



TITLE COMPARATIVE ANALYSIS OF SELF-EFFICACY AND STUDENTS SCHOLASTIC PERFORMANCE ACROSS STREAMS

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ABSTRACT Research was done to compare self-efficacy and scholastic performance of Government Higher Secondary Schools students. Self-efficacy is the belief and confidence of students on their effort for success in the subject. The objective of the study was comparison of self-efficacy and scholastic performance across streams. 5 out of 17 Government Higher Secondary Schools for Boys, Nowshera, Khyber Pakhtunkhwa covered the study sample. The data was collected from 488 students of Government Higher Secondary Schools for Boys, Nowshera, Khyber Pakhtunkhwa with the help of 19 items self-efficacy questionnaire. The data was analyzed by applying *t*-test (SPSS-17). The difference was found between self-efficacy and scholastic performance across streams. Recommendations were drawn to enhance self-efficacy for students' motivation and success in their career. Further it is suggested to arrange different types of activities like program competition and lectures for awareness and boosting self-efficacy of students for the enhancement of their performance.

Keywords: Efficacy, Self-efficacy, Developmental Self-Efficacy, Attribution

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INTRODUCTION

Self-efficacy is the one's belief that he has the power to produce desired result by carrying out a given task or activity according to the competency. Self-efficacy is a person's perception of their capability to reach set objective. It is a confidence about one's own abilities to perform certain task in a certain manner to attain goals. It refers the expectancy that one can master a situation and produce a confident conclusion (Bandura, 2012).

Self-efficacy may be defined as a person's personal opinion or self-perception of performance capabilities based on prior outcomes, attributions, ability, present circumstances, perceived similarity, effort required and persuader credibility. The importance of student characteristics is to impress upon the teacher that a student entering a classroom is not a "new" student but one with a history of experiences with learning. Experiences are based upon previous experiences and follow the expectancy principle (Schunk, 1995).

Goal setting plays an important part in efficacy theory and involves realistically comparing present outcomes with desired standards. Progress towards specific and proximal goals of moderate difficulty is seen as being able to increase a student's self-efficacy. These explicit goals are set to metaphorically give students a bright light to walk towards which is not too far away and over ground with stable footing (Khan, 2001).

According to theories and researches related to self-efficacy, self-efficacy expectancy makes a difference in how people feel (affection), think (cognition) and act (motivation and behaviour). In terms of affection, a low sense of self-efficacy is associated with depression, anxiety and helplessness. Such individuals also have low self-esteem and harbour pessimistic thoughts about their accomplishments and personal development. In terms of cognition, a strong sense of competence facilitates cognitive processes in a variety of settings including quality of decision-making and academic achievement. Lastly in term of preparing action, self-related cognition is a major ingredient of the motivation process. Self-efficacy levels can enhance or impede motivation (Bandura 1995).

Khan (2001) conducted a research on self-efficacy for the purpose that what are effects of self-efficacy on the students' scholastic performance. The research focuses mainly the area of science subjects. The outcome of the study showed that there is a correlation in self-efficacy and



the score of the learners in science subjects. Results of the research concluded that self-efficacy has a great effect on the scholastic performance of the students. In short, from this study it is also clear that self-efficacy plays key role in the scholastic performance of learners.

Effect of Motivation on Self-efficacy

Motivation is a desire or aversion (wants to do something, or want to evade something). External or objective aspect of motivation is a goal or thing you desire to – and an internal or subjective aspect of motivation is that it is you that desire the thing or wants it to let it go. Minimally, motivation needs the natural substrate for pleasure and pain sense. Motivation moves on to include the ability to make and generalize concepts which enable humans to exceed this minimum state with the greater range of needs and aversions (Motivation, 2020).

Self-efficacy and Attribution

Self-efficacy also seems to be related to attribution. People with a strong sense of self-efficacy for a given task attribute their failures to lack of effort. People with a low sense of self-efficacy tend to attribute their failures to lack of ability. If a student held in entity view and low sense of self-efficacy, motivation would be destroyed when failures were attributed to lack of ability (Bandura, 1997).

Ability feedback had a stronger effect on self-efficacy and performance (Schunk,1983). Skill training and attribution feedback role are mediated by self-efficacy and had a direct effect on learned helpless graders performance. Attribution feedback displayed a moderate effect on students' performance and a stronger indirect effect arbitrated by self-efficacy (Relich, Debus, & Walker, 1986).

Students with similar previous performance attainments and cognitive skills may differ in subsequent performance as a result of different self-efficacy perceptions because these perceptions mediated between prior attainments and academic performances. As a consequence, such performances are generally better predicted by self-efficacy than by the prior attainments. Schunk (1991) suggested that variables such as perceived control, outcome expectations, perceived value of outcomes, attribution, goals and self-concept may provide a type of cue used by individuals to assess their efficacy believes.

