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A COMPARATIVE ANALYSIS OF MENTAL SKILLS AMONG INDIVIDUAL, TEAM AND COMBAT SPORTS: A PSYCHOLOGICAL INVESTIGATION

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Abstract

Study Aim: To compare the mental skills among individual, team and combat sports. Methods: The researcher collected the data on sixty (N=60), Male athletes of Guru Nanak Dev University between the age group of 18-25 years. The subjects were purposively assigned into three groups; Group-A: Individual (n_1=20), Group-B: Team (n_2=20), Group-C: Combat (n_3=20). The mental skills questionnaire based on the work of Hardy and Nelson (1996), which consists of 24 questions, was used. Statistical Technique Employed: The Statistical Package for the Social Sciences (SPSS) version 16.0 was used for all analyses. The differences in the mean of each group for selected variable were tested for the significance of difference by One-way Analysis of Variance (ANOVA). Results & Conclusion: To conclude, It is evident that the results of Analysis of Variance (ANOVA) among three groups with regard to the Imagery Ability, Mental Preparation, Self Confidence, Anxiety & Worry Management, Concentration Ability, Relaxation Ability and total Mental Skills were found to be statistically insignificant (P>0.05).

Keywords: Imagery ability, Mental Preparation ability, Self-Confidence level, Anxiety and worry Management, Concentration ability, Relaxation ability.

INTRODUCTION

Research in psychology seeks to understand and explain thought, emotion and behavior. Applications of psychology include mental health treatment, performance enhancement, self-help, ergonomics and many other areas affecting health and daily life. Today, psychologists prefer to use more objective scientific methods to understand, explain, and predict human behavior. Psychological studies are highly structured, beginning with a hypothesis that is then empirically tested. Psychology has two major areas of focus: academic psychology and applied psychology. Academic psychology focuses on the study of different sub-topics within psychology including personality psychology, social psychology and developmental psychology. Every team wants to show their supremacy by challenging other team. Thus this challenge stimulates, inspires and motivates all the players to sweat and strive to perform at optimum level in present competitive sports world.

Mahoney and Gabriel (1987) noticed that skills such as stress management, concentration, arousal, mental preparation and self-confidence are important components of mental skills which make the psychology profile of elite athletes (Mahoney et al., 1987). Studies have shown that excessive psychological arousal does not only impair sporting performance, it is also likely to increase the risk of injury (Handford et al., 1997). Over arousal is associated with the impairment of natural technique, which athletes describe as a loss of rhythm (Brukner and Khan, 2007). Therefore, relaxation is a technique which is often applied by people to decrease arousal. Relaxation and activation help each or control the level of arousal and decrease fluctuation in performance (Zaichkowsky & Takenaka, 1993). Most of the mental skills such as goal setting, relaxation, energizing, imagery and mental practice require excellent attention, control and concentration. Researchers have suggested that the ability to consistently focus on a relevant

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task and environmental stimuli, which is often referred to as concentration is a vital aspect of athletic performance (Boutcher, 1990; Orlick, 1990). Loss of concentration (focus) can also predispose to injury by giving the athlete less time to react to certain cues. When discussing the benefits of tapering before a big competition, Everline, (2007) recommends that during the tapering phase focus must be concentrated on regeneration, recovery and mental preparation.

One psychological skill in particular, mental imagery, has received much attention for its role in athletic performance and is often included in psychological skills training given to athletes to complement their regular training programmes (Beauchamp et al., 1996). Hall (2001) has even suggested that imagery for the rehearsal of skills should be treated similarly to physical practice given that research has suggested a functional equivalence between the two activities (Gabriele et al., 1989; Holmes and Collins, 2001). More specifically, it has been suggested that imagery and the preparation and execution of autonomous, overt motor performance relate to the same mental representation system (i.e. Decety and Grèzes, 1999).

Self-confidence is another necessary element to achieve enhanced performance (Ericsson et al., 1993; Gauron, 1984; Porter & Foster, 1986). It is also observed that athletes benefit from goal setting to increase self-confidence. However, low self-confidence and high anxiety have been shown to negatively affect martial arts performance (Anshel & Payne, 2006). Martens (1977) defined stress as a process that involves the perception of substantial imbalance between environmental demands and response capability (Martens, 1977). Durand-Bush (1995) revealed that stressor situation is very useful for most successful athletes, because they have a positive approach to anxiety and worry. According to Lazarus, (Lundqvist, 1996) when athletes encounter stressful situations or faces adversity during their competitive endeavours, the outcome in terms of positive or negative emotional responses and the resultant effects on the athlete's performance will be largely influenced by their ability to successfully manage the internal and external demands perceived.

