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Effects of Psychological Skills Training on Anxiety Reduction among Student-Athletes at the University of Lagos

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Abstract
This study investigated the effect of psychological skill training on anxiety reduction among student athletes in the University of Lagos. The research design adopted was a quasi-experimental design. -A stage sampling process was used to select twenty student athletes at the University of Lagos for the study. The Sport Anxiety Scale (SAS) was the instrument used to collect relevant data. The test-retest reliability value obtained for the instrument using the Pearson Product Moment Correlation Coefficient was 0.82. Data collected for this study were analyzed using descriptive and inferential statistics. The hypotheses were analyzed using Analysis of variance (ANOVA) at 0.05 level of significance. Findings of the study revealed that psychological skills training had a significant effect on somatic and cognitive anxiety among student athletes at the University of Lagos. Based on the findings, it was recommended that Athletes should be exposed to psychological skills training, particularly for anxiety control by a trained and qualified mental trainer.

Keywords: Anxiety, Concentration, Psychological Skill, Sports Performance, Student Athletes

Introduction

The competitive atmosphere of sports creates emotional reactions in athletes of all cadres. Anxiety is a unique phenomenon that everyone experiences from time to time. It is an emotional state, represented by a feeling of dread, apprehension, or fear. Anxiety is categorised as an emotion or an affect depending on whether it is being described by the person having it (emotion) or by an outside observer (affect). Emotion is generally used to describe biomechanical changes and a feeling state that underlie a person's internal sense of anxiety. Affect is used to describe the person's emotional state from an observer's perspective (Elmagd, 2019). Anxiety has cognitive and somatic (from the Greek word soma meaning 'body') components and a behavioural component of a trait or a state. Cognitive anxiety involves negative appraisal of situational factors as well as of the self. It denotes intense worries about the future situation and/or one's athletic performance (Lavallee et al., 2004). It's characterised by negative expectations about success or self-evaluation, negative self-talk, worries about performance, images of failure, inability to concentrate, and disrupted attention (Jarvis 2002; Parnabas et al, 2013). In his analysis of the effect of cognitive anxiety on athletic performance, Lavallee et al., citing Dunn (1999), identified four principal themes of fear of performance failure, apprehension about negative evaluation by others, concerns about physical injury or danger, and an unspecified 'fear of the unknown'. According to Jarvis (2004) and Parnabas et al. (2013), somatic anxiety is seen as a physiological element, which is related to autonomic arousals, negative symptoms such as feelings of nervousness, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and unsettled mind. Lavallee et al. (2004) described somatic anxiety as the physical manifestation of anxiety and an individual's perception of the physiological-affective elements of the anxiety experience, that is, indications of autonomic arousal and unpleasant feeling states such as nervousness and tension. The behavioural components were credited to Spielberger. The components are state anxiety (or 'A-state') and 'trait' anxiety (also known as 'A-trait'). Javis defined State anxiety as the emotional state of anxiety (cognitive and somatic), typically experienced before and during competition. Lavallee et al. referred to it as a transient, situation-specific form of apprehension. Trait anxiety is referred to as an aspect of personality. A person high in trait anxiety will be frequently anxious, almost irrespective of the situation (Jarvis, 2004).

The debilitative effects of high anxiety, if not controlled, can range in severity from mild to a full-blown panic attack (Ashwani, 2015; Graydon, 2002). The components reviewed showed that anxiety has both psychological and physiological implications on performance. Athletes must constantly be guided on strategies to reduce it and mitigate its impact on their performance. Knowledge and application of psychological skills are required for competitive anxiety reduction. Metan and Küçük (2021) observed that psychological skills training (PST) is regarded as one of the best auxiliary elements that support the physical training process and increase performance by training athletes and trainers to learn psychological skills, such as relaxation, that help regulate their psychological states, like self-confidence and reduce anxiety. Recent research (Vesković et al., 2019; Yoon & Yoon, 2014) has also shown the effectiveness of some psychological skills training on anxiety reduction. Drawing from the postulation of Jun et al. (2023), psychological skills refer to the ability to control one's psychological state to achieve positive changes, such as positive self-awareness, reduced anxiety, increased confidence, and coping with stress. The psychological methods or skills include goal setting, imagery, attention, concentration and relaxation.

