Chapter V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

We never appreciate health so much as when we lose it. Although it is very difficult job to change the health habits of the people, educational institutions should educate young people about their health and fitness. This is not only essential from the individual’s point of view but also in view of this country’s national posture.¹

Technological advancement and sophistication have completely changed our social sense and family life from what it used to be a hundred years ago.

Manual labour has been replaced by machine labour at home and in the job situations. Recreation through folk dances, song and festivals has been replaced by monotonous T.V. shows and cinema. Food habits have changed to match new life-style and consequently agricultural practices have changed too to meet the need. All these changes including overcrowding in social scene have led to new situations responsible for accidents, occupational hazards, sexually transmitted

diseases, stress disorders like blood pressure, heart problems, and mental imbalances involving delinquent behavior such as misuse of drugs, alcohol and tobacco, crime and suicides, etc.

The physical activities affect the mind as well as mental behaviour and vice-versa. This inter-relationship between mind and body is known as psycho-physical unity or unity of man. It has been substrated on the bases of psycho-physical research that mind has no existence away from the body. On the other hand the physical parts of the body move and control on the behests of mind. Hence body, mind and soul are the important domains of personality.

Personality is a product of biological and cultural heritage. A child is born with some biological heritage, while the cultural environment moulds and shapes his personality. Personality is in fact a product of the interaction of a biological organism with the social environment, where along with physical, physiological, psychological, biological factors, stress and anxiety play very important role.

The stress, either quick or constant, can induce risky body-mind disorders. Immediate disorders such as dizzy spells, anxiety attacks, tension, sleeplessness, nervousness and muscle cramps can all result in
chronic health problems. They may also affect our immune, cardiovascular and nervous systems and lead individuals to habitual addictions, which are inter-linked with stress.

Thus in the universe man is facing, as never before, the crisis of existence and adjustment. To survive and overcome this present crisis, the need of the hour is to groom up a courageous, bold, physically, mentally, emotionally, socially and intellectually strong individual. Physical education is the agency which is fulfilling this social obligation very effectively by providing comprehensive and diverse physical education programme.²

Since many youths and adults do not able to understand and appreciate the importance of health and fitness, a tremendous responsibility rests on the shoulders of educators. Education for fitness is essential if a nation wants to keep her citizen physically, mentally, spiritually, emotionally and socially fit.³

One of the greatest deterrents to physical fitness is the general life style of our modern age.⁴

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³ Ibid., p. 242.
Though education is only mean to bring about positive changes in lifestyle, the education for fitness needs to start with young children to college students to make them aware of their bodies and values of physical fitness to their emotional and physical well-being. In addition, public communication through literature, television and radio should endeavor to educate adults, so that they may take positive steps in improving their physical fitness.\(^5\)

The development and maintenance of physical fitness can be brought out through a variety of exercise programme of which a person may adopt any one or more, depending upon the purpose, need, time and the facilities available.

The aerobic dance, hatha yoga, combination of hatha yoga and aerobic, calisthenics, circuit training etc. are some effective measures to develop physical and mental fitness.

In modern time the aerobic dance is becoming a popular and rewarding area of specialization for physical educators who wish to render a service by helping young persons to understand their bodies better and to express them through rhythmical activity. Aerobic exercise makes the muscle work hard enough to need lots of oxygen

\(^5\) Bucher, "Foundation of Physical Education," pp.265.
but not so hard as to exceed the ability of heart and blood to deliver it. It is the most efficient way to remove the marbling fat, which in turn is the most efficient way to change our metabolism so one won’t get fat any more.⁶

Further, only a yogi can control his mind, intellect and self, being absorbed in the spirit within him, as a lamp does not flicker in a place where no winds blow.

The yogi by the grace of the spirit within himself finds fulfillment, when the restlessness of the mind, intellect and self is stilled through the practice of yoga. Then he feels the eternal joy which is beyond the pale of senses. He, who has achieved it, shall not be moved by the greatest sorrow. So we can say the real meaning of yoga is deliverance from contact with pain and sorrow.⁷

Thereby a humble attempt was taken in this study to investigate the effect of hatha yoga, aerobic training and combination of hatha yoga and aerobic training on selected Physiological variables (Breathing frequency, Resting Heart rate, Systolic Blood pressure, Diastolic Blood pressure and Vital capacity), psychological variables

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(Stress, Anxiety and Personality) and Physical fitness of college level male students.

To facilitate the study, one hundred male college students out of three hundred from the A. K. P. C. Mahavidyalaya, Bengai, Hooghly, West-Bengal, were selected randomly and subdivided into four equal groups (N=25) on random selection basis.

Out of four, three groups were studied as experimental groups who were named as Group A, B, and C while the remaining one group was studied as control group and named as Group D.

