



ORIGINAL RESEARCH PAPER

Physical Education & Sports

A COMPARATIVE STUDY OF PHYSIOLOGICAL VARIABLES OF WRESTLING AND TAEKWONDO PLAYERS

KEY WORDS: Resting Heart Rate, Systolic and Diastolic Blood Pressure

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ABSTRACT

Aim: The Purpose of the study was to compare the physiological variables of wrestling and taekwondo players. **Methods:** The study was delimited to the twenty players who had study G.T. G. Degree. College, Karwi, Chitrakoot were selected randomly as the subjects for the study. The age of the subjects were ranging from 17 – 25 years. The Study was further delimited to the selected physiological variables (Resting Heart Rate, Systolic and Diastolic Blood Pressure only). It was hypothesized that there would be no significant difference between in Heart rate and blood pressure of wrestling and taekwondo players. For the purpose of analysis of data 't' test was employed to compare the physiological variables of wrestling and taekwondo players. **Result:** There was an insignificant difference between the means of Wrestling and Taekwondo in heart rate and Systolic Blood Pressure since the obtained value of 't' (.124 & .068) was lower than the tabulated value and a significant difference in Diastolic Blood Pressure (2.14). **Conclusion:** The heart rate and Systolic Blood Pressure, subject showed in no significant difference and Diastolic Blood Pressure, subject showed in a significant difference between Wrestling and Taekwondo Players.

INTRODUCTION

Games and Sports have been part of human life almost since the time immemorial. Be it a necessity for his survival i.e. hunting for food and shelter, safety from wild animals or other enemies or as a pursuit of pleasure, the games and sports have been indispensable to mankind and have been part of his culture. Though the origin of sports is lost in antiquity, it is quite certain that physical activity has been a basic necessity of life, more than fun and diversion, for his survival depended on it. Gradually along with the process of evolution, such activities became more of play and became part of culture of tribes. People used sports and games as a means of transmitting the cultural heritage of their tribes. Game, sports and physical activities persisted despite the rise and fall of ancient civilizations as a cultural heritage, which was passed on from one generation to another. Today games and sports have emerged as universal cultural phenomena (Singh and Bains).

Sports and games in modern times have taken a definite shape in comparison with the immature and unscientific plays of ancient times. Today sports are becoming professional; players are earning a lot through games and sports. Sports in recent times are mainly of a competitive nature through their\ procreative values cannot be underestimated or denied. Despite the fighting attitude between the competitors, sports bring the different nations closer and establish brotherhood and friendship between the people of different countries.\ Physical fitness is the ability to carry out daily tasks vigour and alertness, without undue fatigue, and with ample energy to engage in a leisure time pursuits and to meet the above average physical stresses encountered in emergency situations. Physical fitness is the capacity to carry out reasonably well various forms of physical activities without being unduly tired and includes qualities important to the individual's health and\ well-being. Sports are essentially that aspect of human activity, which strengthens the integration of the body and the mind. Fitness is important at all levels of the game, whilst being essential for top level players; it is beneficial for beginners who will improve both their effectiveness and enjoyment through good standards of fitness. Fitness enables a player to cope with the physical demands of the game as well as allowing the efficient use of his various technical and tactical competencies throughout the match.

Statement of the Study

The purpose of the present study is to compare the physiological variables of wrestling and taekwondo players.

Objective

To compare the selected physiological variables (Resting Heart Rate, Systolic and Diastolic Blood Pressure) of wrestling and taekwondo players.

Delimitations

The following delimitations will be noted as they may have affected the outcome of the study:

1. The present study was restricted to 20 junior boys players.
2. The study was delimited to the junior male of wrestling and taekwondo players in Karwi, Chitrakoot.
3. The study was further delimited to following Physiological Variables:
 - a) Resting Heart Rate
 - b) Systolic Blood Pressure
 - c) Diastolic Blood Pressure

Hypothesis

It was hypothesised that there would be no significant difference in Heart rate and blood pressure of wrestling and taekwondo players.

Methodology

For the purpose this study twenty (N=20) male students were selected randomly from Stadium, G.T. G. Degree. College, Karwi, Chitrakoot, U.P. India. Their age was between 17 to 22 years. These subjects participated voluntarily in this programme and before the start, all of them were examined by the physician to ascertain that they were free from any medical problem. The purposive sampling technique was employed to select the subjects.

Collection of Data

In order to acquaint the subjects with the specific purpose of the research being conducted, all the subjects were assembled in the athletic track of Stadium, G.T. G. Degree. College, Karwi, Chitrakoot All the necessary information pertaining to the requirement of the procedure was imparted to them. To make the research findings more authentic, positive attitude towards investigation was emphasized.

The data for the physiological responses of student was obtained with the help of Automatic Digital Blood Pressure Monitor of blood pressure and heart rate. The data on blood pressure and heart rate were taken prior to the practice at resting condition.

The Data collection was planned for one days and only twenty subjects were taken. before of the respective training their data was collected on blood pressure and heart rate. The data were taken in the afternoon session only.

Criterion Measures

1. Resting heart rate was measured in beats/ minute at based condition.
2. Automatic Digital Blood Pressure Monitor was used to measure Blood Pressure. Score were recorded in mm of Hg for Blood Pressure.

