Personality types and Academic Achievement of the pre-service and in-service student teachers

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Abstract : *In the present study the researcher investigates personality types and academic achievement of pre-service and inservice student teachers. The researcher follows Jung and Eysenck personality types as extroversion and introversion. To find out the Personality types and Academic Achievement of Pre-service and In-service student teachers, the researcher administered K.I.E.I to a sample of 350 and their B.Ed. 1st semester result was taken as their academic achievement score. The sample was divided into three categories namely Extrovert, Introvert, and Ambivert. The researcher used statistical procedures T-test, chi-Square test, and Correlation to test the formulated hypotheses.*

From the esults the researcher came to the conclusion that there is significant relationship between pre-service and in-service student academic performance and their personality. The coeffient correlation indicate that there is negative relationship between personality and the academic score of the student. There is no significant difference between male and female student teachers. It is found that Pre-service and In-service male student teachers are more extrovert then female.

Introduction :

Educators, researchers, and psychologists have been constantly searching for parsimonious set of variables that predicts patterns of students' behaviors and their relationship to academic achievement. Personality has been recognized as a determining factor on how people learn (Lawrence, 1997; Myer et al, 1998). College students tend to prefer learning environments consistent with their own personality type preference. Many scholars have accepted five-factor model of personality as a replicable and unifying taxonomy of personality (Digman, 1990; Goldberg, 1992; Witt et al, 2002) and have found personality types to be significantly related to successful job and school performance, both logically and statistically (Hogan & Hogan, 1989; Day & Silverman, 1989). Borg & Shapiro (1996) and Ziegert (2000) examined students' learning from a different perspective. Personality type was correlated with students' academic achievement in several principles of economics courses. The research showed significant correlations between personality type and academic achievement, although different academic

assessment tools yielded different correlations. Pre-service and In-service teachers' students with different personality traits show different level of performance in examinations. Psychologists have developed several theories of personality to study the structure and growth of it. Big Five Personality model, Jung's analytical nudel, Eysenck's three-factor model, Raymond Chattel's 16 personality factors, the Minnesota Multiphase Personality Inventory, and the Myers Briggs Type Indicator and the like.

The present study is an attempt to understand the personality type of B.Ed. college students (in-service and preservice student teachers) as well as their examination performance levels. An attempt has also been made to understand how personality types affect performance level.

Stament of the problem

The problem to be investigated in the present study can be clearly stated as:

'Personality types and Academic Achievement of the Pre-service and In-service student teachers ' .

Hypotheses of the study

(1) To find out the Personality types of Pre-service student teachers.
(2) To find out the Personality types of In-service student teachers.
(3) To find out the difference in Personality types based on Gender.
(4) To find out the correlation between Personality types and Academic Achievement of the Pre-service student teachers.

Sample

(5) To find out the correlation between and Personality types and Academic Achievement of the In-service student teachers.

Hypotheses of the study

Ho_1; There is no significant difference in Personality types between the Male and Female student-teachers.

H_2; There is negative correlation between Personality types and Academic Achievement in for the pre-service student teachers.

H_3; There is negative co-relation between Personality types and Academic Achievement for the In-service student teachers.

Delimitation of the study

Personality types and academic achievement of Pre-service and In-service student teachers is a vast and complex topic.

(1) Here researcher has worked on Eysenck personality pattern which is extrovert, introvert, neurotic. But this student takes into account only extrovert and introvert personality tribes and their relationship with academic achievement.
(2) The areas of the sample were limited up to Kolkata.
(3) The study is confined to B.Ed. students of Kolkata.

Methodology

For the present study Survey method has been adopted, survey method gathers data from a relatively large number of cases at a particular time.

Table 1. Distribution of Sample Categorywise

Student teachers	Male	Female	Total
Pre-service student teachers	80	92	172
In-servic student teachers	90	88	178
Total	170	180	350

Tools

Tools used for the present study are:

(1) K.I.E.I (Kundu Introversion, Extroversion Inventory) for the assessment of pesonality types.

(2) For collecting the achievement scores, B.Ed. first semester examination result held in 2015 under the university of Calcutta Total marks?

Reliabity of the tools

The reliability coefficients are presented in table 2.block reliability as well as total test reliability have been determined by split half method applying spearman brown formula. In addition to that reliability has also been computed by Cronbach's taking each block as a separate subtest.

Table 2

Block	Reliability coefficient	
	1ST Half VS 2ND Half	Odd VS Even
A	.64	.79
B	.82	.76
C	.60	.86
D	.66	.41
E	.89	.66
Whole test	.82	.71
	Whole test by Cronbach's	.73

Validity of the tool

Validity co efficient, in terms of the block total correlation, is given in table 3.

