

SELF EFFICACY AS A PREDICTOR OF NEGATIVE AUTOMATIC THOUGHTS AND DEPRESSION

Dr. Komal Rai¹, Samreen Naz²

¹Assistant Professor, Department of Psychology, Lovely Professional University, Punjab, India

²Research Scholar, Department of Psychology, Lovely Professional University, Punjab, India

Email - komal.17473@lpu.co.in

Abstract: *Self efficacy is a belief that regulates our cognition, emotions and behaviour. It is assumed that the perception of self efficacy has an influence on mood which further channelize mental health. The present study intended to investigate the weight of self-efficacy on negative automatic thoughts and depression in Indian students studying at Lovely Professional University, Punjab. For this study, the data collected was 180 students (females 91 and males 89) studying in post-graduate programs from different departments of lovely professional university. Perceived Self-efficacy scale developed by Ralf Schwarzer & Mathias Jerusalem was employed. For negative thoughts Hollon and Kendall's (1980) Automatic Thoughts Questionnaire (ATQ-30) was administered and to assess depression, Zung Self-rating Depression Scale (1965) was employed. To find out the prediction linear regression was applied, to find out relationship between three variables Pearson's Product moment correlation was applied. And the comparison was done between male and female students by independent t-test. Study results revealed that self efficacy is not the strong predictor of negative automatic thoughts and depression, the variation values are only 19.1 for depressive symptoms and 18.2 for negative thoughts. Further it was found that significant negative correlation have been found between self-efficacy and negative thoughts (-.427 <0.05) and between self efficacy and depressive symptoms (-.437 <0.05), significantly positive correlation between negative automatic thoughts and depressive symptoms (.501 <0.05). No significant gender differences have been found in three variables.*

Key Words: *Self efficacy, Negative Automatic Thoughts, Depression.*

1. INTRODUCTION:

In today's world everybody wants to be successful but one of the main hindrance in success is the level of self-efficacy. Self efficacy is also a key aspect in the overall development of an individual. This factor motivates people to go little out of their comfort zone and achieve their goals because they believe that they will do well. But in today's world generally youngsters do not have strong self efficacy feelings, they believe they can not be able to do things e.g. if we take the example of getting early in the morning, youngsters they keep on say I can't, it is impossible for me to get up. These are the little things which are making youngsters more vulnerable to low self efficacy feelings. As a result, this makes people more vulnerable to negative automatic thoughts and later to depression.

Self-efficacy is a personal efficacy and a notion in one's own power to finish difficult tasks and reach goals. According to "Bandura", there is no cognitive skill which plays an important role in human society than do judgments or feelings about the one's ability to perform as actors in this world (Bandura, 1977). Self efficacy is an idea about own potential to hold out new and to do hard tasks or handle with adversity. It is very much required for individuals to be some psychologically sound and in a social context productive, since not having good efficacy may lead to tension, depression, anxiousness. With this high sense of efficacy students can achieve higher degree of education, attempt to get more esteemed jobs and can remain healthier in difficult times.

In general, though, individuals are thought to become depressed when feel distrust in their ability to execute behaviour required for appreciated outcomes (Ahrens,1987).In several longitudinal studies with adults, self-efficacy beliefs for parenting (Olioff & Aboud,1991), work related goals Pomaki, Doest, 7 maes,2006) and other personally important domains (Olioff, Bryson,& Wadden,1989) have been found to predict depressive symptoms. Further studies have revealed that people who are into depression are more into negative automatic thoughts as compared to non depressed. Negative thinking about self and future is a well established characteristic of episodes of depression (Haaaga, Dyck and Ernst, 1991).Theories has explained that cognition has played an increasingly important role in psychopathology.

Muaweah Alsaleh, Romain Lebreuilly, Joelle Lebreuilly, and Manuel Tostain (2015), did study on cognitive balance: States-of-Mind Model and Mental wellness among French Students. They examined the negative and positive thinking role in depression and anxiety and later revealed that there is a negative correlation between positive thinking and state of mind with depression and anxiety whereas negative thinking was positively linked with depression and anxiety.

R. Ghaderi and B. Rangaiah (2011) This study inspected the impact of Self-efficacy on Depression, Anxiety and Stress of students from India and from Iran studying at Mysore University. The data were collected from 160

students (80 Indian and 80 Iranian) studying in post-graduate and Ph.D. degree programs from different departments. Results by MANOVA disclosed that students with low self-efficacy had high rate of depression, anxiety and stress and I students from India had high depression, anxiety and stress compared to students from Iran.

