Chapter V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Males and females differ in many morphological and physiological variables. By the time full maturity is attained the average female is approximately 13 cm shorter, 15 kg lighter in total body mass and 20 kg lighter lean body mass with considerably more adipose tissue than the average male. The large difference in lean body mass is seen to be predominantly due to a much higher production of the hormone testosterone in males.

Based on percentage of body fat, boys and girls are classified as obese and non-obese. Obesity and overweight are commonly thought of as inter-changeable expressions. Obesity is excessive accumulation of fatty tissue whereas overweight does not imply fatness. It is possible for an individual to gain weight with loss of fat. Obese, overweight and underweight boys and girls develop a complex and it is reflected in strength and motor performance activities.
Therefore, the present study was undertaken to assess the status of Motor and Strength performance of boys and girls of obese, overweight, idealweight and underweight.

The purpose of this study was to compare and analyse the selected motor and strength variables among obese, overweight, idealweight and underweight Higher secondary school boys and girls. For this study were purpose the selected variables were speed, agility, leg explosive power, relative arm strength. To achieve the purpose of this study, 300 Higher Secondary School boys and 300 Higher Secondary school girls were selected from Tirunelveli Educational district by using systematic random sampling method. They were classified, according to the body type, namely obese, overweight, idealweight and underweight boys and girls.

The following motor fitness tests were conducted on the subjects; for speed 50 yards run; for agility 4 x 10 yards shuttle; for leg explosive power, standing broad jump. The following tests were conducted on the subjects to assess the strength variables for relative arm strength, bench press test and for relative leg strength, bench squat test.
Tester's reliability and instrument reliability were established by test-re-test method. All the tests used were standard tests and their validity is already accepted.

Two-way analysis of variance was used to find out any significant difference on selected motor and strength variables among obese, overweight, idealweight and underweight boys and girls and their Interactions. The main factors namely gender were assigned in rows and body weight related to the obesity namely such as obese, overweight, idealweight and underweight were assigned in columns. If the obtained 'F' ratio for rows were significant only comparing the means of the both groups (boys and girls). For columns 'F' ratio were found to be significant, the Scheffe's test was used as a post-hoc test of significance to find out any significant difference between any two paired means. If the interaction (gender and body weight related obesity) were significant, Simple Effect Test was used as a post-hoc test of significance. All the hypotheses were tested for significant at .05 level.

The data were analysed in SPSS statistical package at the Department of Physical Education and Sports Science Computer Centre, Annamalai University, Annamalai Nagar.
Conclusion

The following conclusion are drawn based on the results of the present study.

Speed

The speed is better for idealweight group as compared to obese, overweight and underweight groups. Underweight group is better than obese, and overweight. Overweight group is better than obese group.

- The Obese boys are better in speed than Obese girls.
- The Overweight boys are better than Overweight girls.
- The Idealweight boys are better than Idealweight girls.
- The Underweight boys are better than Underweight girls.

The idealweight boys are better than obese, overweight and underweight boys. The underweight boys are better than obese, overweight, the overweight boys are better than obese boys.

The idealweight girls are better compared to the obese, overweight and underweight girls. The overweight and underweight girls are better
than obese. There is no significant variation in speed between overweight and underweight girls.

**Agility**

The agility is better for idealweight group as compared to obese, overweight and underweight. Underweight group is better than obese and overweight. The overweight group is better than obese group.

- The Obese boys are better in agility than Obese girls.
- The Overweight boys are better than Overweight girls.
- The Idealweight boys are better than Idealweight girls.
- The Underweight boys are better than Underweight girls.

The ideal weight boys are better in agility than obese, overweight and underweight boys. The underweight and overweight boys are better than obese. However there is no significant variation in agility between overweight and underweight boys.

The idealweight, overweight and underweight girls are better in agility than the obese. There is no significant variation in agility between overweight and underweight girls; and idealweight and underweight girls.
The leg explosive power of idealweight group is significantly different from obese, overweight and underweight groups. The leg explosive power of underweight group significantly differs from obese and overweight. Further the leg explosive power of overweight groups significantly differs from obese group.

- The Obese boys are better in leg explosive power than Obese girls.
- The Overweight boys are better than Overweight girls.
- The Idealweight boys are better than Idealweight girls.
- The Underweight boys are better than Underweight girls.

The ideal weight boys are better in leg explosive power than obese, overweight and underweight boys. The underweight boys are better in explosive power as compared to obese and overweight boys. Overweight boys are better than obese boys.

The ideal weight girls are better in leg explosive power as compared to obese, overweight and underweight girls. Underweight girls are better than obese and overweight girls. The overweight girls are better than obese girls.
Relative Arm Strength

- The Obese boys have better arm strength when compared with obese girls.
- The Overweight boys are better in arm strength than the overweight girls.
- The Idealweight boys are better in arm strength as compared to idealweight girls.
- The underweight boys are better in arm strength than underweight girls.

The ideal weight boys are better in relative arm strength than obese, overweight and underweight boys. The overweight boys are better than obese and underweight boys. Further the obese boys are better than underweight boys.

The idealweight girls are better than obese, overweight and underweight girls. Overweight girls are better when compared to obese and underweight girls. However, there is no significant variation in relative arm strength between obese girls and underweight girls.

Relative Leg Strength
Irrespective of body weight classification, boys have better relative leg strength than girls.

Relative leg strength is better for idealweight group as compared to obese, overweight and underweight. Underweight group is better than obese and overweight and overweight group is better than obese group.

Recommendations

1. Studies may be conducted by giving specific training for obese, overweight, idealweight and underweight male and female and its effect may be explored.

2. Studies may be conducted to identify the causes for obesity, overweight and idealweight among school boys and girls in Indian condition.

3. Vitamins and other supplements may be given for underweight male and female and its effect may be assessed.

4. Fitness programmes may be prepared to reduce obesity and overweight.

5. Variation in psychological and sociological factors and existing complexity among obese, overweight and underweight male and female may be assessed.