

Achievement Motivation across Gender and Different Academic Majors

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Abstract

Achievement motivation is considered a prerequisite for success in academic settings. The present study was carried out with the objectives to investigate the gender related differences and differences across academic majors on achievement motivation among college students. The study was carried on 80 undergraduate students of various colleges from Jammu region, 40 males and 40 females (ages 18-23 years) selected by purposive sampling method. As per research plan all 80 subjects were selected on the basis of gender (males and females) and academic majors (arts and sciences) using Achievement Motivation Scale. t- Test was used for deriving the results. Significant difference was found between the achievement motivation of sciences and arts stream students and achievement motivation among male and female college students. The differences indicate significant role of gender and academic majors in achievement motivation of college students.

Keywords: achievement motivation, gender and academic majors

1. Introduction

Achievement motivation is a widely researched topic in both the fields of psychology and education. Achievement motivation can best be understood by examining the meanings of “achievement” and “motivation” separately. Achievement typically stresses the importance of accomplishment and attainment with effort involved (Mandel & Marcus, 1988). Motivation relates to an individual’s reason for engaging in an activity, the degree to which an individual pursues the activity, and the persistence of the individual (Graham & Weiner, 1996). Achievement motivation is an important issue for psychologists and individuals in the field of education because it has been correlated with academic self-concept (Marsh & Ayotte, 2003), academic self-efficacy (Bong & Skaalvik, 2003), personality traits (Mandel & Marcus, 1988), developmental level (Guay, Marsh, & Boivin, 2003), and gender differences (Mandel & Marcus, 1988).

Sex differences in achievement motivation have been studied widely (Meece, Glienke, & Burg, 2006). In the context of academic achievement, gender role stereotypes are confirmed when motivation is studied domain-specifically, with boys being more confident and interested in mathematics and science compared to girls, while girls prefer, and feel more confident about language-related domains compared to boys. Researchers have studied whether these sex differences in motivation can predict sex differences in academic achievement (e.g., Steinmayr & Spinath, 2008). Personality and motivation play important roles in explaining sex differences in school attainment (Steinmayr and Spinath, 2008). Many different motivational models have emerged to explain these differences. (Eccles-Parsons et al., 1983; Wigfield & Eccles, 2002).

Theoretical models of achievement motivation relate this topic to future student success, learning outcomes, student choices, and student desire to engage in a behavior (Deci, Vallerand, Pelletier, & Ryan, 1991). Student’s choice of academic major has its relation with their level of achievement motivation (Upadhyay and Tiwari, 2009). There are several reports that show students select their academic major based on some factors such as personality type, self-esteem and expectation (Pike, 2006a; Pullmann & Allik, 2008). Ahmadi, Fathi-Ashtiani, Ghaffari and Hossein-Abadi (2009) reported that in terms of educational adjustment there was a meaningful difference between medical students and other academic majors. There are many other influencing factors that affect the selection of majors by students. These factors include interest in the major, peer pressure, family pressure, academic ability, the major’s reputation, job availability, achievement motivation and others.

Achievement motivation is considered a prerequisite for success, not only in academic, but also in sports- and job related situations. In academic settings, the interest in motivation is partly inspired by the notion that students' motivation, operationalized, e.g., as their competency beliefs and value beliefs, could be more malleable than their cognitive ability, and as such could prove to be a potential lead for the educational system for improving learning and achievement processes in students (e.g., Spinath, Spinath, Harlaar, & Plomin, 2006).

Therefore the present study was planned to study the achievement motivation of male and female college students, and achievement motivation of arts and science stream college students. It was hypothesized that there will be no significant difference between the achievement motivation of male and female college students and between students of science and arts stream.

Research on motivation has burgeoned over the past four decades. As a result, much has been learned about the nature of students' motivation. During the past half century, a variety of crucial motivational beliefs, values, and goals have been identified and examined (Wigfield, 1997).

Some studies have focused on competence-related beliefs as a valuable measure of an individual's achievement motivation (Linenbrink & Pintrich, 2002; Wigfield & Eccles, 2002). Males and females were found to have different competence-related beliefs during childhood and adolescence (Wigfield & Eccles, 2002). Results revealed that boys had higher competence beliefs in sports activities and math compared to girls. However, girls had higher competence beliefs in reading, English, and social activities compared to boys. Linnenbrink and Pintrich (2002) posited that competence beliefs are important because they predict performance and task choice. These beliefs also affect the student's motivation to succeed and achieve a goal.

Elizur & Beck (1994) detected no special tendency for women to score higher than men on affective responses in achievement motive questionnaire (Elizur 1979, 1986; Shye 1978). Their results support the view that gender differences in achievement motive are rooted in socialization processes rather than in basic differences between women and men.

Nagarathanamma & Rao (2007) found no significant difference between boys and girls with regard to achievement motivation level. Similar findings were reported by Kaushik & Rani (2005). Adsul et al. (2008) investigated the effects of gender, economic background and caste differences on achievement motivation possessed by college students on the basis of societal transformation. Along with other findings male students were found to be having a high achievement motivation while female students having a below average level of achievement motivation.

Liu & Zhu (2009) found significant differences in achievement motivations of male and female senior high school students, male students have higher achievement motivations than female students; the achievement motivations of students studying science and students studying arts have difference closely to significant difference.

Upadhyay & Tiwari (2009) evaluated the effect of academic majors on achievement motivation of the students. Results showed students of science faculty had significantly higher achievement motivation in comparison to Social Science, Humanities and Commerce faculty, but it does not significantly differ from the vocational courses.