Elite athletes also interpret their anxiety symptoms as more facilitative than non-elite athletes in competition, despite their similar anxiety intensity. For the psychological skills that appear to control these responses, elite athletes engage in more extensive use of goal-setting, focusing, refocusing, competition planning and imagery than their non-elite counterparts.

SELECTION OF SUBJECTS

The researcher collected the data on sixty (N=60), Male athletes of Guru Nanak Dev University between the age group of 18-25 years. The subjects were purposively assigned into three groups; Group-A: Individual (n_1=20), Group-B: Team (n_2=20), Group-C: Combat (n_3=20).

SELECTION OF VARIABLES

A feasibility analysis as to which of the variables could be taken up for the investigation, keeping in view the availability of tools, adequacy to the subjects and the legitimate time that could be devoted for tests and to keep the entire study unitary and integrated was made in consultation with experts. With the above criteria's in mind, the

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following variables were selected for the present study:

Mental Skills:

1. Imagery ability
2. Mental Preparation ability
3. Self-Confidence level
4. Anxiety and worry Management
5. Concentration ability
6. Relaxation ability

Mental Skills Questionnaire

Hardy and Nelson mental skills questionnaire was used to assess level of mental skills. The questionnaire contains 24 questions measuring six dimensions of mental skills and each dimension is measured by four questions, with a six point likert scale. The questionnaire has been presented in the appendix A. The six factors of Hardy and Nelson's mental skills Questionnaire are as follows:

1. Imagery ability
2. Mental Preparation ability
3. Self-Confidence level
4. Anxiety and worry Management
5. Concentration ability
6. Relaxation ability

Purpose

This questionnaire identifies general mental strength and weakness level of the subject. With the help of the questionnaire the researcher will try to get the ability to apply mental skill in sporting condition.

Description

The mental skills questionnaire consists of a number of statements about experiences associated with competitive sport. Each subject was given a questionnaire and a pencil. The subjects were asked to read each statement carefully and then circle the appropriate number to indicate the extent to which one agrees with the statement. This was based on a six-point scale from strongly agree to strongly disagree.

Scoring

The rating is based on six-point scale from strongly agree to strongly disagree. The lower score represents weakness level and higher score represents stronger level of mental ability. (Hardy and Nelson, 1996).

COLLECTION OF DATA

The survey method through the technique of questionnaire had been adopted to collect the relevant data for this study. The researcher collected the data on sixty (N=60), Male athletes of Guru Nanak Dev University between

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the age group of 18-25 years. The ***purposive sampling technique was used to*** attain the objectives of the study.

CRITERION MEASURES

The criterion measure chosen for testing the hypothesis of the study was the scores obtained from the Mental Skill prepared and standardized by Hardy and Nelson which is one of the reliable tool and being widely used all over the world by sport psychologist.

STATISTICAL TECHNIQUE EMPLOYED

The Statistical Package for the Social Sciences (SPSS) version 16.0 was used for all analyses. The differences in the mean of each group for selected variable were tested for the significance of difference by One-way Analysis of Variance (ANOVA).

RESEARCH FINDINGS

For each of the chosen variable, the result pertaining to significant difference, if any, of Mental Skills among Individual, Team and Combat Sports are presented in the following tables:

Table 1. Analysis of Variance (ANOVA) results with regard to Imagery Ability among Individual, Team & Combat Sports.

Source of variance	Sum of Squares	Df	Mean Square	F-ratio	Sig.
Between Groups	7.400	2	3.240	.734	.490
Within Groups	231.240	57	4.560		
Total	227.670	59			

Significant at 0.05, $F_{0.05}$ (2, 57)

It is evident from Table 1 that the results of Analysis of Variance (ANOVA) among three groups with regard to the imagery ability were found to be statistically insignificant (P>0.05). Since the obtained "F" ratio.734 was found statistically insignificant, therefore, there is no need to apply post hoc test.

Table 2. Analysis of Variance (ANOVA) results with regard to Mental Preparation among Individual, Team & Combat Sports.

Source of variance	Sum of Squares	Df	Mean Square	F-ratio	Sig.
Between Groups	.433	2	.217	.208	.813
Within Groups	59.500	57	1.044		
Total	59.933	59			

Significant at 0.05, $F_{0.05}$ (2, 57)

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It is evident from Table 2 that the results of Analysis of Variance (ANOVA) among three groups with regard to the mental preparation were found to be statistically insignificant (P>0.05). Since the obtained "F" ratio.208 was found statistically insignificant, therefore, there is no need to apply post hoc test.

