

Academic Anxiety as a Correlate of Academic Achievement

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Abstract

This study was conducted to study the relationship and effects of academic anxiety on the academic achievements of students. A sample of 352 students of senior secondary school was taken through random sampling technique. A reliable and valid, Academic Anxiety Scale standardized by Dr. A.K. Singh and Dr. A Sen Gupta was used to collect the data. Mean SD, Correlation and t-test were used for the analysis of the data. Research findings revealed an inverse relationship (negative correlation) between the academic achievement and the academic anxiety of students. Significant differences were found between the academic achievement of high and low academic anxiety groups of students, between high and low academic anxiety groups of males, between high and low academic anxiety groups of females, between high academic anxiety groups of male and female students, and also between low academic anxiety groups of male and female students.

Keywords: Anxiety, academic anxiety, academic achievement, and refined personality.

Introduction

Education provides us the opportunity for holistic growth and development. It is an activity as well as a process which modifies the behaviour of a person from instinctive behaviour to human behaviour. It transform our raw personality into refined personality. We start acting rationally instead of impulsively. It develops our thinking and reasoning power. It is responsible for the supply of good citizens who can contribute to the growth of the country. In all the stages of education right from nursery to university education, the senior secondary stage, is the most important stage, because, this stage provides the base for further education. In fact future depends on this stage. As progress of a nation depends upon its students' academic achievements. Therefore, every nation emphasizes academic achievements.

Academic Anxiety

First let us see what is anxiety? anxiety means apprehension, tension, or uneasiness characterized by fear, dread, or uncertainty about something the source of which is largely unknown or unrecognized by the individual; It may consist in persistent apprehensions of future events as well as in generalized emotional reactions to any choice point or decision (Good, 1973). Breuer (1999) mentioned that all anxiety disorders are defined by the dual characteristics of excessive emotional fear and physiologic hyper arousals. Anxiety is one of the most widely experienced emotion and one of the most essential constructs of all human behaviour. It is a displeasing feeling of uneasiness, nervousness, apprehension, fear, concern or worry (Barlow, 2002). In today's cut throat competitive environment, anxiety is a common phenomenon of everyday life. It plays a crucial role in human life, because most of the individuals are the victims of anxiety in different ways (Lenka & Kant, 2012). In the present study academic anxiety is a kind of anxiety which is related to the impending danger from the environment of the academic institutions including teacher in certain subjects like Mathematics, English, etc. It is a mental feeling of uneasiness or distress in reaction to a school situation that is perceived negatively. Researchers generally agree that academic anxiety is not always bad. An average level of anxiety is useful in keeping people motivated and responsible and also helpful for people in having a more sustainable and prosperous life (Kahan, 2008 in DordiNejad, Hakimi, Ashouri, Dehghani, Zeinali, Daghighi, & Bahrami, 2011; Donnelly, 2009).

Without any anxiety most of the people would lack the motivation to do anything in life. Therefore, moderate level of academic anxiety is essential to motivate students to study for examination and may inclined them for better achievements. It has been observed that a high level of anxiety interferes with concentration power and also affects memory. In this way high academic anxiety may be one of the obstacles to academic achievement. Academic anxiety cannot be ignored at any cost, if we are concerned about students' performance. If it is not properly addressed it can have serious and long lasting consequences such as causing a student to procrastinate, perform poorly in school work, and withdraw from socializing with peers or from other situations (Mattoo, & Nabi, 2012).

Academic achievement

Academic achievement means achievement level of the students. It can be defined as what a student does or achieve at his school. It is a common practice to promote students from a lower class to a higher class on the basis of his academic achievement. It helps in declaring students successful or unsuccessful, choosing students for various courses and selecting students for different jobs. It is the level of learning in a particular area of

subject in terms of knowledge, understanding, skill and application usually evaluated by teachers in the form of test scores in their annual examination. Crow & Crow (1969), defined it as the “extent to which a learner is profiting from instructions in a given area of learning i.e., achievement is reflected by the extent to which skill or knowledge has been imparted to him”. C.V. Good (1973b), defined it as, “knowledge attained or skills developed in the school subjects, usually designated by test scores or by marks assigned by teachers, or by both.” In fact it has become an index of future in today’s highly competitive environment.

