A Study of Self-Efficacy among Secondary School Students in relation to Educational Aspiration and Academic Achievement

Amit Ahuja

University School of Education, Guru Gobind Singh Indraprastha University, Delhi, India

ABSTRACT

The aim of the present study is to probe self-efficacy, educational aspiration and academic achievement among secondary school students. In sample selection, random sampling was exercised and final sample comprised 106 boys and 104 girls of IX class of two Government senior secondary schools of Directorate of Education, Delhi. Self-Efficacy Scale (Singh & Narain, 2014) and Educational Aspiration Scale (Sharma & Gupta, 2015) were administered as standardized tools for data collection. Summative Assessment-I scores were used as academic achievement scores. The collected data was analysed by employing t-test and Karl Pearson’s Product Moment Coefficient of Correlation (r). It was found out that girls had statistically significant higher scores in self-efficacy, educational aspiration and academic achievement than boys. A statistically significant positive correlation was found between self-efficacy & educational aspiration, self-efficacy & academic achievement and educational aspiration & academic achievement of secondary school students.

Keywords: Self-efficacy, Educational aspiration, Academic achievement

The success of an individual in a scenario or learning in context, besides cognitive factors, depends upon certain non-cognitive factors also like personality, motivation, environment, human resources, beliefs etc. As a view of human behaviour, the belief that people have about their own proves a catalytic agent in exercising efforts and control in functioning. This self-belief may play an instrumental role with respect to cognitive engagement and motivate them to execute enhanced use of cognitive strategies which may improve the performance (Pintrich & Degroot, 1990) and on the part of learners this may lead to variations in achievements though they have similar abilities. Such self-belief or self-efficacy refers to an individual’s belief(s) in his/her competency/ability to perform a task, achieve the goal, overcome the obstacles. It also stands for the abilities of people to produce desired levels of performance that exercise impact over the events which affect their lives. Self-efficacy is defined as a person’s conviction/belief that he/she can successfully achieve/attain the desired levels and goal.

Address for correspondence

University School of Education, Guru Gobind Singh Indraprastha University, Delhi, India

E-mail: amitaahuja@ipu.ac.in
in some academic scenario (Feltz et al., 2008). Beliefs in personal efficacy affect level of motivation, life choices, quality of work, resilience to hardship, susceptibility to depression & stress (Wood & Wood, 1996 and Ciccarelli & Meyer, 2006). The concept of self-efficacy has roots in the Social Cognitive Theory (Bandura, 1986) in which the role of observational learning and social experience in personality development was emphasized. According to Bandura, self-efficacy plays a role in determining how people feel, think and motivate themselves that in turn may affect the behaviour and resultant outcome (Li, 2012).

The level of efficacy can be a reliable predictor of an individual’s performance while functioning like whether the task will be initiated, the degree of efforts expended and, upon facing some impediments, the persistence to complete the task in hand etc. (Bandura, 1977). Researches have explored the role of self-efficacy in better comprehending the behiouiral changes in the area of learning, academic performance, health, cognition, sports and guidance & counselling etc. (Bandura, 1997) and it has been shown that adolescent’s perception of their own competence/abilities to perform a task has great impact on the desired results. Among adolescents, personal efficacy is built through observing similarities between own and others, developing managerial skills, prior mastery experiences, social persuasion that one can succeed and inferring from emotional and somatic states which reflect personal strengths and weaknesses. The personal efficacy developed in this manner eases the transition from innocent childhood to challenging adulthood (Santrock, 2006).

In the long run, a strong senses of self-efficacy amplifies accomplishments and personal well-being in multiple ways (Baron, 2005). The learners with high level of self-efficacy are not easily challenged and threatened by adverse scenario/conditions or complex tasks/projects rather they visualize such situations as opportunity to grow and master the skills. As the situations become more adverse such individuals heighten and sustain their efforts. On the other hand, the learners with low self-efficacy easily give up on facing difficulties, develop avoidance from accepting new tasks and prefer to stay in their comfort zone, have fragile commitment and feeble aspirations to the goals set by them. On setbacks or failure, the individuals with low level of self-efficacy are slow to recover (Bandura, 1997). Self-efficacy belief is multidimensional that is it is context dependent and domain specific (Bandura, 1997). So, fluctuations in performance may be due to fluctuations in self-efficacy (Mishra & Shanwal, 2014). Besides this self-belief, another viable parameter that affects the success of an individual are the aspirations which begin to appear in the life of a child quite early but environment, exposures and experience modify them. The term aspiration is synonym to the words like goals, dreams, performance motivation, expectations and intentions etc. (Quanglia & Cobb, 1996).