Table 3. Analysis of Variance (ANOVA) results with regard to Self Confidence among Individual, Team & Combat Sports.

Source of variance	Sum of Squares	Df	Mean Square	F-ratio	Sig.
Between Groups	31.300	2	13.690	.289	.768
Within Groups	238.300	57	4.145		
Total	269.600	59			

Significant at 0.05, $F_{0.05}$ (2, 57)

It is evident from Table 3 that the results of Analysis of Variance (ANOVA) among three groups with regard to the Self Confidence were found to be statistically insignificant (P>0.05). Since the obtained "F" ratio.289 was found statistically insignificant, therefore, there is no need to apply post hoc test.

Table 4. Analysis of Variance (ANOVA) results with regard to Anxiety & Worry Management among Individual, Team & Combat Sports.

Source of variance	Sum of Squares	Df	Mean Square	F-ratio	Sig.
Between Groups	172.900	2	86.450	.467	.567
Within Groups	1095.700	57	19.223		
Total	1268.600	59			

Significant at 0.05, $F_{0.05}$ (2, 57)

It is evident from Table 4 that the results of Analysis of Variance (ANOVA) among three groups with regard to the anxiety & worry management were found to be statistically insignificant (P>0.05). Since the obtained "F" ratio. 467 was found statistically insignificant, therefore, there is no need to apply post hoc test.

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Table 5. Analysis of Variance (ANOVA) results with regard to Concentration Ability among Individual, Team & Combat Sports.

Source of variance	Sum of Squares	Df	Mean Square	F-ratio	Sig.
Between Groups	7.633	2	3.390	.167	.567
Within Groups	2567.700	57	41.345		
Total	2367.333	59			

Significant at 0.05, $F_{0.05}$ (2, 57)

It is evident from Table 5 that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-parameter concentration ability were found to be statistically insignificant (P>0.05). Since the obtained "F" ratio.167 was found statistically insignificant, therefore, there is no need to apply Post Hoc test.

Table 6. Analysis of Variance (ANOVA) results with regard to Relaxation Ability among Individual, Team & Combat Sports.

Source of variance	Sum of Squares	Df	Mean Square	F-ratio	Sig.
Between Groups	108.033	2	54.017	.378	.089
Within Groups	704.700	57	12.363		
Total	812.733	59			

Significant at 0.05, $F_{0.05}$ (2, 57)

It is evident from Table 6 that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-parameter Relaxation Ability were found to be statistically insignificant (P>0.05). Since the obtained "F" ratio.378 was found statistically insignificant, therefore, there is no need to apply Post Hoc test.

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Table 7. Analysis of Variance (ANOVA) results with regard to Total Mental Skill among Individual, Team & Combat Sports.

Source of variance	Sum of Squares	Df	Mean Square	F-ratio	Sig.
Between Groups	499.300	2	249.650	.589	.634
Within Groups	5662.100	57	99.335		
Total	6161.400	59			

Significant at 0.05, $F_{0.05}$ (2, 57)

It is evident from Table 7 that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-parameter total mental skills were found to be statistically insignificant (P>0.05). Since the obtained "F" ratio .589 was found statistically insignificant, therefore, there is no need to apply Post Hoc test.

CONCLUSIONS OF THE STUDY

Based on the findings of this study, the following conclusions were drawn:

1. To conclude, It is evident that the results of Analysis of Variance (ANOVA) among three groups with regard to the Imagery Ability were found to be statistically insignificant (P>0.05).
2. To conclude, It is evident that the results of Analysis of Variance (ANOVA) among three groups with regard to the Mental Preparation were found to be statistically insignificant (P>0.05).
3. To conclude, It is evident that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-parameter Self Confidence were found to be statistically insignificant (P>0.05).
4. To conclude, It is evident that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-parameter Anxiety & Worry Management were found to be statistically insignificant (P>0.05).
5. To conclude, It is evident that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-parameter Concentration Ability were found to be statistically insignificant (P>0.05).
6. To conclude, It is evident that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-parameter Relaxation Ability were found to be statistically insignificant (P>0.05).
7. To conclude, It is evident that the results of Analysis of Variance (ANOVA) among three groups with regard to the sub-parameter total Mental Skills were found to be statistically insignificant (P>0.05).

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