Self-efficacy is an opinion about the capability to execute new difficult tasks and cope with problems or difficulties. High feeling about one's self-efficacy is very much vital for people to be both mental and social healthy, without this element, may direct individual in stress, depression, anxiety, and helplessness (Bandura, 1997; Schwarzer & Scholz, 2000; Sander & Sanders, 2003).

Bandura, Pastorelli, Concetta; Barbaranelli, Claudio; Caprara, Gian Vittorio (1999) revealed that perceived social and academic inefficacy contribute to coexisting and later depression both straight and by their effect on academic achievement, prosocialness, and trouble behaviours. In the shorter run, children were depressed over notions in their educational inefficaciousness instead than above their existing academic performances.

Walter D. Scott and Eric Dearing. observed the connection among self-efficacy judgment in different areas (educational, societal, counter negative peer effect), cultural identity, intelligence theories and depressive symptoms. 198 American Indian youths participated in the study. Result showed that students with fairly high self-efficacy have lesser depressive symptom degree than others, further increase in self efficacy beliefs for educational, social and counter negative peer effect forecast decrease in depressive symptoms in students. Also not the cultural identity nor the theories of intelligence plays a moderate role between self-efficacy and depression.

Shyh Shin Wong (2010) This study also explained the positive correlation of positive thinking with happiness and satisfaction from life and also with states of mind ratio. Further stated that negative correlation was with anxiety, anger and depression. On other side, positively correlation was there in negative automatic thoughts with anxiety, depression, and anger, and negative correlation with happiness and life satisfaction.

Susan J. Wenzel; Kathleen C. Gunthert; Nicholas R. Forand (2010), did study on cognitive reactivity in day to day as a approaching forecaster of depressive symptoms. They used PDA devices to calculate subject's negative mood and thoughts as occupied in their day routine for a week. Later they measured person's distinctive relationship linking with mood and thoughts, and further they apply cognitive reactivity to forecast the depressive symptoms at six-month record. People who showed a positive connection among their temporary negative mood and negative cognitions announced more depressive symptoms at record sessions as compared to those who showed a fragile association between mood and cognitions.

Numerous data supported the part of perceived self efficacy in depression. A sense of fulfilment and self worth can have different sources, each of which linked to an aspect of self-efficacy. Perceived self efficacy to attain valued goals that contribute to self esteem and to assure stuff that contribute satisfaction to one's life can give rise to sessions of depression (Bandura, 1991; Davis & Yates, 1982; Kanfer & Zeiss, 1983). A low sense of efficacy to fulfil various demands that indications personal competency also plays role in developing depression (Cutrona & Troutman, 1986; Olioiff & Abound, 1991). Depression is mainly provoked by dispirited notion pattern. Therefore, perceived self efficacy exercises control over negative thoughts in the amount, period and reappearance of depressive episodes.

Kavanagh and Wilson (1989) established that weaker the perceived efficacy to end negative thoughts results in depression and stronger the perceived thought control efficacy ingrained to the help in the treatment, results in greater reduction in the depression. Perceived self efficacy retain its role in prediction of development and condensed the exposure to depressive relapse when the level of prior depression is controlled.

Olioiff, Mark; Bryson, Susan E.; Wadden, Norma P (1989). Result revealed in the study titled Prognostic relationship of negative automatic thoughts and student self efficacy to depressive symptoms in undergraduate students. Results revealed that automatic thoughts plus perceived self-efficacy do plays a central part in depression.

Self efficacy is very important factor for healthy and successful life. Less work has been done on the influence of self efficacy on negative thoughts which are the pre requisite of depression according to different theories. This study aimed to find out link between self-efficacy, negative automatic thoughts and depression.

2. OBJECTIVES

- To study the significant difference in male and female students on self efficacy, negative automatic thoughts and depression.
- To find out the relation between self efficacy, negative thoughts and between self efficacy, depression.
- To predict the negative automatic thoughts and depression through self efficacy.

3. HYPOTHESES

- There will be no significant difference between male and female students in self efficacy, negative automatic thoughts and depression.
- 2.No correlation will be found between self-efficacy and negative automatic thoughts and self efficacy and depression.
- Self efficacy will not emerge as an important predictor of negative automatic thoughts and depression.

