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Comparative study of some physiological variables of professional students

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Abstract

Physiological Variables refer to elements in physiological experiment that can be changed, such as available information or the time taken to perform a given task. Physiological Variable can be classified as either dependent or independent. Generally, variables are applied to physiological experiments in order to determine if changes to one element cause changes to another. This paper focus on the study of Some Physiological Variables of Professional Students of two groups, one group of B.P.Ed. and other of M.P.Ed. students. It was hypothesized that there would be significant difference in some physiological variables between B.P.Ed. and M.P.Ed. students. The Sources of data were collected from the Chaudhary Ranbir Singh University, Jind. For this investigation a total of sixty students are selected as the subjects, out of which thirty were from B.P.Ed. and thirty from M.P.Ed. The subjects were selected by using simple random sampling method. In this study the following equipments were used for data collection ^[1] Wet Spiro meter was used to measure the vital capacity, ^[2] Sphygmomanometer was used to measure the Blood Pressure and ^[3] Hemoglobin percentage was measured by using hemoglobin apparatus (Sahli's Hemo Meter). The obtained data were statistically analyzed and interpreted by using 't' test. This research concludes that There is no significant difference in blood pressure but There exists a significant difference in Hemoglobin percentage and Vital capacity among students of B.P.Ed. and other of M.P.Ed. students.

Keywords: physiological, professional students

Introduction

Sports are all forms of physical activity which, through casual or organized participation, aim to use, maintain or improve physical fitness and provide entertainment to participation. Sports may be competitive, where a winner or winners can be identified by objective means and may require a degree of skill, especially at higher levels. Sports are usually governed by a set of rules or customs. Physical event such as scoring goals or crossing a line first often define result of a sports.

Purpose of the Study

The main purpose of this study was to compare some physiological variables of B.P.Ed. and M.P.Ed. students, Chaudhary Ranbir Singh University, Jind and the allied objectives were ^[1] To find out the blood pressure of the students ^[2]. To find out the hemoglobin of the students ^[3]. To find out the vital capacity of the students ^[4]. To compare the blood pressure of both group of students ^[5]. To compare the vital capacity of Students ^[6]. To compare the Hemoglobin % of both group of students ^[7]. To find out the difference in some physiological variables of both group of Students.

Hypothesis

It was hypothesized that there would be significant difference in some physiological variables between B.P.Ed. and M.P.Ed. students.

Methodology

The Sources of data were collected from the Chaudhary Ranbir Singh University, Jind. For this study a total of sixty students are selected as the subjects, out of which thirty were from B.P.Ed. and thirty from M.P.Ed. The subjects were selected by using simple random sampling

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Analysis of data

The obtained data were statistically analyzed and interpreted by using 't' test and the level of significance at 0.05 levels was adequate for testing the hypothesis.

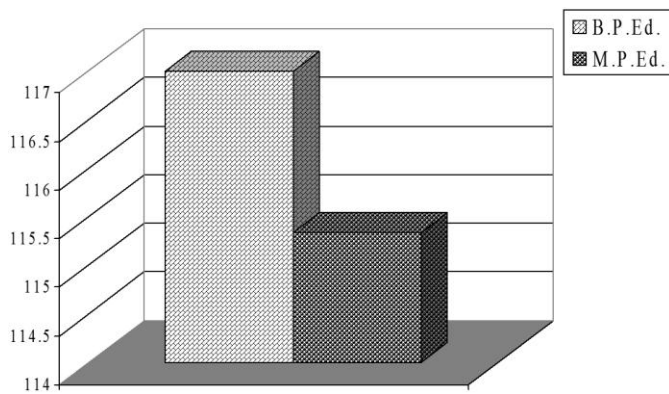
The same procedure was adopted for group wise statistical analysis i.e.

