	Not at all
Total Score					**67**	

Note: The scoring for items 1, 2, 5, 8, 10, 11, 15, 16, 19 & 20 was reversed.

Source: Field study.

Table 5 presents the STAI results of the control group of athletes. The mean response for each test item was computed and the interpretation presented. The interpretation was made using the scale of 1 = Not at all, 2 = Somewhat, 3 = Moderately so and 4 = Very much so. The sum of the mean scores was computed and that gave the total average score for the control group. The total mean score of the treatment group was 67.

Treatment Group

Table 6: STAI Results of Treatment Group

Statements	Not at all	Somewhat	Moderately So	Very much so	Mean	Interpretation
I feel calm	0	2	3	25	1	Very much so
I feel secure	0	2	5	23	1	Very much so
I am tense	22	6	2	1	2	Not at all
I am regretful	23	4	2	1	2	Not at all
I feel at ease	0	2	4	24	1	Very much so
I feel upset	25	1	2	2	2	Not at all
I am presently worry about possible misfortunes	21	6	2	1	1	Not at all
I feel rested	1	3	3	23	1	Very much so
I feel anxious	0	3	7	20	2	Very much so
I feel comfortable	1	1	24	4	1	Very much so
I feel self-confident	0	1	9	21	1	Very much so
I feel nervous	17	9	3	1	2	Somewhat
I am jittery	19	3	2	5	2	Somewhat
I feel “high strung”	18	7	2	3	2	Somewhat
I am relaxed	1	1	8	20	1	Very much so
I feel content	2	2	7	20	2	Moderately so
I am worried	22	3	2	5	2	Somewhat
I feel over-excited and rattled	23	5	1	1	1	Not at all
I feel joyful	0	1	16	13	2	Very much so
I feel pleasant	0	1	11	17	1	Moderately so
Total Score					**31**	

Note: The scoring for items 1, 2, 5, 8, 10, 11, 15, 16, 19 & 20 was reversed.

Source: Field Study

Table 6 presents the STAI results of the treatment group of athletes. The mean response for each test item was computed and the interpretation presented. The interpretation was made using the scale of 1 = Not at all, 2 = Somewhat, 3 = Moderately so and 4 = Very much so. The sum of the mean scores was computed and that gave the total average score for the control group. The total mean score of the treatment group was 31.

Table 7: Average STAI Test Result and Placing on Event

Group (N=30)	Average STAI Test Performance	Position / Placing on Event
Control Group	67	6
Experimental Group	31	2

Table 7 presents a comparison of the average STAI test results for both control group and experimental groups along with the average placing of athletes on the events they participated in. The table shows that the experimental (treatment) group scored lower than the control group. The interpretation of the scoring for the STAI test states that the range of scoring is from 20 – 80 and the higher the STAI score the higher the anxiety level. This also corresponded to an effect in the athletes' performance. The results show that the higher the STAI score or anxiety level the lower the athletes performance on the events they participated and the lower the anxiety level or STAI score the higher the athletes placed on the events they participated.

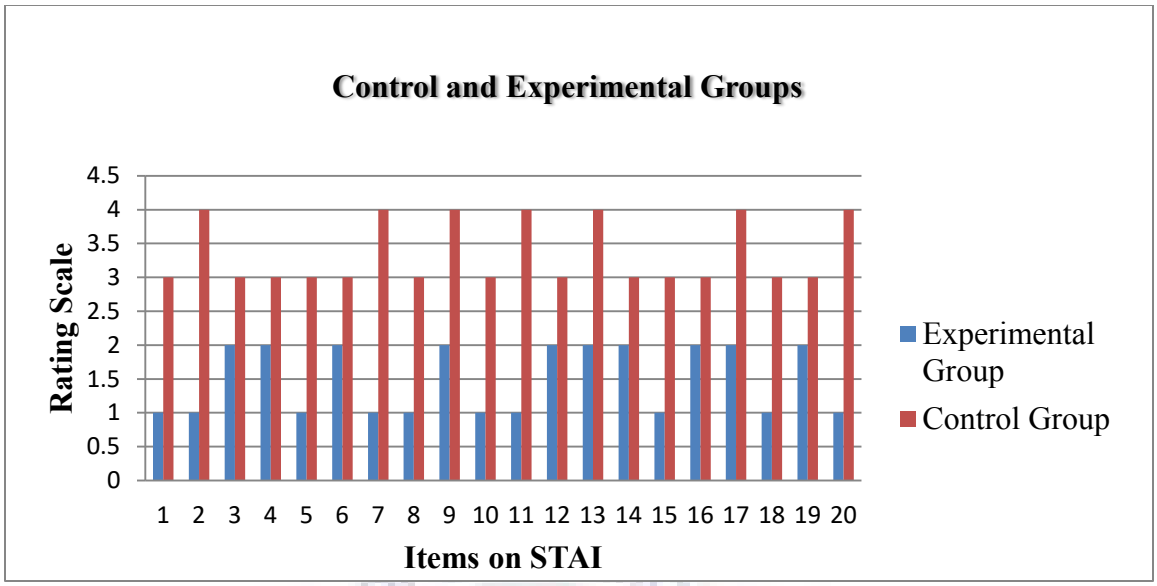

Figure 3: Comparison of Control and Experimental Groups

Figure 3 shows the mean scores control and experimental groups' performance on the STAI instrument after the reversed analysis. Decrease in level of performance particularly in control group during the competition is attributed to competitive anxiety and lack of coping strategy they were not exposed to (Sanatkaran, 2007).

Research Question 3: What is the relationship between anxiety and athletics performance among gender i.e. male and females in the Central Region?

Table 8: Correlation between Anxiety and Athletics Performance among Gender

		Gender	Anxiety	Performance
Gender	Pearson Correlation Sig. (2-tailed)	**1**		
Anxiety	Pearson Correlation Sig. (2-tailed)	**.255**	1	
Performance	Pearson Correlation Sig. (2-tailed)	**.324**	.61*	1

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

A Pearson correlation analysis was conducted to examine whether there is a relationship between anxiety and athletes' performance among genders. The results revealed a significant and positive relationship (r = .61, n= 60, p = .05). The correlation was strong in strength. A higher level of anxiety was associated with lower levels of performance (see Table above). There was no correlation between gender and performance and gender and anxiety.

Krane and Williams (1987) found that the same was true in their study, and they ascribed this finding to their participants' low levels of competition and experience. Tabernero and Márquez (1993) argued that women, to a greater extent than men, tend to attribute their competitive anxieties to doubting themselves and their potential, an effect that becomes more pronounced with age.

Discussion of Findings

Research Question 1

The data analysis for research question 1 revealed that the anxiety type faced by track athletes at the basic school was fear, stress, worry, unease, discomfort and tension. The findings of Douglas et al, (2006) which states that the major sources of pre-competition anxiety include: fear of failure, thinking too much on what people may say about the performance and lack of confidence are similar to the findings in this study. This is also in line with the description of anxiety as an unpleasant state of inner turmoil, often accompanied by nervous behavior, such as pacing back and forth, somatic complaints and rumination as defined by Seligman, Walker and Rosenhan (2001). It is the subjectively unpleasant feelings of dread over something unlikely to happen, such as the feeling of imminent death (Davison, 2008).

Anxiety is not the same as fear, which is a response to a real or perceived immediate threat; whereas anxiety is the expectation of future threat (American Psychiatric Association, 2013). Anxiety is a feeling of fear, worry, and uneasiness, usually generalized and unfocused as an overreaction to a situation that is only subjectively seen as menacing (Bouras & Holt, (2007). It is often accompanied by muscular tension, restlessness, fatigue, and problems in concentration (American Psychiatric Association, 2013). Anxiety can be appropriate, but when it is too much and continues too long, the individual may suffer from an anxiety disorder (American Psychiatric Association, 2013).

Anxiety is distinguished from fear, which is an appropriate cognitive and emotional response to a perceived threat and is related to the specific behaviors of fight-

or-flight responses, defensive behavior or escape. Anxiety occurs in situations only perceived as uncontrollable or unavoidable, but not realistically so (Öhman, 2000). David Barlow defines anxiety as "a future-oriented mood state in which one is ready or prepared to attempt to cope with upcoming negative events," (Barlow, 2000) and that it is a distinction between future and present dangers which divides anxiety and fear. Another description of anxiety is agony, dread, terror, or even apprehension (Lacovou, 2011). In positive psychology, anxiety is described as the mental state that results from a difficult challenge for which the subject has insufficient coping skills (Csíkszentmihályi, 1997).

Fear and anxiety can be differentiated in four domains: (1) duration of emotional experience, (2) temporal focus, (3) specificity of the threat, and (4) motivated direction. Fear is defined as short lived, present focused, geared towards a specific threat, and facilitating escape from threat; while anxiety is defined as long acting, future focused, broadly focused towards a diffuse threat, and promoting excessive caution while approaching a potential threat and interferes with constructive coping (Sylvers, Lilienfeld & Laprairie, 2011). The behavioral effects of anxiety may include withdrawal from situations which have provoked anxiety in the past (Barker, 2003).

