

A COMPARATIVE STUDY ON TRENDS OF PSYCHO- PHYSICAL AND PHYSIOLOGICAL VARIABLES OF SCHOOL AND COLLEGE LEVEL TAEKWONDO PLAYERS

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INTRODUCTION

The main objectives of the present study was to compare and assess the Tae Kwondo players of Delhi University and Delhi Schools, who has obtained position at Zonal and inter-Zonal or participated in National Scholl Games (SGFI), Inter-College, Inter University in their respective sports competition on selected physiological and psychophysical parameters such as Body Mouth temperature, Heart rate, Breathing rate, Vital capacity, Force full exhalation or Peak flow ability, Mental Toughness, Psychomotor Ability (DBDA-PM) and Competitive sports Anxiety (SCAT) between the players of Tae Kwondo at college and school level.

For the purpose of the study total 60 Tae Kwondo players 30 each at college and school level has been selected on purposively and randomly basis, who has won medal/ position in Delhi Schools Zone, Inter-Zone, Inter college, Inter University and participated in Delhi School, National School Games or Inter College or Inter University during the 2010 and 2011. All the subjects were regularly practicing and competing in their respective sports competition in various training centres at Delhi.

To find out the difference and trends between Tae Kwondo players of Delhi Colleges and Delhi Schools on their selected Physiological and Psychophysical variables the required statistical calculation were computed with the help of SPSS soft ware in the computer. The difference among all the selected variables, the data were collected and analyzed using the descriptive statistics and 't' test and ANOVA. The level of significance was set at .05 level. When a two tailed equal group statistical significance mean comparison 't' test and 'F' tests were employed on both the set of data of Tae Kwondo players on selected variables, the result found significantly different as evident in results in majority of the variables.

FINDINGS

**Table-1 DESCRIPTIVE CALCULATION FOR PHYSICAL VARIABLE
FOR SCHOOL AND COLLEGE LEVEL PLAYERS**

S. No.	Variables	Mean	S.D.	Std.	Mean	S.D.	Std.
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		School	School	Error	College	College	Error
1.	Standing Broad Jump	1.92	.29	.051	2.06	.18	.031
2.	Shuttle Run	10.49	.83	.15	9.92	1.26	.22
3.	Sit-Ups	33.44	7.11	1.29	35.30	7.34	1.34
4.	Pull Ups	7.20	2.08	.37	14.87	3.47	.63
5.	50 Yards dash	7.69	.64	.12	7.48	.63	.11
6.	Body Mass Index	20.31	2.31	.42	20.83	2.03	.37

N = 30

Table-2 CALCULATION OF 't' TEST ON THE SELECTED PHYSICAL VARIABLES AT SCHOOL AND COLLEGE LEVEL

S. No	Variable	Mean	S.D.	't' Value	Std. Error
1.	Standing Broad Jump	.14	.32	2.43*	.053
2.	Shuttle Run	.59	1.71	1.88	.31
3.	Sit-Ups	28.67	10.32	1.44	1.87
4.	Pull Ups	7.67	4.6	10.36	.74
5.	50 Yards dash	7.58	.61	1.43	.16
6.	Body Mass Index	.52	1.01	2.83	.18

N=30

* Significant at 0.05 level (df -1/29) = 2.05

* Significant at 0.01 level (df -1/29) = 2.75

The following variables were found significant at both 0.05 and 0.01 level of confidence such as - As shown in the table-1 and 16, that there was a significance difference in that the 't' value 2.43* while tabulated value required 2.05 at .05 level of confidence. The college level Tae kwondo players were significantly better in explosive legs strength than school level players. The Pull Ups 't' value 10.36 which was a significant difference at both the level. The college level Tae kwondo players were significantly better in shoulders strength than school level players. For BMI-'t' value 2.83 which was a significant difference. The school level Tae kwondo players were significantly better in lean body mass than college level players.

As shown Mental Toughness 't' value was 2.31 which significant difference. The college level Tae kwondo players were significantly better in mental toughness than the school level players. The combine Psychomotor Ability 't' value 2.23 which was a significant difference. The college level Tae kwondo players were significantly better in psychomotor ability or eye hand coordination than the school level players. The Sports Competition Anxiety 't' value was 2.48 which was a significant difference. The college level Tae kwondo players were significantly high in Sports competition anxiety than the school level players.

As shown that the calculated 'F' value was 70.11 for Body Mouth or Oral Temperature and tabulated value required 2.68 at 0.05 level and 3.14 at 0.01 level of confidence. It indicated that this was a significant deference in the variable of Body Mouth or Oral Temperature taken two resting and after the bought for the both school and college level Tae Kwondo players. There were significant differences found in Body Mouth or Oral Temperature of the Tae

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Kwondo players, when LSD was applied on the data after finding significant differences in the 'F' test (ANOVA). As evident that the oral temperature as LSD value 1.59 between resting school and school after bout and college after bout .94, between school resting and college after bout (.94), school after bout and college resting (1.73*), and college resting and college after bout (1.08). So, it proved that the body temperature increased significantly after the bout or rigours physical exercises.

