Chapter V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

It is almost a burning issue today to discuss the current upsurge of interest in physical health and well-being through physical fitness. Physical fitness is an efficient and effective functioning of life. To feel fit is to feel alive, active and confident. Vigorous health and its accompanying high spirits are larger elements of happiness than any other thing whatever.

Poor aerobic fitness, obesity, and lack of development of certain types of muscular strength and flexibility are related to certain diseases. Health-related physical fitness is defined by these components.¹

Now-a-days there is a general awakening in people in searching for more and more ways by which they can attain a particular level of fitness in combination with enjoyment. With interest in physical fitness booming in the past twenty years,

¹ Baumgartner and Jackson, Measurement for Evaluation in Physical Education and Exercise Science, P. 11.
dozens of exercise programmes have come and gone. But programmes like aerobic dancing and other rhythmic exercises to the accompaniment of music, have occupied a prominent role in Physical Education. In view of these instances and keeping in mind the unique and vigorous gestural movements of Indian Classical Dances, the study was undertaken to compare selected health-related physical fitness components of Indian Classical Dancers and Physical Educators in relation to those of Sedentary women who served as control.

Two hundred and forty female subjects were randomly selected for the study ranging between the age of nineteen to twenty five years. Sixty subjects represented each of the four zones (viz., East Zone, West Zone, South Zone and North Zone) of India belonging to concerned groups of Physical educators, Classical dancers and Sedentary women.

A static group comparison design was employed in the study and the chosen Health-related physical fitness components were: Cardio-respiratory endurance; Abdominal strength-endurance; Flexibility of Hip & Back, Trunk & neck, Shoulder & wrist and Ankle (Plantar); as well as Body composition.

Cardio-Respiratory Endurance was measured by Cardio-pulmonary Index (Adynamic) which includes seven parameters viz., Vital capacity, Maximum Breath Holding,
Maximum Expiratory Pressure, Age, Systolic Blood Pressure, Diastolic Blood Pressure and Pulse Rate. Abdominal Strength-Endurance was measured by the 'Bent-Knee Sit-up' test. For measuring the Flexibility of Hip & Back the 'Sit and Reach' test; for Trunk & Neck, the 'Trunk and Neck Extension' test; for Shoulder&Wrist, the 'Shoulder and Wrist Elevation' test; for Ankle the 'Plantar Flexion' test were adopted. Body Composition was estimated from Fat Weight and Lean Body Weight.

Standard procedures were employed to test and measure all the components of the study. The collected data were analysed by Two-way Analysis of variance to observe the significant differences and if so, Least Significant Difference (L.S.D.) post-hoc test was adopted. Level of significance was set at 0.05.

The results of the study evolve that (i) Physical educators showed significantly higher performance regarding Cardio-respiratory endurance, Abdominal strength-endurance and Lean Body Weight than those of Classical Dancers. (ii) Classical Dancers showed significantly superior result regarding the Flexibility of the Shoulder and Wrist and the Ankle (Plantar). (iii) Both the Groups (Dancers and Physical Educators) showed insignificant differences regarding the Flexibility of Hip and Back, Trunk and Neck as well as Weight of Body Fat.
Whenever significant F-values were obtained, the subjects were compared between the Zones. As a result it was found that - (i) Subjects from the South Zone were proved significantly superior to other three Zones in Abdominal Strength-endurance and significantly greater than East Zone in Lean Body Weight. (ii) Subjects from the East Zone showed significantly greater Abdominal Strength-endurance than West Zone. (iii) Subjects from the West Zone had significantly less weight of body fat than that of the East Zone. (iv) The subjects who represented the North Zone, showed significant supremacy in Abdominal Strength-endurance to that of West Zone and significantly lower fat weight than that of the East Zone.

Whenever significant F-values were obtained for Interactions, the results of the study proved that - (i) In the South Zone, the Physical Educators' group showed significantly greater Cardio-respiratory efficiency and Abdominal strength-endurance than the group of Dancers. On the other hand, Dancers' group showed greater Hip and Back flexibility than that of the Physical Educators. (ii) In the East Zone; Significantly more Cardio-respiratory endurance, Abdominal strength endurance and Hip and Back Flexibility were shown by the Physical Educators' group than that of the Dancers. (iii) In the West Zone the Physical Educators' group showed significantly greater Cardio-respiratory endurance, Abdominal Strength-endurance and Hip and Back Flexibility than the Dancers' group.
(iv) In the North Zone, the Physical Educators' group showed supremacy to the Dancers' group regarding the Abdominal Strength-Endurance and Flexibility of the Hip and Back.