Anxiety can also be experienced in ways which include changes in sleeping patterns, nervous habits, and increased motor tension like foot tapping (Barker, 2003). The emotional effects of anxiety may include "feelings of apprehension or dread, trouble concentrating, feeling tense or jumpy, anticipating the worst, irritability, restlessness, watching (and waiting) for signs (and occurrences) of danger, and, feeling like your

mind's gone blank" (Smith, 2008) as well as nightmares/bad dreams, obsessions about sensations, a trapped in your mind feeling, and feeling like everything is scary.

The cognitive effects of anxiety may include thoughts about suspected dangers, such as fear of dying. You may fear that the chest pains are a deadly heart attack or that the shooting pains in your head are the result of a tumor or aneurysm. You feel an intense fear when you think of dying, or you may think of it more often than normal, or cannot get it out of your mind (Anxiety Centre, 2009). The philosopher Kierkegaard described anxiety or dreads associated with the "dizziness of freedom" and suggested the possibility for positive resolution of anxiety through the self-conscious exercise of responsibility and choosing. In Art and Artist (1932), the psychologist Otto Rank wrote that the psychological trauma of birth was the pre-eminent human symbol of existential anxiety and encompasses the creative person's simultaneous fear of and desire for separation, individuation and differentiation.

The theologian Tillich (1952) characterized existential anxiety as "the state in which a being is aware of its possible nonbeing" and he listed three categories for the nonbeing and resulting anxiety: ontic (fate and death), moral (guilt and condemnation), and spiritual (emptiness and meaninglessness). According to Tillich (1952), the last of these three types of existential anxiety, i.e. spiritual anxiety, is predominant in modern times while the others were predominant in earlier periods. Tillich (1952), argues that this anxiety can be accepted as part of the human condition or it can be resisted but with negative consequences. In its pathological form, spiritual anxiety may tend to "drive the person toward the creation of certitude in systems of meaning which are supported by

tradition and authority" even though such "undoubted certitude is not built on the rock of reality" (Tillich, 1952). According to Viktor (1959) when a person is faced with extreme mortal dangers, the most basic of all human wishes is to find a meaning of life to combat the "trauma of nonbeing" as death is near.

According to Yerkes-Dodson (1908) law, an optimal level of arousal is necessary to best complete a task such as an exam, performance, or competitive event. However, when the anxiety or level of arousal exceeds that optimum, the result is a decline in performance (Tiegen, 1994). Test anxiety is the uneasiness, apprehension, or nervousness felt by students who have a fear of failing an exam. Students who have test anxiety may experience any of the following: the association of grades with personal worth; fear of embarrassment by a teacher; fear of alienation from parents or friends; time pressures; or feeling a loss of control. Sweating, dizziness, headaches, racing heartbeats, nausea, fidgeting, uncontrollable crying or laughing and drumming on a desk are all common. Because test anxiety hinges on fear of negative evaluation (Liebert & Morris, 1967) debate exists as to whether test anxiety is itself a unique anxiety disorder or whether it is a specific type of social phobia (Beidel & Turner, 1988).

The DSM-IV classifies test anxiety as a type of social phobia (Rapee & Heimberg, 1997). While the term "test anxiety" refers specifically to students (Mathur & Khan, 2011) many workers share the same experience with regard to their career or profession. The fear of failing at a task and being negatively evaluated for failure can have a similarly negative effect on the adult. Management of test anxiety focuses on achieving relaxation and developing mechanisms to manage anxiety (Mathur & Khan,

2011). Humans generally require social acceptance and thus sometimes dread the disapproval of others. Apprehension of being judged by others may cause anxiety in social environments (Hofmann & Dibartolo, 2010).

Anxiety during social interactions, particularly between strangers, is common among young people. It may persist into adulthood and become social anxiety or social phobia. "Stranger anxiety" in small children is not considered a phobia. In adults, an excessive fear of other people is not a developmentally common stage; it is called social anxiety. According to Thomas, Hardy, & Cutting (1997) social phobics do not fear the crowd but the fact that they may be judged negatively. Social anxiety varies in degree and severity. For some people it is characterized by experiencing discomfort or awkwardness during physical social contact (e.g. embracing, shaking hands, etc.), while in other cases it can lead to a fear of interacting with unfamiliar people altogether. Those suffering from this condition may restrict their lifestyles to accommodate the anxiety, minimizing social interaction whenever possible.

Social anxiety also forms a core aspect of certain personality disorders, including Avoidant Personality Disorder (Settipani & Kendall, 2012). To the extent that a person is fearful of social encounters with unfamiliar others, some people may experience anxiety particularly during interactions with out-group members, or people who share different group memberships (i.e., by race, ethnicity, class, gender, etc.). Depending on the nature of the antecedent relations, cognitions, and situational factors, intergroup contact may stressful, and lead to feelings of anxiety. This apprehension or fear of contact with out-group members is often called interracial or intergroup anxiety (Stephan & Stephan,

1985). As is the case in the more generalized forms of social anxiety, intergroup anxiety has behavioral, cognitive, and affective effects. For instance, increases in schematic processing and simplified information processing can occur when anxiety is high. Indeed, such is consistent with related work on attention bias in implicit memory (Richeson & Trawalter, 2008), (Mathews, Mogg, May & Eysenck, 1989), (Richards & French, 1991).

Additionally recent research has found that implicit racial evaluations (i.e. automatic prejudiced attitudes) can be amplified during intergroup interaction (Amodio & Hamilton, 2012). Negative experiences have been illustrated in producing not only negative expectations, but also avoidant, or otherwise antagonistic, behavior such as hostility (Plant & Devine, 2003). Furthermore, when compared to anxiety levels and cognitive effort (e.g., impression management and self-presentation) in intra-group contexts, levels and depletion of resources may be exacerbated in the intergroup situation.

Anxiety can be either a short term 'state' or a long term "trait". Trait anxiety reflects a stable tendency to respond with state anxiety in the anticipation of threatening situations (Schwarzer, 1997). It is closely related to the personality trait of neuroticism. Such anxiety may be conscious or unconscious (Giddey & Wright, 1997). Anxiety induced by the need to choose between similar options is increasingly being recognized as a problem for individuals and for organizations (Downey, 2008). "Today we are all faced with greater choice, more competition and less time to consider our options or seek out the right advice" (Robazza, Bortoli, & Nougier, 1998).

In a decision context, unpredictability or uncertainty may trigger emotional responses in anxious individuals that systematically alter decision-making (Hartley &

Phelps, 2012). There are primarily two forms of this anxiety type. The first form refers to a choice in which there are multiple potential outcomes with known or calculable probabilities. The second form refers to the uncertainty and ambiguity related to a decision context in which there are multiple possible outcomes with unknown probabilities (Hartley & Phelps, 2012). In some Buddhist meditation literature, this effect is described as something which arises naturally and should be turned toward and mindfully explored in order to gain insight into the nature of emotion, and more profoundly, the nature of self (Gunaratana, n.d.).

Research Question 2

The data analysis for research question 2 revealed that anxiety had a negative impact on performance. The data analysis also revealed that the higher the STAI score which showed high levels of anxiety, the more the athlete performed badly of placed lower in an event as compared to those who experienced lower levels of stress due to the intervention put in place. All athletes experience the anxious thoughts that so frequently occur in response to stress (Robazza, Pellizzari, & Hanin, 2004). Throughout the course of one's career, however, the sources of stress and the kinds of anxious thoughts experienced change. The increased stress of competitions can cause athletes to react both physically and mentally in a manner which can negatively affect their performance abilities. Sports and performance anxiety often go hand-in-hand. While many athletes become "pumped up" during competition (Robazza, Pellizzari & Hanin, 2004), when the rush of adrenaline is interpreted as anxiety, and negative thoughts begin to swirl, it can have devastating effects on his/her ability to perform.

A certain level of physical arousal is helpful and prepares us for competition. But when the physical symptoms of anxiety are too great, they may seriously interfere with athlete's ability to compete. Similarly, a certain amount of worry about how he/she perform can be helpful in competition, but severe cognitive symptoms of anxiety such as negative thought patterns and expectations of failure can bring about a self-fulfilling prophecy. If there is a substantial difference between how he/she performs during practice and how he/she does during competitions, anxiety may be affecting his/her performance.

Research suggests that people with a family history of anxiety have increased risk of developing it. They have greater chance of suffering from anxiety disorder which results in constant worry (Kendler et al, 2002). Some types of athletes are more prone to feeling the effects of anxiety on performance. Amateur athletes are more likely than seasoned professionals to experience anxiety that interferes with their ability to perform in competition this makes sense due to their relative lack of experience both in competition and in managing arousal. This is typical of the findings of this study where the athletes were all amateurs. The findings of Douglas et al, (2006) which states that the major sources of pre-competition anxiety include: fear of failure, thinking too much on what people may say about the performance and lack of confidence are similar to the findings in this study. They conclude however, that pre-competitive anxiety is dependent upon factors such as: skill level, experience and general level of arousal in daily activities. Athletes who participate in individual sports have also been found to experience more anxiety than those who play team sports. Common sense suggests that

being part of a team alleviates some of the pressure experienced by those who compete alone.