Table 1: Showing Comparison between Systolic Blood Pressure of B.P.Ed. and M.P.Ed. Students

| Group | Mean | S.D. | S.E. Comb. | M.D. | O.T. | T.T. | D.F. |
|---------|---------|-------|------------|-------|-------|-------|------|
| B.P.Ed. | 117.00 | 6.513 | 2.222 | 1.667 | 0.750 | 2.000 | 58 |
| M.P.Ed. | 115.333 | 6.814 | | | | | |

*Significant at 0.05 level of confidence. Tabulated 't' 0.05 (58) = 2.000

Table-1 shows that there is least significant difference between the means of systolic blood pressure among B.P.Ed. and M.P.Ed. Students. The mean value of B.P.Ed. students is 117.00 and that of M.P.Ed. Students is 115.333, whose mean difference is 1.667 which interprets that the difference of Systolic Blood Pressure is least significant. The data was again analyzed by applying 't' test. But before applying 't' test S.D. was calculated. S. D. of B.P.Ed. is 6.513 and that of M.P.Ed. students is 6.814. Their combine standard error was calculated which is 2.222. It was found that there is no significant difference in systolic blood pressure of B.P.Ed. and M.P.Ed. students because calculated 't' = 0.750 is less than Tabulated 't' = 2.000 at 0.05 level of significance.



Graph 1: Graph Showing Difference between Means of Systolic Blood Pressure of B.P.Ed. and M.P.Ed. Students

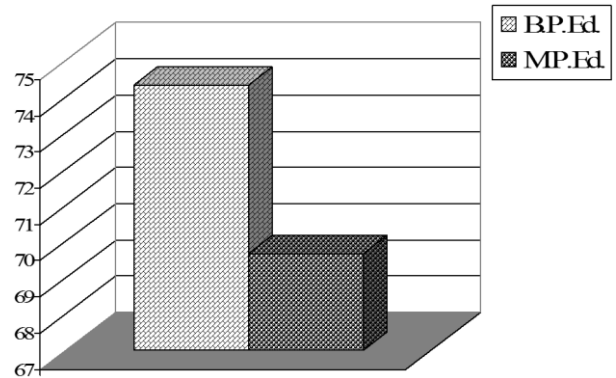
Table 2: Showing Comparison between Diastolic Blood Pressure of B.P.Ed. and M.P.Ed. Students

| Group | Mean | S.D. | S.E. Comb. | M.D. | O.T. | T.T. | D.F. |
|---------|--------|-------|------------|-------|-------|-------|------|
| B.P.Ed. | 74.333 | 7.279 | 2.489 | 4.667 | 1.875 | 2.000 | 58 |
| M.P.Ed. | 69.667 | 7.649 | | | | | |

*Significant at 0.05 level of confidence. Tabulated 't' 0.05 (58) = 2.000

Table -2 shows that there is significant difference between the means of Diastolic Blood Pressure among B.P.Ed. and M.P.Ed. students. The mean value of B.P.Ed. students is

74.333 and that of M.P.Ed. students is 69.667, whose mean difference is 4.667 which interprets that the difference of Diastolic blood pressure is significant. The data was again analyzed by applying 't' test. But before applying 't' test S.D. was calculated. S. D. of B.P.Ed. is 7.279 and that of M.P.Ed. students is 7.649. Their combine standard error was calculated which is 2.489. It was found that there is no significant difference in diastolic blood pressure of B.P.Ed. and M.P.Ed. students because calculated 't' = 1.875 which less than Tabulated 't' = 2.000 at 0.05 level of significance.



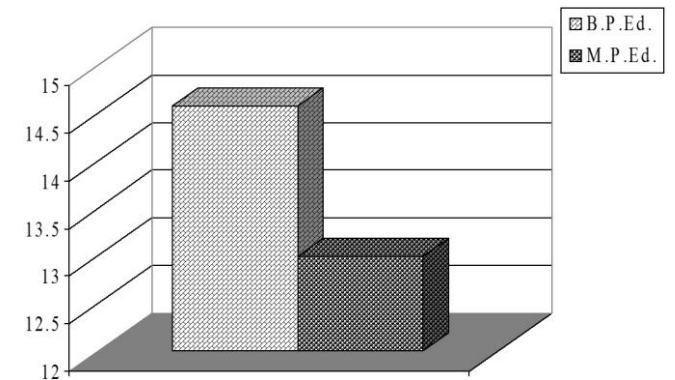
Graph 2: Graph Showing Difference between Means Diastolic Blood Pressure of B.P.Ed. and M.P.Ed. Students

