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Effect of specific training on selected psychological variables of Table-tennis players

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Abstract

Table tennis requires excellent physical skills as well as strong psychological abilities. The purpose of the study was to find out the effect of specific training on the psychological variables of table-tennis players. For this study, thirty (30) state-level table-tennis players aged between 17 to 19 years were selected and randomly divided into two groups an experimental group and a control group. The experimental group underwent specific training while no training was provided to the control group. The period of training was eight weeks with a schedule of weekly three days for alternate days. The data were collected on selected psychological variables before the start and after the end of the training period. The data collected was analyzed by the “t” test and the level of significance was set at 0.05 level. Data analysis showed significant improvement in anxiety and aggression of the table-tennis players.

Keywords: Training, psychological, psychological, Table-tennis

Introduction

In recent years, the sport has significantly increased in popularity at both the recreational and competitive levels. Athletes look for ways to boost their performance as the level of competition rises, not only through physical training but also by developing their psychological abilities. Sports performance in competition is the result of complex interaction among physical, technical, physiological and psychological variables (Soltani *et al.*, 2012) ^[1]. Players can enhance their physical and physiological abilities through immense training with the help of the coach, but social and psychological abilities are complex to train. For both coaches and athletes, the capacity to achieve an ideal and stable psychological state during competition is of the utmost importance. Psychological factors play a crucial role in encouraging athletes to perform their best during the competition (Sharma & Kanojiya, 2022) ^[2]. High-intensity athletes frequently experience varying degrees of anxiety and may act aggressively while competing.

Table tennis, also known as ping pong, is a fast-paced indoor sport played on a table divided by a net (Deng *et al.*, 2021) ^[3]. It requires players to use small paddles to hit a lightweight ball over the net, aiming to outmaneuver their opponents. This game demands exceptional reflexes, hand-eye coordination, agility, and quick decision-making. Players must anticipate their opponent's shots, adjust their positioning, and employ various techniques to gain an advantage (Williams *et al.*, 2002) ^[4]. The rapid pace of the game and the need for quick reactions make table tennis an intense and mentally challenging sport (Oagaz *et al.*, 2022). The speed of play is one of the most important factors in table tennis. Despite its pace, table tennis cannot be referred to be the quickest sport in the world, but it is undoubtedly the fastest (Bastug, 2018) ^[6]. These sports involve intense physical exertion and mental focus, making them excellent domains for studying the psychological aspects of athletes.

Examining the psychological facets of table tennis, such as anxiety and aggression, can help us better understand the various challenges that competitors in each sport confront. Anxiety, which is regarded as a psychological reaction brought on by differences between an athlete's capacity for response and the demands of the environment, is accompanied by a high level of psycho-physiological activation. (Smith, R.E, 2008) ^[7].

It will help in identifying particular psychological elements that may enhance performance or impair athletes' well-being.

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The creation of specific interventions and techniques to improve athletes' mental readiness, coping abilities and overall performance in their particular sports can be guided by an understanding of these differences and similarities.

Methodology

The purpose of the study was to find out the effect of specific training on the psychological parameters of table-tennis players. To achieve the purpose of the study, 30 state-level players (ages ranging between 17 to 19 years) were selected randomly and they were equally divided into two groups of 15 each as the experimental group and control group. The experimental groups underwent specific training for one hour in the morning before starting the routine table tennis practices. The period of training was 8 weeks in a schedule of weekly 3 days for alternate days. For aggression, the data was collected by Aggression Questionnaire (BPAQ) developed by Buss and Perry in 1992 [9] and for anxiety, Sports Competition Anxiety Test (SCAT) was used which was developed by

Martens *et al.* in 1990 [10]. The data were collected on aggression and anxiety before the start and after the end of the training period. The collected data were statistically analyzed by using a t-test. To test the significance .05 level of confidence was fixed.

Results

Data on each group's aggression and anxiety are obtained. The information is presented in Table, as shown.

Group	Variables	Pre-test		Post-test		T-test
		Mean	SD	Mean	SD	
Exp. Group	Aggression	109.02	19.3852	92.500	17.267	2.465
	Anxiety	26.300	3.8654	20.400	2.689	4.853
Con. Group	Aggression	113.900	23.2014	105.001	16.546	1.209
	Anxiety	27.800	3.3655	26.400	2.302	1.330

Level of significance was set at 0.05 level and degree of freedom was 28.