Academic achievement of students is affected by many factors that may reduce it, academic anxiety is one of them. It is observed that the performance of the high academic anxiety learners is different from low academic anxiety learners. Gaudry & Spielberger (1971) discussed that high test anxiety is considered as one of the main factor for low performance of students at university level. Anson, A., Bernstein, J., & Hobfoll, S. E. (1984) found that anxiety was significantly and negatively correlated with grades obtained by the students. Sharma & Sud (1990) found that female students experience higher levels of test anxiety than do males. Mnicholas & Lewiensohn (1998) indicated that at age 6, females are already twice more likely to have experienced anxiety disorders than males. Bryme (2000) suggested that males present significant decrease of anxiety and fear in 12th grades instead of girls who show increase in anxiety. Hancock (2001) revealed that students with high anxiety level, performed poorly and were less motivated to learn. Pomerantz, Altermatt, & Saxon (2002) investigated gender differences in academic performance and internal distress. Girls out performed boys in all subjects but were more prone to internal distress than boys. Bhansali & Trivedi (2008) found girls on the whole had more incidences and intensity of academic anxiety in comparison to boys. Singh & Thukral (2009) reported an inverse relationship between academic achievement and academic anxiety. Singh (2009) found a significant negative correlation between academic achievement and academic anxiety. Rezazadeh & Tavakoli (2009) found a statistically significant negative correlation between test anxiety and academic achievement and also revealed that female students have a higher level of test anxiety in contrast to male students. Vitasari, Wahab, Othman, Herawan, & Sinnadurai (2010) found a significant correlation of high level anxiety and low academic performance. DordiNejad, et al. (2011) have revealed that test anxiety has negative effect on students’ academic performance. Jain (2012) had reported that academic anxiety was negligibly negatively correlated with academic achievement and there was no significant difference between the academic anxiety of boys and girls. Nadeem, Ali, Maqbool, & Zaidi (2012) have revealed that there was negative relationship between anxiety and academic achievement. Udeani (2012) found significant negative correlations between debilitating anxiety, and science achievement. Ali, Awan, Batool, & Muhammad (2013) concluded that there was negative correlation of test anxiety with students’ achievement in the subject of English and female students had higher test anxiety than male students. Ali & Mohsin (2013) concluded that test anxiety was significantly negative with total achievement scores of all the four science subjects i.e., physics, chemistry, biology and mathematics. High test anxiety caused lower achievement scores. Sridevi (2013) reported a negative low correlation between general anxiety and academic achievement and an inverse relationship between general anxiety and academic achievement.

Several researchers have found that school students with higher level of anxiety have lower academic performance (Rana & Mahmood, 2010; Hamzah, 2007; Luigi, et al., 2007; McCraty, 2007; Sena, et al., (2007). (Ali, Awan, Batool, & Muhammad, 2013; Peleg, 2009; Jing, 2007; Cassidy Johnson, 2002; Hancock, 2001; Gaudry, & Spielberger, 1971) have also reported a negative correlation between academic anxiety and academic performance. However, Cheraghian (2008) found no meaningful relationship between academic anxiety and academic performance.

Although the literacy rate is better among males than females; it is quite interesting to observe that female students are securing better marks and ranks than males in almost all the academic examinations. This cannot be attributed to a single factor, but it is the outcome of a number of factors such as intelligence, study habits, creativity, aptitude, interests, socio economic factors, etc. Along with these, gender of the students also plays an influencing factor on academic achievement (Karthigeyan, & Nirmala, 2012). A close perusal of studies related on the effects of anxiety on the academic achievement of students revealed that academic anxiety hampers the academic achievements of students negatively. There are numerous studies comparing the anxiety of male and female students (Ali, Awan, Batool, & Muhammad, 2013; Basco & Olea, 2013; Devine, Fawcett, Szucs, & Dowker, 2012; Jain, 2012; Karthigeyan, & Nirmala, 2012; Ergene, 2011; Yousefi, Talib, Mansor, Juhari, & Redzuan, 2010; Rezazadeh & Tavakoli, 2009; Singh, 2009; Bhansali & Trivedi, 2008; Pomerantz, Altermatt, & Saxon, 2002; Mnicholas & Lewiensohn, 1998; Sharma & Sud, 1990; Bryme, 2000) and also comparing the academic achievement of male and female students (Ahmad, Hussain, & Azeem, 2012; Farooqi, Ghani, & Spielberger, 2012; Jain, 2012; Karthigeyan, & Nirmala, 2012; Dharamvir, Tali, & Goel, 2011; Yousefi, Talib, Mansor, Juhari, & Redzuan, 2010; Begum & Phukan, 2001; Yun, 2001; Kaur & Gill, 1993; Agarwal, 1983) and Ching (2011) cited in Karthigeyan, & Nirmala (2012). But, despite best efforts investigators could not find even a single study comparing the academic achievement of male and female academic anxiety groups of students. It shows there is a research gap, this motivated the investigators to conduct the present research study and this

study is a humble attempt to fill in this research gap.