Thereafter the experimental trainings i.e., aerobic training, hatha yoga training and combination of hatha yoga and aerobic training were assigned to the Group – A, B, C (experimental groups) respectively. The training was executed in the morning session on three alternative days (Monday, Wednesday and Friday) per week for ten weeks.

The resting breathing frequency, resting heart rate, resting blood pressure (systolic and diastolic) and vital capacity selected as physiological variables, the stress, anxiety, and personality as psychological variables and physical fitness were studied as criterion measures.
In order to find out the existence of significant differences among three experimental training groups namely aerobic training, hatha yoga training and combination of hatha yoga and aerobic training and one control group in physiological variables (resting breathing frequency, resting heart rate, resting blood pressure (systolic and diastolic) and vital capacity. Psychological variables (stress, anxiety, and personality) and physical fitness due to the effect of aerobic training, hatha yoga and combination of hatha yoga and aerobic training in pre, post and adjusted-post phases the analysis of co-variance statistics were applied. The level of significant was set at 0.05 level of confidence.

Conclusions

Within the limitations imposed by the experimental condition, the following conclusions were drawn.

1. In respect to the physiological variables (resting breathing frequency, resting heart rate, resting systolic blood pressure, resting diastolic blood pressure and vital capacity) undertaken in this study, it is observed that the effect of hatha yoga training is found to be more effective in decreasing breathing frequency and improving resting systolic and diastolic blood pressure
towards normal values in comparison to the effect of aerobic training and combination of hatha yoga and aerobic training on afore said variables under taken in this study.

However in respect of decreasing the resting heart rate and increasing the vital capacity, the aerobic training is found to be more effective in comparison to the effect of hatha yoga and combination of hatha yoga and aerobic training on resting heart rate and vital capacity under taken in this study.

2. In respect to stress and anxiety under psychological variables, under taken in this study the hatha yoga training is found to be more effective in minimizing stress and anxiety in comparison to the effect of aerobic training and combination of hatha yoga and aerobic training programme on stress and anxiety.

3. Further the hatha yoga training is also found to be more effective in changing the personality Factor-C from Affected by feeling towards Emotionally stable and Factor-Q$_3$ from Undisciplined self-conflict towards High self-concept control in comparison to the effect of aerobic training and combination of hatha yoga and
aerobic training on aforesaid personality factors under taken in this study.

However in respect to the changing of personality factors -A from Reserved towards Out-going, Factors-E from Humble towards Aggressive and Factor-O from Less Intelligent towards More Intelligent, the aerobic training programme is found to be more effective in comparison to the effect of hatha yoga and combination of hatha yoga and aerobic training under taken in this study.

On the other hand none of the training programme namely aerobic training, hatha yoga training and combination of hatha yoga and aerobic training undertaken in this study were found to be significantly effective in changing remaining personality factors namely factor-B (Less Intelligent v/s More Intelligent), factor-F (Desurgency v/s Surgency), factor-G (Weaker Superego strength v/s Stranger Superego strength), factor-H (Shy v/s Venturesome), factor-I (Tough-Minded v/s Tender-Minded), factor-L (Trusting v/s Suspicious) factor-M (Practical v/s Imaginative), factor-N (Forthright v/s Shrewd), factor-Q₁ (Conservative v/s Experimenting), factor-Q₂ (Group dependent
v/s Self-sufficient), and factor-$Q_4$ (Low ergic tension v/s High ergic tension), towards either higher or lower range of personality profile.

4. Further in respect to the development of physical fitness, the role of aerobic training programme was found to be more effective in comparison to the effect of hatha yoga and combination of hatha yoga and aerobic training programmes in improving the physical fitness ability undertaken in this study.

5. Further the role of combination of hatha yoga and aerobic training programme undertaken in this study were not found to be significantly effective in improving or controlling any of the Physiological variables (resting breathing frequency, resting heart rate, resting systolic blood pressure, resting diastolic blood pressure and vital capacity) and Psychological variables (stress, anxiety and personality) and in Physical fitness ability of college male students.
Recommendations

1. The effect of hatha yoga and aerobic training on selected physiological, psychological variables and physical fitness might be studied on full residential school and college students for longer duration than ten weeks.

2. Further the effect of hatha yoga and aerobic training programme might be studied on selected physiological, psychological variables and physical fitness of urban and rural school and college students.

3. The effect of various degrees of intensity, density, duration and frequency of load of hatha yoga and aerobic training and combination of hatha yoga and aerobic training might be studied on physiological and psychological characteristics of 9th and 10th grade school boys and girls students.

4. The effect of pranayama, kriyas and aerobic training programme might be studied on physiological and psychological characteristics of migrated and non-migrated tribal school and college level boys and girls students.
5. The relationship study between anxiety and physical fitness, stress and physical fitness, personality factors and physiological characteristic might be conducted.

6. Comparative study of anxiety, stress, personality and physical fitness might be conducted between tribal & non-tribal, urban & rural, and between migrated & non-migrated school and college level boys and girls students.