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A Study of the Effect of Creativity and Academic Achievement on Examination Stress

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Abstract:
In the present study, creativity and academic achievement of secondary school students have been examined, so as to know how they co-relate with and influence examination stress in students.

The objectives of the study are: (i) to study the relationship between examination stress and creativity, (ii) to study the relationship between examination stress and academic achievement, (iii) to compare examination stress among students with high, moderate and low creativity, (iv) to compare examination stress among students with average, high and very high academic achievement. The sample for the present study consisted of 640 students studying in class XI of four U.P. Board schools and four C.B.S.E. Schools of Allahabad. 'Examination Stress Scale' of K.S. Misra was used to measure examination stress among secondary school students. Figural Test of Creative Thinking of K.S. Misra was used to measure creativity among secondary school students. Scores obtained by the students in the board examinations of class X have been taken to measure academic achievement. The findings are: (i) there is no relationship between examination stress and creativity, (ii) examination stress is not related to academic achievement, (iii) students with high, moderate and low creativity do not differ from one another in their experience of examination stress, (iv) students having very high, high and moderate academic achievement differ from one another in their experience of examination stress.

Keywords: *creativity, academic achievement, examination stress.*

1. Introduction

The phenomena of examination stress influence the student community, be it amongst those acquiring school education or higher education or those pursuing professional education. The feelings of apprehension and fear emanate in the mind and interact with other mental faculties, eventually leading to processing deficits and impaired cognitive performance. One must not forget that stress, not only, proves deleterious to the student as an individual but it also affects the institution which he attends, and to the society at large. At the individual level, it may manifest in the form of hypertension, anger, anxiety, depression, mental fatigue and sleep disorders (Kink, Blonk, Schene & Van Dijk, 2001). It also plays a role in the development of cognitive dysfunction (Claar & Blumenthal, 2003; Kirschbaum, Wolf, May, Wippich, & Helhammer, 1996; Krantz & McCeney, 2002). Stress, in some cases, might inhibit creativity (Shanteau & Dino, 1993). Bryon et al. (2010) stated that the relationship between stress and creativity is complex and might not be captured by merely describing the relationship as positive or negative.

Academic achievement is the learning outcome of an individual which is expressed and measured in his/her performance in a given skill or body of knowledge. It is usually designated by test scores or marks assigned by teachers or both.

In the words of Spielberger 'test anxiety generally causes decrements in performance and undermines academic achievement'.

The present study is a humble attempt by the investigator to find out relationship examination stress with creativity and academic achievement and also to explore the effect of creativity and academic achievement on examination stress among secondary school students.

2. Objectives of the Study

The objectives of the study are as follows: -

i. To study the relationship between examination stress and creativity.
ii. To study the relationship between examination stress and academic achievement.
iii. To compare examination stress among students with high, moderate and low creativity.
iv. To compare examination stress among students with average, high and very high academic achievement.

3. Hypotheses of the Study

The following hypotheses were tested: -

i. There exists no relationship between examination stress and creativity.
ii. There exists no relationship between examination stress and academic achievement.
iii. There is no difference in the examination stress of students with high, moderate and low creativity.
iv. There is no difference in the examination stress of students with average, high and very high academic achievement.

4. Methodology

4.1. Sample

The sample for the present study consisted of 640 students studying in class XI of four U.P. Board schools and four C.B.S.E schools of Allahabad.

4.2. Tools Used

Examination Stress Scale of K.S. Misra was used to measure examination stress among secondary school students. The split half reliability was found to be .71 for students of class VII. The alpha reliability was .7814 for students of class X and for students of undergraduate and postgraduate classes the values of alpha and split half reliability were found to be .902 and .875 respectively. The item-total correlations of the between every item of the Examination Stress Scale and the total score on the tool are significant at .01 level, which reveal the existence of item validity.

Figural Test of Creative Thinking of K.S. Misra has been used to measure creativity among secondary school students. Parallel form reliability was calculated for the Picture Completion Test by finding out product moment coefficient of correlation between flexibility/ originality/ elaboration scores obtained on two items of the Picture Completion Test namely- angle and arch. The values of correlation for flexibility, originality and elaboration are .491, .365 and .491 respectively (N=120). Test-retest reliability for the three aspects of creativity namely- flexibility, originality and elaboration are .5269, .4785 and .7146 respectively (N=74, class IX).