The inventory is also validated against introversion-extroversion scores of Eysenck personality inventory (E.P.I). In E.P.I the increasing order of score corresponds to the increased degree of extroversion. But in the K.I.E.I the order is reverse. i.e., the decreasing order of score corresponds to the degree of extraversion. Therefore, coefficient of correlation between K.I.E.I score and E.P.I is expected to be negative to ensure validity of K.I.E.I. The obtained of correlation, presented in table 3 Is negative but it is shown without any sign.

Table 3

Validity coefficient

Criteria	Coefficients of correlation
Block A	.41
Block B	.77
Block C	.42
Block D	.55
Block E	.47

Meaning of the score

Raw scores of the K.I.E.I. have been transformed into C scale values, the range of each scale point may be in table 3.5 just like raw score, and low C-scale indicates extroversion.

Table 4

C-scale point	Raw score range	Classification
0	75 and below	Extremely extrovert
1	76-89	Grossly extrovert
2	90-112	Moderately extrovert
3	113-130	Slightly extrovert
4	131-144	Ambivert
5	145-157	Ambivert
6	158-171	Ambivert
7	172-185	Slightly introvert
8	186-199	Moderately introvert
9	200-228	Grossly introvert
10	229 and above	Extremely introvert

Procedure of Data Collection

The investigators made proper planning for administering the K.I.E.I on the sample of 350 students in 8 colleges. Permission was taken from the principal and concerned head of the department of the 8 colleges. With their consent a time schedule was prepared for the administration of the inventory. Initially a report was established with the subject. It was made clear to the subject that his/her choice answers would be kept confidential and that she should be honest with herself while answering the question. Results of their B.Ed. semester 1 examination were taken after they completed answering the question.

Objective 1: to find out the personality types of pre-service student teachers.

Table 5

Personality types of pre-service student teachers

Types of Personality	No of pre-service student teachers student teachers	Persentage (%) of students	
		Male	**Female**
Introvert	40	40.00	60.00
Ambivert	91	34.34	65.93
Extrovert	41	51.21	48.78
Total	172		

Objective 2 : to find out the personality types of in-service student teachers.

Table 6. Personality types of in-service student teachers

Types of Personality	No. of pre-service student teachers	Persentage (%) of students	
		Male	**Female**
Introvert	47	46.80	53.19
Ambivert	90	60.00	40.00
Extrovert	41	63.41	36.58
Total	178		

Objective 3 : To find out the differences in personality types based on gender.

Ho$_1$. There is no significant difference in Personality types between the Male and Female student teachers.

For this present study the researcher have used the x^2 method in order to measure the difference in personality types between the male and female student teachers.

To test this hypothesis three different types of personality score are arranged according to Gender.

Table 7. Contingency Table for c ^{2}

Student teachers	Introvert	Ambivert	Extrovert	Total
Male	38(42.25)	85(87.91)	47(39.82)	170
Female	49(44.74)	96(93.08)	35(42.17)	180
Total	87	181	82	350

The value of c ^{2} may be computed with the help of the usual formula,

c ^{2} = ? $\underline{S\ (fo - fe)^2]}$
                     fe

Table 8. Computation of c ^{2} *from the Contingency Table*

fo	fe	$(fo - fe)$	$(fo- fe)^2$	$\dfrac{(fo\text{-}fe)^2}{fe}$
38	42.25	-4.25	18.06	0.42
85	87.71	-2.91	8.46	0.09
47	39.82	7.18	51.15	1.28
49	44.74	4.26	18.14	0.40
96	93.08	2.92	8.52	0.09
35	42.17	-7.17	51.40	1.12
Total =350	**Total =350**			c ^{2}=3.40

Degrees of freedom (df) =(r-1)(c-1)

$$= (2-1)(3-1)$$
$$= 1 \times 2$$
$$= 2$$

Testing the null hypothesis.

For df=2, Critical value of c^2 = 5.991 at 0.5 level of significance.

Critical value of c^2 = 9.210 at 0.1 level of significance.

Table 9. Mean and S.D of male and female personality types

Gender	N	Mean	Standard deviation	t-value	Level of significance
Personality total					
Male	170	150.2118	28.86721	1.410	.160
Female	180	154.4444	27.31100		

*not significant at 0.05 level

Objective 4 : To find out the correlation between Personality types and Academic Achievement of the Preservice student teachers.

H_2; There is negative co-relation between personality types and academic achievement in the context of preservice student teachers.