With time, aspirations begin to decline as the child, now as grown individual, matures in response to complexities of physical world and barriers and impediments in exercising choices and ensuring accomplishments. Aspiration refers to a strong desire to achieve something great or high (Kaur, 2012). The discrepancy between the goals achieved and the goals targeted by the individual that he/she expects to achieve refers to that person’s level of aspiration (Dhanya & Rekha, 2011). Educational aspirations can be visualized as an element in the academic achievement motivation that catalyse the desires for success (Abiola, 2014). Educational aspirations are the sum total of other levels of aspiration goals like occupational goals, career goals, wealth and life-style etc. (Mihra, 2013) and are a reliable predictor of educational achievement (Abiola, 2014). Educational aspirations are early impressions about an individual’s own academic calibre (Furlong & Cartmel, 1995) and the highest levels of education that he/she expects to achieve (Furlong & Cartmel, 1995; Trusty, 2000; Ou & Reynolds, 2008 and Beal & Crockett, 2010).

Educational aspirations begin to take form quite early in child’s academic career and start enhancing the possibility of his/her participation in available educational opportunities or pursuing the same also (Arbona, 2000). With time, the aspirations get crystalized and the way in which the aspirations take form affect the behaviour of the individual and influence the personality (Dhanya & Rekha, 2011). Career development experts are of firm opinion that educational aspiration of students is
A Study of Self-Efficacy among Secondary School Students in relation to Educational Aspiration and Academic Achievement

the most significant variable that has influence on their subsequent educational and occupational attainment. Moreover, career development literature predominately refers to educational aspirations which are viewed as an imperative factor in exercising career choice (Berkner & Chavez, 1997). The quality of education is also determined by the academic achievement of students which motivates them to pursue higher education, opt for a career etc. But besides qualitative parameters associated with schooling there are some other factors also which influence the academic achievement of students. The present study attempts to probe the role of non-cognitive factors like self-efficacy and educational aspirations of students which may affect their academic achievement.

Review of Related Literature

In the domain of self-efficacy, co-relational researches have reported that at senior secondary school level, there is a significant positive correlation between self-efficacy and family environment (Weiser & Riggio, 2010 and Mishra & Shanwal, 2014) and academic achievement (Loo & Choy, 2013; Pavani & Agrawal, 2015) and it was found that it is the consistent predictor of academic success (Zajacova et al,2005), motivation and performance (Schunk, 1995 and Zimmerman, 2000) and there is no significant difference between students of Government and aided schools (Meera & Jumana, 2016) however, with respect to locale, secondary school students of urban background differ significantly from their rural counterpart (Meera & Jumana, 2016). As far as gender studies in the area of self-efficacy are concerned there are mixed findings as some studies have found no significant difference between either gender (Mishra & Shanwal, 2014 and Meera & Jumana, 2016) while significant self-efficacy scores in the favour of male adolescents in comparison to female adolescents have also been reported (Singh & Udainiya, 2009). It was also found out that the male prospective teachers had significantly better self-efficacy scores than their female counterpart and prospective teachers with average and high academic achievement had higher self-efficacy scores than prospective teachers with low academic achievement (Gera & Singh, 2015). Self-efficacy has positive impact on academic achievement (Zimmerman, 2000) and academic motivation (Schunk,1991) and has moderate to strong, but not perfectly, negative correlation with stress (Zajacova et al., 2005) and negative correlation with socio-economic status (Weiser & Riggio, 2010). Researches in the area of educational aspiration have shown that there are mixed findings with respect to gender as some studies reported that there is no significant difference between female and male adolescents (Kaur, 2012 and Mishra, 2013) but it was also found out that male adolescents had comparatively better educational aspirations than female adolescents (Rajesh & Chandrasekaran, 2014). Also, it was reported that the adolescents of high level of intelligence performed significantly better than their counterparts of low level of intelligence (Kaur, 2012) and students of rural residential locality and from nuclear family had significantly better educational aspiration scores than students of urban residential locality and from joint family respectively (Rajesh & Chandrasekaran, 2014) however there was no significant difference between the students of Government and Public schools on same measure (Kaur, 2012).