The calculated 'F' value was 93.29 and tabulated value required 2.33 at 0.05 level and 3.26 at 0.01 level of confidence. It indicated that it was a significant deference at both at .05 and .01 level of confidence in the variable of Heart Rate taken two times- resting, and after the bout at college level and school level Tae Kwondo male players. The significant differences found between school players resting and after the bout (-100.10), School resting and college after bout (103.87), school after bout and college resting (100.46), college resting and college after bout (104.23) but all others two comparison were found insignificant as evident from the table- values 0.37 and 3.77. So, it means and proved that the heart rate increased significantly after the bout or vigour's physical exercises.

The calculated 'F' value was 190.06, was a significant deference in the variable of breathing Rate taken two times- resting, and after the bout at college level and school level Tae Kwondo male players separately. There were found significant differences between school players resting and school after the bout (-13.37), School resting and college after bout (11.14), school after bout and college resting (12.44), college resting and college after bout (10.14) but all others two comparison were found insignificant as evident from the table- values 0.93 and 2.33. It means and proved that the breathing rate increased also significantly high after vigour's exercises.

The calculated 'F' value was 15.33 was a significantly different at both .05 and .01 level of confidence in the variable of Vital Capacity taken two times- resting, and after the bout at college level and school level Tae Kwondo male players separately and were found significant differences between school resting and college resting (1414.3) school players after the bout and college resting (1618.57) and college resting and (11.14), school after bout and college resting (12.44), college resting and college after bout (517.80) but all others two comparison were found insignificant as evident from the table- values 202.2, 100.69 and 100.69.

It means and proved that the Vital Capacity decreased after the vigour's exercises and college level Tae Kwondo players seems to be more physical and physiologically fit than the school players.

The calculated 'F' value was 9.95 again was a significantly different at both .05 and .01 level of confidence in the variable of peak Flow or lungs Capacity to expired air from lungs and mouth forcefully. It was taken two times- resting, and after the bout at college level and school level Tae Kwondo male players separately.

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It found significant differences in lungs capacity between school players resting and school after the bout (28.88), School resting and college resting (28.94), school after bout and college resting (57.81), college resting and college after bout (43.28) but all others two comparisons were found insignificant as evident from the table- values 14.36 and 14.52.

It means and proved that the lungs capacity was better and more in college Tae Kwondo players than school players may be due to more experience and training years.

In the present study there were not found significant differences for Sit Up 't' value 1.44 The college level Tae kwondo players were better in sit up but not significantly than school level players. For Shuttle Run 't' value was 1.88 while tabulated value required 2.05 at .05 level of confidence, which was found no significant difference. The college level Tae kwondo players were better in shuttle run but not significantly than school level players. For 50 Yards Dash 't' value 1.43 which was found no significant difference. The college level Tae kwondo players were better in speed but not significantly than school level players.

Further, there were not found significant differences in-between the school resting and college resting and school after bout (.14) and college after bout (.66). It proved that the Body Mouth Temperature increased significantly after the bout of the Tae Kwondo players at both college and school level players due to heat produced after vigor physical exercises.

The " r " value or Pearson correlation of coefficient value required to be significant at 0.05 level of confident .34 and at 0.01 level is .37, for the Thirty subjects, shown in the table no.16, that the Pearson's coefficient of correlation or 'r' value were found significant in Standing long jump & Standing Broad Jump .68, Standing Long Jump & Sit Ups .64 , Mental Toughness & Shuttle Run .58 , Mental Toughness & Sit Up .65, Mental Toughness & Pull Ups .63, Mental Toughness & 50 Yard Dash Run .34, Mental Toughness & Psychomotor Ability .72, Mental Toughness & Sports Competitive Anxiety Test (Scat) .68, Mental Toughness & Body Mouth Temperature .36, Mental Toughness & Heart Rate .93, Mental Toughness & Breathing Rate .92, Mental Toughness & Vital Capacity .74 and Mental Toughness & Peak Flow Ability .57. It shows positive significant correlation in the selected some the variables, but correlation were not found significant.

The Tae Kwondo players had showed more stress and an optimum level of anxiety necessary for optimum / best possible level sports performance. It was found that both the Tae Kwondo players had little high level of anxiety may be due to situational aspect and mood state of the players at the time of administration of the test as per the limitation of the study. The scholar has drawn certain conclusion and suggested some recommendations for the future research which may be conducted in related area.

CONCLUSIONS

On the basis of the data analysis, limitations and finding of the present study certain conclusions were drawn such as-

- The significant difference was found in the standing broad jump, pull ups and body mass index of Tae Kwondo players at both college and school level.
- There was no significant difference was found in the shuttle run, sit ups and 50 yards dash of Tae Kwondo players at both college and school level.
- There were no significant difference was found in the mental toughness level of Tae Kwondo players at both college and school level, in the Psychomotor ability of Tae Kwondo players at both college and school level, in the competitive sports anxiety level of Tae Kwondo players at both college and school level and in the body mouth temperature of Tae Kwondo players at both college and school level

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MISCELLANEOUS

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