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Factors affecting the academic achievement: A study of elementary school students of District Nainital, Uttarakhand, India

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Abstract
The basic aim of the study was to investigate and analyze the relationship of General Mental Ability, Interest and home environment with Academic Achievement.
Methods: The participants were 110 students drawn from three Government Inter College of District Nainital of Uttarakhand. Their ages ranged between 13 and 15 with a mean age of 14 years. Two validated instruments were used to elicit responses from the participants-General mental ability test prepared by R. K Tandon (1972), Multiphasic Interest Inventory of S. K. Bawa (1998) and Home Environment Inventory of K S Mishra (1989) were administered on the selected sample. Whereas their annual examination marks of class VIII were considered as academic achievement.
Findings: Four major hypotheses were formulated and tested at 0.01 level of significance. Pearson-Moment Correlation Co-efficient and t-test were used to analyze the data. The study reveals that General Mental Ability, home environment Interest and academic achievement are significantly and positively correlated. Whereas the high score of girls indicates that they are superior to boys.

Keywords: general mental ability, gender, home environment, interest and academic achievements

Introduction
Academic achievement of students especially at the elementary school level is not only limited to the effectiveness or otherwise of schools but determines the future of youths as well as the nation in general. Learning outcomes have become a major phenomenon of interest to all and for this reason why scholars have been working hard to untangle hurdles that militate against good academic performance (Aremu & Sokan, 2002). This phenomenon has been variedly referred in literature as academic achievement, or scholastic functioning. Academic achievement of learners has attracted attention of scholars, parents, policymakers and planners. Adeyemo (2001) opined that the goal of the school is to work towards attainment of academic excellence by students. According to him, the school may have other peripheral objectives but emphasis is always placed on the achievement of sound scholarship. Besides, virtually everybody concerned with education places premium on academic achievement; excellent academic achievement of children is often the expectation of parents (Osiki, 2001) [22].
Gender is one of the personal variables that have been related to the differences found in motivational functioning and academic achievement. Different researches have demonstrated the existence of different attribution patterns in boys and girls, such that while girls tend to give more emphasis to effort when explaining their performance (Lightbody, Siann, Stocks, & Walsh, 1996; Georgiou, 1999; Powers & Wagner, 1984) [20], boys appeal more to reasoning ability as cause of their academic achievement (Burgner & Hewstone, 1993) [7]. Many researches have also pointed out that girls usually make external attributions for successes and failures, and that when they make internal attributions, these refer not so much to effort, but to ability (Wiegers & Friere, 1977; Postigo, Perez & Sanz, 1999). However, boys usually attribute successes to stable internal causes like effort, thus showing an attributional pattern which enables them to enhance their own image of themselves (Smith, Sinclair & Chapman, 2002) [27, 28]. Researches on gender differences in cognitive processes, intellectual abilities, area of interest, stereotypical perceptions of every-day behaviours and the ability to perform various tasks has been a neglected area.
Two theories explaining personality differences between men and women have been proposed. The first suggests that the male is the prototypical human, and females should be understood in relation to men. The second discourses that men represent the cognitive domain, which is positively valued in Euro-American culture, and women represent the less-valued affective realm (Klein, 2004) [15]. The differences in the scholastic achievements of boys and girls are generally attributed to biological causes and/or to cultural and stereotypes (Klein, 2004) [15]. The last two decades have been devoted to addressing gender inequality in education (Nayar U 1996). Some studies have revealed – low participation of women in education. Educators have therefore expended tremendous efforts in the study of the personal factors affecting academic achievement. A rich explanation of causes, understanding of educational cost to the society and possible intervention has brought about several researches, workshops, seminars and training in this area. The influence of home environment on students' academic achievement is still important, but less strong in much of the literature.
There is an awareness of the importance of the home

