

Relationship of Health Related Physical Fitness, Skill Related Physical Fitness and Cognitive Variables with Academic Achievement of Adolescents

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I. INTRODUCTION

With the growth in civilization, the aspects of health, education and recreation were emphasized apart from food shelter and clothing, that were the basic necessities of life in the past.

The results of various studies are inconsistent and not convincing. Most of the studies suffer from poor research designs, and studies on adolescent subjects are very limited. Studies on Health Related Physical Fitness, Skill Related Physical Fitness and Cognitive Variables in relation to adolescent Academic Achievement are not many. Most of the studies reviewed have limited samples & sample size. Different methods and procedures are adopted. Definite conclusions are not drawn from studies particularly on adolescent subjects.

II. STATEMENT OF THE PROBLEM

The purpose of the present study is to find the relationship of selected Health Related Physical Fitness, Skill Related Physical Fitness and Cognitive Variables with Academic Achievement of Adolescent Boys.

III. OBJECTIVES OF THE STUDY

1. To study the relationship between selected health related physical fitness variables and academic achievement, and predict academic achievement through health related physical fitness variables
2. To study the relationship between selected skill related physical fitness variables and academic achievement, and predict academic achievement through skill related physical fitness variables.
3. To study the relationship between selected cognitive variables and academic achievement, and predict academic achievement through cognitive variables.
4. To find out the predictors of Academic Achievement for the total sample of subjects, from the selected Health Related Physical Fitness, Skill Related Physical Fitness and cognitive variables.
5. To find out the predictors of Academic Achievement for the sports participant group of subjects, from the selected Health Related Physical Fitness, Skill Related Physical Fitness and cognitive variables

6. To find out the predictors of Academic Achievement for the non sport participant group of subjects, from the selected Health Related Physical Fitness, Skill Related Physical Fitness and cognitive variables
7. To find out the difference between sports participant and non-sports participant groups of subjects in the selected health related physical fitness, skill related physical fitness, cognitive, and academic achievement variables.
8. To process data reduction for selected Health Related Physical Fitness, Skill Related Physical Fitness and cognitive variables.
9. To find out the inter relationship among selected health related physical fitness, skill related physical fitness and cognitive variables.

IV. LIMITATIONS

1. As the subjects for the present study were from ten different schools of Mysore city, and as it was a large sample of subjects, tests selected for measuring different variables could not be administrated under identical conditions.
2. Motivation levels of selected subjects while performing various tests selected, and their influence on data collected was a limitation.
3. Personal life style of subjects selected and their different training background, which would otherwise influence data collected, was yet another limitation of the study.
4. The nutritional status and health status of the subjects were not ascertained. Any influence of such factors on data collected could not be controlled
5. This is basically a cross sectional study and causal factors cannot be drawn from the results of the study.

V. DELIMITATIONS

1. The study was delimited to adolescents.
2. The study was delimited to adolescent boys.
3. The study was delimited to only ten high schools of Mysore city in the southern and northern zones of Mysore city.

A. Hypotheses

The following hypotheses have been formulated for achieving the purpose and objectives of the present study:

- Hypotheses 1
- There will be a significant relationship between selected Health Related Physical Fitness variables and Academic Achievement, and only a few Health Related Physical Fitness variables may emerge as dominant predictors of Academic Achievement.
- Hypotheses 2
- There will be a significant relationship between Skill Related Physical Fitness variables and Academic Achievement, and only a few selected Skill Related Physical Fitness variables may emerge as dominant predictors of Academic Achievement.
- Hypotheses 3
- There will be a significant relationship between selected cognitive variables and academic achievement, and only a few cognitive variables may emerge as dominant predictors of academic achievement.
- Hypotheses 4
- There will be dominance of specific set of variables in prediction of academic achievement (for the total sample).
- Hypotheses 5
- There will be a dominance of specific set of variables in prediction of academic achievement of sports participant group of subjects.
- Hypotheses 6
- There will be a dominance of specific set of variables in prediction of academic achievement of non sport participant group of subjects.
- Hypotheses 7

- Sport participant and non-sport participant groups of subjects differ significantly in their Health Related physical fitness, Skill related physical fitness, cognitive and academic achievement variables.
- Hypotheses 8
- Only a few of the Health Related physical fitness, Skill related physical fitness and cognitive variables may group together to reduce the selected variables to arrive at reduced components.
- Hypotheses 9
- There will be a significant relationship among Health Related physical fitness, Skill related physical fitness, cognitive variables

VI. METHODOLOGY

The purpose of the present study is to find the relationship of selected Health Related Physical Fitness, Skill Related Physical Fitness and Cognitive Variables with Academic Achievement of Adolescent Boys. The objectives of the present study have been listed in the first chapter of the thesis. To achieve the objectives and purpose of the study, there was a need for selection of, subjects, sample, sampling technique, variables, tests and measures for collection of relevant data. The study also required a definite design and appropriate statistical techniques for analyses of data to achieve the objectives and purpose of the present study, undertaken by the research scholar. In the present chapter, research scholar has described the procedure followed and methods that were adopted.

VII. SUBJECTS

The subjects for the present study were drawn from ten different private schools of Mysore city. The adolescent boys studying in these city schools in standards VIII through X, ranging in age between 13 to 16 years were considered for the present study. The students who volunteered to serve as subjects for the present study were only considered. These subjects were drawn from the city private high schools that are known for the academic and sports performance. The subjects considered for the study were studying in grades VIII through X during the academic year, 2014-15.

VIII. SAMPLE

The sample for the present study consisted of one thousand three hundred thirty three (N=1333) adolescent boys from ten different private high schools spread over two zones of Mysore city. The sample consisted of sports participant (N=703) and Non sports participant (N=630) subjects. The sports participant group comprised of subjects who represented their respective schools in various inter scholastic sports and games competitions organized by Department of public instruction during the year, 2014-15. The Non sports participant group consisted of students who did not represent their school in inter scholastic sports or games competitions.

IX. SAMPLING TECHNIQUE

Purposive-cum-Stratified sampling technique was employed for the present study.

X. SELECTION OF VARIABLES

The research scholar has gone through literature pertaining to the present study and has had discussions with experts in physical education and research. After a thorough review of literature, the research scholar decided to select the variables for the study undertaken. The variables selected were Health Related Physical Fitness, Skill Related Physical Fitness and Cognitive Variables and Academic Achievement, details of which are presented in the following pages. While selecting the variables due emphasis was laid on the selection of suitable tests/ tools to measure these variables. Due consideration was also given to administrative feasibility of tests for measuring selected variables and collection of relevant data. The details of tests and measures selected are presented in tabular form in following pages.

XI. CONCLUSION

- 1) Academic achievement is dominantly predicted by cognitive variables, followed by skill related physical fitness and health related physical fitness variables.
- 2) All the selected independent variables are positively related to academic achievement.
- 3) Sport participant group of subjects as compared to non-sport participant group of subjects have better performance scores in academic achievement and other variables selected, except in cognitive variables.
- 4) The sport participant subjects may have an edge over the non-sport participant subjects in academic achievement.
- 5) Hence, Physical activity and sports may play a vital role in academic performance and hence should be given importance.
- 6) School physical education should focus on developing physical fitness of children for healthful benefits leading to cognitive development which may mediate academic achievement.
- 7) schools can be encouraged to maximize time children spend in physical activity and sport; and reassured that replacing academic time with physical activity and sport will not have a detrimental effect on children's academic success and may actually support and optimize learning
- 8) As this is a cross sectional study with quasi experimental research design, the causal factors cannot be inferred.

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