Effect of Self-Efficacy, Gender and Locale on the Academic Achievement of Secondary School Students

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ABSTRACT
This study intends to measure the effect of self-efficacy, gender and locale on the academic achievement of secondary school students. Students of secondary school (Class 9th & 10th) were taken into consideration for the study. 400 students including male (200) and female (200) were selected for the final sample of the study. However, simple random sampling technique was employed in the process of collecting data. Self-Efficacy Scale (SES) developed by Singh and Narain¹ was administered on the 400 students for taking their responses. CGPA score of immediate previous class was considered as the academic achievement score after getting converted into percentage. For the analysis purpose, Pearson’s Coefficient of Correlation, Factorial ANOVA and t-test were performed on the date. The study resulted significant positive correlation (r=0.62) between the self-efficacy and academic achievement. Moreover, self-efficacy reported no significant (F=1.654) differential effect on the academic achievement. Gender was reported to have significant differential effect (F=22.921) on the self-efficacy. While, gender (F=10.557) and locale (F=7.871) were also found to have significant differential effect on the academic achievement of secondary school students.

KEY WORDS: Academic Achievement, Self-Efficacy, Gender and Locale

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INTRODUCTION

Self-efficacy determines how one thinks, feels, motivates himself/herself and behaves. Motlagh et al.\(^2\) articulated that the self-efficacy as the most considerable factor dominates in academic achievement of learners and has also expounded that it is considered as the predictor of academic achievement. Lane and Lane\(^3\) idealised that self-efficacy is the significant predictor of academic performance. Self-efficacy often found to be associated with academic performance. However, one’s level of self-efficacy determines his/her levels of academic performance. Moreover, a high level of self-efficacy motivates, encourages, brings positive attitude, shapes mind set, improves study habits, develops academic skills, reduces stress, strain and anxiety, organises students behaviour towards academic arena, propels students towards need achievement in academic perspectives and helps in realising the different aims of academic and non-academic life of learners. Podsak off and Farh\(^4\) commented that self-efficacy is also pliable to the influence of negative and positive feedback about performance. However, implicational aspect is accorded that performance can be enhanced through the positive feedback of performance.

**Self-Efficacy and Academic Achievement**

In general, the self-efficacy connotes ones’ feeling of confidence to have the ability to perform given or assigned tasks. It is a kind of self-believe in having or possessing the ability and competency to carry out the assigned tasks effectively. Bandura\(^5\) explained as “an individual belief in his or her own ability to organise and implement action to produce the desired achievements and results”. Bandura\(^6\&\(^6.1\) has defined self-efficacy as “the levels of confidence individuals have in their ability to execute courses of action or attain specific performance outcomes”. Schunk, Pintrich and Meece\(^7\) have designated self-efficacy as an identical determinant for academic achievement. In many researches, self-efficacy has been found as an identical positive determinant for the academic achievement of variety of subjects. In the same line, Usher and Pajares\(^8\) have explained that the self-efficacy “predicts the academic achievement across academic areas and levels”. While in other study, Domenech-Betoret, Abellan-Rosello and Gomez-Artiga\(^9\) revealed the mediation role of self-efficacy in academic achievement. Firm and strong beliefs about possessing self-efficacy influence the students’ satisfaction, well-being, academic achievement and level of stress and anxiety. Pajares and Schunk\(^10\) described that the self-efficacy does influence the anxiety and stress to which one experiences in carrying out the activity. Self-efficacy is also considered in academic world as the key trait in academic achievement. Moreover, self-efficacy influences the students’ achievement motivation, attitude, aptitude, stress, anxiety level etc.
Self-efficacy explained the 21% variances of the GPA, and also reported to have positive correlation between academic achievement and self-efficacy. Koseoglu\textsuperscript{10} conveyed significant correlation between self-efficacy and academic achievement, while Goulao\textsuperscript{11} found no significant gender difference in self-efficacy. Meral, Colak and Zereyak\textsuperscript{12} claimed significant positive correlation between self-efficacy and academic performance. In a different study on academic self-efficacy, Kolo, Jaafar and Ahmad\textsuperscript{13} came out with positive relationship between academic self-efficacy and academic performance. Pavani and Agrawal\textsuperscript{14} conveyed the significant difference in academic achievement with reference to levels of self-efficacy. However, Meera and Jumana\textsuperscript{15} found significant difference in academic performance while gender reported no significant difference. While, Honicke and Broadbent\textsuperscript{16} came out with a moderate correlation between academic self-efficacy and academic achievement. Whereas Ahamd and Safaria\textsuperscript{17} revealed that high self-efficacy determines the high academic performance in mathematical problems.