In a longitudinal study it was found that the parental involvement is the viable predictor of educational aspiration of non-first generation students in comparison to first generation students (McCarron & Inkelas, 2006). At secondary school level, children of non-working mothers have significantly higher level of educational aspiration than children of working mothers (Jan, 2016) but when both parents are employed, the occupation of mother, in comparison to occupation of father, has significant influence on the educational aspirations of secondary school students (Rajesh & Chandrasekaran, 2014). Similarly, adolescent girls living with family have higher educational aspirations than their counterparts living in orphanage (Dhanya & Rekha, 2011). However, no significant influence of parental qualification, family income and school management on the educational aspirations of secondary school students have been reported (Rajesh & Chandrasekaran, 2014). Correlational studies in the domain of educational aspiration have reported its low positive significant correlation with scientific attitude (Mishra, 2013) and a positive significant
correlation with parents’ level of education and socio-economic status (Abiola, 2014). Studies exploring the correlation of educational aspiration with environment have reported a negative significant correlation (Abiola, 2014) as well as a positive significant correlation (Jan, 2016).

Studies have explored that there is a significant difference in the academic achievement of secondary school students studying in different organizations namely state Government schools, matriculation and central board schools and it is in the favour of central board schools (Kumari & Chamundeswari, 2015).

At secondary school level, academic achievement has positive significant correlation with study habit, achievement motivation (Kumari & Chamundeswari, 2015) and self-concept (Emmanuel et al, 2014). Girl students had significantly better academic achievement than boy students in state Government schools, matriculation and central board schools (Kumari & Chamundeswari, 2015) but other studies have reported no significant difference between boys and girls in academic achievement scores (Dhall & Thukral, 2009; Dhall, 2014; Lal, 2014 and Goel, 2015). Parental involvement (Rafiq et al., 2013), family (Latha, 2005; Muola, 2010 and Dhanya & Rekha, 2011) and parents’ educational level (Kaur, 2014) positively influence the academic achievement of secondary school students. Also, comparatively the mothers’ educational level, than fathers’ educational level, has more positive impact on academic achievement of secondary school students (Kaur, 2014).

At college level, it was found that academic achievement has positive significant correlation with academic self-efficacy (Li, 2012) and in case of the prospective teachers those with average and high academic achievement have higher level of self-esteem than their counterparts with low academic achievement (Gera & Singh, 2015).

Objectives of the Study
The present study had following objectives:

1. To study gender differences among boys and girls at secondary school level with respect to self-efficacy.
2. To study gender differences among boys and girls at secondary school level with respect to educational aspiration.
3. To study gender differences among boys and girls at secondary school level with respect to educational achievement.
4. To study the correlation between the self-efficacy and educational aspiration scores of secondary school students.
5. To study the correlation between the self-efficacy and academic achievement scores of secondary school students.
6. To study the correlation between the educational aspiration and academic achievement scores of school students.

Hypotheses

The review of related literature, done for this study, revealed that for domains self-efficacy, educational aspirations and academic achievement there are mixed findings like with respect to self-efficacy there is no significant difference between male and female adolescents (Mishra & Shanwal, 2014 and Meera & Jumana, 2016) while it has also been found that the male adolescents have significantly higher self-efficacy scores than female counterparts (Singh & Udainiya, 2009). Similarly, in the area of educational aspirations, some studies found no significant difference between male and female adolescents (Kaur, 2012 and Mishra, 2013) but results in the favour of male adolescents in comparison to female adolescents have also been reported (Singh, 2011 and Rajesh & Chandrasekaran, 2014).

Also with respect to academic achievement, there were findings in the favour of girl students (Kumari & Chamundeswari, 2015) but other studies reported no significant difference between both gender (Dhall & Thukral, 2009; Dhall, 2014; Lal, 2014 and Goel, 2015). So, null hypotheses were formulated for these objectives framed for exploring significant difference, among boys and girls, with respect to these dependent variables namely self-efficacy, educational aspiration and academic achievement. Also, for the other objectives, that were framed for exploring correlation between
any two of these dependent variables, there were not so exclusive findings to frame directional hypotheses. Thus, as a measure of safeguard, null hypotheses were formulated for those objectives also.

To explore above objectives, following null hypotheses were formulated by the investigator:

H_{01}: There is no statistically significant difference between the self-efficacy test scores of boys and girls at secondary school level.

H_{02}: There is no statistically significant difference between the educational aspirations test scores of boys and girls at secondary school level.

H_{03}: There is no statistically significant difference between the academic achievement scores of boys and girls at secondary school level.

H_{04}: There is no statistically significant correlation between self-efficacy and educational aspirations scores of secondary school students.

H_{05}: There is no statistically significant correlation between self-efficacy and academic achievement scores of secondary school students.

H_{06}: There is no statistically significant correlation between educational aspirations and academic achievement scores of secondary school students.

**Delimitation**

The present study had following delimitation:

- The study was conducted at IX class students that is secondary school level only.

**Methodology**

**Research design:** In this study, descriptive survey research design was employed and the study was conducted at secondary school level that is the students of class IX were selected as sample of the study from two Government Senior Secondary Schools of Delhi.

