

## EFFECT OF PROGRESSIVE RELAXATION AND POSITIVE SELF-TALK TECHNIQUES ON COPING WITH PAIN FROM SPORTS INJURIES AMONG STUDENTS OF UNIVERSITY OF LAGOS, NIGERIA

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### ABSTRACT

*This study worked on the effect of progressive relaxation and positive self-talk techniques in coping with pain from sports injuries among University of Lagos student-athletes. The study provides psychological intervention using education as a safe, non-drug method to enable injured athletes overcome fear of re-injury. Two hundred (200) student-athletes volunteers were used as participants for this study. Random sampling technique was used to select the participants into experimental and control groups-Groups A and B. Group A. Participants were given progressive relaxation and positive self-talk as psychological therapies while Group B members were denied these psychological therapies. An ex-post factor and pre test-post test research design was adopted for the study. The research was able to reveal that athletes are in dire need of pain management education especially in the rehabilitation of injured athletes.*

**Keywords:** Pain, Injury, Progressive relaxation, Self-talk, drop-out

### INTRODUCTION

Sport injuries occur at all levels of participation and put the athlete or exercise participant temporarily and sometimes out of competition. As a result, coaches, trainers, supportive friends, parents, and teammates are left to worry about the consequences of injuries for the athletes. Athletes no matter what sport they participate in, react to mild and serious injuries. Each athlete makes unique adaptations to these challenges. Some athletes view injury as devastating while others take such as one of those unavoidable situations of sport performance. Studies have shown that some athletes have problems with emotional control after sustaining serious injuries. It must be noted that returning an athlete to full training for competition requires the athlete to be completely ready psychologically. Success in sports performance requires some fundamental skills such as speed, attention, concentration, stress management and ability to make use of cognitive strategies among others.

It is a common occurrence that athletes could sustain injuries at training sessions and during competitions. Some athletes have a tendency to sustain injuries, whereas others under similar circumstances can stay injury free. Countless physical and psychological factors can interact to predispose an athlete to injury as well as influence the effectiveness of the rehabilitation process. No one personality type can be associated with injury-prone. However, athletes who are risk takers and tough minded seem to be more prone to injury. These athletes have a higher competition anxiety, demonstrate sensation-seeking behaviours and have a high motivation for success, but they lack the appropriate coping skills to address these stressors. Athletes do not all deal with injury in the same manner. One athlete may view an injury as disastrous while another may view it as an opportunity to show courage. In another way, an

athlete may embrace the injury to avoid embarrassment over poor performance thereby providing an escape route from a losing team,

The ultimate goal of any injured athlete is to recover from injury both physically and psychologically in order to return to competition quickly. Rotella (1996), submitted that pain is an imperative symptom of any injury and affects subsequent recovery from an injury. In fact, pain is so important in the healing process that it is often used as a key determinant of the healing rate of the injured tissue. Therefore, most individuals determine the rate of rehabilitation of their injury based on the pain they experience and healing process. Despite the unpleasant sensations associated with pain, it has the essential function in humans to warn of harm and prevent further tissue damage. However, the degree or site of pain varies from individuals to individuals and probably among gender

Over the years these researchers have observed that many athletes have ended up their careers abruptly while participating in sports as a result of pain due to injuries. The researchers also noted that many people who participate in sports at competitive and recreational levels “drop out” as a result of pain being experienced. Physical Exercise participants at various keep-fit centres and at homes are not left out in this drop-out phenomenon due to pain resulting from injury. Much as exercise is good for the body to keep fit, the experience of pain usually acts as barrier to would-be participants. Coping with post pain injury after medical treatment therefore becomes a problem at both competitive and recreational sports levels. One of the major reasons why people quit exercise regimen at fitness centres is pain as a result of injuries or overtraining.