In a study, Shkullaku\textsuperscript{18} explained the significant correlation between self-efficacy and academic performance, and also reported no significant gender difference in academic performance. Arbabisarjouet al.\textsuperscript{19} found positive correlation between the academic achievement and the self-efficacy. Students with self-efficacy are often seen with the tendency of performing outstanding or better in different academic activities. Mbatha\textsuperscript{20} yielded significant gender difference in academic performance, and no significant linear relationship between self-efficacy and academic performance was also reported. However, Akram and Ghazanfar\textsuperscript{21} confirmed significant positive relationship between self-efficacy and academic performance, and a significant gender difference in self-efficacy was also reported. Similarly, Tenaw\textsuperscript{22} pointed out male and female had significant difference in academic achievement, and also had significant relationship between the self-efficacy and academic achievement.

Enny and Pujar\textsuperscript{23} reported significant relationship between self-efficacy and academic achievement, and significant difference between school students in different levels of self-efficacy and academic achievement. Moreover, Hassan, Alasmari and Ahmed\textsuperscript{24} regarded self-efficacy as the potential predictor (21%) of academic achievement. Mustafa Afifi, AmalShehata and EnasMahrousabdalaziz\textsuperscript{25} claimed no gender difference in self-efficacy. While, Ahuja\textsuperscript{26} reported positive correlation between the self-efficacy and academic achievement, and also a significant gender difference in self-efficacy and academic achievement of secondary school students. While Alias, Akasah and Kesot\textsuperscript{27} established insignificant correlation between self-efficacy and academic achievement. Seyedet al.\textsuperscript{28} confirmed moderate relationship was found between self-efficacy and academic achievement.
Meera and Jumana found significant difference in self-efficacy and academic achievement in English for the students come from rural and urban areas, while no significant gender difference reported in academic achievement in English and self-efficacy of secondary school students. Carroll et al. explained a predicted relationship between self-efficacy and academic achievement of high school students. While, Yazon conveyed no significant relationship between self-efficacy and academic achievement. In a similar study, Hasan stated significant effect of locale and insignificant effect of gender on the self-efficacy of secondary school students. Sucuoglu claimed positive correlation between academic achievement and self-efficacy. Similarly, Hwang et al. explained positive correlation between self-efficacy beliefs and academic achievement. While Kanmani found no correlation between academic achievement and self-efficacy whereas, significant difference between male and female, and rural and urban in the academic achievement of high school students of marginalised society was reported.

OBJECTIVES

1. To explore the relationship between self-efficacy and academic achievement of secondary school students.
2. To find out the effect of self-efficacy on the academic achievement of secondary school students.
3. To measure the effect of gender and locale on the self-efficacy of secondary school students.
4. To study the effect of gender and locale on the academic achievement of secondary school students.

HYPOTHESIS

$H_0$.1. There would be no significant relationship between self-efficacy and academic achievement of secondary school students.

$H_0$.2. There would be no significant effect of self-efficacy on the academic achievement of secondary school students.

$H_0$.3. There would be no significant effect of locale on the self-efficacy of secondary school students.

$H_0$.4. There would be no significant effect of gender on the academic achievement of secondary school students.

METHODOLOGY

Descriptive research design was used. A comprehensive survey of the secondary schools of District, Azamgarh (U.P.) India was carried out.
Population and Sample

This study includes all the students studying at secondary school in District, Azamgarh, (U.P.), India as a population of the study. The sample comprised of 400 (male=200 & female=200) secondary school students. It was drawn through simple random sampling technique from 9th and 10th standard students of 12 different secondary schools located in urban and rural areas.

Tools Used in the Study

Self-Efficacy Scale (SES)

The Self-Efficacy Scale (SES) developed by Singh and Narain has been used in the study. It has three dimensions viz. self-confidence, efficacy expectation and positive attitude. The self-efficacy scale is accorded reliable and valid where the test and retest reliability was found to be 0.82 and the construct validity was established to be 0.92. The CGPA score of sampled students’ previous class was taken into consideration and was converted into percentage.

Data Collection

Researcher personally visited to the schools with the permission of respective principles. Before administering the tool, researcher had a brief talk with students in order have appropriate responses from them. Essential instructions were given to students regarding to the marking of responses against each statement of the tool.

Statistical Techniques Used

Mean, Standard Deviation, Product Moment Coefficient of Correlation, t-test and Factorial ANOVA were employed on the data. Following the instructions mentioned in the Manual, data was arranged and divided into high, average and low for computing the one way ANOVA.

