

INTERNATIONAL JOURNAL OF PHYSICAL EDUCATION AND APPLIED EXERCISE SCIENCE**INTENTIONAL PERCEPTUAL RE-APPRAISAL AND THE SPORTSPERSON'S STRESS RESPONSE**Dr. Shubhdip Kaur¹¹ Assistant Professor, Sri Guru Granth Sahib World University, Sri Fatehgarh Sahib, Punjab.Email: shubh.phd@gmail.com

Abstract: Stress is any biological and psychological response experienced on encountering threat which an individual feels as not having the resources to deal with. The physiology behind stress is a highly complex operating mechanism. An individual can turn on this system when he/she does not really need it and, as a consequence, perceive something as an emergency when in actual it's not. Harmless chronic conditions are intensified by the stress response getting activated too often, with too much of intensity, and for too long periods. The study was conducted on 77 young sportspersons (aged 16-18 years, both males and females) from various sports institutions of Punjab. The objective of this study was to train the subjects in altering perceptions in response to stressors so as to save their performance during competition. The study involved use of various techniques (namely PMR training, GSR biofeedback, role play and lectures) to empower the sportspersons with the skill of modifying perceptions at the time of stress. After a training of about 4 months, the pre-intervention scores and post-intervention scores on stress and various physiological measures of stress (blood pressure, resting heart rate and pulse rate) were compared using suitable statistical techniques. The outcome of this study supported that alterations in perception do bring a decrease in stress level of an individual.

INTRODUCTION

Stress is defined as the body's natural defence against real or imagined danger. The physiology behind this response is a highly complex operating mechanism; however, an individual can trigger this system unnecessarily, perceiving a non-emergency situation as a crisis. When the stress response is activated too often, with excessive intensity, or for prolonged periods, harmless chronic conditions are intensified. In the context of sports, these "imagined and perceived" stressors can significantly hinder an athlete's ability to perform. This study explores how training athletes to modify their perception of stressors can serve as an effective form of stress management.

Theoretical Framework and Literature Review

The Transactional Model of Stress: The conceptual foundation of this study is built upon the Transactional Model of Stress and Coping, which argues that stress does not stem directly from an external event, but from the dynamic "transaction" between the individual and their environment (Lazarus & Folkman, 1984). Within this framework, an athlete's response is dictated by two cognitive stages: primary appraisal, where the individual determines if a situation (such as a major competition) is a threat or a challenge, and secondary appraisal, where they evaluate their personal resources to manage that demand. The human body often fails to distinguish between genuine life-threatening emergencies and these perceived psychological stressors, leading to an identical physiological "fight or flight" response. This research focused on training sportspersons to intentionally restructure these appraisals, effectively "reprogramming" their cognitive operating system to view competitive stressors as manageable tasks rather than overwhelming threats.

The Inverted-U Hypothesis and Arousal: In the field of sports psychology, the relationship between pressure and execution is frequently explained by the Yerkes-Dodson Law, commonly known as the Inverted-U Hypothesis (Yerkes & Dodson, 1908). This theory suggests that athletic performance increases alongside physiological or mental arousal, but only until it reaches an optimal peak. Once arousal exceeds this threshold, the stress response—if activated with too much intensity or for too long—leads to a precipitous decline in performance.

For the young sportspersons in this study, chronic activation of this system often resulted in intensified physical conditions that hindered their ability to compete. By utilizing techniques like GSR biofeedback and Progressive Muscle Relaxation (PMR), the intervention aimed to pull athletes back from the "over-aroused" side of the curve, lowering their resting heart rate and pulse rate to remain within the optimal zone of functioning.

OBJECTIVE OF STUDY

To train subjects in altering perceptions in response to stressors so as to save their performance during competition.

METHODOLOGY

Participants

The study sample consisted of 77 young sportspersons (both males and females) from various sports institutions in Punjab. The participants were aged between 16 and 18 years.

Procedures and Intervention

The objective of the research was to empower sportspersons with the skill of modifying perceptions at the time of stress to save their performance during competition. The training lasted for approximately four months. The following four techniques were utilized:

- **Progressive Muscle Relaxation (PMR) Training:** Used to manage physical tension and lower somatic arousal.
- **GSR Biofeedback:** Employed to provide physiological data for self-regulation and awareness of stress levels.
- **Role Play:** Used to simulate competitive environments and practice perceptual shifts.
- **Lectures:** Provided to build a theoretical understanding of stress and the mechanics of perception.

Data Analysis

The study compared pre-intervention and post-intervention scores for stress and specific physiological measures: resting heart rate and pulse rate. Statistical significance was determined using t-test techniques.

RESULTS

The comparison of pre-intervention and post-intervention means revealed significant improvements across all variables. The high t-values confirm that the reductions in stress and physiological arousal were statistically significant and not due to chance.

Variable	Pre-Intervention (Mean)	Post-Intervention (Mean)	t-value
Self-Reported Stress	75.00	53.00	20.96
Resting Heart Rate	33.30	11.00	21.82
Pulse Rate	110.00	84.00	13.36

DISCUSSION AND INTERPRETATION

The findings support the viewpoint that alterations in perception bring about a quantifiable decrease in the stress level of an individual. This study aligns with the Transactional Model of Stress and Coping, which posits that stress is a result of a "transaction" between a person and their environment, where the person's appraisal of the situation determines the stress response (Lazarus & Folkman, 1984). By altering the athlete's primary appraisal (viewing competition as a challenge rather than a threat), the physiological "emergency" system is bypassed.

Relationship to the Inverted-U Hypothesis

The **Inverted-U Hypothesis** (Yerkes-Dodson Law) suggests that performance increases with physiological or mental arousal, but only up to a certain point; when levels of arousal become too high, performance declines (Yerkes & Dodson, 1908). The pre-intervention pulse rate and stress scores suggest that these athletes were likely operating in a state of hyper-arousal, far past their optimal performance zone.

The intervention effectively shifted these athletes back toward their "Optimal Zone of Functioning" (Hanin, 1980). By reducing the pulse rate and stress, the athletes regained the cognitive resources necessary for fine motor skills and decision-making during competition. This transition from a "threat state" to a "challenge state" has been shown to improve cardiac efficiency and vascular resistance (Blascovich & Tomaka, 1996), which is reflected in the significant t-values found in this study.

Physiological Mechanisms

The use of **GSR (Galvanic Skin Response) biofeedback** and **PMR** provided the athletes with an internal "control panel". In sports psychology, biofeedback training is known to enhance the "autonomic nervous system's flexibility," allowing athletes to recover faster from the spikes of adrenaline associated with competition (Schwartz & Andrasik, 2015). The dramatic drop in resting heart rate and pulse rate demonstrates that the subjects moved from a sympathetic-dominant state (fight-or-flight) to a more balanced parasympathetic state.

CONCLUSION

This study concludes that intentional perceptual alteration is an effective psychological tool for managing stress in young athletes. By incorporating techniques like PMR and biofeedback, sportspersons can successfully modify their physiological and psychological responses to the pressures of competition, effectively "saving" their performance from the debilitating effects of chronic stress.

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