Correlation between the personality score and academic achivement score of the pre-service student teachers

Table 10. Correlations

		Pre-service Personality Score	Academic score
Pre-service Personality score	Person Correlation	1	-.268**
	Sig. (2-tailed)		.000
	N	172	172
Academic score	Pearson Correlation	-.268**	1
	Sig. (2-tailed)	.000	
	N	172	172

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

Objective 5 : To find out the correlation between Personality types and Academic Achievement of the In-service student teachers.

H_3: There is negative correlation between Personality types and Academic Achievement for the In Inservice student teachers.

Correlation between the personality score and academic achivement score of the in-service student teachers

Table 11. Correlations

		In-service Personality	
		Score	**Academic score**
In-service Personality score	Person Correlation	1	-.191*
	Sig. (2-tailed)		.011
	N	178	178
Academic score	Pearson Correlation	-.268**	1
	Sig. (2-tailed)	.011	
	N	178	178

***. Correlation is significant at the 0.05 level (2-tailed).**

Findings and discussion

❖ : **Personality types of Pre-service student teachers.**

As indicated in **Table no 5** in Pre-service group, Introvert student Male=40% Female =60%

Ambivert student -Male=34.34 % Female=65.93%

Extrovert students-Male=52.21%, Female= 48.78 %

Thus it is shown that Pre-service male student teachers males are more likely to be extrovert than female. And females are more likely to be introvert then male.

❖ :**Personality types of In-service student teachers.**

As per **Table no 6** it can be seen that, in In-service group Introvert students Male=46.8% Female=53.19%

Ambivert students -Male=60 % Female=40%

Extrovert students -Male=63.41%, Female= 36.58 %

Here it is seen that male In-service student teachers are also more likely to be extrovert and introvert than females. Also females are more in introvert group. It is also found in the earlier research where male students are more extrovert than female students (Khan and Bhat 2008). But the real difference is in how it plays out; male students are more in extrovert group because there are social demands for males to be very dominant that is why males seem more extrovert than females.

❖ : **Differences in Personality types based on Gender.**

As per **Table no 7 and 8**, the researcher did c ² test, to measure the difference between male and female personality types, the computed value of c ² is =3.40 with df=2. For df 2 the critical value of c ² is 5.991 at 0.01% level and 0.05% level it is 9.210, the computed value of c ² is much lower than both the critical values, therefore our null hypothesis HO1.There is no significant difference in personality types between male and female student teachers is stands accepted. It is also found in the earlier research where the researcher found no significant gender differences in the personality types and academic achievement (Hakimi, Hejazi and Lavasani, 2011). So, we can say that

the personality types are equally distributed between male and female student teachers.

As per **Table no 9** it can be seen that, the researcher did T-test, to measure the difference between male and female personality types, the computed value of 't' is =1.4 with and the level of significance is .160, we know that when the level of significance is above 0.05-0.01, we accept the null hypothesis, in this case the value is greater than 0.01 and 0.05 consequently, therefore our null hypothesis HO1. There is no significant difference in personality types between male and female student teachers is accepted. It is also found in the earlier research where the researcher found no significant gender differences in the personality types and academic achievement (Hakimi, Hejazi and Lavasani, 2011).

Thus it can said from Table no 7,8,9 that there is no significant difference found between male and female student teachers, the personality types are equally distributed between male and female student teachers, this is because the researcher only worked on B.Ed. college students which all are situated in Kolkata and for similar socio cultural factors and similar thinking like -men and women have equal potentialities. The researcher did not find the significant difference in male and female personality types.

❖   :   **Correlation between Personality types   and Academic achievement and of the Pre-service student teacher**s.

As per **Table no 10** revels correlation between academic achievement and personality types of pre-service student teachers is =-.268.Which shows that there is a negative correlation between personality types and academic achievement of pre-service student teachers, and it is significance at the 0.01 level.

Thus it can be said that with increase in personality score, the academic score decreased, and therefore, our hypothesis H_2; There is a negative co-relation between personality type and academic achievement in the context of pre-service student teachers, stands accepted.

❖   :   **Correlation between Personality types   and Academic Achievement and of the Inservice student teachers.**

As indicated in **Table no 11** revels correlation between academic achievement and personality types of in-service student teachers is =-.191. This shows that there is a negative correlation between personality types and academic achievement of in-service student teachers, and it is significance at the 0.05 level. Thus it can be said that with increase in personality score, the academic score decreased, and therefore, our hypothesis **H_3: There is a negative co-relation between personality type and academic achievement in the context of in-service student teachers**, stands accepted.

