

Relationship of Concentration and Depth Perception among Table Tennis Players

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Abstract: *The purpose of this study was to determine the relationship between concentration and depth perception among table tennis players. There were 10 male subjects whose age ranged between 20-25 years was purposively selected from table tennis game. Concentration was measured with the help of electrical mirror drawing apparatus in seconds and Depth Perception was measured with the help of depth perception box in centimeter. To find out the relationship between concentration and depth perception Pearson product moment correlation was used. Result showed that there was a significant relationship between concentration and depth perception (0.646) at .05 level of significant. So, we can conclude that concentration and depth perception play a vital role among table tennis players.*

Keywords: *Table Tennis, Concentration and Depth Perception*

In our century, the most popular of the individual bat-and-ball games have been racket sports that to say, the sports played with wooden “blades” as racket and a relatively small ball. Indeed, in past decade, there has been unprecedented growth in the racket sports in many countries. In the Asian countries like China, Korea and Japan, Table Tennis has boomed as participant sport, Table Tennis has become a popular sport during the past years (Fitzgibbon II.e.al, 1979).

In racket sports, depth perception enables you to quickly and accurately judge the distance between yourself, the ball, your opponent, teammates, boundary lines and other objects. When you are shooting or hitting, if you consistently over or underestimate the distance to your target, your depth perception may be at fault (Oberholster Jean, 2008).

Perception of space field is primarily depends upon visual and auditory information integrated with temporal judgment perception of stable and dimensional space may depend on qualities of closer, figure ground, proximity and similarity where ever the principal of non linear perspective, texture interposition important when forming perception of stable three dimensional space has been suffered to as event perception of this nature are linked with the judgment of time. The development of apparatus with which to evaluate dynamic visual acuity and of divided with which to evaluate the manner in

which ball are tracked and intercepted hold promise more definite work relating athlete ability and success to visual perception attributes linked with the judgment of time. The development of apparatus with which to evaluate dynamic visual acuity and of divided with which to evaluate the manner in which ball are tracked and intercepted hold promise more definite work relating athlete ability and success to visual perception attributes (Cratty, Bryant J, 1975)

Concentration refers to the intensity in which a player focuses their attention in terms of a width (broad-narrow) and depth (internal- external). Concentration is a term used in everyday language. In post-event interviews with high-profile athletes, a failure to concentrate is a commonly cited explanation for poor performance. Not surprisingly therefore, concentration is a concept the layperson feels that they understand immediately. However, improving concentration skills is not simply a case of trying harder to concentrate. It is a case of knowing what to concentrate on and focusing attention on these factors. Concentration is defined as ‘the process by which all thoughts and senses are focused totally upon a selected object or activity to the exclusion of everything else. It is worth emphasizing here that concentration is a process that changes over time and that maintaining the intensity and focus of concentration requires effort. Recognizing this factor is important because it means that concentration can vary in both

intensity and focus. We can be focusing on the key parts of performance at one moment, but be distracted the next. Racket sport requires high-level concentration. The ability to control attention is crucial for success in racket sports. Concentration or selective attention is also involved in racket sports because it is psychological factor such as fatigue, state of situation, balance and functioning of the central nervous system which is important at time of playing the shots in racket sports (Routledge and Paul Kegan, 2004).

METHODS

Selections of Subjects – Ten male subjects living in, Lakshmibai National University of Physical Education, Gwalior district, M.P were selected purposively from table tennis. All subjects were participated in Inter-University championship with age ranged between 20 to 25 years.

Selection of Variable – On the basis of various literature on psychological variables; finding out the related research study and keeping in mind the specific purpose of the study to find out the relationship between concentration and depth perception among table tennis players. So concentration and depth perception two variables were selected for this study.

Procedure for Administration of the Test – After selecting the subjects, they were estimated for their performance. Concentration and depth perception were measured in seconds by electrical mirror drawing apparatus and depth perception box.