Table 3: Showing Comparison between Hemoglobin Percentage of B.P.Ed. and M.P.Ed. Students

| Group | Mean | S.D. | S.E. Comb. | M.D. | O.T. | T.T. | D.F. |
|---------|--------|-------|------------|-------|-------|-------|------|
| B.P.Ed. | 14.580 | 1.123 | 0.416 | 1.580 | 3.796 | 2.000 | 58 |
| M.P.Ed. | 13.000 | 1.363 | | | | | |

*Significant at 0.05 level of confidence. Tabulated 't' 0.05 (58) = 2.000

Table-3 shows that there is least significant difference between the means of hemoglobin percentage among B.P.Ed. and M.P.Ed. Students. The mean value of B.P.Ed. students is 14.580 and that of M.P.Ed. Students is 13.000, whose mean difference is 1.580 which interprets that the difference of hemoglobin percentage is least significant. The data was again analyzed by applying 't' test. But before applying 't' test S.D. was calculated. S. D. of B.P.Ed. is 1.123 and that of M.P.Ed. students is 1.363. Their combine standard error was calculated which is 0.416. It was found that there is significant difference in hemoglobin percentage of B.P.Ed. and M.P.Ed. students because calculated 't' = 3.796 is greater than Tabulated 't' = 2.000 at 0.05 level of significance.



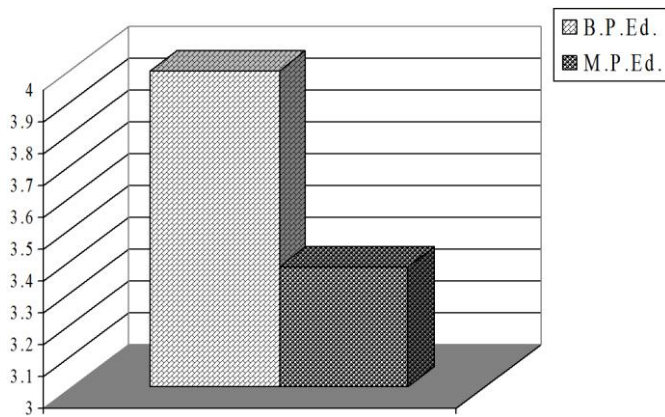
Graph 3: Graph Showing Difference between Means Hemoglobin Percentage of B.P.Ed. and M.P.Ed. Students

Table 4: Showing Comparison between Vital Capacity of B.P.Ed. and M.P.Ed. Students

| Group | Mean | S.D. | S.E. Comb. | M.D. | O.T. | T.T. | D.F. |
|---------|-------|-------|------------|-------|-------|-------|------|
| B.P.E. | 3.990 | 0.427 | 0.130 | 0.617 | 4.750 | 2.000 | 58 |
| B.P.Ed. | 3.373 | 0.347 | | | | | |

*Significant at 0.05 level of confidence. Tabulated 't' 0.05 (58) = 2.000

Table-4 shows that there is least significant difference between the means of vital capacity among B.P.Ed. and M.P.Ed. Students. The mean value of B.P.Ed. students is 3.990 and that of M.P.Ed. Students is 3.373, whose mean difference is 0.617 which interprets that the difference of vital capacity is least significant. The data was again analyzed by applying 't' test. But before applying 't' test S.D. was calculated. S.D. of B.P.Ed. is 0.427 and that of M.P.Ed. students is 0.347. Their combine standard error was calculated which is 0.130. It was found that there is significant difference in vital capacity of B.P.Ed. and M.P.Ed. students because calculated 't' = 4.750 is greater than Tabulated 't' = 2.000 at 0.05 level of significance.



Graph 4: A Graph Showing Difference between Means Vital Capacity of B.P.Ed. and M.P.Ed. Students

Result

From the above study following conclusions were drawn:

1. There is no significant difference in systolic Blood Pressure between the B.P.Ed. and M.P.Ed. Students.
2. There is no significant difference in Diastolic Blood Pressure between the B.P.Ed. and M.P.Ed. Students.
3. There is a significant difference in Hemoglobin percentage between the B.P.Ed. and M.P.Ed. Students.
4. There is a significant difference in Vital capacity between the B.P.Ed. and M.P.Ed. Students.

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