4. RESEARCH METHODOLOGY:

This study was designed as a non- experimental in nature, therefore a quantitative approach was used in array to test the hypotheses. Appropriate scales were applied to assess self efficacy, negative thoughts and depression. For the purpose of data analysis, descriptive statistic i.e. Mean and t-test were used, to find the relationship Pearson method was applied and linear regression was applied for prediction purpose.

SAMPLING TECHNIQUES

For the proposed study, samples of total 180 students were taken and out of it 89 were males and were 91 females students. The convenient sampling technique was used to collect the data and sample was taken from Lovely Professional University, Phagwara.

TOOLS DESCRIPTION

Keeping in view of our variables to be measured, the aim and goals of the study, the nature of the sample and the ease of collecting data, appropriate instruments with satisfactory psychometric properties were selected. The below scale was used:

- Negative Automatic Thoughts Questionnaire by Hollon & Kendall, 1980 designed to measure the frequency of negative thoughts was used.
- The general self-efficacy scale 1995 by Ralf Schwarzer & Matthias Jerusalem was applied to get self efficacy score.
- Zung self-rating Depression Scale by Zung, 1965 was used to measures depressive symptoms.

5. DATA ANALYSIS:

The data of the present study was analyzed by employing descriptive statistics Mean and t-test, Pearson's correlation method and for prediction linear regression. All analyses were conducted using SPSS 22.

Table 1-2 : Difference between self efficacy, depression and negative automatic thoughts in male and female students

Table 1
Group Statistics

	GENDER	N	Mean	Std. Deviation	Std. Error Mean
ZSRS (depression)	female	91	39.31	8.267	.867
	male	89	39.21	8.770	.930
GSE(self efficacy)	female	91	32.07	4.601	.482
	male	89	31.92	5.097	.540
ATQ(negative thoughts)	female	91	41.67	20.452	2.144
	male	89	38.89	21.973	2.329

Table 2
Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ZSRS (depression)	Equal variances assumed	.573	.450	.074	178	.941	.094	1.270	-2.412	2.601
	Equal variances not assumed			.074	176.831	.941	.094	1.271	-2.414	2.602

GSE(self efficacy)	Equal variances assumed	.475	.492	.200	178	.842	.145	.723	-1.283	1.572
	Equal variances not assumed			.200	175.296	.842	.145	.724	-1.285	1.574
ATQ(negative thoughts)	Equal variances assumed	.205	.651	.880	178	.380	2.783	3.163	-3.459	9.025
	Equal variances not assumed			.879	176.444	.381	2.783	3.166	-3.465	9.030

The table above shows that there is no difference in the three variables mentioned among males and females. This result accept the hypothesis one which says there is no significant difference in gender related to self efficacy, negative automatic thoughts and depression. The values are more than 0.05 value.

The below Table 3-4 shows Correlation between three variables (Self–efficacy, Negative Automatic thoughts and Depression).

Table 3
Descriptive Statistics

	Mean	Std. Deviation	N
ZSRS (depression)	39.26	8.496	180
GSE(self efficacy)	31.99	4.840	180
ATQ(negative thoughts)	40.29	21.204	180

Table 4
Correlations

		ZSRS (depression)	GSE(self efficacy)	ATQ(negative thoughts)
ZSRS (depression)	Pearson Correlation	1	-.437**	.501**
	Sig. (2-tailed)		.000	.000
	Sum of Squares and Cross-products	12920.728	-3214.739	16158.161
	Covariance	72.183	-17.959	90.269
	N	180	180	180
GSE(self efficacy)	Pearson Correlation	-.437**	1	-.427**
	Sig. (2-tailed)	.000		.000
	Sum of Squares and Cross-products	-3214.739	4192.994	-7840.706
	Covariance	-17.959	23.425	-43.803
	N	180	180	180
ATQ(negative thoughts)	Pearson Correlation	.501**	-.427**	1
	Sig. (2-tailed)	.000	.000	
	Sum of Squares and Cross-products	16158.161	-7840.706	80479.394
	Covariance	90.269	-43.803	449.606
	N	180	180	180

** . Correlation is significant at the 0.01 level (2-tailed).

Table 4 shows the coefficient correlation of self efficacy with depression, self efficacy with negative automatic thoughts and negative automatic thoughts with depression. Second hypothesis hypothesized that no correlation will be there in all the three variables. Results revealed the significant correlation between all the three variables. Self efficacy and depression have found significantly and negatively correlated in present study ($r = -.437, p < 0.01$). There is negative correlation between self efficacy and negative automatic thoughts ($r = -.427, p < 0.001$). Last, depression and negative automatic thoughts have found to be significantly and positively correlated ($r = .501, p < 0.01$).