Test Administration (Concentration) – The concentration ability of the subject was measured in sports psychology laboratory of Lakshmibai National University of Physical Education, Gwalior. A calm and quite atmosphere, as required to conduct this test, was provided. Each subject was instructed to sit comfortably in the sports psychology laboratory and they were also requested for their whole- hearted co-operation in this study. The subject was asked to sit in front of the mirror drawing apparatus. The rubber pin placed at the starting point in the star. The wooden plate was adjusted horizontally at adequate height above the hand of the subject so that star task was not directly visible to the subject. The subject was told to move the pin in such manner and that it does not touch the outer parts of the smaller and bigger star and subject was also instructed to concentration into the mirror while performing star task total time taken to complete each trial total was recorded and in similar way they were given ten trials and the average of total time and errors for each individual was calculated.

Before collecting the final data each subject was given three trials in order to make familiar with the apparatus.

Scoring – The total numbers of errors were those when the iron touched with either outer parts of the smaller and bigger star and this was recorded in the meter recording number of errors. The stop watch was started as the command was given to begin and stopped as the subject completed the star task. The total time taken to complete the task was recorded.

The average of ten trials was recorded in order to obtain highly reliable scores as ten trials in each case considered to be sufficient to yield reliable scores. The raw scores were converted into composite scores which were considered as individual score on concentration.

Test Administration (Depth perception) – The Depth Perception ability of the subject was measured in sports psychology laboratory of Lakshmibai National University of Physical Education, Gwalior. A calm and quite atmosphere, as required to conduct this test, was provided. Each subject was instructed to sit comfortably in the sports psychology laboratory and they were also requested for their whole- hearted co-operation in this study. The subject was seated on a stool at the slit-end. The height of the stool should be adjusted in such a way that when seated on it, the subject's eyes should be at level with the observational slit seeing the rods against the illuminated background.

The tester stood at right side of the box and moved the middle rod from the illuminated end of the box towards the middle of the box. The subject was instructed to immediately indicate the moment two fixed rods. The deviation from the zero-point was recorded from the metric scale. The same procedure was repeated while moving the movable rod from the slit end towards the middle of the box.

Scoring – Three trials were provided to each subject in each direction. The minimum score was obtained out of three trials and was rounded off to the nearest centimeter. Thus two sets of score were obtained, i.e. while moving rod from illuminated end and slit end towards the middle of the box. Co-relation was computed between these two sets of scores and on the basis of high correlation co-efficient any one of the set of scores was taken as depth perception score of the subjects.

Statistical Procedure – To find out the relationship between concentration and depth perception among table tennis players 'Pearson Product Moment Correlation' was used. The level of significance was set at 0.05 level.

Results

Table-1

Descriptive Statistics of Table Tennis Players on Selected Neuro-Muscular Variables of Concentration and Depth perception

Neuro- Muscular Variables	Mean	S.D.
Concentration	95.63	6.023
Depth perception	0.50	0.221

Table -1 revealed that the mean and standard deviation of Concentration (95.63±6.023) and Depth Perception (0.50±0.221) in relation to Table Tennis players.

Table -2

Correlation Matrix of Selected Neuro-Muscular Variables of Table Tennis Players

Neuro-Muscular Variables	Concentration (sec)	Depth perception (c.m)
Concentration (sec)	1.00	0.646*
Depth perception (c.m)		1.00

*Significant at 0.05 level

$r_{.05(08)} = 0.632$

Table-2 above reveals a significant relationship between Concentration and Depth Perception ($r = 0.646$) among

Inter-University Table Tennis Players as the calculated value was greater than the tabulated value of ($r = 0.632$) at 0.05 level of significance with 8 degree of freedom.

DISCUSSION

The analysis of results revealed that in case of Concentration and Depth Perception a significant relationship was obtained. The probable reason for significant relationship among Concentration and Depth Perception is due to the fact that in racket types of sports the athlete has to hit the ball correctly, forcefully and efficiently for that these are important variable. Depth Perception enables you quickly and accurately judge the distance between yourself, the ball, your opponents, teammate, side lines and end lines. Concentration is the ability to screen out these distractions and stay focused on the ball. Result and reasons of this study also supported by various study conducted in different places like, Abernethy B, (2008) had conducted a study on Depth Perception and Baldinger Myrna Ann, (1996) had conducted a study on Training to saturation versus fixed duration training and the attention and concentration performance of adults.

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