Material and Methods

The research design for this study was a quasi-experimental, pre-test, post- test control group design. Multi -stage sampling technique was used to select twenty (N-20) student athletes in the University of Lagos for the study. The first stage of the multi-stage sampling process was the selection of fifty participants for the baseline test using purposive sampling technique. The second stage involved the identification of participants with anxiety issues using the Sport Anxiety Scale (Smith et al., 2006). A total of twenty participants who scored 70% of the total score on anxiety were identified as athletes with anxiety issues from fifty selected for the baseline test. The third stage involved the selection of participants into experimental groups using a simple random sampling technique. Ten participants who picked letter A in a lucky deep bowl were designated the intervention group, while the other ten who picked letter B were the control group.

Table 1: Distribution of the sample in pre-assessment selection for baseline data

Status	Number of Participants	Pre-Assessment Scores	
		Low Score	**High Score**
Student-Athletes	50	30	20
Total	50	30	20

The table above shows the athletes who have low and high scores from the test assessment conducted by the researchers, so as to identify the athletes who will participate in the study. The sample of 50 participants was administered the Sport Anxiety Scale-2, and only 20 participants were identified as having high scores, that is, they exhibited anxiety issues. These 20 athletes formed the participants for the experimental study, while those who had low scores were dropped.

Administration of Research Instrument

The administration of the research instrument was in three phases. The phases are as follows:
Phase 1: Pre-treatment session
Phase 2: Treatment session
Phase 3: Post–treatment session

Phase 1: Pre-treatment Assessment:

The researchers administered the Sport Anxiety Scale to the participants as pre- pre-test two week***s*** before the treatment session.

Phase 2: Treatment Phase:

There was a treatment group and a control group. The selected athletes were randomly assigned to a treatment and a control group. Participants in Group one, the treatment group, were exposed Psychological skills of positive self-talk and progressive muscle relaxation, while Group two, the control group, did not receive any intervention. The treatment group met once a week for eight weeks.

Phase 3: Post–test Assessment:

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At the end of the treatment, which lasted for eight weeks, the Sport Anxiety Scale was re-administered to the same treatment and control groups.

Treatment Procedure

Group One: Psychological Skills Training of Positive self-talk and progressive muscle relaxation

The goal of psychological skills training was to train student athletes in the techniques to help them reduce competitive anxiety. The training lasted eight weeks, but summarized into the following four sessions:

Session 1. The researcher established rapport with the participants and also created an atmosphere of confidentiality. The objectives of the training were explained to the participants, and their full cooperation was sought**.** The researcher encouraged the participants to share their thoughts, feelings and concerns as regards competitive anxiety. The meaning and symptoms of competitive anxiety and the concept and the benefits of psychological skills were explained to the participants. Daily reminder text was sent every morning throughout the intervention periods to remind, refresh and reawaken the participants' consciousness of the training.

Session 2. The researcher revised the concept of psychological skills and competitive anxiety with the participants. The participants were taught positive self-talk, its benefits and how to use positive self-talk to reduce competitive anxiety. The participants were given positive affirmation stickers, and they were encouraged to read them out loud as a group and to themselves frequently.

Session 3. The previous activities were often reviewed in the new session. A podcast on positive self-talk was played to the hearing of the participants, and they were encouraged to listen to it individually. A podcast on progressive muscle relaxation was sent to the participants to introduce them to progressive muscle relaxation in preparation for the next session. Participants were encouraged to share their progress so far, how they've been using the skills and knowledge from the psychological skills training to reduce anxiety.

Session 4. The researcher elaborated and had group discussions with the participants on progressive muscle relaxation, its benefits and how to progressively relax the muscles to reduce anxiety. There was a review of previous training sessions. The researcher met with each of the participants to discuss how the training has helped them and how they have been executing the skills. The researcher expressed her appreciation to the participants for their cooperation in the course of the training, and they were appreciated with a souvenir. The posttest administration of the questionnaire-Sport Anxiety Scale was done immediately after the treatment

Group Two: Control Group

The participants in this group were not exposed to any treatment during the study, but were later guided on ways of managing anxiety after the study.

Data collected for this study were analysed using descriptive and inferential statistics. The hypothesis was analysed using Analysis of variance (ANOVA) statistics at a 0.05 level of significance.

Results

Test of Hypothesis One (Ho_1): The hypothesis states that psychological skill training will have no significant effect on somatic anxiety among student athletes at the University of Lagos. To test this hypothesis, Analysis of variance was computed, and the results are shown in the table below:

Table 2: Analysis of the effect of PST on the somatic anxiety of student athletes

Source	SS	Df	MS	F
Between Groups	120.00	1	120.00	5.50*
Within Groups	392.00	18	21.78	
Total	512.00	19		

Table 2 presents the results of a one-way ANOVA conducted to examine the effect of psychological skill training on post-treatment somatic anxiety among student athletes at the University of Lagos. The analysis revealed a statistically significant difference in somatic anxiety between the experimental and control groups, $F(1, 18) = 5.50$, $p = .030$. Since the **F-value = 5.50 is greater than the critical F (≈ 4.41)** and the **p-value = 0.030 < 0.05, the null hypothesis was rejected**. This indicates that there is a **significant effect of psychological skill training on somatic anxiety** among student athletes at the University of Lagos.