Finally, there is evidence that in team sports, when a team plays at the venue of the opposition (known as an "away" game) anxiety levels tend to be higher than when playing at home. Again, common sense would indicate that having greater fan support and more familiarity with the venue plays a role in anxiety levels during competition. While inventing Sports Competitive Anxiety Test Martens et al. (1990) saw that pre-competitive anxiety as an arousal that is unpleasant or negative and occurs prior to competition. According to them, it is negative emotional state that is characterized with feeling of worry, nervousness and apprehension associated with activation of the body. How are elite athletes consistently able to rise to the challenge when faced with tough competition? Research shows that self-confidence plays a role in how you respond to symptoms of anxiety during athletic performance. People who are confident in their abilities are more likely to have a positive reaction to arousal and anxiety and thrive on the challenge of competition. Elite athletes are often so focused on their behaviour that they interpret arousal as excitement rather than anxiety. In general, self-confidence tends to be highest when you believe in your ability and feel that you have properly prepared for a competition. Worry and confidence are at opposite ends of the spectrum-when confidence is strong, it tends to crowd worry out of the mind

A great deal of research has been devoted to the effect of anxiety on sports performance. Researchers have found that competitive state anxiety is higher for amateur athletes in individual sports compared with athletes in team sports (Simon & Martens,

1977). In addition, participants in individual non-contact sports have been found to report lower levels of state anxiety than participants in individual contact sports (Lowe & McGrath, 1971). Cognitive anxiety has been found to exert a powerful influence on performance. This statement holds true regardless of the individual's skill level. Participants in a collegiate softball tournament were put into one of two conditions: high situation criticality or low. While somatic anxiety did not differ in the two situations, those athletes in the high criticality condition had significantly higher levels of cognitive-anxiety (Krane, Joyce, & Rafeld, 1994).

Clearly the cognitive interpretation an individual gives to a situation exerts an effect. Researchers have found that athletes that are successful interpret arousal to be facilitative. Research conducted with an elite group of swimmers found that anxiety intensity levels were higher in subjects who interpreted their anxiety more debilitative than those who reported it as being facilitative (Jones, Hanton, & Swain, 1994). This has been found to be true of gymnasts (Jones, Swain, & Hardy, 1993) as well as basketball players (Swain & Jones, 1996). Gould, Petrchlikoff & Weinberg (1984) have reported that the strongest predictor of cognitive anxiety was years of experience such that the more experience an individual had the lower the level of cognitive anxiety. This was supported by research conducted with a group of tennis players. Advanced subjects (individuals who had been participating in the sport for an extended period of time) reported more facilitative interpretations of their anxiety than novices (Perry & Williams, 1998). Similar results have been observed among a group of elite swimmers (Jones, Hanton, & Swain, 1994). Perhaps this is due to previous experience with arousal and how to cope. This conclusion is supported by the research of Jones, Swain & Cale (1990)

found that cognitive anxiety was best predicted by an evaluation of previous performances, individual's perception of preparedness, and goal setting.

The amount of self-confidence that an individual possesses has been found to differ among elite and novice athletes. Research with a group of tennis players indicated that the advanced players had significantly higher levels of self-confidence (Perry & Williams, 1998). This has been found to be true of gymnasts (Bejek & Hagyet, 1996) as well as swimmers (Jones, Hanton, & Swain, 1994). The predictors of self-confidence identified by research are perception of preparedness, and external conditions (Jones, Swain, & Cale, 1990). Other researchers have found that the strongest predictor of self-confidence has been found to be the amount of ability that an individual believed he or she had (Gould, Petrchlikoff, & Weinberg, 1984). This makes sense given an individual's previous experience in a given situation. Self-confidence has been found to account for a greater proportion of variance in performance than cognitive or somatic anxiety (Hardy, 1996). This suggests that the most powerful quality that elite performers possess is a high level of self-confidence which may act as a protective factor from cognitive anxiety.

Although the research conducted focusing on cognitive anxiety and self-confidence provides some insight into their effect on athletic performance, the interaction of these variables in conjunction with somatic anxiety provides a better understanding of the true effects.

Among a group of 91 athletes ranging in age from 14-36 years old who participated in soccer, swimming, and track and field, those individuals with higher scores on self-confidence and lower scores on cognitive anxiety and somatic anxiety

perceived their overall anxiety levels as more facilitative of athletic performance (Wiggins & Brustad, 1996). Research conducted comparing athletes competing in team sports (basketball) with those competing in individual sports (track and field) has found that subjects competing in individual sports report significantly lower self-confidence and higher somatic anxiety than team sport athletes (Kirby & Liu, 1999). This is supported by research that has been conducted with figure skaters as well. Martin & Hall (1997) research demonstrated that skaters experienced grater cognitive and somatic anxiety prior to an individual competitive event than prior to a team competition. Perhaps this is due to a diffusion of responsibility that occurs in the team framework but not in an individual framework. Important gender differences have also been found by researchers focusing on the relationship between cognitive anxiety, self-confidence, and somatic anxiety.

Females had lower self-confidence and higher somatic anxiety scores than males on the CSAI-2 (Thuot, Kavouras, & Kenefick., 1998). This research also focused on the location of an athletic event as well, finding that away games resulted in increased somatic anxiety and lower self-confidence. Finally, Thuot et al. (1998) found that adolescents, regardless of gender, experienced significantly higher levels of cognitive and somatic anxiety and lower levels of self-confidence as the ability of opponents increased. This is partially supported by research that has focused on the determinants of anxiety as well as gender. Among males, cognitive and somatic anxiety was more strongly affected by their perception of opponent's ability and probability of winning (Jones, Swain, & Cale, 1991). Female's cognitive anxiety and self-confidence is determined by readiness to perform and the importance they personally placed on doing well (Jones, Swain, & Cale, 1991). These gender differences are indicative of the need to develop interventions that

are tailored to individual needs and the importance of considering all factors when developing an intervention.

Clearly, anxiety exerts a variety of effects on athletic performance. These effects vary based on sport, gender and level of experience. In order to facilitate peak performances by athletes, sport psychologists must consider the three different facts of anxiety: cognitive anxiety, somatic anxiety, and self-confidence. Given the research that indicates that successful athletes who interpret their anxiety as being facilitative is characterized by high scores on self-confidence and low scores on somatic and cognitive anxiety, sport psychologist should work towards achieving this ideal state among their clients. This is similar to the findings of this study where track athletes who were mentored and given intervention to help control their anxiety and channel it appropriately performed better in the events. Sports is littered with broken dreams of those whose performance collapsed when they are most needed to be in control of themselves and focus on the task at hand. It is not uncommon to see athletes "freeze" in big games or moments or commit unexplainable error in the course of their performance. When athletes do not perform well in relation to their abilities, nervousness in anticipation of the sporting challenges could be the root cause of anxiety.

The problem of pre-competitive anxiety is one of the most pressing problems in modern sports psychology. It has been recognized for many years that psychological factors, in particular anxiety, play an important role in competition and in competitive sports, every athlete experience fear before, during and after events (Lizuka, 2005). Anxiety could make even the world most successful athlete feel nervous. According to

Moran (2004), factors such as fear of failure and lack of confidence induce feeling of anxiety in athletes. Anxiety is like worry; it is an unpleasant emotion that most athletes feel at sometimes when they are faced with challenges. Anxiety in sports is such a huge issue for many athletes. The logic is that, the better you become, the higher the level of competition, the more anxiety you experience. Anxiety can have a devastating effect on the performance of an athlete (Harvey, VanRaalte & Brewer 2002). No matter how much talent or skill one may have, he will never perform at his or her best if he or she lives in fear before every event. The precise impact of anxiety on sporting performance depends on how you interpret your world. In the world today, nearly every concern of human endeavour is thought to be affected by anxiety. A number of theories exist concerning the effect of anxiety on performance, and while there seems to be an interaction effect between the amounts of anxiety necessary to maximally perform certain specific task, all theories seems to agree that maximum performance is reduced by too much anxiety.

Competitive anxiety should be viewed in two dimensions; trait and state anxiety. State anxiety may be conceptualized as a transitory emotional state or condition of human organism that varies in intensity and fluctuates overtime. This condition is characterized by subjective, consciously perceived feeling of tension, apprehension and activation of the autonomic nervous systems. It is an immediate or "right now" emotional response that can change from moment or situation to the next. Trait anxiety is ingrained in a person's personality and the individual with this disorder tend to view the world as a dangerous and threatening place. It is noted that some athletes are more prone to anxiety than others. Amateur athletes are more likely than seasoned professionals to experience anxiety that interfere with their ability to perform in competition–this makes sense due to

their relative lack of experience both in competition and in managing arousal. Athletes who participate in individual sports have also been found to experience more anxiety than those who play team sports; common sense suggests that being part of a team alleviates some of the pressure experienced by those who compete alone.

Research Question 3

The findings of research question 3 revealed that higher levels of anxiety were associated with lower levels of performance and there was no correlation between gender and performance and gender and anxiety. The findings of this study are similar to that of Thuot et al. (1998), who found that adolescents, regardless of gender, experienced significantly higher levels of cognitive and somatic anxiety and lower levels of self-confidence as the ability of opponents increased. This is partially supported by research that has focused on the determinants of anxiety as well as gender. Among males, cognitive and somatic anxiety was more strongly affected by their perception of opponent's ability and probability of winning (Jones, Swain, & Cale, 1991). Female's cognitive anxiety and self-confidence is determined by readiness to perform and the importance they personally placed on doing well (Jones, Swain, & Cale, 1991). These gender differences are indicative of the need to develop interventions that are tailored to individual needs and the importance of considering all factors when developing an intervention. Clearly, anxiety exerts a variety of effects on athletic performance. These effects vary based on sport, gender and level of experience.