Table 5
Correlations

		ZSRS (depression)	GSE(self efficacy)	ATQ(negative thoughts)	
Spearman's rho	ZSRS (depression)	Correlation Coefficient	1.000	-.424**	.429**
		Sig. (2-tailed)	.	.000	.000
		N	180	180	180
	GSE(self efficacy)	Correlation Coefficient	-.424**	1.000	-.403**
		Sig. (2-tailed)	.000	.	.000
		N	180	180	180
	ATQ(negative thoughts)	Correlation Coefficient	.429**	-.403**	1.000
		Sig. (2-tailed)	.000	.000	.
		N	180	180	180

** . Correlation is significant at the 0.01 level (2-tailed).

Table 5
Descriptive Statistics

	Mean	Std. Deviation	N
ZSRS (depression)	39.26	8.496	180
GSE(self efficacy)	31.99	4.840	180

The above table 5 shows the mean and standard deviation of depression and self efficacy.

Table 6
Correlations

		ZSRS (depression)	GSE(self efficacy)
Pearson Correlation	ZSRS (depression)	1.000	-.437
	GSE(self efficacy)	-.437	1.000
Sig. (1-tailed)	ZSRS (depression)	.	.000
	GSE(self efficacy)	.000	.
N	ZSRS (depression)	180	180
	GSE(self efficacy)	180	180

Following are tables related to linear regression.

Table 7
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.437 ^a	.191	.186	7.664	.191	41.959	1	178	.000

a. Predictors: (Constant), GSE (self efficacy)

Dependent Variable: ZSRS (depression)

This summary table 7 shows the values of R and R square .The R value shows the simple correlation and is.437 (the “R” column), which indicate a moderate degree of correlation. The R square value (the R Square” column), shows the total variation in the dependent variable i.e., depression, can be explicated by the independent variable i.e., self efficacy. In this only 19.1 % can be explained. This means19% of the variance in depression is due to the self efficacy. The remaining 80.9% is due to some other factors that were not taken into account in this research.

Table 8
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2464.717	1	2464.717	41.959	.000 ^b
	Residual	10456.010	178	58.742		
	Total	12920.728	179			

a. Dependent Variable: ZSRS (depression)

b. Predictors: (Constant), GSE(self efficacy)

The table 8 shows that the regression model predicts the dependent variable extensively well. Here, $p < 0.0005$ which is less than 0.05, and indicates that the regression model significantly predicts the outcome variable (i.e., it is a good fit for the data).

Table 9
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	63.791	3.830		16.657	.000	56.233	71.349
	GSE(self efficacy)	-.767	.118	-.437	-6.478	.000	-1.000	-.533

a. Dependent Variable: ZSRS (depression)

This table 9 provides the fundamental data to predict depression from self efficacy, as well as determine whether self efficacy contributes statistically significant to the model (by looking at the “Sig.” column).Following are the values in the “B” column under the “ unstandardized coefficients “column , as shown above. Regression equation as :