While the subjects of three different categories separately interacted among zones, the following results were obtained:

(i) Physical Educators' group of the South Zone was significantly superior to that of the East Zone and North Zone in Cardio-respiratory Endurance; Superior to all other three zones in Abdominal Strength-Endurance.

(ii) Physical Educators' Group of the East Zone showed significantly higher Flexibility of the Hip and Back than that of the South Zone.

(iii) The Classical Dancers' group of the South Zone was significantly superior than that of the West Zone in Cardio-respiratory Endurance, Abdominal Strength-Endurance and Flexibility of the Hip and Back.

(iv) The Dancers' group of the East Zone were significantly better than West Zone in Cardio-respiratory Endurance and Abdominal Strength-Endurance.

(v) The Dancers' group of the North Zone was significantly better than that of the East and West Zones in Cardio-Respiratory Endurance and Flexibility of Hip and Back; superior to the West Zone in Abdominal Strength-Endurance.
The Dancers' group of the West Zone demonstrated significantly inferior result in the variables of Abdominal Strength-Endurance and Hip and Back Flexibility to the East, South and North Zones. In Cardio-respiratory Endurance the West Zone was significantly inferior to the South and North Zones but insignificantly differed with East Zone.

Regarding the Cardio-respiratory Endurance and Flexibility of Hip and Back, the Sedentary Subjects of different zones had no significant difference, while in Abdominal Strength-Endurance, the group from the South Zone showed significantly better performance than the East, West and North Zones.

Conclusion

Within the limitations of the present study, it seems reasonable to conclude that -

(1) Both, Dancing and professional Physical Education programmes are equally effective in inducing optimum Physiological adaptations in various health-related physical fitness components such as Cardio-respiratory Endurance; Abdominal Strength-Endurance; Flexibility of Hip and Back, Trunk and Neck, Shoulder and Wrist, Ankle (Plantar) as well as Body Composition.
However, Indian Classical Dancing is superior to Physical Education activities in bringing about a significant development of the flexibility of Shoulder & Wrist and Ankle.

Physical Education activities produce better results than classical dancing in developing the selected components namely, Cardio-respiratory endurance, Abdominal Strength Endurance and Lean Body Weight.

Both the activities (Dancing and Physical Education programmes) are equally effective on the Flexibility of Hip & Back, Trunk & Neck and Weight of the body fat.

Significant differences exist in the Cardio-respiratory efficiency, Abdominal Strength Endurance and Flexibility of the Hip & Back of the Dancers among different Zones of India.

Significant differences exist in the Cardio-respiratory efficiency, Abdominal Strength Endurance and Flexibility of the Hip & Back of Physical Educators among different Zones of India.

Significant differences exist in the component of Abdominal Strength-Endurance of the Sedentary subjects among different Zones of India.

Significant differences exist in the Cardio-respiratory efficiency, Abdominal Strength-Endurance and Flexibility
of the Hip & Back of the Dancers, Physical Educators and Sedentary subjects belonging to the East Zone.

(9) Significant differences exist in the Cardio-respiratory efficiency, Abdominal Strength-Endurance and Flexibility of the Hip & Back of the Dancers, Physical Educators and Sedentary Subjects belonging to the West Zone.

(10) Significant differences exist in the Cardio-respiratory efficiency, Abdominal Strength-Endurance and Flexibility of the Hip & Back of the Dancers, Physical Educators and Sedentary Subjects belonging to the South Zone.

(11) Significant differences exist in the Cardio-respiratory efficiency, Abdominal Strength-Endurance and Flexibility of the Hip & Back of the Dancers, Physical Educators and Sedentary Subjects belonging to the North Zone.

**Recommendations**

In the light of the conclusion drawn, the following recommendations may be made:

(1) On the basis of pedagogic principles, the curriculum of Physical Education should include Indian Classical Dancing, if possible, as it develops the components of Health-related Physical fitness as selected for this study.

(2) For developing the components like flexibility of shoulder, wrist and ankle (plantar) instead of
traditional exercises for those joints, concerned gestural movements of classical dancing should be adopted by the Physical Educators.

(3) As Physical Education is meant for participation of the mass of different age groups, classical dancing may be included for certain students who might prefer to join dancing to that of the various vigorous physical activities or sports.

(4) Indian Classical Dancing may be recommended in the form of sports or dance therapy for persons having cardio-vascular problems or problems concerning joints.

(5) An attempt can be made to prepare a model exercise programme amalgamating the components of rhythms, steps and gestures of classical dances for the benefit of Physical Education professionals.

(6) Experimental studies regarding training effects of Indian Classical Dancing on various physical fitness components may be conducted.

(7) The present study may be undertaken with the subjects of age and sex other than those employed in this study.

(8) A similar study may be conducted to compare the Health-related Physical Fitness Components of Classical Dancers of India and other countries.