In order to facilitate peak performances by athletes, sport psychologists must consider the three different facts of anxiety: cognitive anxiety, somatic anxiety, and self-

confidence. Given the research that indicates that successful athletes who interpret their anxiety as being facilitative is characterized by high scores on self-confidence and low scores on somatic and cognitive anxiety, sport psychologist should work towards achieving this ideal state among their clients.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this research is to investigate and ascertain the influence of anxiety on sports performance of track athletes in the Basic Schools, Central Regional. This chapter summarizes the research findings and looks at the conclusions and recommendations made by the researcher.

5.1 Summary

This research investigated the influence of anxiety on sports performance among selected Basic School track athletes in the Central Region of Ghana. The research was conducted using 20 items questionnaires adapted from the State-Trait Anxiety Inventory (STAI) by Spielberger (1968). The instrument was revalidated using test-re-test method with a reliability coefficient of Cronbach alpha of .78 ($\alpha = .78$). The sample for the study was made up of sixty (60) purposively self-selected male and female track athletes from the central region that participated in the 31st Inter-Regional Basic School Sports Festival at Ho. A simple random sampling technique was used to group the participants into two groups of 30 experimental and 30 control groups respectively, of equal gender representation (15 males and 15 females experimental group & 15 males and 15 females control group). Three research questions were answered and one hypothesis was tested.

Data collected was analysed using descriptive statistic of frequency counts and percentage for demographic information and Pearson product moment correlation to test the hypothesis at 0.05 significant level. The findings revealed that anxiety had a negative

impact on performance. The higher the STAI score in the controlled group, the more poorly the athlete performed in an event as compared to those that obtained lower score of STAI due to the treatment intervention. The data analysis also revealed that the higher the STAI score which showed high levels of anxiety, the more the athlete performed badly or placed lower in an event as compared to those who experienced lower levels of stress due to the intervention put in place. The data analysis also revealed that higher levels of anxiety were associated with lower levels of performance and there was no correlation between gender and performance and gender and anxiety.

5.2 Conclusion

The purpose of this research was to investigate the influence of anxiety on sports performance of track athletes in the Basic Schools. The descriptive statistical analysis revealed that indeed there was a correlation between anxiety and athlete performance. The findings of this work revealed that anxiety had a negative impact on performance. Data analysis also revealed that higher the STAI score depicts higher levels of anxiety, implying poor performance of the athlete in an event as compared to those who experienced lower levels of anxiety due to the intervention put in place. The findings revealed that the anxiety types experienced by student athletes were fear, stress, worry, unease and discomfort. The data analysis also revealed that higher levels of anxiety were associated with lower levels of performance and there was no correlation between gender and performance and gender and anxiety. This research work is a contribution to knowledge on the relationship between anxiety and student athlete performance.

This study has documented a process of investigating the influence of anxiety on student athletes' performance in track events. This is indeed necessary in Ghana where many student athletes are faced with the numerous anxieties related problems. Finally, this thesis has provided a useful framework and built a foundation for research across different approaches to investigating the influence of anxiety on sports performance of track athletes in the Basic Schools in the country.

5.3 Implications

As previous and current studies have established anxiety has a negative effect on sports performance of track athletes specifically sprinters in the Basic Schools when they are not taught how to control their anxiety attacks and channel them positively. Results of this study have further buttressed this point. This finding will go a long way to improve the quality of athletes produced who can perform better once they are able to control and positively channel their anxiety attacks. This will ensure that they give off their best in their various roles they play in athletics in the nation at large. It is also believed that this study has provided an insight into the effects of anxiety on sports performance of track athletes specifically sprinters in the Basic Schools. However, there could be other factors that need to be identified or evaluated. Hence, it is the view of the researcher that further research needs to be carried out in the area and expanded to include other municipalities in other regions on the effects of anxiety on sports performance of track athletes specifically sprinters in the Basic Schools.

5.4 Recommendations

Based on the findings from the study, the researcher makes the following recommendations with optimism that proper adherence would improve performance of track athletes in Basic School as they would be able to control and channel their anxiety positively:

- It is recommended that coaches from basic school should be educated on the negative effects of anxiety on student athletes to ensure that they provide various intervention support systems for the athletes in other to assist them improve their performance.
- It is important for athletes and coaches to practice and experiment with various methods of mental-thinking skills to find what is most beneficial. Mental-preparation skills such as imagery, optimism, self-talk, and relaxation techniques are just a few of the many non physical skills that athletes benefit from With a combination of great physical and mental training, runners can be prepared to race up to optimal performance.
- There is the need to create awareness of the benefits of teaching student athletes how to manage their anxiety attacks to ensure that they perform better.
- There is also the need to replicate this study in other basic schools, secondary schools and colleges in all the ten administrative regions of Ghana.
- In addition, workshops and seminars should be organized for teachers and Physical Education instructors on how to provide support systems to enable student athletes perform better in their various events.

5.5 Suggestions for Further Research

This work is significant in many regards. It has exposed the pros and cons of anxiety among basic school athletes that represented Central region at the 31st inter-regional sports festival at Ho that need further investigation. On the basis of the results of this work, the following recommendations are made.

- It would be appropriate if this study is done in other regions of the country to investigate the influence of anxiety on sports performance of track athletes specifically in the Basic Schools.
- Future studies could also investigate the impact or effect of anxiety in other athletics events (field events) at the Basic School level.
- Further studies on influence of anxiety on sports performance of track athletes could also be conducted at the secondary and tertiary levels of education in the country. It could also be done at the national level on elite athletes.

REFERENCES

Abel, J., & & Larkin, K. (1990). Anticipation of performanceamong musician: Psychological arousal, confidence and state-anxiety. *Psychology of Music* , 171-182.

Abimbade, A. (1997). *Principles and Practices of Education Technology.* Accra: International Publishers Ltd.

Aguocha, H. (2011). *Gender and hospital units as indices of nurse's anxiety. Unpublished B.Sc theses.* Imo State University.

Alison, C. (2006). *Anxiety Disorder and Learning.* Hisdale. N. J.: Erlbaum.

Amedahe, F. K. (2002). *Review of continuous assessment:guidelines for identifying critical instructional objectives for designing continuous assessment.* Cape Coast: SEASCAPE Project .

American Psychiatric Association. (1986). *Diagnostic and statistical Manual of Mental Disorder.* New York: SAGE Publication.

Amodio, D. M., & Hamilton, H. K. (2012). Integroup anxiety effects on implicit racial evaluation and stereotyping. *Emotion* , 12(6):1273-1280.

Ampofo-Boateng, K. (2009). *Understandig sports psychology.* Malaysia: UPENA.

Andrews, P. W., & Thomson Jr, J. A. (2009). The bright side of being blue: Depression as an adaptation for analyzing complex problems. *Psychological Review* , 116(3):620-654.

Aouizerate, B., Martin-Guehl, C., & Tignol, J. (2004). Neurobiology and pharmacotherapy of social phobia. *Encephale* , 30(4): 301-313.

Artist, A. a. (1932). *The psychological trauma of birth.* Chicago: Adventure Work Press.

Ary, D., Jacobs, C. L., & Razavieh, A. (1990). *Introduction to research in education.* Montreal: Holt,Rinehart and Winston Inc.

Balaban, C. D., & Thayer, J. F. (2001). Neurological bases for balance-anxiety links. *Journal of Anxiety Disorders* , 15(1-2): 53- 79.

Baldwin, D. S., Ajel, K., Masdrakis, V. G., Nowak, M., & Rafiq, R. (2013). Pregabalin for treatment of generalized anxiety disorder: an update. *Neuropsychiatric* , 9:883-892.

Ballenger, J. C., Davidson, J. R., Lecrubier, Y., Nutt, D. J., Borkovec, T. D., Rickels, K., et al. (2001). Consensus statement on generalized anxiety disorder from the International Consensus Group on Depression and Anxiety. *The Journal of clinical psychiatry* , 62 Suppl 11:53-58.

Bar-Haim, Y., Fox, N. A., Benson, B., Guyer, A. E., Williams, A., Nelson, E. E., et al. (2009). Temperament. *Psychological Science* , 20(8):1009-1018.

Barker, P. (2003). *Psychiatric and mental health nursing: the craft of caring.* London: Edward Arnold.

Barlow, D. H. (2000). Unravelling the mysteries of anxiety and its disorders from the perspective of emotion theory. *American Psychologist* , 55(11): 1247-1267.

Bateson, M., Brilot, B., & Nettle, D. (2011). Anxiety: An evolutionary approach. *Canadian Journal of Psychiatry* , 56(12): 707-715.

Beidel, D. C., & Turner, S. M. (1988). Comorbidity of test anxiety and other anxiety disorders in children. *Journal of Abnormal Child Psychology* , 16(3): 275-287.