Developmental Perspective of Self-efficacy Belief

Sensitivity to context of self-efficacy belief makes it an ideal vehicle for the exploration of differences in perception of competence as a function of developmental factors. The competence perception always has different meaning at different time in the life of individual (Wigfield & Karpathian, 1991).

Just like if take the example, Nicholls (1984) give the suggestion that young and the children have the tendency to see efforts and ability as complementary; but when they join the school, they grow with age.

When a person or a learner understand in a right way that how to develop the academic self-efficacy belief, schooling influence and the developmental factors which make contribution to the change in self-efficacy will definitely require the longitudinal investigation which assess self-efficacy with allegiance to the theoretical guidelines. For the better and right improvements, it is required to know about the different factors that how students use efficacy at various ages and school level. Even it will be better to know that how they use it at different grades. For this purpose, a lot of information is to be collected (Nicholls & Miller, 1984).

The quality of education may be raised through attaining standards in the learning environment. The government has to attain standards in education (Govt. of Pakistan, 2009) and this is possible only when the students know and aware about their selves and their capabilities to arrange and organize their tasks.



Meeting learning needs of the child is emphasized by focusing on knowledge, skills and values. Educated and well-informed society may be established by holistic and balanced human development to cater individual needs (Govt. of Pakistan, 2017). This goal can be achieved when educational stakeholders know how to improve students' understandings about their own self. Having the clear cut idea about students' own capabilities and potentialities, they will simply establish and perform the courses of action necessary for the specified performance types.

Previous researches showed that learners should be aware about their strengths to achieve their targets and self-efficacy has effect on academic achievement (Front, 2017; Aslam & Ali, 2017; Liu & Lu, 2017; Broadbent, 2016; Pavani & Agrawal, 2015; and Akram & Ghazanfar, 2014). On the basis of its importance, there is dire need to explore it further in Pakistan context.

METHOD

5 out of 17 schools participate in this research. To address study objective and to draw comparison between Grade XI students of different streams studying at Government Higher Secondary Schools, purposive sampling technique was applied. Total students were 488 in which 92, 92, 63, 243 studying in Pre-Medical, Pre-Engineering, Computer Science and Humanities group respectively. The students belonged to different social backgrounds and had diverse abilities.

Departmental Board of Studies gave approval after making review by the concern supervisor. After this Board of Advanced Study and Research (BASAR) also approved, and the permission was given for the conduct of research. After proper approval, the students were approached for the collection of data.

Adapted questionnaire of 19 items developed by Khan (2001) was validated by the field experts. Permission was taken from the author. For the purpose to check the reliability of questionnaire, 44 students took part in pilot testing. Reliability was (0.842). Before filling the questionnaire, purpose of the study and code of ethics were explained in front of students. Consent was taken from the students. They were given freedom of withdrawal and assure about confidentiality of their data. Cut of score for the questionnaire was 9.5.

After collection of the data it was tabulated and compiled. Marking standards were set for the questionnaire. 00 was given to the incorrect and 01 to the correct answer. *t*-test was applied to make analysis of the data. .05 was to check the significance as this is criteria for the rejection of null hypothesis. Statistical Package for Social Sciences (XXIII) was used for data analysis purpose.

RESULTS AND DISCUSSION**Table 1: Significant difference in mean scores of Pre-Medical Grade XI students of GHSS A, B , C and E on self-efficacy**

| Group | School | <i>t</i> vale | p vale |
|--------------|--------------|---------------|--------|
| Pre- Medical | GHSS A and B | .79 | .43 |
| Pre- Medical | GHSS A and B | 1.60 | .11 |
| Pre- Medical | GHSS A and B | -2.76 | .00 |
| Pre- Medical | GHSS A and B | 2.96 | .00 |
| Pre- Medical | GHSS A and B | -2.39 | .02 |
| Pre- Medical | GHSS A and B | -5.89 | .00 |
| Pre- Medical | GHSS A and B | .08 | .93 |
| Pre- Medical | GHSS A and B | .36 | .71 |
| Pre- Medical | GHSS A and B | .43 | .66 |

The independent-samples test was applied to investigate the difference between mean scores of pre-medical students of GHSS A, B and C on self-efficacy. The value of Levine's Test of Equality (GHSS A & B = .00 and GHSS A & C = .00) showed that equal variances were not assumed. Students of GHSS A, GHSS B and GHSS C have same self-efficacy. The results show statistical non-significant difference between self- efficacy scores of GHSS A and B $t(41.72) = .79, p = .43$; and GHSS A and C $t(38.70) = 1.60, p = .11$, therefore, the null hypothesis was accepted.

