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Psychoneuromuscular Theory for Reducing Anxiety Level in Competition Situations

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ABSTRACT

The study determined effects of psycho-neuromuscular theory and Visualization technique on reducing anxiety levels of female soccer players. The subjects were 50 female players (N=50). The sampled subjects were randomly assigned into two groups experimental group (N=25) and control group (N=25). We applied experimental method with pre-post tests and control group. Subjects in the experimental (psycho-neuromuscular theory & visualization technique) group received extra 20 minutes imagery training program 3 times a week for four weeks along with their regular training program. Control group was engaged in their regular activity for four weeks. ANCOVA was used to analyze the data collected. Results showed significant difference in the reducing anxiety levels between experimental and control groups. Based on the findings it was concluded that psycho-neuromuscular theory and visualization technique are an effective tools for psychological preparation of athletes. Based on the result of this study it is recommended among other things that coaches, physical education teachers, athletic trainers and sport psychologists should use visualization technique to enhance efficient performance by players.

Keywords – Psycho-Neuromuscular Theory, Visualization Technique, Anxiety.

INTRODUCTION

Mental imagery and self-talk strategies are implemented by athletes in order to regulate arousal, reduce maladaptive behaviours, reconstruct negative thoughts, and to increase one's concentration and focus. In sport, mental imagery is used primarily to help the athlete get the best out of him / her training and in competition. They use it daily as a means of directing what will happen in training and as a way of pre experiencing their best competition performances. Orlick (1990) explained that mental imagery often starts out simply, as you think through your goals, your moves, and your desired competitive performances. Athletes commonly use imagery to psych up or clam down to meet the energy demands of a particular sport, as well as to visualize aspects of the upcoming competition to sharpen the focus they need to be successful, Suinn (1980).

Psycho-neuromuscular Theory (Muscle Memory)

This theory was first proposed by Carpenter (1894). He suggested that imagery aided the facility of learning motor skills due to the nature of the neuromuscular activity patterns during imagining. When someone imaging bending their arm actually created small muscular contractions in the flexor muscles of the arm (Edmund Jackson 1931). This theory states that as athletes engage in sport movement, their brains are constantly transmitting impulse to the muscles for execution

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of the movement. Similar impulses occur in the brain and muscles when athletes imagine the movements without actually performing them. Thus, the psycho-neuromuscular theory asserts that vivid imagined events produce innervations in our muscles similar to that produced by the actual physical execution of the event. Coaches and athletes should know that mental imagery strengthens their muscle memories by having the muscle respond in the correct sequence without actually executing the movement, (William 2009).

Visualization

Visualization has also been called guided imagery, mental rehearsal, mediation, and a variety of other things -- no matter the term, the basic techniques and concepts are the same. Generally speaking, visualization is the process of creating a mental image or intention of what you want to happen or feel in reality. An athlete can use this technique to 'intend' an outcome of a race or training session, or simply to rest in a relaxed feeling of calm and well-being. By imagining a scene, complete with images of a previous best performance or a future desired outcome, the athlete is instructed to simply 'step into' that feeling. While imagining these scenarios, the athlete should try to imagine the detail and the way it feels to perform in the desired way.

PURPOSE OF THE STUDY

The purpose of the study was the effect of psycho-neuromuscular theory and visualization technique on reducing the anxiety level of female soccer players in competition situation.

Method

The design for this study was pre-test post-test control group design. The statistical population was all female soccer players total no of players were 50 (N=50). The participants were randomly assigned into two groups. Group 1experimental group (N=25) and group 2 control group (N=25). To measure the anxiety level of players were used Martens et al. 1990 Sport Competition Anxiety Test (SCAT) questioner. The players were responds to the 15 questions on the questionnaire. Both the group were (experimental & control group) regularly received their daily training program but along with that the experimental group were received psycho-neuromuscular and visualization training for 20 minutes 3days in a week for 4 weeks. We applied ANCOVA statistical technique for analysing the result of the study.

Experimental design

Pre-test and posttest randomized group design was employed in the study. The subjects were divided into experimental group and control group. The experimental group was imparted 20 minutes of psycho-neuromuscular training and visualization training for four weeks under the supervision and guidance of the scholar. While no training was imparted to control group. At the end of four weeks post test was conducted for both the group.