**Sample:** In total, there are 13 districts in Directorate of Education, Delhi, and one district, from them, was randomly selected. Further from that district, two schools were randomly selected. In these two schools, 106 boys and 104 girls of class IX were further randomly selected as the sample. Thus, in the final selection of the sample, that is 210 students, random sampling was exercised.

**Variables:**

1. **Independent variable:** Gender was the independent variable and had two levels namely boys and girls. It was manipulated by the investigator by administering the research tools separately for boys and girls.

2. **Dependent variable:** They were self-efficacy, educational aspiration and academic achievement.

3. **Intervening variables:** namely fatigue, anxiety, family background, motivational levels, previous academic achievements, boredom etc. as intervening variables were assumed to be uniformly present among boy and girl students at secondary school level.

**Tools:**

Following tools were used for data collection:

1. **Self-Efficacy Scale (2014) by Arun Kumar Singh and Shruti Narain.** There are 20 items in this 5-point rating scale which are further subdivided into four domains namely (1) self-confidence, (2) efficacy-expectation, (3) positive attitude and (4) outcome expectation. The test re-test reliability and split-half reliability was .82 and .74. All these values are significant at .01 level of significance. The concurrent validity of the scale is .92. The scale can be administered to the students in the age range of 12 years and above.

2. **Educational Aspiration Scale (2015) by V.P. Sharma and Anuradha Gupta.** In this scale, there are 45 items designed in a paired comparison form and a student has to compare between a pair of statement given in each item. The scale can be administered to secondary school students. Regarding reliability, the coefficient of stability by test-retest method is 0.98 and coefficient of internal consistency
by odd-even method is 0.803. These results are significant at .01 level of significance. The validity of the scale determined against scholastic achievement is 0.692 and predictive validity established with EAS, form V is 0.596. These values are also significant at .01 level of significance.

3. Academic Achievement Scores: The academic achievement scores were measured from the results of SA-I (Summative Assessment-I) of the students in terms of marks obtained by them.

**Procedure:** The two standardized tools that is Self-efficacy and educational aspiration scale were administered to the selected sample that is 106 boys and 104 girls of class IX of two Government Senior Secondary Schools. The skewness of self-efficacy scores, educational aspiration scores and academic achievement scores of these students were calculated. Table 1 shows the corresponding skewness values for variables undertaken.

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Variable</th>
<th>Skewness</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Self-Efficacy</td>
<td>-0.474</td>
<td>Moderately skewed</td>
</tr>
<tr>
<td>2</td>
<td>Educational Aspiration</td>
<td>-0.348</td>
<td>Moderately skewed</td>
</tr>
<tr>
<td>3</td>
<td>Academic Achievement</td>
<td>-0.072</td>
<td>Moderately skewed</td>
</tr>
</tbody>
</table>

The obtained skewness values show that the selected sample is moderately skewed and the parametric tests like t-test and Karl Pearson’s Product Moment Coefficient of Correlation can be applied to data collected.

**Results**

With respect to gender, Table 2 shows the obtained t-test values for the scores of dependent variables namely self-efficacy, educational aspiration and academic achievement.

With reference to table 2, the following subsection discusses the testing of hypotheses framed in respect of the scores of dependent variables involved in the study.

**H$_{01}$:** There is no statistically significant difference between the self-efficacy test scores of boys and girls at secondary school level.

The obtained t value 6.595 is significant at .01 level of significance in the favour of girls, in comparison to boys, at secondary school level so, this null hypothesis is rejected.

**H$_{02}$:** There is no statistically significant difference between the educational aspirations test scores of boys and girls at secondary school level.

The obtained t value 4.981 is significant at .01 level of significance in the favour of girls, in comparison to boys, at secondary school level hence, this null hypothesis is rejected.

**H$_{03}$:** There is no statistically significant difference between the academic achievement scores of boys and girls at secondary school level.

The obtained t value 4.981 is significant at .01 level of significance in the favour of girls, in comparison to boys, at secondary school level hence, this null hypothesis is rejected.

