CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS
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The importance of 'Physical Activities' has never been recognised in the past as it is being recognised today. The reason may be attributed to the changing life pattern of mankind. In the past, man had to struggle and do a lot of physical work to secure food, clothing and shelter. Because of scientific developments, the man is moving towards a more and more luxurious and sedentary life. With the result, his physical abilities are fast deteriorating, which make him more concerned about his physical status.

If one looks back at the development of 'Physical Education', it was never more than doing some physical drills in the institutions. There used to be only one physical education trainer, mostly ex-army personnel, who was known as P.T.I., and who generally looked after the physical activities. The programme of physical education was limited only to the throwing the ball and blowing the whistle.

With the changing concept and scientific advancement, physical education is being now recognised on a par with other educational disciplines. At present, there are a number of physical education institutions and departments
of physical education in India, which are providing facilities to impart scientific knowledge to the physical education majors to fulfill the professional obligations as lecturers, teachers, coaches, etc. These physical education majors are supposed to be highly skilled personnel with sufficient scientific knowledge to undertake the challenging task of physical education discipline, which does not mean just moving certain limbs, carrying out some drills and few physical activities in the institutions. Rather, they have to perform various tasks, like teaching and imparting scientific knowledge of physical education, coaching of sports events and administering physical and sports activities in the institutions, this is possible only when they keep up their own fitness to gather mental and physical knowledge to discharge their duties efficiently.

The present study was also focused on the study of motor fitness of physical education majors as related to psycho-physiological variables and body composition.

To accomplish the study, 157 male physical education majors were taken from professional colleges of Physical Education of Punjabi University, Patiala and departments of Physical Education of Panjab University, Chandigarh and Guru Nanak Dev University, Amritsar, to act as subjects. Revised AAHPER Youth Fitness Test was used to measure their motor fitness, which was considered as criterion measures.
of the study. The other independent variables included selected psycho-physiological variables and body composition. The Personality Questionnaire (1985) by Eysenck, J.M., Paramjit Kaur and 'Physical Activity Attitude Scale' (1976) by Bhullar to measure their attitude towards physical activity were selected as psychological tools, whereas blood pressure (standing and lying), sitting pulse rate, and haemoglobin contents were considered as their physiological measures. Their body composition measures comprised body weight, lean body weight, and percentage of body fat taken from skinfolds.

The data collected on the above listed variables was tabulated for meaningful statistical treatment. Each of the motor fitness component was taken as dependent variable to establish its relationship with other independent variables of selected psycho-physiological variables and body composition considerates through the application of zero order correlation, partial correlation and multiple correlation.

'Power' as one of the motor fitness components could find negative relationship only with the extraversion among the psychological variables ($r = -.171$), also have shown multiple correlation ($r = .219$) showing extraversion on the top and indicating no significant partial correlation.
Power has also shown significant relationship with sitting pulse rate ($r = -.181$) and haemoglobin blood contents ($r = .190$) among the physiological variables. In the partialled out treatment, power has shown significant correlation with (lying) systolic blood pressure ($r = -.191$), when sitting pulse rate was partialled out. Similarly, power exhibited significant relationship with blood pressures (lying and standing) systolic ($r = .190, .190$) and diastolic ($r = .196, .193$), when haemoglobin was partialled out. Power has also shown multiple significant correlation as ($R = .268$).

Power could not establish zero order correlation with any of the body composition variables. But, on partialling out body weight and percentage of fat, it has shown correlation with percentage of fat ($r = .211$) and body weight ($r = -.226$) respectively. Significant multiple correlation ($r = .270$) has also shown by power with body composition considerates.

Likewise, the 'Agility' as one of the motor fitness components could not find any relationship with any of the psychological variable, when zero order, partial and multiple correlation statistical treatments were given.

Agility has exhibited positive significant relationship with sitting pulse rate as ($r = .202$) among the physiological variables. In the partial correlation, it is observed that agility has positive significant
relationship with blood pressures (lying and standing) systolic i.e. \( r = .230, .218 \), with diastolic as \( r = .219, .204 \) and with haemoglobin blood content as \( r = .190 \), when the sitting pulse rate variable was partialled out. Agility has also shown significant positive multiple correlation as \( R = .328 \).

Agility could exhibit a significant positive relationship with the percentage of fat as \( r = .215 \) among the body composition considerates. It is also observed from the partial correlation that the body weight and lean body weight has shown significant positive correlation with agility as \( r = .202, .216 \) respectively, when percentage of fat was partialled out. It is evident from the multiple correlation that the percentage of fat is the only dominating factor, which affects the agility of physical education majors and has positive significant relationship as \( R = .215 \).