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Test of Hypothesis Two (H_{o2}): The hypothesis states that psychological skill training will have no significant effect on cognitive anxiety among student athletes at the University of Lagos. To test this hypothesis, Analysis of variance was computed, and the results are shown in the table below:

Table 3: Analysis of the effect of PST on the cognitive anxiety of student athletes

Source	SS	Df	MS	F
Between Groups	135.00	1	135.00	6.75*
Within Groups	360.00	18	20.00	
Total	495.00	19		

Table 3 shows the results of a one-way ANOVA conducted to examine the effect of psychological skill training on post-treatment cognitive anxiety among student athletes at the University of Lagos. The analysis revealed a statistically significant difference in cognitive anxiety between the experimental and control groups, $F(1, 18) = 6.75$, $p = .018$. Since the F-value = 6.75 is greater than the critical F (≈ 4.41) and the p-value = $0.018 < 0.05$, the null hypothesis was rejected. This implies that there is a significant effect of psychological skill training on cognitive anxiety among student athletes at the University of Lagos.

Discussion

The study hypotheses stated that psychological skills training will have no significant effect on somatic and cognitive anxiety among student athletes at the University of Lagos. The result of the analysis indicated that there is a significant difference in the level of cognitive and somatic anxiety of the group that received psychological skill training and the group that did not receive it. The hypotheses are therefore rejected. The findings established the efficacy of psychological skills training in controlling athletes' emotions. In a related study, Vesković et al. (2019) examined the effects of a psychological skill training programme on anxiety levels in top karate athletes. The study established that the application of a psychological skills programme had a positive effect on anxiety optimisation and self-confidence levels in top karate athletes.

Jun et al. (2023) reported that athletes affirmed routine training and relaxation training in the psychological skills training programme were the most effective in overcoming tension and anxiety and in increasing self-confidence. It was found that the subjects in the study preferred routine and relaxation training because they paid attention to and focused mainly on training that could be applied in competitions. The subjects were interested in routine training while creating their own routines, discovering the routines they were already unconsciously executing, and applying them in the game through the process of supplementing and modifying them. It was confirmed that athletes who tended to experience a lot of tension benefited greatly from the relaxation training by continuously practising it on the shooting line. The training was suitable for the athletes because they frequently applied the psychological skills acquired through the routine and relaxation training conducted in the psychological skills training program to the game.

The effectiveness of psychological skills training varied across the outcome of many studies. The specific technique is the basis of argument or difference in outcomes. Davisson (2008) established in his study that participants from all conditions revealed lower levels of cognitive and somatic anxiety and higher levels of self-confidence from pre- to post-testing, though not all effects were statistically significant. The imagery group was however, the only treatment in which a significant decrease in both anxiety levels and a significant increase of self-confidence level was revealed. This variation indicates that many issues remain that need to be more thoroughly researched.

Conclusion

Anxiety remains an emotional challenge that athletes must be equipped to address all the time. Performance under pressure, no matter the sport, can bring about physiological, behavioural, and psychological changes that can have a large effect on the outcome of the performance. Once aroused, it raises the general arousal level of the athlete to such an extent that he finds it hard to concentrate on his game due to constant bombardment on his nervous system and his inability to diffuse tension caused by the rising anxiety level. The results of this study are consistent with the findings of previous studies, which clearly established that athletes can be effectively helped to control and minimise the effect of anxiety through psychological skills training. Thus, in this study, self-talk and progressive muscle relaxation consistently showed a reduction in anxiety among the intervention group.

Recommendations

Based on the findings of this study, the following recommendations were made:

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1. A self-regulation of psychological states is critical for all athletes, with the implementations of the treatment adapted to the specifics of each sport.
2. Athletes should be exposed to psychological skills training, particularly for anxiety control, by a trained and qualified mental trainer.
3. The services of a sports psychologist should be embraced by all sports administrators to enhance a better understanding and application of various psychological skills by the athletes and coaches.
4. Coaches should constantly avail themselves of psychological factors that affect performance to address them.
5. The rehabilitation section should be created during off-season for psychological challenges discovered during the season to be properly addressed.

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