Best, J. W., & Calm, J. V. (2003). *Research in Education.* Boston: Allyn & Bacon.

Biddle, S., Cavill, N., & & Foster, C. (2011). Correlate of physical acticity in youth: a review of quantitative systematic reviews. *International Review of Sports & Exercise Psychology* , 4; 25-42.

Biegel, D. E. (1995). Caregiver burden. In G. E. Maddox, *The encyclopaedia of aging* (pp. 138-141). New York: Springer.

Bienvenu, O. J., & Ginsburg, G. S. (2007). Prevention of anxiety disorders. *International review of psychiatry(Abingdon,England)* , 19(6): 647-654.

Bouras, N., & Holt, G. (2007). *Psychiatric and Behavioral Disorders in Intellectual and Development Disabilities*. London: Cambridge University Press.

Bratton, S. C., & Ray, D. (2002). Humanistic play therapy. In D. J. Cain, *Humanistic psychotherapies: Handbook of research and practice* (pp. 369-402). Washington,DC: American Psychological Association.

Brooks, G., & White, T. &. (1996). *Exercise physiology:human bioenerhetics and its applications*. Mountain View (CA): Mat-field Publishing Company.

Bruce, M. S., & Lader, M. (2009). Caffeine abstention in the management of anxiety disorders. *Psychological Medicine* , 19(01): 211-214.

Bruce, M., Scott, N., Shine, P., & Lader, M. (1992). Anxiogenic Effects of Caffeine in Patients with Anxiety Disorders. *Archieves of General Psychiatry* , 49(11): 867-869.

Burns, N., & Groove, S. (2003). *Understanding nursing research.* Philadephia: Mosby company.

Calleo, J., & Stanley, M. (2008). Anxiety Disorders in Later Life: Differentiated Diagnosis and Treatment Strategies. *Psychiatric Times* , 26(8).

Cameron, O. G. (2007). Understanding Comorbid Depression and Anxiety. *Psychiatric Times* , 24(14).

Cashmore, E. (2002). *Sports Psychology*. London: Routledge.

Chen, A. &. (2002). Individual and situational interest: The of gender and skill. *Contemporary Educational Psychology* , 27;250-260.

Ciccarelli, S. &. (2009). *psychology*. U.S.A: Person.

Cohen, S. (1995). Alcohol and benzodiazepines generate anxiety, panic and phobias. *J R Soc Med* , 88(2): 73-77.

Cooper, K. (2002). Some historical perspectives on thermoregulation. *Journal of Applied Physiology* , 92: 1717-1724.

Coretti, G., & Baldi, I. (2007). The Relationship Between Anxiety Disorders and Sexual Dysfunction. *Psychiatric Times* , 24(9).

Cox, H. (2000). *Motivation. In S.J. Bull. Sports Psychology: A self-help guide.* Ramsbury: Marlborough: Crowood.

Cox, R. (1990, June 9). *Pre-Competitive State Anxiety*. Retrieved April 14, 2014, from Anti Essays: http://www.antiessay/130450html.

Craske, & Barlow. (2006). *Worry*. London: Oxford University Press Inc.

Csikszentmihalyi, M. (1997). *Finding Flow*. London: Oxford University Press.

Cuijpers, P., Sijbrandij, M., Koole, S., Huibers, M., & Andersson, G. (2014). Psychological treatment of generalized anxiety disorder: A meta-analysis. *Clinical Psychology Review 34* , 34(2):130-140.

Cureton, K. J., & Sparling, P. B. (1989). Effect of time of day on perceived exertion at work rates above and below the ventilatory threshold. *Res. Q Exer. Sports.* , 60:79-92.

Daniel, S. R., Caroline, B., & Fred, G. (2002). The effect of progressive strength training and aerobic exercise on muscle strngth and cardiovascular fitness in women with fibromyalgia, A pilot study. *Arthritis Care and Research* , 22-28.

Davison, G. C. (2008). *Abnormal Pschology.* Toronto: Veronica Visentin.

Depping, A. M., Komossa, K., Kissling, W., & Leucht, S. (2010). Second-generation antipsychotics for anxiety disorders. In Leucht, & Stefan, *Cochrane Database of Systematic Reviews* (pp. (12): 18 - 20). London: Cambridge University Press.

Douglas, A., Louis, A., Alison, C., & Edward, J. (2006). *Psychology.* Boston N. Y.: Houghton Mifflin Company.

Eagly, A. (1995). The science and politics of comparing women and men. *American Psychologist* , 50; 145-158.

Eagy, A. &. (2002). Role congruity theory of prejudice towards female leaders. *Psychological Review* , 109, 573-598.

Enna, S. J. (1984). Role of gamma-amino butyric acid in anxiety. *Psychopathology* , 17(Supp 1): 15-24.

Etkin, A., Prater, K. E., Schatzberg, A. F., Menon, V., & Greicius, M. D. (2009). Disrupted amygdalarsubregion functional connectivity and evidence of a compensatory network in generalized anxiety disorder. *Arch Gen Psychiatry* , 66(12): 1361-1372.

Evans, K., & Sullivan, M. J. (2001). *Dual Diagnosis: Counselling the Mentally Ill Substance Abuser.* London: Guilford Press.

Fletcher, D. &. (2001). The relationship between psychological skills and competitive anxiety response. *Psychology of Sports and Exercise* , 2,89-101.

Fraenkel, J. R., & Wallen, N. E. (1993). *How to design and evaluate research in education.* San Francisco: McGraw Hill Companies.

Fredricks, J. &. (2005). Family socrialisation, gender and sports motivation and involvement. *Journal of Sports & Exercise Psychology* , 27; 3-31.

Gelder, M., Mayou, R., & Geddes, J. (2005). *Psychiatry.* London: Oxford University Press.

Gleeson, M. (1998). Temperature regulation during exercise. *International Journal of Med.* , 19;96-98.

Gould, R. A., Otto, M. W., Pollack, M. H., & Yap, L. (1997). Cognitive behavioral and pharmacological treatment of generalized anxiety disorder: A preliminary meta-analysis. *Behavior Therapy* , 28(2): 285-305.

Graham-Jones, J., & Hardy, L. (1990). *Stress and performance in sport.* New York: John Wiley & Sons.

Grinde, B. (2005). An approach to the prevention of anxiety-related disorders based on evolutionary medicine. *Preventative Medicine* , 40 (6): 904-909.

Gu, R., Huang, Y., & Luo, Y. (2010). Anxiety and feedback negativity. *Psychophysiology* , 1469-8986.

Hackford, D., & Spielberger, C. D. (1989). *Anxiety in sports: An international perspective.* New York: Hemisphere Publishing Corporation.

Hamilton, R. S. (2007). Assessing the effectiveness of self talk interventions on endurance performance. *Journal of Applied Sports Psychology* , 19(2),226-239.

Hanin, Y. (1997). Emotion and Athletic Performance: Individual Zones of Optimal Functioning. *European year book of sports psychology* , 29-72.

Hann, Y. L. (2000). *Emotions in sports*. Champaign,Illinois: Human Kinetics.

Hardly, L. (1987, Feburary 19). *The Invented 'U' Hypothesis: A Catastrophe for Sports Psychology?* Retrieved April 2, 2014, from British Associations of Sports Science: http://www.nim.nch.goo/midlineplus/ency/article/003211

Hartley, C. A., & Phelps, E. A. (2012). Anxiety and Decision-Making. *Biological Psychiatry* , 72(2):113-118.

Hartzigeorgiadis, A., & Biddle, S. J. (2008). Negative self-talk during sport performance: Relationships with pre-competition anxiety and goal-performance discrepancies;Report. *Journal of Sport Behavior* , 31:3,237-254.

Harvard Medical School. (2004). Children's fears and anxieties. *Harvard Mental Health Letter* , 21(6), 1-3.

Harvey, D. V.-R. (2002). Relationship between self talk and golf performance. *International Sports Journal* , 6, 84-91.

Healy, D. (2008). Drugs Explained,Section 5. *Elsevier Health Sciences,* , 136-137.

Herring, M. P., O'Connor, P. J., & Dishman, R. K. (2010). The effect of exercise training on anxiety symptoms among patients: a systematic review. *Archives of Internal Medicine* , 170(4): 321-331.

Hire, J. N. (1978). Anxiety and Caffeine. *Psychological Reports* , 42,833-834.

Hofmann, S. G., & Dibartolo, P. M. (2010). Introduction: Toward an Understanding of Social Anxiety Disorder. *Society Anxiety* , xix-xxvi.

Hollon, S. G., & Strunk, D. (2005). Enduring effects for Cognitive Behaviour Therapy in the Treatment of Depression and Anxiety. *Annual Review of Psychology* , 57: 285-315.

Hughes, R. N. (1996). Drugs Which Induce Anxiety: Caffeine. *New Zealand Journal of Psychology* , 25(1): 36-42.

Ikulayo, P. (1990). *Understanding Sports Psychology.* Lagos: EAITCN Marina.

Jarvis, M. (2002). *Sports Psychology.* Routledge: London.