'Speed', as another motor fitness component, could not find any relationship with psychological variables when zero-order and partial correlation was computed. But, in the multiple correlation, speed has shown significant positive correlation as \( R = .182 \). Speed has also exhibited significant correlation with haemoglobin as \( r = -.245 \) among the physiological variables. In the partial correlation, it was observed that speed has
negative correlation with blood pressures (lying and standing) systolic as \( r = -.251, -.245 \) with diastolic as \( r = -.238, -.243 \) and with sitting pulse rate \( r = -.246 \), when the haemoglobin variable was partialled out. Speed has also shown multiple significant correlation as \( R = .291 \).

It is observed that speed could not establish any relationship with the percentage of fat, lean body weight and body weight, when zero-order, partial and multiple correlations were computed.

Another motor fitness component, 'Endurance', could not exhibit any relationship with any of the psychological variables, when zero order, partial and multiple correlations were computed.

Endurance could find relationship with sitting pulse rate and haemoglobin as \( r = .173 \) and \( -.642 \) respectively, among the physiological variables. In the partialling out technique, it is observed that endurance has significant correlation with blood pressures (lying and standing) systolic \( r = -.642, -.645 \), with Diastolic \( r = -.644, -.642 \) and with sitting pulse rate \( r = -.637 \), when haemoglobin variable was partialled out. Endurance has also shown multiple significant correlation as \( R = .659 \).

It is observed that endurance has no relationship with any of the body composition considersates i.e. percentage of fat, lean body weight, and body weight, when zero order,
CONCLUSIONS:

From the results, it has been observed that:

1. The physical education majors scoring high on power test would score low on extraversion variable of personality dimension, whereas the other variables may not show any effect on their scoring in power test.

2. The subjects with low pulse rate would score more in power activities.

3. Subjects possessing more power would carry more haemoglobin contents in their blood.

4. Individual items, such as body weight, lean body weight and percentage of fat did not show any significant correlation with power.

5. When body weight and percentage of fat were held constant, power showed a negative and positive significant correlation with body weight and percentage of fat, respectively.

6. The multiple correlation of the combination of body composition variables with power has been found significant.
In the above listed conclusions as regard to the relationship of power with psychological, physiological and body composition variables, except extraversion, which has shown negative correlation with power and positive correlation with sitting pulse rate and haemoglobin, no other variable has shown significant relationship, which comes true according to the hypotheses of the study.

7. It has been observed that the psychological variables of physical education majors have no relationship with the agility test.

8. Physical education majors possessing lower pulse rate would be more agile.

9. There was no effect of body weight and lean body weight on agility performance.

10. The increased percentage of fat reduces the agility performance.

The conclusions drawn about the relationship of agility with psychological, physiological and body composition variables listed from 8 to 10 have shown significant relationship with only sitting pulse rate and percentage of fat. The remaining variables have not shown significant relationship, which is in conformity with the hypotheses laid down in the study.

11. Speed does not indicate any relationship with individual personality variables.

12. The physical education majors scoring low on psychological variables under study would perform better in speed.
13. The physical education majors with high concentration of haemoglobin would perform better in 50 yards dash i.e. in speed.

The relationship of speed with psychological, physiological, and body composition variables have been found almost in agreement with the hypotheses laid down in the study except its significant relationship with the haemoglobin variable.

14. The selected psychological variables of physical education majors have no relationship with their endurance.

15. Endurance activities increase the haemoglobin content in the blood and lower the sitting pulse rate.

16. There was a cumulative effect of physiological variables on endurance activities.

17. The endurance of physical education majors does not show any correlation with body weight, lean body weight, and percentage of fat.

Endurance, a motor fitness component has also shown significant relationship with the sitting pulse rate and haemoglobin as mentioned in the listed conclusions and did not show significant relationship with the majority of the variables, therefore, the results are almost in conformity with the hypotheses of the study.

RECOMMENDATIONS

1. The scope of study may, however, be broadened by including more dependent and independent variables.

2. A similar study may be conducted on female physical education majors.
3. The study may, however, be replicated/enlarged by including more universities and colleges.

4. A similar study may also be conducted on the male and female athletes belonging to different sports disciplines.

5. The findings of the study may serve as a basis for the admission of students in physical education (professional) colleges and physical education departments of universities.

6. For the admission of students in the professional institutions, their psychological testing may not contribute much; however, low pulse rate, more haemoglobin contents would prove better to keep up their fitness to fulfil their professional obligations.

7. More concentration of percentage of fat may not favour the physical education majors to perform better in motor abilities and this aspect may not be given weightage in their admission.

8. The practical curriculum for the physical education majors should focus on introducing the activities, which could enhance power, speed, agility and endurance.

9. Preference should be given to the students, who have B.Sc. (Physical Education) degree, in the admission to the physical education professional courses.