For the present study the term achievement means the performance of the learner after a course of instructions, and it was measured in terms of the marks obtained in examination.

Variables in the present study

1. Dependent variable: Academic achievement
2. Independent variables: (a) Academic anxiety, and (b) Gender (Male and Female)

Objectives: The present research study intended to meet the following objectives:

1. To study the relationship between the academic achievement and the academic anxiety of senior secondary school students.
2. To compare the academic achievement of high and low academic anxiety groups of students.
3. To compare the academic achievement of high and low academic anxiety groups of male students.
4. To compare the academic achievement of high and low academic anxiety groups of female students.
5. To compare the academic achievement of high academic anxiety groups of male and female students.
6. To compare the academic achievement of low academic anxiety groups of male and female students.

Hypotheses: The following hypotheses were formulated in null form in tune with the objectives of the present study:

Ho1. There is no significant relationship between the academic achievement and academic anxiety of senior secondary school students.

Ho2. There is no significant difference in the academic achievement of high and low academic anxiety groups of students.

Ho3. There is no significant difference in the academic achievement of high and low academic anxiety groups of male students.

Ho4. There is no significant difference in the academic achievement of high and low academic anxiety groups of female students.

Ho5. There is no significant difference in the academic achievement of high academic anxiety groups of male and female students.

Ho6. There is no significant difference in the academic achievement of low academic anxiety groups of male and female students.

Methods and Materials

Design: This study falls under the category of descriptive research. A questionnaire was used to collect data. Thus, survey design was adopted to carry out the research work.

Population: In the present study the students studying in senior secondary schools of Aligarh District constitute the population.

Sample: In the present study, sample consisted of 352 senior secondary school students. The random sampling technique was used to select the sample of students from senior secondary schools in Aligarh District of Uttar Pradesh, India. These students are from various streams like science, social sciences, arts, and commerce.

Research Tools Used: For data collection, Academic Anxiety Scale for Children (AASC) by Dr. A.K. Singh and Dr. A Sen Gupta (2009) was used to measure the Academic Anxiety of Students. This tool comprising 20 items with yes or no responses. The AASC is reliable and valid. Each item is scored as either +1 or 0. The maximum possible score of the test is 20. Students scoring less than 10 were considered as students of low academic anxiety group and scoring higher than 10 were as students belonging to high academic anxiety group. Marks obtained by the senior secondary students in their previous class were taken as an index of their level of academic achievement. For demographic information, a Personal Data Sheet for Students (PDSS) was developed by the investigators. It comprised of information regarding a student's gender (male or female) and achievement scores (Achievement scores were verified by the office record of the Controller of Examinations of sampled schools).

Data Collection: The investigators visited the selected schools personally and administered the Academic Anxiety Scale for Children (AASC) on 400 senior secondary school students. Investigators also gave full freedom to the students to ask the meaning of difficult words/sentences. Respondents were given enough time. Filled scales were collected. Partially filled scales were discarded. Finally investigators could get data from 352 respondents.

Statistical Techniques Used: For the data analysis mean, standard deviation, correlation and t-test were used.

Analysis, Interpretation, and Discussion of Results

The analysis of data collected by the investigators was done in order to make inferences and generalizations about the population. Statistical Package for Social Science (SPSS) Version 16 was used for this purpose.

Hypothesis wise analysis is as follows:

In order to test the Ho1, Pearson product moment correlation was applied.

Table No. 1 Showing the relationship (correlation coefficient) of academic achievement and the academic anxiety:

Variables	N	df	r (Pearson Product)
Academic achievement	352	350	-.123*
Academic anxiety	352		

*Correlation is significant at .05 level

An inspection of Table 1 reveals that the Product moment correlation between the academic achievement and the academic anxiety is significant at .05 level. This means there is a significant relationship between the academic achievement and the academic anxiety. Therefore, Ho1 is rejected. Negative correlation indicates that as the level of academic anxiety increases, academic achievement decreases and vice-versa. This finding is consistent with the findings of previous researchers. For instance (Ali, & Mohsin, 2013; Vankar, 2013; Farooqi, Ghani, & Spielberger, 2012; Safree, Yasin, & Dzulkifli, 2011; Yousefi, Talib, Mansor, Juhari, & Redzuan, 2010; Singh, 2009; Kassim, Hanafi, & Hancock, 2008; Keoghi, Bond, French, Richards, & Davis, 2004; Culler & Charles, 1980) have reported significant negative relationships between test anxiety and academic performance. In order to test the Ho2, t-test was applied.