DATA ANALYSIS AND INTERPRETATION

Relationship between Self-Efficacy and Academic Achievement of Secondary School Students

Table 1: Relationship between Self-efficacy and Academic Achievement

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>(r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy</td>
<td>400</td>
<td>0.62**</td>
</tr>
<tr>
<td>Academic Achievement</td>
<td>400</td>
<td></td>
</tr>
</tbody>
</table>

**Significant at 0.01 level of significance

Perusal of the Table-1 reveals significant positive correlation (r=0.62, p<0.01) between self-efficacy and academic achievement of secondary school students. Hence, the null hypothesis: H₀.₁ is liable to be rejected. Moreover, the result has established the fact that as the self-efficacy among the students increases so as their academic achievement also increases.
Table 2: Effect of Self-efficacy on the Academic Achievement

Summary of the One Way ANOVA

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>322.393</td>
<td>2</td>
<td>161.197</td>
<td>1.654</td>
</tr>
<tr>
<td>Within Groups</td>
<td>38695.847</td>
<td>397</td>
<td>97.471</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>39018.240</td>
<td>399</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Table-2 infers insignificant ($F=1.654$) effect of self-efficacy on the academic achievement. It was found that students with high, average and low self-efficacy reported insignificant differential effect on the academic achievement.

Table 3: Effect of Gender and locale on the Self-efficacy

Summary of the Factorial ANOVA

Dependent Variable: Self-Efficacy

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>4624.000</td>
<td>1</td>
<td>4624.000</td>
<td>22.921**</td>
<td>0.000</td>
</tr>
<tr>
<td>Locale</td>
<td>30.250</td>
<td>1</td>
<td>30.250</td>
<td>0.150</td>
<td>0.699</td>
</tr>
<tr>
<td>Gender * Locale</td>
<td>313.290</td>
<td>1</td>
<td>313.290</td>
<td>1.553</td>
<td>0.213</td>
</tr>
<tr>
<td>Error</td>
<td>79886.900</td>
<td>396</td>
<td>201.735</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2206538.000</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>84854.440</td>
<td>399</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 0.01 level of Significance

As the above Table-3 depicts that the F ratio for gender $F (1, 396)=22.921, (p<0.01)$ [ref. Table 2] came out to be significant at 0.01 level of significance which indicates that gender has differential effect on the self-efficacy. Unlikely to that, the F ratio for locale $F (1,396) = 0.150$, ($>0.05$ & $<0.01$) was found to be insignificant at both 0.05 and 0.01 level of significance. It has established the fact that locale does not have differential effect on the self-efficacy. Moreover, insignificant interaction effect between gender and locale was also revealed in the Table-3, as it shows the F ratio for the interaction effect $F (1,396) = 1.553$, ($p>0.05$). Hence, the null Hypothesis: $H_0$. 2. is partially accepted. Further, interaction effect of gender and locale on the self-efficacy has been explained through graph (ref. Fig-1).

Mean Score Comparison of Male and Female Students in terms of their Self-efficacy

Table 4: Mean Score of Male and Female on the Self-efficacy

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>200</td>
<td>69.43</td>
<td>15.45</td>
<td>398</td>
<td>4.78**</td>
</tr>
<tr>
<td>Female</td>
<td>200</td>
<td>76.23</td>
<td>12.82</td>
<td>398</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 0.01 level of Significance
Likewise, the t-test (Table-4) between the male and female was performed to locate the main effect of gender on the self-efficacy. Test value shows that male and female had significant (t-value=4.78) differential effect on the self-efficacy. While, the female students with the greater mean score (76.23) than the male students (68.10) counterparts were found to have more self-efficacy as compared the male students.

![Estimated Marginal Means of SE](image)

**Figure 1: Interaction Effect of Gender and Locale on the self-efficacy**

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>992.250</td>
<td>1</td>
<td>992.250</td>
<td>10.557**</td>
<td>0.001</td>
</tr>
<tr>
<td>Locale</td>
<td>739.840</td>
<td>1</td>
<td>739.840</td>
<td>7.871**</td>
<td>0.005</td>
</tr>
<tr>
<td>Gender * Locale</td>
<td>65.610</td>
<td>1</td>
<td>65.610</td>
<td>.698</td>
<td>0.404</td>
</tr>
<tr>
<td>Error</td>
<td>37220.540</td>
<td>396</td>
<td>93.991</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2591344.000</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>39018.240</td>
<td>399</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Summary of the Factorial ANOVA**