environment or family structure on student's academic achievement. The home has a positive influence on the students' psychological, emotional, social and economic state. In the view of Ajila & Olutola (2000) [3], the environment of the home affects the individual since the parents are the first teacher in an individual's life. This is because the home environment and condition of a child affect his whole life situations and his level of achievement. Although, the school provides various experiences that cope up the individual's life during school tenure, yet parents and the individual's experiences at home play tremendous and rigorous roles in constructing the personality of the child and making the child's present as well as future also. Thus, Ichado (1998) concluded that the environment in which the student comes from can greatly influence his performance in school. The home condition definately affects individual as the parents are the first teacher in an individual's life. This is because the family condition and context of a child affect his response to life situations and his level of academic achievement. Since no nation can rise if the level of education of their citizens is low. Interest is defined by Typhoon International Corp. (2004: 662) [31] as the ―attention with a sense of concern; lively sympathy or curiosity; and the power to excite or hold such attention (in something). "Interest plays an important role in the field of psychology as a number of researches have showed that it is related to personality, motivation, cognition, development, emotion, vocations, aesthetics, behavior, hobbies, reasoning, and information processing (Silvia, 2006) [26]. A few studies have found interest to be a significant factor that make any influence on reading and writing.

Though there is evidence that negative interest has destructive effect as it decreases learning; interest promotes comprehension and memory for several reasons: interest increases attention to a text; interest makes people process a text more deeply; and interest promotes good metacognitive strategies" (Silvia, 2006) [26]. "Interest in learning, could most probably be a very powerful affective psychological trait and a very strong knowledge emotion as well as an overwhelming magnetic positive feeling, a sense of being captivated, enthralled, invigorated and energized to cognitively process information much faster and more accurately in addition to most effective application of psychomotor traits like self-regulatory skills, self-discipline, working harder and smarter with optimum persistence" (Kpolovie, 2010a) [18]. He recommended the need of conducting more researches for ascertaining the actual role that interest in learning plays in students' academic attainment at all levels of the educational system. The nature and strength of one's interest in learning and in schooling may represent an important aspect of personality (Anastasi & Urbina 2007). The characteristic, interest, may substantially influence educational achievement, interpersonal relationship, the enjoyment one attains from leisure activities, and other major phases of daily life. Values are clearly related to life preferences and are often discussed in relation with interests and preference. From the view point of the student and what he intends to achieve educationally, a consideration of his interest might be of practical utilization. With interest a student devote more time for his studies. Increasing knowledge leads to increasing interest as new information increases the likelihood of conflict (i.e., conflict of coming across a information or idea that does not match into what the individual has already learnt) (Silvia, 2006; Paul, 2014) [26, 23].

The more a person learns about a concept, the more interesting the concept becomes to him. This is basically based on the phenomenon of more learning leading to more queries, which in turn increases learning. Thus this study is set to investigate Intelligence, Interest, Gender and Home environment as correlates of students' Academic achievement. Home environment is strongly related with many measures of childhood cognitive and academic achievement, including IQ (Liaw and Brooks-Gunn, 1994; Smith, Brooks-Gunn, and Klebanov, 1997), achievement test scores (Brooks-Gunn, Guo, and Furstenberg, 1993), grade retentions and functional literacy (Baydar, Brooks-Gunn, and Furstenberg, 1993). These effects are typically quite fundamental: in one study, SES was found for approximately 20% of the differtiation in childhood IQ (Gottfried, Gottfried, Bathurst, Guerin, and Parramore, 2003.

Significance of the study

Educators have expended remarkable emphasis on studying the personal factors on academic achievement of students. Sex related issues are greatly responsible to the creation of gender crisis by giving unequal opportunities for males and females. Similarly, impact of differences in gender and home environment on academic achievement will offer educators of young adolescents thought-provoking information and directs implications and guidance to be taken; it make parents aware about parenting skills and their duties towards their children academics; parents will gradually encourage and support their children achievement through purchase of learning materials and using of various on learning material and that learning is factual for both the genders.

Research Questions

The following four research questions guided the study.

1. Is there any difference in academic achievements of boys and girls?
2. What is the relationship between General Mental Ability and their academic achievement of students?
3. What is the relationship between interest in learning and students' academic achievement?
4. What is the relationship between the home environment and the academic achievement of students?

Research Hypotheses

Ho1: There is no significant difference between Academic Achievement of boys and girls.

Ho2: There is no significant relationship between General Mental Ability and Academic Achievement of Students.

Ho3: There is no significant relationship between Interest and Academic achievement of Students.

Ho4: There is no significant relationship between Home environment and Academic achievement of Students.

Methodology

The study used descriptive research design.

Sample

110 students from both the sexes (Boys=55 and Girl=55)

studying in class VIII in Government Inyer College of District Nainital of Uttarakhand were selected randomly for the study. General mental ability test constructed by R.K. Tondon (1972), Multiphasic Interest Inventory of S. K. Bawa (1998) and Home Environment Inventory of K S Mishra (1989) respectively were administered on the selected sample of students, whereas their final examination Scores of class VIII were considered as academic achievement.