Jentjens, R. L., Kochan, R. G., Lamp, D. R., Lutz, S. A., Perril, C. V., Reumann, E. M., et al. (1979). Glycogen synthesis activation in the human skeletal muscles: effects of diet and exercise. *Physiology Endocrinol Metab Gastrointest Physiol* , 237: 660-666.

Johnson, B. A. (2011). *Addiction medicine:science and practice.* New York: Springer.

Jones, G., & Swain, A. (1995). Predisposition to experience debilitative and facilitative anxiety in elite and non-elite performers. *The Sport Psychologist* , 9, 201-211.

Juliano, L. M., & Griffiths, R. R. (204). A critical review of caffeine withdrawal: empirical validation of symptoms and signs,incidence,severity, and associated features. *Psychopharmacology* , 176(1): 1-29.

Kalueff, A. V., Ishikawa, K., & Griffith, A. J. (2008). Anxiety and otovestibular disorders: linking behavioral phenotypes in men and mice. *Behav Brain* , 186(1):1-11.

Kankam, G., & Weiler, J. (2010). *A Guild to Action Research for Colleges of Education and Universities.* Accra-Ghana: Readwide Publishers.

Karageorghis, C. (2007). Competition Anxiety needn't get you down. *Peak Performance* , 243,4-7.

Keeton, C. P., Kolos, A. C., & Walkup, J. T. (2009). Pediatric generalized anxiety disorder:epidemiology,diagnosis,and management. *Paediatric drugs* , 11(3): 171-183.

Kendler, K., Jacobson, S., & Meryer, C. (2002). Sex differences in genetic and environmental risk factors for irrational fear and phobias. . *Psychological Medicine* , 32,209-217.

Kerr, D., & Ackland, T. (2011). *Kinanthropometry:physique assessment of the athlete. In Clinical Sports Nutrition.* North Ryde,NSW: McGraw-Hill.

Kerr, J. H. (1997). *Motivation and emotion in sport.* UK: Psychology Press Ltd.

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch. Gen. Psychiatry* , 62(6): 593-602.

Kessler, R. C., Chiu, W. T., Demler, O., Merikangas, K. R., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Arch. Gen. Psychiatry* , 62(6): 617-627.

Kierkegaard, S. (1844). *The Concept of Anxiety.* Chicago: McGraw Puplications Limited.

Knisel, E., Opitz, S., Wossmann, M., & & Keteihuf, K. (2009). Sports motivation and physical activity of students in three European schools. *International Journal of Physical Education* , 46; 40-53.

Komossa, K., Depping, A. M., Meyer, M., kissling, W., & Leucht, S. (2010). Second-generation antipsychotics for obsessive compulsive disorder. *The Cochrane database of systematic reviews* , 81-120.

Kozlowska, K., & Hanney, L. (1999). Family assessment and intervention using an interactive are exercise. *Australia and New Zealand Journal of Family Therapy* , 20(2),61-69.

Krane, V. (1994). Comparative Anxiety,Situation Criticality and Softball Performance. *Sports Psychologist* , 8. 58-71.

Krisanaprakornkit, T., Krisanaprakornkit, W., Piyavhatkul, N., & Laopaiboon, M. (2006). Meditation therapy for anxiety disorders. *Cochrane Database of Systematic Reviews* , (1),49-98.

Lacovou, S. (2011). What is the Difference Between Existential Anxiety and so Called Neurotic Anxiety? The sine qua non of true vitality: An Examination of the Difference Between Existential Anxiety and Neurotic Anxiety. *Existential Analysis* , 22(2): 356-367.

Lange, K. W. (2012). Circadian rhythms in obsessive-compulsive disorder. *Journal of Neural Transmission* , 119(10): 1077-1083.

Lepicard, E. M., Venault, P., Perez-Diaz, F., Joubert, C., Berthoz, A., & Chapouthier, G. (2000). Balance control and posture differences in the anxious BALB/cByJ mice

compared to the non anxious C57BL/6J mice. *Behav Brain Res* , 117 (1-2),185-195.

Li, A. W., & Goldsmith, C. A. (2012). The effects of yoga on anxiety and stress. *Alternative medicine review: a journal of clinical therapeutic* , 17(1): 21-35.

Liebert, R. M., & Morris, L. W. (1967). Cognitive and emotional components of test anxiety: A distinction and some initial data. *Psychological Reports* , 967-975.

Lindsay, S. J., & Powell, G. E. (1998). *The Handbook of Clinical Adult Psychology.* New York: Routledge.

Lizuka, P. (2005). Anxiety and Performance in Young Table Tennis Players. *Sports Science Res.* , 26 (3) 73-75.

Louis, A. (2006). *Psychology.* New York: MacGraw Hill Inc.

Lydiard, R. B. (2003). The role of GABa in anxiety disorders. *J Clin Psychiatry* , (Suppl 3): 21-27.

Maan, B. J., Grana, W. A., Indelicate, P. A., O'Neill, & George, S. Z. (1992). A survey of sports medicine professionals regarding psychological issues in patient-athletes. *Psychosomatic Medicine* , 54: 275-287.

Manyande, A. (1992). Anxiety and endocrine responses to surgery: Paradoxical effects of preoperative relaxation training. *Pschosomatic Medicine* , 54:275-287.

Marten, R., & Lander, D. M. (1970). Motor performance under stress: A test of the inverted U hypothesis . *Journal of personality and social psychology* , 16: 29-37.

Martens, R., Burten, D., Vealey, R., Bump, L., & Smith, D. (1990). *The Development of Competitive anxiety in sport.* Champaign,Illinois: Human Kinetics Books.

Martens, R., Vealey, R. S., & Burton, D. (1990). *Competitive anxiety in sport.* Illinois: Human Kinetics Books.

Mathur, S., & Khan, W. (2011). Children. *Delhi Psychiatry Journal* , 14(2): 337-342.

Matthews, A., Mogg, K., May, J., & Eysenck, M. (1989). Implicit and explicit memory bias in anxiety. *Journal of Abnormal Psychology* , 98(3): 236-240.

McLaughlin, K., Behar, E., & Borkovec, T. (2005). Family history of psychological problems in generalized anxiety disorder. *Journal of Clinical Psychology* , 64(7): 905-918.

McLaughlin, K., Behar, E., & Borkovec, T. (2005). Family history of psychological problems in generalized anxiety disorder. *Journal of Clinical Psychology* , 64(7):905-918.

Messner, M. A. (2002). *Taking the field: Women, men and sports.* Minneapolis: University of Minnesotta press.

Mewton, L., Smith, J., Rossouw, P., & Andrews, G. (2014). Current perspectives on Internet-delivered cognitive behavioral therapy for adults with anxiety and related disorders. *Psychology research and behavior management* , 7:37-46.

Miller, N. (1992). Studies of fear as an acquirable drive: Fear as motivation and fear-reduction as reinforcement in the learning of new responses. *Journal of Experimental Psychology: General* , 121(1):6-11.

Mitra, R., Ferguson, D., & Sapolsky, R. M. (2009). SK2 potassium channel overexpression in basolateral amygdala reduces anxiety,stress-induced corticosterone secretion and dendritic arborization. *Mol. Psychiatry* , 847-855.

Moran, A. (2004). *Sports and Exercise Psychology.* London: Routledge.

Morrow, L. (2000). *Increased incidence of anxiety and depressive disorders in persons with organic solvent exposure.* Psychosomat Med: 62(6):746-750.

Nagaratnam, N., Ip, J., & Bou-Haidar, P. (2005). The Vestibular dysfunction and anxiety disorder interface: a descriptive study with special reference to the elderly. *Arch GerontolGeriatr* , 40(3): 253-264.

Nardi, A. E., Lopex, F. L., Valenca, A. M., Freire, R. C., Veras, A. B., De-Melo-Neto, V. L., et al. (2007). Caffeine challenge test in panic disorder and depression with panic attacks. *Comprehensive Psychiatry* , 48(3):253-264.

Nehlig, A. (2004, October 7). Coffee,Tea,Chocolate, and the Brain. *CRC Press* , p. 136.

Nemeroff, C. B. (2003). The role of GABA in the pathophysiology and treatment of anxiety disordors. *Psychopharmacol Bull* , 37(4):133-146.

Nworgu, B. G. (2006). *Educational Research;Basic Issues and Methodology.* Nigeria: Wisdom Publishers Limited.

Nybo, L., Moller, K., Volianitis, S., Nielsen, B., & Secher, N. H. (2002). Effects of hyperthermia oncerebral blood flow and metabolism during prolonged exercise in human. *Journal of Applied Pysiology* , 93,58-64.

Ohman, A. (2000). Fear and anxiety: Evolutionary,cognitive, and clinical perspectives. In M. Lewis, Harviland-Jones, & M. Jeannette, *Handbook of emotions* (pp. 573-593). New York: The Guilford Press.

Otte, C. (2011). Cognitive behavioral therapy in anxiety disorders:current state of the evidence. *Dialogues in clinical neuroscience* , 413-421.

Parahoo, K. (1997). *Nursing research: Principles ansd Issues.* London: Macmillan.

Paskuall, E. E., Arnil, H. M., & Basio, N. (1989). *Mental health nursing.* USA: Mosby Press.

Passer, M. (1983). Fear of failure,fear of evaluation,perceived competence, and self esteem in competitive-trait-anxious children. *Journal of Sport Psychology* , 5,172-188.