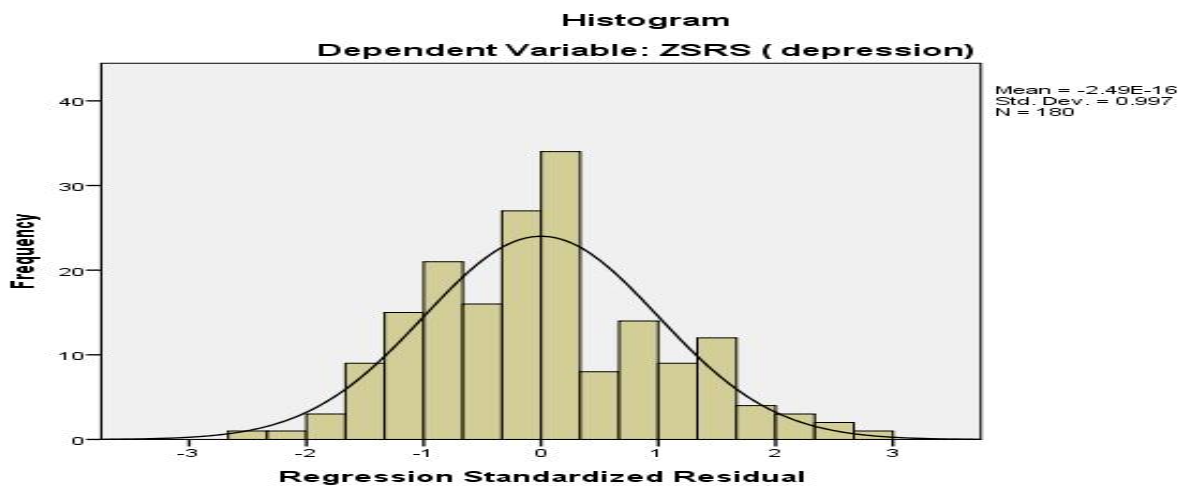
$$\text{Depression} = 638 + -0.767(\text{ self efficacy})$$

Table 10
Residuals Statistics^a

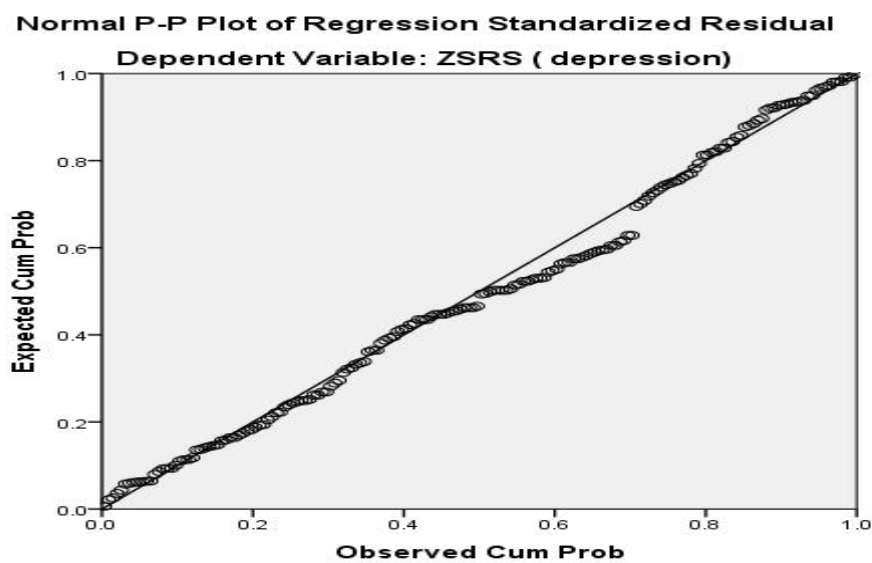
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	33.12	48.46	39.26	3.711	180
Std. Predicted Value	-1.654	2.478	.000	1.000	180
Standard Error of Predicted Value	.571	1.530	.777	.223	180
Adjusted Predicted Value	32.79	48.89	39.27	3.711	180
Residual	-19.157	21.443	.000	7.643	180
Std. Residual	-2.500	2.798	.000	.997	180
Stud. Residual	-2.531	2.809	.000	1.003	180
Deleted Residual	-19.645	21.609	-.007	7.736	180
Stud. Deleted Residual	-2.571	2.865	.000	1.008	180
Mahal. Distance	.000	6.142	.994	1.276	180
Cook's Distance	.000	.082	.006	.011	180
Centered Leverage Value	.000	.034	.006	.007	180

a. Dependent Variable: ZSRS (depression)