It has been noted by the researchers that there has been a gap between sports psychology and medical treatment for injured athletes. Injuries sustained from sports leading to pain would require to be managed medically while the sport psychologist also uses psychological coping therapies to work on the mind of the injured athletes after receiving full medical treatment so as to assist the injured athletes to return to full training. Unfortunately, the psychological needs of the injured athletes are often time, left to after medical treatment (Ikulayo, 1989). The blending of medical treatment with psychological management of pain arising from sports injuries is crucial in this regard. Therefore, this paper investigated two psychological therapies that can help in assisting injured athletes to take their mindset off the trauma of sports injury after they must have been well treated by medical personnel.

This investigation attempted to find out specifically the effect of progressive relaxation and positive self-talk techniques on coping with pain from sports injuries among student-athletes of the University of Lagos.

According to Brewer (2003), Athletes do not all deal with injury in the same manner. One athlete may view an injury as disastrous; another May view it as an opportunity to show courage; and a third may embrace the injury to avoid embarrassment over poor performance to provide an escape from a losing team or to discourage a domineering parent. Some factors are common among athletes who are adjusting to injury and rehabilitation. The severity of the injury usually determines the length of rehabilitation. Generally, injuries may be classified as short-term (less than four weeks), long term (more than four weeks), chronic (recurring), or terminating (career-ending). Regardless of the severity of the injury and the corresponding length of time required for rehabilitation, the injured athlete has to deal with variety of emotions that may occur during three reactive phases of the injury and rehabilitation process.

These reactive phases are: reaction to injury, reaction to rehabilitation, and reaction to return to competition or career termination. Not all athletes have all of these reactions, nor do all reaction fall precisely into the suggested sequence. Some psychologist have applied five

stages to psychological reaction to injury based on Kubler-Ross's classic model of reactions to death and dying, which includes denial, anger, bargaining and depression. Other factors that can influence reactions to injury and rehabilitation are the athletes' coping skills, past history of injury, social support, and personality traits, (Brewer 2003).

Brad (2001) further indicated that statistics in this field are very difficult to compare, as researchers collect figures in widely different ways. There is, however, a worldwide consensus that the number of sports injuries is increasing, and is linked to an increased level of participation by the general public. The sports that cause the most injuries are not the most dangerous but those most widely played. In the United Kingdom, football causes 30 per cent of all sports injuries; no other sport reaches even 10 per cent. There are about 19 million sports injuries a year and only half of them are classified trivial. In the United States, softball, which is played by 40 million people, causes about half a million visits to hospital casualty (accident and emergency) per year. In Germany, Sweden, and Finland, sports are thought to cause 10 to 15 per cent of injury trauma (Brad, 2001).

## **METHODS**

### **The Sample and Design**

Two hundred (200) student-athletes volunteers were used as participants for this study. Random sampling technique was used to select the participants into experimental and control group. The participants in experimental were given progressive relaxation and positive self-talk as psychological therapies while the control group were denied these psychological therapies.

An ex-post factor and pre test-post test research design was adopted for the study. The first phase of the study employed ex-post facto research design which involved survey method and the use of questionnaire. The second phase involved pre-test – post test experimental research where prior to post test, the experimental group was given psychological assessment tool (Progressive relaxation and positive self-talk) that were denied the control group.

### **Procedure for Data Collection**

Two hundred (200) participants were randomly selected. This exercise was carried out in ten sporting activities (Athletics, Basketball, Football, Handball, Hockey, Judo, Karate, Table tennis, Tennis and Volleyball) chosen for this study. Twenty (20) participants were selected for each sport. All the sports were represented by ten (10) male athletes and ten (10) female athletes. Thus, stratification was based on gender and sport.

### **Administration of Test Instrument and Procedure**

The study was carried out in six weeks. Data were collected with the help of four research assistants. The first and the last week were used for preliminaries and rounding off formalities. The sixth week witnessed the rounding off. This was by way of reviewing and coordinating the psychological treatments on the experimental group. Another set of questionnaire was distributed to all the participants to complete and return immediately to enable the researchers find out the effect of the therapies. The experimental and control groups were given the pain assessment tool to ascertain the efficacy of the psychological treatment sessions.