**Dependent Variable: Academic Achievement**

Outcome of the factorial ANOVA mentioned in the Table-5 revealed that the F value for gender $F(1,396) = 10.557(p<0.01)$, locale: $F(1,396) = 7.871(p<0.01)$. Both the demographic variables (gender & locale) were found to have significant main effect on the academic achievement of secondary school students. While, the same Table-5 reported the insignificant interactional effect of gender and locale $F(1,396) = .698(p>0.05)$ on the academic achievement. Moreover, Fig-2 has explained the insignificant interaction effect of both the demographic variables.
Mean Score Comparison of Male and Female Students in relation to their Academic Achievement

Table 6: Mean score of male and female students on the academic achievement

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Df</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>200</td>
<td>78.30</td>
<td>10.09</td>
<td>398</td>
<td>3.22**</td>
</tr>
<tr>
<td>Female</td>
<td>200</td>
<td>81.45</td>
<td>9.44</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at 0.01 level of Significance

The t-tests for gender and locale were computed to locate the main effect. The Table-6 gives significant t-value as 3.22 (significant at 0.01 level of significance) for gender. It was reported that male and female had significant differential effect on the academic achievement. Female students, with greater mean value (81.45) as compared to male students (78.30) had more positive effect on the academic achievement than the male students.

Mean Score Comparison of Rural and Urban Students in terms of their Academic Achievement

Table 7: Mean Score of Rural and Urban Students on the Academic Achievement

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Df</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>200</td>
<td>78.52</td>
<td>8.51</td>
<td>398</td>
<td>2.77**</td>
</tr>
<tr>
<td>Urban</td>
<td>200</td>
<td>81.24</td>
<td>10.09</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at 0.01 level of Significance

Similarly for locale, t-value came to be as 2.77 [ref. Table-7] which was claimed to be statistically significant at 0.01 level of significance. Moreover, students from urban locality were reported higher mean score (8.24) than mean score of (78.52) rural students. Hence, urban students claimed to have more effect on the academic achievement than the students come from rural locality.
DISCUSSION

Academic achievement is the outcome of learning experiences provided to the students. Personality as well as demographic constructs of students in combinations to learning experiences determines the academic achievement. It was found in the literature of many existed researchers that self-efficacy had instrument role in determining the level of student’s academic achievement. This study came out with significant positive correlation between self-efficacy and academic achievement of the secondary school students which was found to be consistent with the findings of many researches done in the past like Lane and Lane, Schunk, Pintrich and Meece, Usher and Pajares, Domenech- Betoret, Abellan-Rosello and Gomez-Artiga conveyed the mediating role of self-efficacy, Koseoglu, Goulao, Meral, Colak and Zereyak, Kolo, Jafar and Ahmad, Honicke and Broadbent, Ahmad and Safaria claimed that high self-efficacy determines the high academic performance. Shkullaku, Arbabisarjou et al., Akram and Ghazanfar, Tenaw, Enny and Pujara, Hassan, Alasmari and Ahmed came out with that the self-efficacy was reported as the predictor of academic achievement. Mustafa Afifi, Amal She hatu and EnasMahrousabdalaizi, Ahuja, Seyed et al., Carroll et al., Sucuo1 and Hwang et al. were reported the similar results to the findings of this study. Gender and locale were found to have significant main effect on the academic achievement. Some of the studies’ findings were reported similar in regard to the effect of gender on the academic achievement.
IMPLICATIONS AND CONCLUSION

The study was intended to measure the effect of self-efficacy, gender and locale on the academic achievement of secondary school students. Moreover, relationship between self-efficacy and academic achievement was also explored. Results came out as the significant positive correlation between self-efficacy and academic achievement, whilst significant different effect of gender and locale on the academic achievement and self-efficacy were also resulted. Findings of this study found very much consistent with the significant number of researches carried out in the past. As the findings reported in this study, efforts should be made to enhance the level of self-efficacy so that academic achievement can be improved, especially of those students who have reported low academic achievement. Findings of the study can be helpful to the educationists, counsellors, teachers, parents, planners and administrators in designing, structuring, developing and planning the school curriculum with allied activities related to the enhancement of self-efficacy. Demographic constructs like gender and locale was also considered as the effective predictors of academic achievement and self-efficacy. In the line of study’s findings, proper attention must be paid to all students come from different locality in respective of their gender for enhancing their academic achievement and self-efficacy. Findings can be proven effective for the students in motivating, developing positive attitude, ensuring law of readiness, developing skills, shaping leadership quality, making realised and focussed towards academic activities and matters.

REFERENCES