Statistical technique:

In order to find out the effect of psycho-neuromuscular technique & visualization technique on reducing anxiety level in competition situation ANCOVA was calculated. The level of significance was set at 0.05.

RESULTS:-

Descriptive Statistics

Dependent Variable: POST ANXIETY

GROUP	Mean	Std. Deviation	N
EXPERIMENTAL GROUP	15.9200	3.29039	25
CONTROL GROUP	18.7600	3.28228	25
Total	17.3400	3.55488	50

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Tests of Between-Subjects Effects

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
PREANXIETY	138.560	1	138.560	17.145	.000	.267
GROUP	55.254	1	55.254	6.837	.012	.127
Error	379.840	47	8.082			
Total	15653.000	50				
Corrected Total	619.220	49				

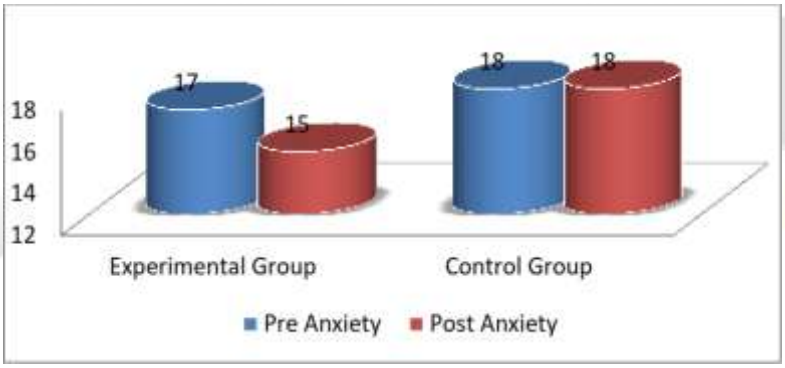
Pair-wise Comparisons

(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.[b]
EXPERIMENTAL GROUP	CONTROL GROUP	-2.147*	.821	.012
CONTROL GROUP	EXPERIMENTAL GROUP	2.147*	.821	.012

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

Graphical Representation



DISCUSSION OF FINDINGS:

This study was conducted to determine the comparative effectiveness of psycho-neuromuscular theory and visualization technique on reducing anxiety levels of female soccer players. Pre-test-posted control group design was used. The results of the findings revealed that the level of anxiety shown by the female soccer players prior to the commencement of training, demonstrated anxiety level. This anxiety level portends the likely danger the players could face during competition if left in such state of mind.

Araki (2006) explained that if anxiety increases beyond the optimal level necessary for the given task, a decline in performance follow. In support of this Sutherland (2006) reported that reducing anxiety is only half the battle. The crucial thing is to channel that anxiety positively into confidence. Confidence comes with experience and learning from past situations. When players train anxiety is usually low, and players gain confidence just by performing. Training frequently builds confidence, again through experience. Jokela and Hanin further reported that performance of athletes who were within their individually optimal zones were almost one-half a standard deviation unit better than that of athletes who were outside their zones. To moderate anxiety from high or low to medium, performance level Hanin (1980) presented that each athlete's schedule of training activities to facilitate optimization of anxiety level according to the individual's zone of functioning (ZOF). According to Martens, Burton, Vealey, Bump, and (1990) anxiety include state and trait

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dimensions both of, which can show themselves as cognitive and somatic symptoms. An athlete high anxiety trait is likely to be more anxious in stressful situations. To help the athlete control competitive anxiety somatic technique (relaxation) and cognitive technique (mental imagery) can be used.

CONCLUSION

This study examined the effectiveness of psycho-neuromuscular theory and visualization technique on reducing anxiety levels of female soccer players in competition situations. It was hypotheses in this study that there is significant difference in the anxiety levels between the control group and experimental group of female soccer players. The findings revealed that there is significant difference in the anxiety levels of the two groups (control and experimental or treatment) after four (4) weeks of training (psycho-neuromuscular technique & visualization technique). Therefore, the null hypothesis was rejected.

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