### **Procedures: Progressive Relaxation - Adopted from Jacobson (1938)**

The researchers took student athletes through progressive relaxation in groups of 10 for two weeks

- I. Athletes sits comfortably in a position that maintains a straight back
- II. The head is erect and the hands are placed loosely on each leg or on the arm of the chair with both feet firmly planted on the floor
- III. Mentally relax each body part, starting at the feet
- IV. Take deep breath and exhale slowly and completely allowing the body to settle more and more into a relaxed state after each emptying of the lung
- V. Fully physically relaxed
- VI. With each exhalation on the athlete emits repetitive self-talk of short word e.g. "relax", "one", "peace"
- VII. Relax work for ten to twenty minutes
- VIII. If extraneous thoughts occur, athlete should return to mediation process
- IX. After repeating the special word, athletes come back to physical reality; slowly and gently
- X. As awareness increases, physical activity should also increase

**Expectation from Athletes:** The following were expected of the athletes:

- I. Athletes followed instructions and internalize the steps
- II. Athletes practice

#### **Experiment to test efficacy of therapy using experiential learning**

- a. Participants understand why progressive relaxation is important and how it will be valuable to the athletes
- b. Participants understand what progressive relaxation is conceptually and behaviourally.
- c. Practice situations
- d. Participants receive feedback on how well they are internalising the therapy
- e. Participants persevere in imbibing the therapy
- f. Seek from the participants situations in which progressive relaxation can be used successfully
- g. Use progressive relaxation often enough so that they become integrated on athlete's behaviour repertoire

#### **Positive Self-talk**

Sports psychologist gave lead up questions to student- athletes in groups:

- a. Think about goals set
- b. Do not be pessimistic
- c. Bring repressed fantasies and emotions into consciousness
- d. Deal with current problems by focusing on solution
- e. Profess positive words

#### **Athletes Expectation**

- a. Reframe from negative thoughts
- b. Push ahead to excel
- c. Positive in thinking
- d. Echo some positive words

This psyching verse for positive self-talk in sport was adapted and patterned after Ikulayo (2003):

### Experiment to Test Influence of Therapy Using Experiential Learning

- Participants understand why positive self-talk is important and how it will be valuable to the athletes
- Participants understand what positive self-talk is conceptually and behaviourally.
- Participants receive feedback on how well they are internalising the therapy
- Participants imbibe the therapy
- Seek from the participants situations in which positive self-talk can be used successfully
- Use cognitive appraisal often enough so that they become integrated on athlete's behaviour repertoire

The control group participants were not subjected to the treatment packages. They were not asked questions after treatment sessions unlike their experimental group counterpart.

### Data Analysis

Mean, standard deviation, t-test statistics techniques were employed in analysing the data.

### RESULTS

**Table 1. t-test Statistics Comparing Experimental and Control Groups on Progressive Relaxation**

Strategy	Group	N	Mean	Std. Deviation	Df	t-cal	t-crit	Sig.[2-tailed]	Inference
Progressive Relaxation	Experimental	100	23.73	1.52	198	70.4*	1.96	0.00	*
	Control	100	10.09	1.19					

\* Significant  $P < 0.05$  level

**Hypothesis 1:** Progressive Relaxation technique as a psychological pain therapy will have no significant effect on athletes' ability to cope with sports injuries.

From the above table computed for testing hypothesis 1 which is on Progressive Relaxation as a psychological pain management strategy, the experimental group Mean stood at 23.73 while that of the control group was 10.09. The standard deviation for experimental was 1.52 while that of control group was 1.19. The t-calculated was 70.4. The inference here is that the value of t-critical was lesser than t-calculated. Since the t-calculated was greater than t-critical, it implies that the null hypothesis is rejected. Thus the hypothesis which states that progressive relaxation as a psychological pain management therapy will have no significant influence on athletes' ability to cope with sports injuries is hereby rejected. It could be succinctly stated that progressive relaxation as a psychological pain assessment therapy had significant influence on athletes' ability to cope with sports injuries.