Table 1: Significance of 't' of boys and girls in respect to academic achievement score.

Variables	N	Mean	SD	Df	t value	Significant
Academic Achievement Score of Girls Students	55	480.07	20.39	108	3.99	**
Academic Achievement Score of Boys Students	55	469.89	22.97			

**.Significant at the 0.01 level
*.Significant at the 0.05 level

Table 1 reveals that the mean score of the of academic achievement boys is lower than the girls. It means that girls are superior than boys in academic achievement. It may also be seen that the value of 't' is significant at p <.01 level. This indicates that the academic achievement score of girls and boys differ significantly. Thus, the Null Hypothesis that there is no significant difference in the academic achievement of boys and girls is rejected. Looking at the mean score, it can be concluded that girls are bright in their academics.

Table 2: Correlation Matrix of the variables- General Mental Ability, Home Environment, Interest and Academic Achievement of students (N =110)

S. No.	Variables	1	2	3	4
1.	General mental ability	1			
2.	Home Environment	.80**	1		
3.	Interest	.79**	.65**	1	
4.	Academic Achievement	.82**	.70**	.68**	

Note: ** P.01, *P.05

Analysis of the results

It can be observed from Table 2 that general mental ability is significantly and positively correlated with the academic achievement score of the students r = .82. Hence, it can be concluded that IQ and academic achievement increases or decreases in specific ratio. Thus, the above stated hypothesis that there is no significant relationship between General Mental Ability and Academic Achievement of Students is rejected. Results are in accordance with the findings of Tharyani, D.K. (1986) [29], (Tyagi H. 2001) who revealed that positive correlation between general mental ability and academic achievement.

Table 2 also reveals that home environment is positively correlated with academic achievement of students (r =.70). And the hypothesis that there is no significant relationship between Home environment and Academic achievement of Students is rejected.

This result reveals that the home environment has a great influence on the academic achievement of students. It is mainly found that the unhealthy home environment decreases the possibility of academic achievement of students. As found in the present analysis that Home Environment of students is positively correlated with the Academic Achievement of students.

These results are in accordance to the findings of Sinha (1991) and Muola (2010) who revealed that academic achievement of the students depend on conducive home environment. Findings of the present study are also in accordance to Rubinstein (1996) [25] who revealed a relationship between Home Environment and academic achievement of the students. Bacete *et al*. (2001) also found that the increased participation of parents in school activities result increased academic achievement of the students. The findings of the present study also support the findings of Murphy, S (2009) and Tyagi H (2001) who found that encourangement of parents has positive and significant relationship with academic achievement of students.

It can be seen from table 2 that Interest of students is significantly related to academic achievement of students (r =.68). Therefore the null hypothesis that there no significant relationship between Interest and Academic achievement of Students is rejected. Hence it can be concluded that high score in academic achievement is due to high level of interest of students towards their academics. The present findings are associated with the works of Harackiewicz, Durik, Barron, Linnenbrink-Garcia and Tauer (2008) due to high level of interest on academics; Loewensein (1994) on interest and curiosity in learning; Alamieyeseigha and Kpolovie (2013) [4], U.S. Department of Education (2010a; 2010b) as well as Hayden, Ouyang, Scinski, and Bielelfeldt (2011) on interest and better preparation of the U.S. workforce to acquire extra skills in science, technology, engineering and mathematics. Emerick (2007) had also found that empirical support is related to the individual's perception of his inadequacy in school learning and academic achievement which leads to the development of related interests, attitudes, and academic self-concept. The results of Krapp, Schiefele and Winteler (2009) and Krapp (1999) [19] on the group of factors that affect academic achievement and is largely influenced by interest are associated with the findings of the present study.

Conclusion

Based on the findings and discussion of the present study, it can be concluded that this study has significantly revealed dependence on data-based evidence that the interest of student in learning and home environment of the student, predict academic achievement in the elementary level. The findings of the study, high academic achievement of elementary school students may be due to good and conducive Home environment and high Interest level of the students in the studies. Hence, there is an aspiration that with the improvement in the available facilities like free books, uniform, educational counselling and mid-day meal particularly to the girl students can bring qualitatively changes in their academic achievement.

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