Passer, M., Smith, R., Holt, N., Bremner, A., Sutherland, E., & Vilek, M. (2009). *Psychology.* UK: McGrath Hill Companies Inc.

Patel, G., & Fancher, T. L. (2013). In the Clinic. Generalized anxiety disorder. *Annals of internal medicine* , 1-12.

Pittler, M. H., & Ernest, E. (2003). Kava extract for treating anxiety. *Cochrane Database of Systematic Reviews* , (1):33-83.

Plant, A. E., & Devine, P. G. (2003). The antecedents and Implications of Interracial Anxiety. *Personality and Social Psychology Bulletin* , 29: 790-801.

Polit, D., Hungler, K., & Manichiello. (2001). *A nurse guide to the critical reading of research.* Austrialia: Mgham- Broomfield.

Prasad, C. (2005, October 7). Nutritional Neuroscience. *CRC Press* , p. 351.

Price, J. S. (2003). Evolutionary aspects of anxiety disorders. *Dialogues in clinical neuroscience* , 5(3): 223-236.

Radua, J., & Mataix-Cols, D. (2009). Voxel-wise meta-analysis of grey matter changes in obsessive-complusive disorder. *British Journal Psychiatry* , 195(5):393-402.

Radua, J., Van den Heuvel, O. A., Surguladze, S., & Mataix-Cols, D. (2010). Meta-analytical comparison of voxel-based morphometry studies in obsessive-

compulsive disorder vs other anxiety disorders. *Archives of General Psychiatry* , 67(7):701-711.

Rapee, R. M., & Heimberg, R. G. (1997). A cognitive-behavioral model of anxiety in social phobia. *Behaviour Research and Therapy* , 35(8):741-756.

Ray, R., & Wiese-Bjornstal, D. M. (1999). *Counseling in Sports Medicine.* Illinois: Human Kinetics Books.

Reilly, T., & Williams, A. M. (2003). *Science and soccer.* New York: Routledge(Tyler & Francis Group).

Richards, A., & French, C. C. (1991). Effects of encoding and anxiety on implicit and explicit memory performance. *Personality and Individual Differences* , 12(2):131-139.

Richeson, J. A., & Trawalter, S. (2008). The threat of appearing prejudiced and race-based attentional biases. *Psychological Science* , 98-102.

Robazza, C. B. (1998). Performance -related emotions in skilled athletes: Hedonic tone and functions impact. *Perceptual and Motor Skills* , 87,547-564.

Robazza, C. P. (2004). Emotion self iregulation and athletics performance: An application of IZOF model. *Psychology of Sports and Exercise* , 5, 397-404.

Rosen, J. B., & Schulkin, J. (1998). From normal fear to pathological anxiety. *Psychological Review* , 19(2):98-102.

Saeed, S. A., Bloch, R. M., & Antonacci, D. J. (2007). Herbal and dietary supplements for treatment of anxiety disorders. *American Family Physician* , 76(4):549-556.

Sanatkaran, A. (2007, June 14-17). Relaxation effects on competitive anxiety-a state of adolescent wrrestlers. *Proceedings of scientific conference of Iran Azad University, Goran* , pp. 15-17.

Scarre, C. (1995). *Chronicle of the Roman Emeperors.* London: Thames & Hudson.

Schacter, D. L., Gilbert, D. T., & Wegner, D. M. (2011). *Psychology: Second Edition.* New York: Worth.

Scott, T. (2011, October 7). The Antianxiety Food Solution: How the Foods You Eat Can Help You Calm Your Anxious Mind, Improve Your Mood, and End Cravings. *Harbinger* , p. 59.

Settipani, C. A., & Kendall, P. C. (2012). Social Functioning in Youth with Anxiety Disorders: Association with Anxiety Severity and Outcomes from Cognitive-Behavioral Therapy. *Child Psychiatry & Human Development* , 44(1):1-18.

Shear, K., Jin, R., Rusico, A. M., Walters, E. E., & Kessler, R. C. (2006). Prevalence and correlates of estimated DSM-IV child and adult separation anxiety disorder in the National Comorbidity Survey Replication. *Am J Psychiatry* , 163(6):1074-1083.

Shewchuk, R., Richards, J. S., & Elliot, T. (1998). Dynamic processes in health outcomes among caregivers of patients with spinal cord injuries. *Health Psychology* , 17,125-129.

Siedu, A. (2006). *Modern Approaches to Research in Educational Administration.* Amakom-Kumasi: Payless Publishers Limited.

Siegler, R. (2006). *How Children Develop, Exploring Child Develop Student Media Tool Kit & Scientific American Reader to Accompany How Children Develop.* New York: Worth Publishers.

Simon, N. M., Pollack, M. H., Tuby, K. S., & Stern, T. A. (1998). Dizziness and panic disorder: a review of the association between vestibular dysfunction and anxiety. *Ann Clin Psychiatry* , 10(2): 75-80.

Situational Panic Attacks. (2014, January 14). *situational-panic-attacks*. Retrieved April 4, 2014, from sound mind.org: http://www.sound-mind.org

Smith, M. (2008, October 2). *Anxiety attacks and disorders: Guide to the signs,symtoms, and treatment options*. Retrieved March 3, 2009, from Anxiety types symtoms treatment: http://www.helpguide.org

Spence, K. W. (1956). *Behaviour theory and conditioning*. New Haven: Yale University Press.

Spencer, S. J., Steele, C., & & Quinn, D. (1990). Sterotype threats and women'smaths performance. *journal of Experimental Social Psychology* , 35; 4-6.

Spielberger, C. (1972). Anxiety as an emotion state. *Anxiety: Current* , 56-60.

Spielberger, C. D. (1989). *State-Trait Anxiety Inventory: Bibliography* . Palo Alto,CA: Consulting Psychologists Press.

Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto,CA: Consulting Psychologists Press.

Stein, D. J. (2004). *Clinical Manual of Anxiety Disorders*. USA: American Psychiatric Press Inc.

Stephen, W. G., & Stephen, C. W. (1985). Intergroup anxiety. *Journal of Social Issues* , 41(3): 157-175.

Storch, E. A., Storch, J. B., Killiany, E. M., & Robeti, J. W. (2006). Self-reported psychopathic in athletes: A comparison of intercollegiate student-athletes and non-athletes. *Journal of Sport Behavior* , 28:1, 86-98.

Strawn, J. R., Sakolsky, D. J., & Rynn, M. A. (2012). Psychopharmacologic treatment of children and adolescent with anxiety disorders. *Child AdolescPsychiatriClin N Am* , 21(3):527-539.

Sylvers, P., Lilienfeld, S. O., & Laprairie, J. L. (2011). Differences between trait fear and trait anxiety:Implications for psychopathology. *Clinical Psychology Review* , 31 (1):122-137.

Tapia, M., & Marsh, G. E. (2004). An instrument to Measure Mathematics. *Academic Exchange Quarterly* , 8(2): 16-21.

Taylor, G., McNeill, A., Girling, A., Farley, A., Lindson-Hawley, N., & Aveyard, P. (2014). Change in mental health after smoking cessation:systematic review and meta-analysis. *BMJ 348* , 1151-1155.

Teigen, K. H. (1994). Yerkes-Dodson: A Law for all Seasons. *Theory Pschology* , 4(4):525-547.

The Free Encyclopedia (wikipedia). (2012, December 4). *normalbreathing*. Retrieved January 2, 2014, from Diaphragmatic breathing: http://www.normalbreathing.com

Thomas, B., Hardy, S., & Cutting, P. (1997). *Mental Health Nursing:Principles and Practice.* London: Mosby.

Tillich, P. (1952). *The Courage to Be.* New haven: Yale University Press.

Tittel, K. (1978). Tasks and tendencies of sport anthropometry's development. *Biomechanics of trends in theory and research* , 234-245.

Valierie, S. (2013, March 10). *Signs and Symptoms of Performance Anxiety*. Retrieved April 9, 2014, from sign symptoms performance anxiety: http://www.how.com

Varcarolis, E. (210). *Manual of Psychiatric Nursing Care Planning: Assessment Guides,Diagnoses and Psychopharmacology.* New York: Saunders Elsevier.

Vicktor, F. (1959). *Man's Search For Meaning.* London: Beacon press.

Vilarim, M. M., Rocha Araujo, D. M., & Nardi, A. E. (2011). Caffeine challenge test and panic disorder:a systematic literature review. *Expert Rev Neurother* , 11(8):1185-1195.

Vos, T., Flaxman, A. D., Naghavi, M., Lozano, R., Michaud, C., Ezzati, M., et al. (2012). Years lived with disability(YLDs) for 1160 seequelae of 289 diseases and injuries 1990-2010:a systematic analysis for the Global Burden of Disease Study. *Lancet* , 380(9859):2163-2196.

Warren, M. (2007, Feburary 20). *Reading about self-help books on cognitive-behavioural therapy for anxiety disorder*. Retrieved March 8, 2012, from Pb.rcpsych.org: http://www.pb.rcpsych.org

Westenberg, H. G. (1999). Facing the challenge of social anxiety disorder. *EurNeuropsychopharmacol* , 93-99.