**Table 2. T-Test Statistics Comparing Experimental and Control Groups on Positive Self-talk Technique**

Strategy	Group	N	Mean	Std Deviation	df	t-cal	t-crit	Inference
Psychotherapy	Experimental	100	23.68	1.61	198	61.1	1.96	*
	Control	100	10.12	1.52				

\* Significant  $P < 0.05$

**Hypothesis 2:** Positive self-talk as a psychological pain management therapy will have no significant effect on athletes' ability to cope with sports injuries

From the t-test statistics table above comparing the experimental and control group on Positive self-talk as a strategy for psychological pain management for sports injuries, the mean for the experimental group is 23.68 and 10.12 for the control group. The standard deviation for the experimental group is 1.61 and 1.52 for the control group. The calculated t-table was 61.1 at 198 degree of freedom while the t-critical was 1.96. The inference here is that the value of t-critical was lesser than t-calculated. Since the t-calculated was greater than t-critical it implies that the null hypothesis is rejected. Thus the hypothesis which states that positive self-talk as a psychological pain management therapy will have no significant influence on athletes' ability to cope with sports injuries is hereby rejected. The hypothesis that psychotherapy as a psychological pain management therapy will have no significant effect on athletes' ability to cope with sports injuries is hereby rejected. Thus, positive self-talk as a psychological pain management strategy has significant influence on athletes' ability to cope with sports injuries.

## DISCUSSION

Chapman (1995) hinted that, it is important to have a thorough understanding of pain, including its exact definition within the medical community, to understand an athlete's response to the pain experienced after suffering an injury. The ultimate goal of any injured athlete is to recover from the injury both physically and psychologically, in order to return to competition quickly. Chapman (1995) submitted that Pain is a very important symptom of any injury and affects the subsequent recovery from an injury. In fact, pain is so important in the healing process that it is often used as a key determinant of the healing rate of the injured tissue and, therefore; most individuals determine the rate of rehabilitation of their injury based on the pain they experience. Despite the unpleasant sensations associated with it, pain has the essential function in humans to warn of harm and prevent further tissue damage. The physiology of how pain occurs helps to explain why individuals feel pain when experiencing tissue damage, such as with an athletic injury. Although little research has been reported concerning how patient education affects an individual's pain perception, research concerning athletes and pain perception has been studied extensively. Understanding the mechanisms of pain is important in order to further study the effects of pain research. In the athletic setting, studies investigating pain have been conducted, unfortunately, with numerous methodological and ethical issues.

## CONCLUSION AND RECOMMENDATIONS

It can be concluded that athletes with the most serious injuries demonstrated the greatest mood disturbances. Diminished pain is a crucial aspect of recovery that is a component of the rehabilitation end result. Injured athletes often gauge their injury and subsequent healing by the pain experience. Pain arising from confidence and assistance to return to competitive sport and perform at optimal level.

The two psychological coping therapies were effective in managing sport injuries. The psychological pain management of sports injuries helped injured athletes to overcome trauma already internalised thereby making them to continue unhindered with their sporting career. Participants responded positively to the psychological treatment sessions. Prior to the treatment sessions with the injured athletes, there was no concrete programme for athletes' rehabilitation programme. Athletes affirmed that psychological sessions in injury management were relatively new to them. Psychological pain management of sports injury



was found to be a good complement for medical treatment. Athletes' knowledge of pain management of sports injuries is relatively low. Athletes have little or no capacity to manage pain physically or psychologically. The study revealed that there is need for pain management education to be handled by sports psychologists.

The psychological therapies are very effective in dealing with athlete's rehabilitation from injury. Through the strategies, athletes were able to build confidence in them knowing full well that they can still come back and perform after sustaining injury. Athletes become knowledgeable about injuries peculiar to their sports with the information acquired on pain management education over the period. Athletes become more conscious on the need not to inflict injury on opponents on the field of play. The spirit of good sportsmanship was imbibed by the athletes while the study lasted. This is to become a carryover value in their career in sports. The research was able to reveal that athletes are in dire need of pain management education especially in the rehabilitation of injured athletes.

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