Table No. 2 Showing the comparison of the academic achievement of high and low academic anxiety groups of students:

Basis	N	Mean	SD	df	t-value
Academic achievement of high academic anxiety group	169	237.65	46.43	350	-2.747*
Academic achievement of low academic anxiety group	183	250.81	43.46		

*Significant at .05 level

A close examination of Table 2 shows that the 't' value -2.747 is statistically significant at .05 level. This means there is a significant difference in the academic achievement of high and low academic anxiety groups. Therefore, Ho2 is rejected. Higher mean score of academic achievement of low academic anxiety group than the academic achievement of high academic anxiety group indicate that the academic achievement of low academic anxiety group is better than the academic achievement of high academic anxiety group. This finding is in consonance with the findings of several researchers. For instance (Ali, Awan, Batool, & Muhammad, 2013; Ali, 2012; Nicholson, 2010; Peleg, 2009; Chapell, Blanding, Silverstein, Takahashi, Newman, Gubi, & McCann, 2005; Kaya, 2004, McDonald, 2001, Hong, 1999; Hembree, 1988) have also reported that highly academic anxious students had low academic achievement and low academic anxious students had higher achievement. But the present finding is inconsistent with the finding of Vogel, & Collins (2002 as cited in Farooqi, Ghani, & Spielberger, 2012, p.39) who concluded that the students with high test anxiety as well as those students with low test anxiety showed lower academic performance. Moreover, those students with moderate levels of test anxiety performed better.

In order to test the Ho3, t-test was applied.

Table No. 3 Showing the comparison of the academic achievement of high and low academic anxiety group of male students:

Basis	N	Mean	SD	df	t-value
Academic achievement of high academic anxiety group of males	68	227.75	47.55	173	-2.315*
Academic achievement of low academic anxiety group of males	107	244.52	44.98		

*Significant at .05 level

A close perusal of Table 3 shows that the 't' value -2.315 is statistically significant at .05 level. This means there is a significant difference in the academic achievement of high and low academic anxiety groups of males. Therefore, Ho3 is rejected. Higher mean score of academic achievement of low academic anxiety group of male than the academic achievement of high academic anxiety group of male students indicate that the academic achievement of low academic anxiety group of male students is better than the academic achievement of high academic anxiety group of male students.

In order to test the Ho4, t-test was applied.

Table No. 4 Showing the comparison of the academic achievement of high and low academic anxiety group of female students:

Basis	N	Mean	SD	df	t-value
Academic achievement of high academic anxiety group of females	101	245.84	43.50	275	-2.304*
Academic achievement of low academic anxiety group of females	176	260.47	39.48		

*Significant at .05 level

Table No. 4 shows that the 't' value -2.304 is statistically significant at .05 level. This means there is a significant difference in the academic achievement of high and low academic anxiety groups of female students.

Therefore, Ho4 is rejected. Higher mean score of academic achievement of low academic anxiety group of females than the academic achievement of high academic anxiety group of females indicate that the academic achievement of low academic anxiety group of females is better than the academic achievement of high academic anxiety group of females. This finding is corroborated by the findings of some previous studies like (Ali, 2012; Nicholson, 2010; Peleg, 2009; Chapell, Blanding, Silverstein, Takahashi, Newman, Gubi, and McCann, 2005; Kaya, 2004, Mcdonald, 2001, Hong, 1999) have reported that highly test anxious students had low academic achievement and low test anxious students had higher achievement

In order to test the Ho5, t-test was applied.

Table No. 5 Showing the comparison of the academic achievement of high academic anxiety group of male and female students:

Basis	N	Mean	SD	df	t-value
Academic achievement of high academic anxiety group of males	69	227.75	47.20	168	-2.572*
Academic achievement of high academic anxiety group of females	101	245.84	43.50		

*Significant at .05 level

Table No. 5 shows that the 't' value -2.572 is statistically significant at .05 level. This means there is a significant difference in the academic achievement of high academic anxiety groups of males and females. Therefore, Ho5 is rejected. Higher mean score of academic achievement of high academic anxiety group of females than the academic achievement of high academic anxiety group of males indicate that the academic achievement of high academic anxiety group of females is better than the academic achievement of high academic anxiety group of males.