Validity of the Figural Test of Creativity was found by calculating product moment coefficient of correlation between scores on the verbal and figural tests of creativity developed by the author. The values of the correlations for flexibility and originality were .4899 and .4866.

Scores obtained by the students in the board examinations of class X have been taken to measure academic achievement.

4.3. Statistical Techniques Used

For the analysis of data Pearsons' coefficient of correlation and ANOVA were used. The method of Mean + 1 S.D was employed to categorise students into high, moderate and low groups for creativity and very high (84.5% and above), high (63%-84.49) and moderate (63% and below) groups for academic achievement.

5. Results and Discussion

S. No.	Variable	Coefficient of Correlation
1.	Creativity	-.035
2.	Academic achievement	-.008

Table 1: Relationship of examination stress with creativity and academic achievement

Observation of table 1 shows that the value of coefficient of correlation between examination stress and creativity is -.035. The value is not significant and so, the null hypothesis no.1 stands accepted. It means that there is no relationship between examination stress and creativity. The value of coefficient of correlation between examination stress and academic achievement is -.008 and it is not significant. So, the null hypothesis no.2 stands accepted. It can be inferred that creativity among students is not related to examination stress. This finding draws support from the investigation of Lee (2011) wherein no relation was found between creativity and stress. However, the present finding contradicts the finding of Byron, Khazanchi and Nazarian (2010) of a curvilinear relationship between evaluative stress and creativity. Academic achievement is also not related to examination stress. The present finding contradicts the findings of Elias, Ping & Abdullah (2011). They found that there is a significant but weak negative relationship between undergraduate student's stress level and their academic achievement. Kumari & Garita (2012) also found a positive correlation between stress and academic achievement. This finding contradicts the present finding.

Source	Sum of squares	df	Mean Square	F-ratio
Between Groups	557.485	2	278.743	.824
Within Groups	215354.115	637	338.076	

Table 2: Results of ANOVA showing comparison of examination stress among students with high, moderate and low creativity

Observation of table 2 shows that the value of F-ratio is .824. It is not significant at .05 level and so, hypothesis no. 3 stands accepted. It implies that students differing in levels of creativity do not differ in their experience of examination stress.

Source	Sum of squares	df	Mean Square	F-ratio
Between Groups	2922.497	2	1461.249	
Within Groups	212989.103	637	334.363	4.37*

*Table 3: Results of ANOVA showing comparison of examination stress among students with moderate, high and very high academic achievement * significant at 0.05 level*

Groups	N	Mean	Groups compared	Mean difference
VH	103	44.75	VH and H	-5.449*
H	432	50.20	H and M	3.321
M	105	46.88	VH and M	2.129

*Table 4: Results of multiple range test showing differences in examination stress among students with very high, high and moderate academic achievement * significant at 0.05 level*

Observation of table 3 shows that the value of F-ratio is 4.37. It is significant at .05 level and so, hypothesis no. 4 stands rejected. It implies that students having very high, high and moderate level of academic achievement differ from one another in their experience of examination stress.

Observation of table 4 reveals that the mean scores on examination stress of secondary school students with very high, high and moderate academic achievement are 44.75, 50.20 and 46.88 respectively. Significant paired comparison shows that as compared to students with very high academic achievement, students with high academic achievement experience higher stress. Students with moderate academic achievement do not differ from those with high or very high academic achievement on examination stress.

Thus, it can be inferred that level of creativity in a student does not influence his/her experience of examination stress. However, level of academic achievement tends to moderate examination stress. If the academic achievement is very high examination stress will be lower. A very high academic achievement boosts the confidence of the student and he/she is intrinsically motivated to make good preparation for the upcoming examinations and thus feel less affected by the pressure of examination. However, the students with high academic achievement find themselves under more pressure (parental as well as from teachers) to perform better and score higher marks as these scores, besides being markers of self- esteem, are also the gateways to taking up streams (science, arts and commerce) of one's choice and securing admission in a good college. This finding draws support from the investigation of Denscombe (2000) wherein he found that GCSE (General Certificate of Secondary Education of U.K.) results have a significant impact on the future life trajectory of students. They do influence access to future educational opportunities, both vocational and academic, including meeting college and university entry qualifications, and future occupational opportunities. The GCSE qualification also becomes an important marker of identity and self-worth. Therefore, it is suggested that teachers and parents should guide and motivate students in their learning throughout the session, let them realise the importance of good and strong preparation and thus help them beat the exam blues.

6. References

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