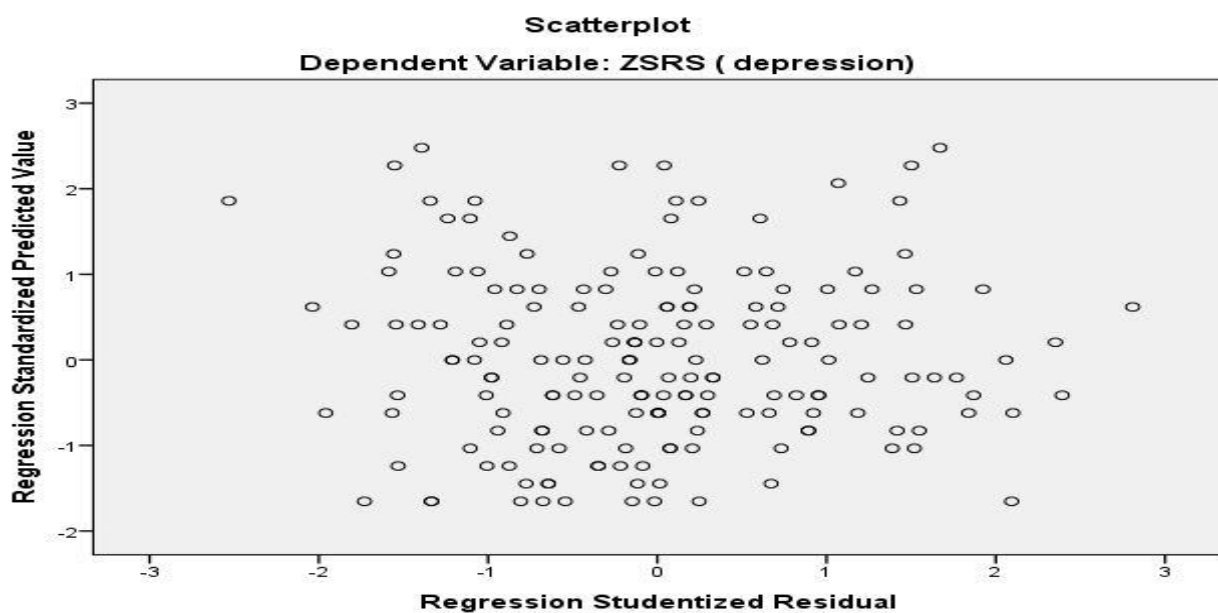
The above table 10 shows the residual statistics.



Histogram shows the frequency and regression standardized residual along with mean= -2.49E-16, Standard Deviation= 0.997.



P-P Plot of regression standardized residual shows the observed cumulative probability and expected cumulative probability for depression.



Scatter plot showing the regression studentized residual and regression standardized predictive value.

Table 11
Descriptive Statistics

	Mean	Std. Deviation	N
ATQ(negative thoughts)	40.29	21.204	180
GSE(self efficacy)	31.99	4.840	180

This table 11 shows the mean and standard deviation of automatic negative thoughts and self efficacy.

Table 12
Correlations

		ATQ(negative thoughts)	GSE(self efficacy)
Pearson Correlation	ATQ(negative thoughts)	1.000	-.427
	GSE(self efficacy)	-.427	1.000
Sig. (1-tailed)	ATQ(negative thoughts)	.	.000
	GSE(self efficacy)	.000	.
N	ATQ(negative thoughts)	180	180
	GSE(self efficacy)	180	180

The above table 12 shows pearson correlations between negative thoughts and self-efficacy and the 'p' value is .0005.

Table 13
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.427 ^a	.182	.178	19.229	.182	39.652	1	178	.000

a. Predictors: (Constant), GSE(self efficacy)

b. Dependent Variable: ATQ(negative thoughts)

The above table 13 provide the R and R square value. The R value represent the simple correlation and is .427 (the "R" column), which indicate modest degree of correlation. The R square value (the "R Square" column), indicates the total variation in the dependent variable, depression, can be described by the independent variable ,self efficacy. In this 18.2 % can be explained , it is low. This means 18% of the variance in depression is due to self efficacy. The remaining 81.8 % is due to some other factors that were not taken into account in this research.

Table 14
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14661.757	1	14661.757	39.652	.000 ^b
	Residual	65817.638	178	369.762		
	Total	80479.394	179			

a. Dependent Variable: ATQ(negative thoughts)

b. Predictors: (Constant), GSE(self efficacy)

This table 14 shows that the regression model predicts the dependent variable significantly well. Here, $p < 0.0005$ indicating that the regression model is statistically significant and predicts the outcome variable (i.e., it is a good fit for the data).