The independent-samples test was applied to investigate the difference between mean scores of pre-medical students of GHSS A and GHSS E on self-efficacy. The value of Levine's Test of Equality (GHSS A & E = .00) showed that equal variances were not assumed. Students of GHSS E have higher self-efficacy than the students of GHSS A. The results show statistical significant difference between the self- efficacy scores of GHSS Shidu and Keshgipayan $t(36.23) = -2.76, p = .00$, therefore, the null hypothesis was rejected.

The independent-samples test was applied to investigate the difference between mean scores of pre-medical students of GHSS B, C and E on self-efficacy. The value of Levene's Test of Equality (GHSS B and C = .56; GHSS B and E = .20 and GHSS C and E = .45) showed that equal variances were assumed. Students of GHSS B and GHSS E have higher self-efficacy than the students of GHSS C. The results show statistical significant difference between the self- efficacy scores of GHSS B and C $t(44) = 2.96, p = .005$, GHSS B and E $t(45) = -2.39, p = .02$ and GHSS C and E $t(41) = -5.89, p = .00$, therefore, the null hypothesis was rejected.

The independent-samples test was applied to investigate the difference between mean scores of Pre-Medical students of GHSS A, B and C on self-efficacy. The value of Levine's Test of Equality (GHSS A & B = .48; GHSS A & C = .35 and GHSS B & C = .06) showed that equal variances

were assumed. Students of GHSS A, GHSS B and GHSS C have same self-efficacy. The results show statistical non-significant

Table 2: Significant difference in mean scores of Pre-Medical Grade XI students of GHSS A, B , C and E on self-efficacy

| Group | School | <i>t</i> vale | p vale |
|------------------|--------------|---------------|--------|
| Pre- Engineering | GHSS A and E | -3.96 | .00 |
| Pre- Engineering | GHSS B and E | -3.15 | .00 |
| Pre- Engineering | GHSS C and E | -6.41 | .00 |

The independent-samples test was applied to investigate the difference between mean scores of Pre-Engineering students of GHSS A, B, C and E self-efficacy. The value of Levine's Test of Equality (GHSS A & E = .033, GHSS B & E = .003 and GHSS C & E = .024) showed that equal variances were not assumed. Students of GHSS E have higher self-efficacy than the students of GHSS A, GHSS B and GHSS C. The results show statistical significant difference between the self-efficacy scores of GHSS A and E $t(30.822) = -3.96$, $p = .00$, GHSS B and E $t(21.00) = -3.15$, $p = .005$ and GHSS C and E $t(47.10) = -6.41$, $p = .00$, therefore, the null hypothesis was rejected.

Table 3: Significant difference in mean scores of Pre-Medical Grade XI students of GHSS A, B , C and E on self-efficacy

| Group | School | <i>t</i> vale | p vale |
|--------------|--------------|---------------|--------|
| Pre- Medical | GHSS A and B | -9.08 | .00 |
| Pre- Medical | GHSS B and C | -5.0 | .00 |
| Pre- Medical | GHSS A and C | 1.56 | .12 |
| Pre- Medical | GHSS A and E | -1.86 | .06 |
| Pre- Medical | GHSS A and D | -5.53 | .00 |
| Pre- Medical | GHSS B and C | -18.86 | .00 |
| Pre- Medical | GHSS B and E | -14.25 | .00 |

The independent-samples test was applied to investigate the difference between mean scores of humanities students of GHSS A, B and C on self-efficacy. The value of Levine's Test of Equality (GHSS A & B = .11; and GHSS B & C = .87) showed that equal variances were assumed. Students of GHSS A and GHSS C have higher self-efficacy than the students of GHSS B. The results show statistical significant difference between the self-efficacy scores of GHSS A and B $t(114) = -9.08$, $p = .00$ and GHSS B and C $t(74) = -5.00$, $p = .00$, therefore, the null hypothesis was rejected.

Similarly the independent-samples test was applied to investigate the difference between mean scores of humanities students of GHSS A and C on self-efficacy. The value of Levine's Test of Equality (GHSS A & C = .39) showed that equal variances were assumed. Students of GHSS A and GHSS C have same self-efficacy. The results show statistical non-

significant difference between the self- efficacy scores of GHSS A and C $t(76) = 1.56, p = .12$, therefore, the null hypothesis was accepted.

After independent-samples test was applied to investigate the difference between mean scores of humanities students of GHSS A and E on self-efficacy. The value of Levene's Test of Equality (GHSS A & E = .00) showed that equal variances were not assumed. Students of GHSS A and GHSS E have same self-efficacy. The results show statistical non-significant difference between the self- efficacy scores of GHSS A and E $t(85.67) = -1.86, p = .06$, therefore, the null hypothesis was accepted.