Winget, C., & DeRoshia, C. &. (1985). Circadian rhythms and athletic performance. *Med. Sci. Sports Exercie* , 17;498-516.

Winston, A. P. (2005). Neuropsychiatric effects of caffeine. *Advances in Psychiatric Treatment* , 432-439.

Winterbottom. (1958). The relation of need for achievement to learning experiences in independence and mastery. In J. W. Atkinson, *Motives in fantasy, action and society* (pp. 300-311). Princeton: D. VanNostrand.

Witte, S., Loew, D., & Gaus, W. (2005). Meta-analysis of the efficacy of the acetonic kava-kava extract WS1490 in patients with non-psychotic anxiety disorders. *Phytother Res* , 183-188.

Wolpe, J., & Lazarus, A. (1996). *Behaviour Therapy Techniques.* New York: McGraw Hill Inc.

Worchel, S., & Goethals, G. R. (1989). *Adjustment:Pathways to personal growth.* Englewood Cliffs,NJ: Prentice Hall.

Wray, N. R., James, M. R., Mah, S. P., Nelson, M., Andrews, G., Sullivan, P. F., et al. (2007). Anxiety and Comorbid Measures. *Journal of Neurological Psychology* , 112-119.

Yerkes, D. (1908). The Reaction of Strength of Stimulus to Rapidity of habit formation. *Journal of Neurological Psychology* , 50-65.

Zald, D. H., & Pardo, J. V. (1997). Emotion,olfaction, and the human amygdala:Amygdala activation during aversive olfactory stimulation. *Proceedings of the National Academy of Science of the United States of America* , 94(8):4119-4124.

Zald, D. H., Hagen, M. C., & Pardo, J. V. (2002). Neural Correlates of Tasting Concentrated Quinine and Sugar Solutions. *Journal of Neurophysiology* , 87(2): 1068-1075.

Zalta, A. K., & Chambless, D. L. (2012). Understanding Gender Differences in Anxiety: The Mediating Effects of Instrumentality and Mastery. *Psychology of Women Quarterly* , 488-489.

Zung, W. W. (1971). A rating insrument for anxiety disorders. *Psychosomatics* , 12(6):371-379.

APPENDIX A

SPIELBERGER STATE TRAIT ANXIETY INVENTORY (STAI)

Directions: A Number of statements which people have used to describe themselves are given below. Read each statement and then tick **(√)** the response option to the right to indicate how you feel right now, that is, at this moment. There are no rights or wrong answers. Do not spend too much time on any one statement, but give the answer which seems to describe your present feelings best.

Personal Information

1. Sex (**Tick one √**): Male [ ] Female [ ]

2. Age: 5-10[ ] 11-15[ ] 16-20[ ] 21+ [ ]

Vital Signs Details

Temperature: ……

Weight……

Blood pressure……..

Statements	Not at all 1	Somewhat 2	Moderately so 3	Very much so 4
1. I feel calm				
2. I feel secure				
3. I am tense				
4. I am regretful				
5. I feel at ease				
6. I feel upset				
7. I am presently worrying about possible misfortunes				
8. I feel rested				
9. I feel anxious				
10. I feel comfortable				
11. I feel self-confident				
12. I feel nervous				
13. I am jittery				
14. I feel "high strung"				
15. I am relaxed				
16. I feel content				
17. I am worried				
18. I feel over-excited and rattled				
19. I feel joyful				
20. I feel pleasant				

APPENDIX C

COPING EXERCISE ADMINISTERED TO EXPERIMENTAL GROUP

Coping has been defined by Lazarus and Folkman (1984) as "constantly changing cognitive and behavioral efforts to manage specific external and/ or internal demands that are appraised as taking or exceeding resources of the person". Emotion-focused coping is a strategy that involves changing the way a person feels or emotionally reacts to a stressor (Ciccarelli and White 2009).

EXERCISE 1: IMAGERY.

Imagery, known as mental rehearsal, mental visualization or mental practice, helps athletes to reduce anxiety and improve performance (Harris and Robinson 1986; Cox et al. 1993; Vealey and Walter 1993; Bull 2000; Cox 2007; Ampofo-Boateng 2009). According to Moran (1993), imagery not only focuses on visual senses but may include other senses as well. Vealey and Greanleaf (2001) defined Imagery as "using all the senses to re-create or create an experience in the mind'. Recognizing it and using the right techniques such as visualization, goal setting, and cognitive restructuring, developing self-confidence and focusing on what you can control rather than what you cannot control will help keep athletes free from pre-competitive anxiety.

Many athletes use visualization to improve performance, develop confidence and manage anxiety. Visualization also known as imagery or mental rehearsal involves imagining ourselves successfully competing at an athletic event (Cox 1990). In order to make visualization work, athletes and players should close their eyes and imagine the physical movements that they would make in order to be successful in competition. They

should try to imagine themselves moving at the same speed as they would in real life. They should make sure their imaginations should be from their own perspective not that of the observers. They should view the scene (e.g. the crowd, the field) as they would if they were really there. According to Cox (1990), the under-listed visualization exercises could be useful to athletes in enhancing their performance:

Exercise 1: Visualizing Yourself

Sit down in a quiet place with your eyes close. Bring the whole of your body before you. Take a look at your feet; examine your toes still with your eyes close. Say to yourself "my toes are strong". Take a look at your knees, say yourself "my knees are strong and can carry me throughout the game". Bring your palm to your face, still with your eyes close. Look at your fingers and palms and say "they are strong". See your elbow, go through your upper arms and see your shoulders, say "they are strong". Look at your intestine; say "there is nothing wrong with my intestine". Look at your lungs; say "my lungs are strong". Take a look at your heart; say "my heart is strong". Say to yourself; "my toes, knees, fingers, arms, elbows, and shoulders are strong". Say to yourself; "my intestine, lungs, and heart are strong". Say to yourself "they cannot fail me".

Exercise II: Visualizing your Game:

Sit down in a quiet place with your eyes close. Bring the game you are about to play before you as if you are watching a movie. Look at yourself from the dressing room.

Take a look at the dress you are wearing, say to yourself, "I am well kitted". Look at yourself again. Take a look at yourself and the position you are playing. Look at the first movement you want to make, say to yourself "this is the correct movement". Look at yourself playing your game. Tell yourself to do what you want in my game.

Exercise III: Visualizing your Opponents:

Sit down in a quiet place with your eyes close. Bring to your memory the opponent you are about playing against. Look at their height, and body size. Say to yourself "my opponent are not stronger than I". Take a look at the position of the opponent. Say to yourself "I possess this game than my opponent". See you opponent movement, say to yourself "my opponent movements are good but mine is better" Feel the tension of your opponents attack go down you. Say "I am OK and in control". See yourself blocking every attempt of your opponent to beat you at the game. Enjoy your performance; say "I am in control". Feel the joy of victory pass through your head to the whole body. Say to yourself "I am happy with my performance".

EXERCISE 2: RELAXATION TECHNIQUES

Relaxation techniques are helpful for reducing the physical symptoms of pre-competitive anxiety such as an increased heart rate, tense muscles and quick shallow breathing. These techniques can be used at any time leading up to a performance or competition. Two of the techniques are: diaphragmatic breathing and progressive muscle relaxation. According to the free encyclopedia (Wikipedia), diaphragmatic breathing is breathing that is done by contracting the diaphragm, a muscle located horizontal between

the chest cavity and stomach cavity. Air enters the lungs and the belly expands during this type of breathing. It involves slow and deep inhalation through the nose, usually to a count of 10, followed by slow and complete exhalation for a similar count. This process may be repeated 5-10 times, several times a day. Progressive Muscle Relaxation (PMR) is a technique for reducing anxiety by tensing and relaxing the muscle (Wolpeet al, 1966). The physical component involves the tensing and relaxing of the muscle groups over the legs, abdomen, chest, arms, and face. With the eye closed and in a sequential pattern, a tension in a given muscle group is purposefully done for approximately 10 seconds and then released for 20 seconds before the next muscle group. The mental component focuses on the different between the feeling of the tension and the relaxation. Because the eyes are closed one is forced to concentrate on the sensation of tension and relaxation.

EXERCISE 3: COGNITIVE RESTRUTURING

Cognitive restructuring refers to changing habitual ways of thinking. In athletic performance, cognitive restructuring helps evaluate bodily arousal; for example elite athletes channel arousal into excitement and the ability to rise to the challenge. Changing the way one thinks about a competition can also be helpful. Planning to always do our best regardless of how important we think a competition is allows us to attach less significance to major competitions, and in turn reduces pre-competitive anxiety. Craske et al (2006) stated that being aware of your thoughts and feelings is also a key to managing the cognitive symptoms of pre-competitive anxiety. They concluded that recognizing negative thoughts when they first enter your mind allows you stop them

before they take hold, so you can replace them with more positive ones. Sometimes it might be hard to imagine being confident in a competition if we usually crumble under pressure. However, athletes can be helped to take specific steps to help increase confidence. Athletes should be made to focus on past successes instead of failure. They should make practice and preparation a priority and continue until they have no doubt left about their ability to succeed. It is true that distraction during competition reduces performance, but immediately before the event, we could talk to our team mate or fellow competitor, read books and listen to music.