Statistical Procedure

For analysis of the data, Mean and SD were computed. Independent t-test was applied to find the significant difference between wrestling and taekwondo players. For testing the hypothesis the level of confidence was set at .05 level of significance.

Data Analysis

Table-1 Significance Of Difference Of Mean Of Wrestling And Taekwondo Players In Resting Heart Rate

Groups	Mean	SD	SE Mean	DM	SE Mean Diff.	“t” ratio
Wrestling	11.39	3.32	.332	1.17	.466	.124
Taekwondo	12.56	3.27	.327			

*Significant at 0.05 level $t_{.05}(18) = 1.74$

It is evident from Table-1 that there was an insignificant difference between the means of Wrestling and Taekwondo in Resting Heart Rate. The mean difference was calculated as 1.17 and standard error of difference was .466 since the obtained value of independent 't' (.124) was lower than the tabulated value of 't' (1.74) which was required to be significant at (18) degree of freedom with 0.05 level of confidence.

The graphical representation of mean and standard deviation of means of Wrestling and Taekwondo in Resting Heart Rate has been presented in figure . 1

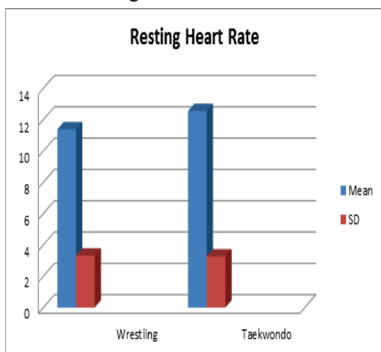


Figure 1-comparison Of Mean And Sd Scores Of Means Of Wrestling And Taekwondo In Heart Rate

Table-2 Significance Of Difference Of Mean Of Wrestling And Taekwondo Players In Systolic Blood Pressure

Groups	Mean	SD	SE Mean	DM	SE Mean Diff.	“t” ratio
Wrestling	11.82	3.60	.360	.560	.508	.068
Taekwondo	11.26	3.58	.358			

*Significant at 0.05 level $t_{.05}(18) = 1.74$

It is evident from Table-2 that there was an insignificant difference between the means of Wrestling and Taekwondo in Systolic Blood Pressure. The mean difference was calculated as .560 and standard error of difference was .508 since the obtained value of independent 't' (.068) was lower than the tabulated value of 't' (1.74) which was required to be significant at (18) degree of freedom with 0.05 level of confidence.

The graphical representation of mean and standard deviation of means of Wrestling and Taekwondo in Systolic Blood Pressure has been presented in figure 2.

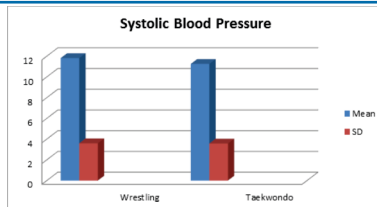


Figure 2-comparison Of Mean And Sd Scores Of Means Of Wrestling And Taekwondo In Systolic Blood Pressure

Table-3 Significance Of Difference Of Mean Of Wrestling And Taekwondo Players In Diastolic Blood Pressure

Groups	Mean	SD	SE Mean	DM	SE Mean Diff.	“t” ratio
Wrestling	25.16	6.44	.644	1.04	.953	2.13*
Taekwondo	24.12	7.01	.701			

*Significant at 0.05 level $t_{.05}(18) = 1.74$

It is evident from Table-3 that there was an insignificant difference between the means of Wrestling and Taekwondo in Diastolic Blood Pressure. The mean difference was calculated as 1.04 and standard error of difference was .953 since the obtained value of independent 't' (2.13) was Higher than the tabulated value of 't' (1.74) which was required to be significant at (18) degree of freedom with 0.05 level of confidence.

The graphical representation of mean and standard deviation of means of Wrestling and Taekwondo in Diastolic Blood Pressure has been presented in figure 3.

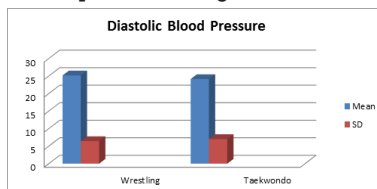


Figure 3-comparison Of Mean And Sd Scores Of Means Of Wrestling And Taekwondo In Diastolic Blood Pressure

DISCUSSION OF FINDINGS

Mean value indicates that in physiological variables heart rate taekwondo players are better than wrestling players.

Mean value indicates that in physiological variables blood pressure wrestling players are better than taekwondo players.

Discussion of Hypothesis

1. It was hypothesised that there would be no significant Heart rate of wrestling and taekwondo players was accepted.
2. It was hypothesised that there would be no significant systolic blood pressure of wrestling and taekwondo players was accepted and Daistolic blood pressure of wrestling and taekwondo players was rejected

CONCLUSION

1. In heart rate, subject showed in no significant difference between Wrestling and Taekwondo player.
2. In Systolic Blood Pressure, subject showed in no significant difference between Wrestling and Taekwondo player.
3. In Diastolic Blood Pressure, subject showed in a significant difference between Wrestling and Taekwondo player.

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