Table 15
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	100.123	9.609		10.420	.000	81.161	119.084
	GSE(self efficacy)	-1.870	.297	-.427	-6.297	.000	-2.456	-1.284

- a. Dependent Variable: ATQ(negative thoughts)
- b. Dependent Variable: ZSRS (depression)

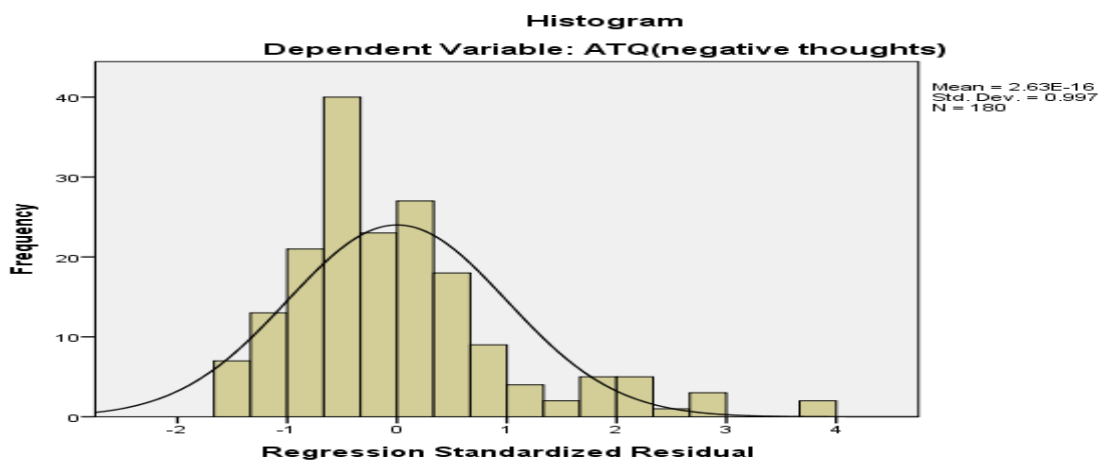
This table provides the needed information to predict depression form self efficacy, as well as determine whether self efficacy contributes statistically significant to the model (by looking at the “Sig.”column).Following are the values in the “B”column under the “unstandardized coefficients “column , as shown above. Regression equation :

$$\text{Negative automatic thoughts} = 101 + -1.87(\text{ self efficacy})$$

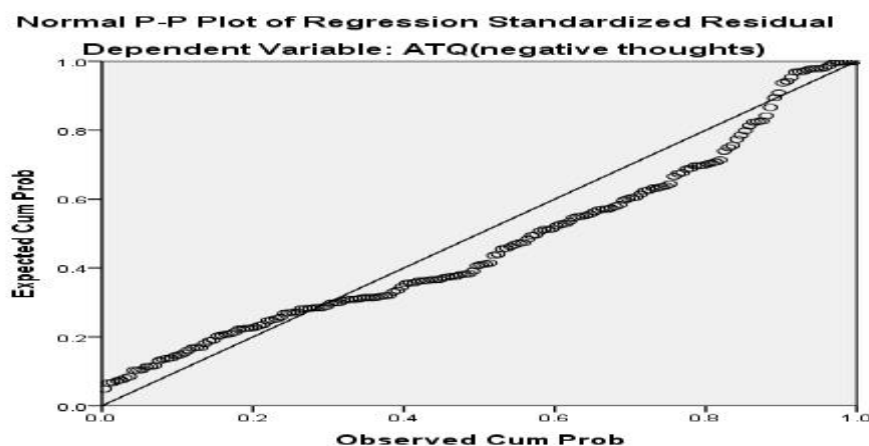
Table 16
Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	25.32	62.72	40.29	9.050	180
Std. Predicted Value	-1.654	2.478	.000	1.000	180
Standard Error of Predicted Value	1.433	3.839	1.949	.559	180
Adjusted Predicted Value	25.14	63.33	40.28	9.020	180
Residual	-31.764	75.276	.000	19.175	180
Std. Residual	-1.652	3.915	.000	.997	180
Stud. Residual	-1.660	3.995	.000	1.005	180
Deleted Residual	-32.064	78.402	.010	19.471	180
Stud. Deleted Residual	-1.668	4.176	.004	1.018	180
Mahal. Distance	.000	6.142	.994	1.276	180
Cook's Distance	.000	.331	.008	.032	180
Centered Leverage Value	.000	.034	.006	.007	180