The independent-samples test was applied to investigate the difference between mean scores of Pre-Engineering students of GHSS A, B, C, D and E on self-efficacy. The value of Levene's Test of Equality (GHSS A & D = .00, GHSS B & D = .00, GHSS B & E = .00, GHSS C & D = .00, GHSS C & E = .01 and GHSS D & E = .00) showed that equal variances were not assumed. Students of GHSS A, GHSS C, GHSS D and GHSS E have higher self-efficacy than the students of GHSS B. The results show statistical significant difference between the self- efficacy scores of GHSS A and D $t(75.22) = -5.53, p = .00$, GHSS B and D $t(91.77) = -18.86, p = .00$, GHSS B and E $t(91.77) = -14.25, p = .000$, GHSS C and D $t(20.26) = -5.26, p = .00$, GHSS C and E $t(21.17) = -2.97, p = .00$ and GHSS D and E $t(91.52) = 6.05, p = .00$, therefore, the null hypothesis was rejected.

Table 4: Significant difference in mean scores of Grade XI students of GHSS B and D on scholastic performance of computer science group

| Group | School | <i>t</i> vale | <i>p</i> vale |
|------------------|--------------|---------------|---------------|
| Computer Science | GHSS B and D | 2.09 | .04 |

The independent-samples test was applied to investigate the difference between mean scores of GHSS Khairabad and Pirpayan students on scholastic performance. The value of Levine's Test of Equality (GHSS Khairabad & Pirpayan = .79) showed that equal variances were assumed. Students of GHSS Khairabad (M = 659.05, SD = 72.37) have higher self-efficacy than students of GHSS Pirpayan (M = 621.78, SD = 67.16). The results show statistical significant difference between the scholastic performance scores of GHSS Khairabad and Pirpayan $t(61) = 2.09, p = .04$, therefore, the null hypothesis was rejected.

It shows that results obtained from Table1, Table 2, and Table 3 are aligned with Pavani and Agrawal (2015) steered a study of self-efficacy and academic attainment among college students. On the basis of obtained results, it is clear that there is a difference in the academic achievement of the students. Results showed that high self-efficacious students have high academic achievement.

Triantoro and Ahmad (2013) explored effects of self-efficacy on students' academic performance. Study shows that pupils with higher level of self-efficacy contribute to higher goals as compare to the students with low level of self-efficacy; students with higher level of self-efficacy will be able to face the complex situation and to work in a stress as relate to the pupils with low S.E as they will be unable to do the same.

The study showed accordance with Hayat, Shateri, Amini, and Shokrpour, (2020); Aslam and Ali (2017); Pavani and Agrawal (2015); and Triantoro and Ahmad (2013) who discuss effects of S.E. on students' scholastic performance. They found that pupils with higher level of S.E. contribute to higher goals as compare to the students with low level of S.E; students with higher level of S.E. will be able to face the complex situation and to work in a stress as relate to the pupils with low self-efficacy as they will be unable to do the same. Difference in the academic achievement of the students having high and low level of S.E. exists in accordance of their scholastic performance. Results showed that high self-efficacious pupils have high academic achievement and vice versa.



Humans are different in their abilities and thinking styles, so some of the grade XI students of the schools exhibit self-efficacy (Tiyuri et al., 2018). The school officials should make the effort to improve their self-efficacy for their success in life. The official should invite experts to deliver lectures on self-efficacy.

Acceptable scholastic performance is based upon student progress toward successful course and program completion (Yokoyama, 2019). The quality of education depicts from students' performance in the classroom. Their scholastic performance shows that how much they are capable to lead a successful life. Some of the grade XI students show optimum achievement in final examination. This may be due to their mastery over subject matter which may be more enhanced by taking into account their concern about subjects. To boost their motivational level, there is a need to engage them in co-curricular activities e.g. arrange science competition, programming competition, educational visits, educational galas, book fairs and study tours in which they understand their potential to do something unique that ultimately affect their scholastic performance.

Intelligence is diverse in humans. Due to different intelligence level, students' scholastic performance varies. To tackle this situation, teachers should know their beliefs about their competencies to cope up the situation. To achieve this goal, teachers should focus on students-centered approaches to cater their abilities, capabilities and potentials to make them good and successful person.

CONCLUSION AND FUTURE WORK

Research was conducted to compare self-efficacy and scholastic performance across streams. It is concluded that some of the students have same Self-efficacy while some are differ in self-efficacy. Recommendations were that how to cater the problem. In future the research may be conducted in Government Girls higher Secondary Schools or may be in other part of the country.

Declaration of Conflicting Research

The author declared that we have no conflict of interest regarding authorship, research.

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