**Table 2: t-test for self-efficacy, educational aspiration and academic achievement scores of boys and girls at secondary school level**

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Dependent Variable</th>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>$\sigma_d$</th>
<th>D</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Self-efficacy</td>
<td>Boys</td>
<td>106</td>
<td>73.301</td>
<td>9.925</td>
<td>1.399</td>
<td>9.227</td>
<td>6.595*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Girls</td>
<td>104</td>
<td>82.528</td>
<td>8.050</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Educational aspiration</td>
<td>Boys</td>
<td>106</td>
<td>23.452</td>
<td>4.651</td>
<td>0.662</td>
<td>3.298</td>
<td>4.981*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Girls</td>
<td>104</td>
<td>26.75</td>
<td>4.370</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Academic achievement</td>
<td>Boys</td>
<td>106</td>
<td>37.528</td>
<td>11.761</td>
<td>1.848</td>
<td>17.289</td>
<td>9.355*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Girls</td>
<td>104</td>
<td>54.817</td>
<td>8.412</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* .05 level of significance # .01 level of significance

(D is the difference between the means and $\sigma_d$ is standard error of difference between the means).
The obtained t value 9.355 is significant at .01 level of significance in the favour of girls, in comparison to boys, at secondary school level so this null hypothesis is rejected.

Table 3 shows the obtained values for the Karl Pearson product moment coefficient of correlation (r), and corresponding t values, with respect to scores of any two dependent variables namely self-efficacy and educational aspiration, self-efficacy and academic achievement and educational aspiration and academic achievement.

### Table 3: Karl Pearson’s product moment coefficient of correlation (r) between scores of two dependent variables

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Dependent Variables</th>
<th>r value</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Self-efficacy</td>
<td>.258</td>
<td>3.851†</td>
</tr>
<tr>
<td>2</td>
<td>Self-efficacy</td>
<td>.492</td>
<td>8.15‡</td>
</tr>
<tr>
<td>3</td>
<td>Educational aspiration</td>
<td>.356</td>
<td>5.494‡</td>
</tr>
</tbody>
</table>

* .05 level of significance † .01 level of significance

With reference to table 3, the following subsection discusses the testing of hypotheses framed in respect of Karl Pearson product moment coefficient of correlation (r) between scores of any two dependent variables undertaken in the present study.

**H_04**: There is no statistically significant correlation between self-efficacy and educational aspirations scores of secondary school students.

Obtained t value 3.851 for the corresponding Karl Pearson’s product moment coefficient of correlation (r) value, that is 0.258, is significant at 01 level of significance, so, this null hypothesis is rejected.

**H_05**: There is no statistically significant correlation between self -efficacy and academic achievement scores of secondary school students.

Obtained t value 8.15 for the corresponding Karl Pearson’s product moment coefficient of correlation (r) value, that is 0.492, is significant at .01 level of significance hence, this null hypothesis is rejected.

**Findings of the study & Discussion of results**

Results of the present study have revealed that there is a significant difference between girls and boys at secondary school level with respect to self-efficacy. In comparison to boy students, girl students had significantly higher self-efficacy test scores. This finding differs from the research work by Mishra & Shanwal (2014) and Meera & Jumana (2016) where no significant difference between male and female adolescents on self-efficacy scores were observed. Also, this finding is antagonistic to the research finding of Singh & Udainiya (2009) who reported results in the favour of male adolescents in comparison to female adolescents. The plausible reason for the findings of present study may be the teachers' perception of the capabilities of girl students, better past achievement of girl students & more success rate than boys, family support etc.

Also, girl students, in comparison to boy students, had statistically significant higher educational aspirations scores. The above findings are antagonistic to the results reported by Rajesh & Chandrasekaran (2014) in which male students had significantly better self-efficacy scores than female students and differ from the findings of Kaur (2012) and Mishra (2013) as no significant difference between both gender with respect to self-efficacy scores were reported. The contributing factor for the present finding may be Government initiatives/schemes in promoting girl education, their comparatively better academic performance and acknowledgement by their teachers etc.

Results also revealed that there was a significant difference between girls and boys at secondary school level with respect to academic achievement. Girl students, in comparison to boy students, had significantly high academic achievement scores. This finding supports the
results of Kumari & Chamundeswari (2015) but does not support the research work by Dhall & Thukral (2009), Dhall (2014), Lal (2014) and Goel (2015) in which no significant difference between academic achievement scores of boys and girls was reported. The plausible reason for the findings of present study may be the better quality of teaching in girl schools, well organized study habits of girls.

This study also reveals that there exists a significant positive correlation between self-efficacy & educational aspiration, self-efficacy & academic achievement and educational aspiration & academic achievement of secondary school students. The probable reasons for these findings may be that the fact that if one has firm belief in own, boldness in thought and confidence in performance then all these enable him/her to think high and aspire and hence achieve.

Conclusion

Students with high self-efficacy and educational aspirations score academically better as all the three variables namely self-efficacy, educational aspirations and academic achievement are positively correlated with each other. The gender based result variations, with respect to these variables, may be due to influence of school, family or individual study habits etc.

References