Fouladchang et al. (2009) with the purpose to investigate the effect of gender and grade level differences on goal orientations of undergraduate students in an Iranian university collected a sample of 302 Iranian students by random cluster sampling. It was found that males had a greater performance-approach goal orientation than females. Also, last graders reported higher scores on mastery goal orientation than first graders. There was no significant interaction effect of gender and grade level.

Salili (1996) investigated age, sex and cultural differences in achievement motivation. The study was conducted on British high school and Chinese students aged 13-55. Results revealed that Chinese high school students had significantly higher n-Ach scores than their British counterparts. Female subjects of both cultures had higher scores than males, although this difference was significant for British female subjects only.

2. Method

2.1 Participants

A total number of 80 college students participated in the study. Of the 80 college students 40 were from arts stream (20 male and 20 female) and 40 were from science stream (20 male and 20 female). All the students were in the age range of 18-22 years and from all the three years of B.A & B.Sc. The participants were taken from two colleges located in the Jammu region (M.A.M College for boys and Govt. College for women).

2.2 Materials

Semi-structured Performa: This was used to collect information regarding the age, sex, education, subject stream etc.

Achievement Motivation (n-Ach) Scale: Deo-Mohan achievement motivation scale (1985) was used to measure the achievement motivation of adolescents. The scale has been constructed by Dr. (Mrs.) Pratibha Deo and Asha Mohan in 1985, Hindi and English version. English form of Achievement motivation scale was used in the present study. The scale consisted of 50 items having the distribution as achievement motivation, need for achievement, academic challenge, achievement anxiety, importance of grades, meaningfulness of task, relevance of school/college to future goals, attitude towards education, attitude towards education, work methods, attitude towards teachers, interpersonal relations, individual concern, general interests, dramatics, sports etc. Out of 50 items, 13 are negative and 37 are positive items. The scale is of the self-rating type and can be administered in a group with 5 points to rate viz always, frequently, sometimes, rarely, never. It has no time limit. The scoring device was simple stencil type having a numerical weightage from 4 to 0 for positive in the above order of rating scale and the reverse of it for the negative items. The scale has test-retest reliability and split-half reliability of .56 and item validity of .54. The reliability coefficients were found to be .69 and .78 for male and female groups respectively. Cronbach's alpha coefficient for overall male and female was found to be 0.86.

2.3 Procedure

After taking permission from head of the concerned colleges, the participants were approached. All participants completed the Deo-Mohan's Achievement motivation scale and the accompanying demographic questionnaire. A letter describing the overall purpose of study, how data would be utilized and other test taker privileges and rights accompanied the scale. The letter provided participants the opportunity to request information pertaining to the results of the study. The participants completed the questionnaires during their free periods. 7 questionnaires were incomplete and were discarded from the study. The data was collected using the purposive sampling method.

3. Results and Discussion

The present study has been conducted to study Achievement Motivation among male & female and Arts & science stream college students. Test of significance (t test) was used to calculate the differences (if any) between two groups i.e., between students of arts and science stream and between male and female college students. All the calculations were done manually and were repeated 2 times to ensure the reliability of the results obtained.

Table 1. "t" ratio for the significance of difference in means of males and females on achievement motivation

Category	N	Mean	SD	t-value	Level of Sig.
Male	40	128.73	2.5	16.39**	At 0.05 & 0.01
Female	40	141.02	4.17		

Table 1 shows the mean and SD of males is 128.75 and 2.5 where as the mean and SD of females is 141.02 and 4.17 respectively. It indicates that Males and Females differ significantly on achievement motivation. Females have higher achievement motivation compared to males.

Table 2. "t" ratio for the significance of difference in means of arts and science stream students on achievement motivation

Category	N	Mean	SD	T-value	Level of Sig.
Science	40	140.82	3.69	15.64**	At 0.05 & 0.01
Arts	40	128.93	3.08		

Table 2 shows the mean and SD of science students is 140.82 and 3.69 whereas the mean and SD of arts students is 128.93 and 3.08 respectively. It indicates that arts and science stream students differ significantly on achievement motivation. Science stream students have significantly higher achievement motivation compared to arts stream students.

Results of the present study indicate significant difference between the achievement motivation of male and female college students and between the achievement motivations among science and arts stream students. Hence both hypotheses - there is no significant difference between the achievement motivation of male and female college students and there is no significant difference between the achievement motivation among sciences and arts stream students are rejected.

This may suggest that the females in this study tend to view themselves as actually achieving and having good attitudes toward school. On the other hand, this may suggest that the males in this study are more susceptible to underachieving and less likely to perceive achievement in general as being valued. These results did support existing research in that females scored significantly higher than males in the area of achievement (Martin, 2004).

Several researchers like Nagarathanamma and Rao (2007) and Kaushik and Rani (2005) found no significant difference between boys and girls with regard to achievement motivation level.

In summary, the research on gender differences in achievement for males and females has resulted in inconsistent findings. Some researchers have found no difference (e.g., Ligon, 2006), whereas others have found differences (e.g., Vermeer, Boekaerts, & Seegers, 2000).

Present research finding also shows significantly higher achievement motivation among science stream students compared to arts students. Similar findings have been reported by Upadhyay and Tiwari (2009) in which science students reported significantly higher achievement motivation in comparison to Social Science students. It is interpreted that this difference occurred because, in the science major students are looking more career opportunities and in real life condition many better opportunities are available in science faculty in comparison to other academic majors. Another argument is that academic motivation is highly related to major satisfaction, conscientiousness, emotional stability and optimism (Logue et al, 2007). Ahmadi, Fathi- Ashtiani, Ghaffari and Hossein-Abadi (2009) reported that in terms of educational adjustment there was a meaningful difference between science (medical) students and other academic majors. So, students of science faculty have more extraverts personality (Pike, 2006), which gives more confidence for success in career.

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