Thus it can said from **Table no 10 and 11** that with the increase in in-service and pre-service personality scores the academic score decreased. In this study the researcher used K.I.E.I questionnaire, in this questionnaire high personality score level means introverts (range-172-229 and above), and low personality score level means extroverts (75 and below-130) and ambivert is medium or normal personality type (range-131-171). From this study it is found that, students who gets high academic scores, they have low level of personality, that means extrovert students show high academic performance, and with the decrease of academic score personality score increased. This means introvert students shows low academic performance in B.Ed. Colleges. Therefore, extrovert students perform better than introverts

because of their ability to consolidate learning, intelligence, interest, group study habits, out knowledge and discussions with other students. And introverts students show low academic performance because they prefer to work on own rather than do group work, they have limited area interest, daydreaming, small talk with others, are happy to be along. For this they can't gather huge knowledge like Extroverts, and it is also effects on their academic achievements.

Implication off the study

From this study it is said that the relationship between personality types and academic achievement are significant indicator, it is also argued that personality types are significantly indicated in learning and there is no significant gender difference between personality types and academic achievement. From the study it is shown that extroverts are high achievers than introvert student teachers. We all know that teacher's personality plays a vital role in schools or colleges, if a teacher is extrovert then they can easily attach with student and they prefer face-to-face verbal communication with students. Whereas teachers who have introvert personality types they are basically reserved they prefer written communication rather than verbal communication. Therefore, students are able to get separate helps from both the introvert and extrovert teachers. So, student teachers have to know their own personality types and find out the weaknesses of their personality that affects their personal life and their students life as well.

Educational implications of personality types are as follows:-

(1) It is the duty of the parents and the teachers of B.Ed. colleges to identify the student's personality types.

(2) Pre-service students have to point out their personality types whether they are introverts or extroverts, and have to know their weaknesses.

(3) In -service students have also point out their personality types whether they are introverts or extroverts, and have to know their weaknesses.

(4) It is the duty of the B.Ed. College teachers to make the pre-service and in-service students feel confident in whatever work they do.

So, it is the duty of both teachers and students to identify pre-service and in-service student's personality types and support and encourage them according to their interests and also help them in solving their problem which they face in their teaching career.

From the investigation the researcher came to the conclusion that -

(1) Pre-service male and female student teachers showed various personality types like Extrovert, Introvert, and Ambivert.

(2) In-service male and female student teachers showed various personality types like Extrovert, Introvert, and Ambivert.

(3) The male students are higher in Extrovert group, in both in-service and pre-service category.

(4) There is no significant difference in personality types based on gender.

(5) There is a significant correlation between academic achievement and personality types of the pre-service student teachers.

(6) There is a significant correlation between academic achievement and personality types of the in-service student teachers.

References

Bhatt, P (2007) Educational psychology, Authors press.

Chandra, S.S, R.K, Sarma (2007) Research in Education Atlantic Publication.

Chaturvedi, D.D (1999) Research in Psychology, Anmol publication.

Chauhan, S.S (2004) Advanced Educational psychology (6thed) New Delhi: Vika publishing House Pvt.Ltd.

Dunvar, R (2007) Evolving Psychology Atlantik publication.

Garret, H.E (2007) Statistics in Psychology and Education. New Delhi: Paragon International publishes.

Jung, C.G (1923) Psychological types or the psychology of individualization. New York: John Wiley.

Kumar, R (2011) Research Methodology (3rd).New Delhi: Vivek Mehra for SAGE Publication India. Pvt Ltd.

Mangal, S. K (2011) Advance educational psychology (2nded). New Delhi: PHI Learning Private Limited.

Mangal, S.K (2005). Statistics in psychology and education (2nded). New Delhi: Prentice hall of Indian private Limited.

ELECTRONIC JOURNALS

Hakimi,s.,,Ghotamall,M,. Lavasani (2011) The relationship Between Personality Traits and Students academic achievement. Journal of social and behavioral Science. Volume 29, Pages 836-845.

Arthur .E.Poropat. (2008) The Eysenkian Personality Factors and their correlations with academic Performance. British Journal of Educational Psychology, Volume-135, No. 2, Pages 322-338.

REVIEWS/REPORTS/JOURNALS

Liang,c., and W.S. Lin,. (2015) the Interplay of creativity, imagination personality traits and academic performance.

Majid and Matteo (2012) The relationship between personality, gender and academic performance of adolescents.

R.M.Felder, G.N.Felder, E.J.Dietz. (2002) The effects of personality types on engineering students performance and attitudes.

Hakimi, Hejari and Lavasani. (2011) the relationship between personality and academic achievement.

WEB INFORMATIONS

http:/en.wikipedea.org/wiki/personality

htthttp:en.wikipedia.org/wiki/personality-type

http:en.wikipedia.org/wiki/pre-service-teacher-education

http://en.wikipedia.org/wiki/Extroversion-and-Introversion