In order to test the Ho6, t-test was applied.

Table No. 6 Showing the comparison of the academic achievement of low academic anxiety groups of male and female students:

Basis	N	Mean	SD	df	t-value
Academic achievement of low academic anxiety group of males	107	244.52	44.98	181	-2.485*
Academic achievement of low academic anxiety group of females	76	260.47	39.48		

*Significant at .05 level

Table No. 6 shows that the 't' value -2.485 is statistically significant at .05 level. This means there is a significant difference in the academic achievement of low academic anxiety groups of male and female students. Therefore, Ho6 is rejected. Higher mean score of academic achievement of low academic anxiety group of females than the academic achievement of low academic anxiety group of males indicate that academic achievement of low academic anxiety group of females is better than the academic achievement of low academic anxiety group of male students.

Findings of the study:

1. An inverse relationship was found between the academic achievement and academic anxiety of senior secondary school students. More specifically, as the level of academic anxiety increases, academic achievement decreases and vice-versa.
2. A significant difference was found in the academic achievement of high academic anxiety group and low academic anxiety group of students. More specifically, the academic achievement of low academic anxiety group is better than the academic achievement of high academic anxiety group.
3. A significant difference was found in the academic achievement of high and low academic anxiety groups of male students. More specifically, the academic achievement of low academic anxiety group of male students is better than the academic achievement of high academic anxiety group of male students.
4. A significant difference was found in the academic achievement of high and low academic anxiety groups of female students. More specifically, the academic achievement of low academic anxiety group of females is better than the academic achievement of high academic anxiety group of females.
5. A significant difference was found in the academic achievement of high academic anxiety groups of male and female students. More specifically, the academic achievement of high academic anxiety group of females is better than the academic achievement of high academic anxiety group of males.
6. A significant difference was found in the academic achievement of low academic anxiety groups of male and female students. More specifically, the academic achievement of low academic anxiety group of females is better than the academic achievement of low academic anxiety group of male students.

Conclusion

Moderate level of academic anxiety is essential for the students to keep them motivated towards their studies and for achieving high standards in education. High academic anxiety can block learners' performance in several

ways. It affects their mental process that leads to breakdown in their learning process. This results into a low achievement in students' performance. Therefore, academic anxiety must not be ignored at any cost. It can have serious and long lasting negative consequences. Academic anxiety decreases students' learning capabilities and hinders excellent academic performance. This research finding had found a significant relationship between academic anxiety and academic achievement among senior secondary school students in Aligarh District of U.P., India. Therefore, school and family must assist students in managing their academic anxiety through counselling, relaxation and behavioural techniques. Selected preventive activities can be undertaken at senior secondary schools on targeted students with academic problems. As the academic achievement of high academic anxiety group of females is better than the academic achievement of high academic anxiety group of males specialized intervention tailored to male students is suggested in order to improve male students' academic achievement.

Educational Implications of the Study

The findings of this research study have implications for teachers and professionals in addressing the academic anxiety of the students at senior secondary level. As high academic anxiety is responsible for low academic achievement. Therefore, various measures must be applied by the teachers to manage academic anxiety among students, these can be as simple as inculcation of confidence among the learners, teaching them best strategies for examination preparations, training regarding seeking social support, training of relaxation, and of using humour in a best possible way etc. Teachers should create a low-stress environment that allows students to concentrate on the test rather than being distracted by academic anxiety. The students with higher academic anxiety must be identified and treated to increase their academic achievement and for timely and effective gender-sensitive counselling and therapeutic interventions for senior secondary school students. The academic achievement of high academic anxiety group of females is better than the academic achievement of high academic anxiety group of males. So the males in the schools need to be motivated more than females to achieve better performance. This gap can be bridged by the school authorities and teachers by providing special training to the male students in their schools. Measures should be adopted by the teachers and administrators such as special/ remedial coaching classes, training and make use of different methods to enhance the academic achievement of the male students.

Suggestions for Further Research

This research study was conducted on the students of senior secondary level only. It is suggested that the same research may be conducted from primary level up to secondary and at university level. In the future research, qualitative research methods may also be included to check the validity of quantitative research methods. In qualitative research methods test anxiety and can be measured by observations and interviews instead of questionnaires. For the enhancement of the validity, this research may also be expanded in the whole country.

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