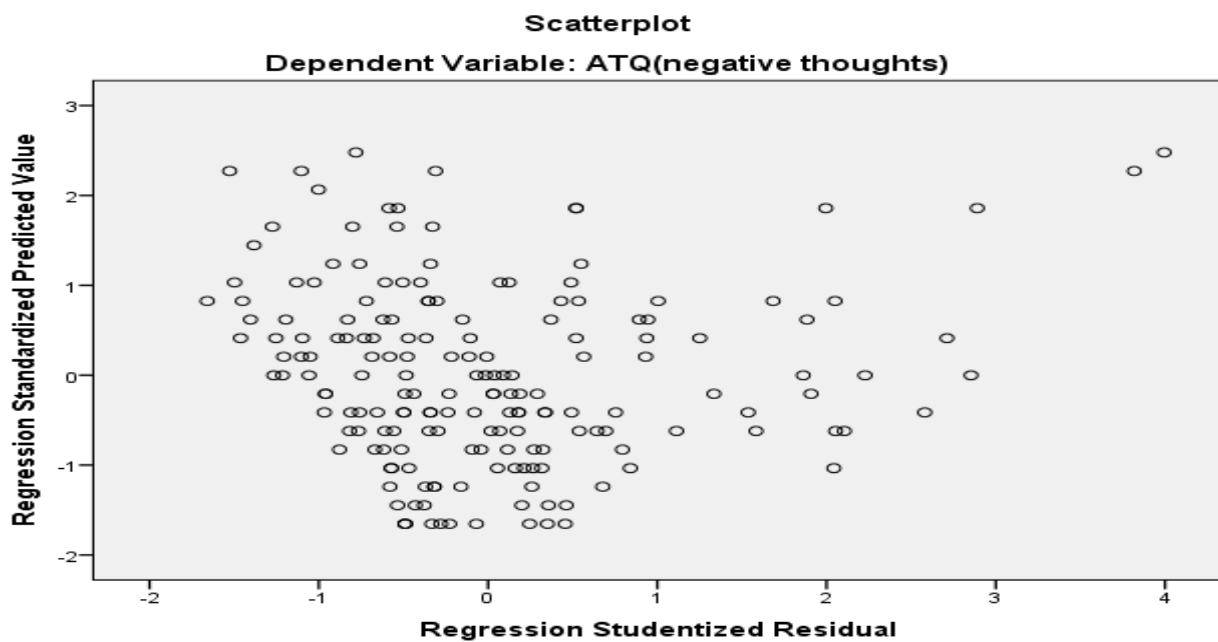
a. Dependent Variable: ATQ(negative thoughts)
The above table 16 shows the residual statistics.



Histogram shows the frequency and regression standardized residual along with mean= 2.63E-16, Standard Deviation= 0.997.



P-P Plot of regression standardized residual shows the observed cumulative probability and expected cumulative probability for depression.



Scatter plot showing the regression studentized residual and regression standardized predictive value.

6. DISCUSSION:

The aim of the study was to find out self efficacy as a predictor of negative automatic thoughts and depression.

To find out the prediction each variable was examined separately with self efficacy. Results revealed that self efficacy is not the strong factor in predicting negative automatic thoughts and depression, it is 18 %and 19% only. It means that not only self-efficacy, there are other many factors responsible for the negative automatic thoughts and depression. Not very strong predictions can be made from self efficacy for depression and negative thoughts. Contrary to this further study revealed that there is a significantly negative correlation between self efficacy and depression and with self efficacy and negative automatic thoughts. It shows that people who are having high self efficacy have lesser negative thoughts and lesser depressive symptoms as compare to those who are having low self efficacy. The result indicates that self efficacy is having significant relationship with both the variables and it may be beneficial to boost one's self efficacy as a way to combat the negative automatic thoughts and depression, because it is the feeling of I can and I can't which makes people vulnerable to negativism and depressive symptoms and later on depression Further finding is in the line of past studies that there is a significantly positive correlation between negative thoughts and depression, which is the replication of previous researches. People with negative automatic thoughts have high chances for depression or depressive symptoms.

No gender difference was found in the present study, may be because of today's scenario there is equal amount of opportunities for the both gender , they are facing the same challenges and treated by others in same manner and expectations.

7. LIMITATIONS AND FURTHER RECOMMENDATIONS:

Like all researches, this study is not without limitations, First, the sample consist of only students of Lovely Professional University and convenient sampling was applied, it can be done on a large scale with proper random sampling method for more generalization and take different age groups to find out which age group is having which level of self efficacy and negative thoughts . Secondly, only self efficacy was taken as a predictor factor for depression and negative automatic thoughts, there can be other very important factors responsible for the negative automatic thoughts and depression.

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