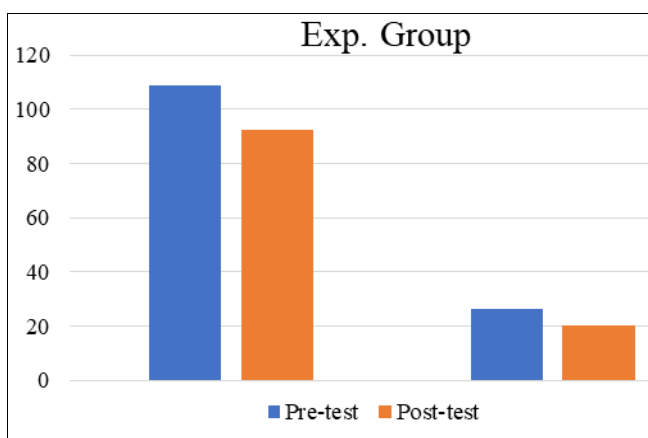


Fig 1: Experimental group

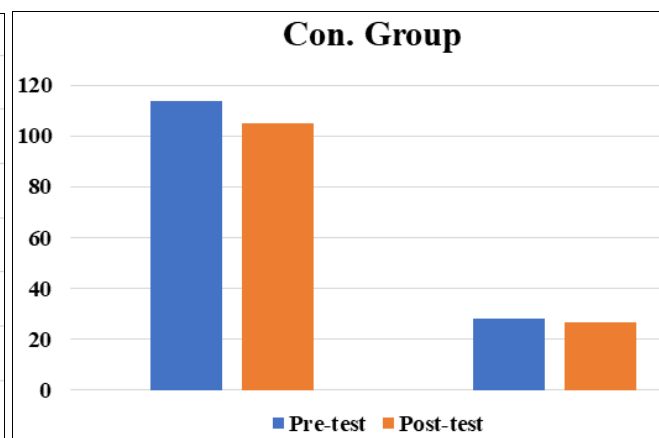


Fig 2: Control group

In the experimental group, the mean value and standard deviation (Mean \pm SD) of the pre-test and post-test for aggression were 109.02 \pm 19.3852 and 92.500 \pm 17.267, for anxiety 26.300 \pm 3.8654 and 20.400 \pm 2.689 respectively.

In the control group, the mean value and standard deviation of the pre-test and post-test for aggression were 113.900 \pm 23.2014 and 105.001 \pm 16.546, and for anxiety was 27.800 \pm 3.3655 and 26.400 \pm 2.302 respectively.

Based on Table 1, there is a difference between each of the dependent variables (Aggression and anxiety) in the experimental group before and after the intervention while in the control group no significant changes are found. After undergoing specific training, it can be said that there is a change in terms of aggression and anxiety.

Discussion

The present study aimed to investigate the effect of specific training on selected psychological variables of table tennis players. The performance level of players is greatly impacted by psychological factors. By studying psychological factors like anxiety and aggression, we can gain a deeper understanding of how these factors influence sports performance in these sports. The results of this study reveal how specific training interventions significantly improved the psychological traits of table tennis players. The study emphasizes how crucial it is for athletes to incorporate mental skills training into their overall training program. Jatra *et al.*, 2021 [8] suggested that, the level of concentration depends on the anxiety level of player i.e., if the level of anxiety is high,

the players lack concentration, and an increase in concentration will be followed by a decrease in anxiety.

The role of anxiety in table tennis performance scenarios has been covered in the current article. The current research moved its focus to how anxiety impacts sport-related performance domains, notably the likelihood of injury in sport, recovery from injury, and return to sport, because there is enough evidence for the importance of sport-related anxiety in competitive situations. It may be argued that sport-related anxiety can have a major negative impact on the athlete. The relevance of understanding anxiety as a psychophysical condition is emphasized by the fact that all of the theoretical conceptualizations examined are based on the stress response to a potentially stressful event (Williams J *et al.*, 1998) [11]. Aggressive attitudes and behaviors are examined from the perspectives of psychology, sociology, and philosophy. These three fields of study might offer a cogent foundation for the study of violence in sports. In contrast to other disciplines that are unified by a single uniform approach, the science of aggressiveness in sport would be bound together by a connection between related topics and a unity of theme. In the current study specific trainings to the table tennis players played a key role to overcome anxiety and aggression which leads to decline the sports performance of the athletes (Jerzy Kosiewicz *et al.*, 2018) [12].

Conclusion

Based on the findings of the study it is concluded that the specific training has significantly improved the selected

psychological parameters of table-tennis players. Therefore, it is advised to implement specific training with players, especially young ones, to enhance the psychological components like anxiety and aggression during their sensitive growth phases as this is the key to their development to gain success at the highest level, indicating the influence of its efficacy on the growth of athletic abilities. Further, this study can also be done on lower age groups so that the importance of specific training can be identified at the base level of the table-tennis players. And, future research could explore the long-term effects of specific training interventions on psychological variables.

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