International Journal of Multidisciplinary Research and Development
Online ISSN: 2349-4182, Print ISSN: 2349-5979
Impact Factor: RJIF 5.72
Received: 04-10-2018; Accepted: 06-11-2018
www.allsubjectjournal.com
Volume 5 Issue 11; November 2018; Page No. 72-77

Socioeconomic status and creativity of pre university college students

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Abstract
This research article focuses on the effect of socio-economic status on creativity. In this study with regard to creativity–verbal, non-verbal and total creativity dimensions are considered and with regard to socio-economic status -high, moderate and low socioeconomic status (SES) are considered. Even Gender is considered as a Background variable of the study. The sample consisted of 300 boys and 300 girls, which were drawn by adopting stratified proportionate random sampling from the pre-university college students of Tumkur District. The data collected from the sample were analyzed by adopting t-test and ANOVA. The statistical analysis revealed that there was a main effect of socio-economic status on Creativity. On the other hand there was no interaction effect of SES and Gender on Creativity.

Keywords: socio-economic status, gender, creativity, ANOVA

Introduction

Without doubt every child is born with certain traits; however, it is up to the environment to nurture and develop these traits. Creativity is one of these traits, although, some researchers believe that creativity is dependent upon both inherent and biological factors (Y.P. Agarwal, 1990). However, others think that the environmental factors are important. Most scholars agree that creativity is one of the highest forms of cognitive functioning, and also that there is a positive correlation between creativity and high achievement according to Shimm & Ballen in the year 1996. Every child is born with the potential to be creative. Hence, it is important how that child is nurtured, as it will increase or decrease the potential nature. Parents, teachers or other people need a good environment for nurturing and teaching everything.

Godel (2006) claimed that socioeconomic status have a strongly important impact on a family and how parents behave with their children. In other words, usually, families with lower socioeconomic status have many economic hardship that cause stress and can interfere with their parenting abilities. In contrast, families in a high socioeconomic group demonstrate that parents have more time spend with their children. Also, lower socioeconomic status households experience extra stress, which can cause parents to use more punitive parenting practices. Moreover, Bradly and Corwyb (2002) reported that the families with a high socioeconomic status have more conversations than those from the low socioeconomic status, as well as read more, and provide more teaching experiences for their children (Godel, 2006).

Moreover, Mouchiroud and Lubart (2001) reported that lower socioeconomic situations may need longer instruction in creativity, and also salami (2010) suggested important recommendations for future research including comparing levels of creative students among different socioeconomic groups (P. J.Silvia, et.al, 2009) [6].

Need and Importance of the study

Creativity is man's greatest asset. It is the most highly valued qualities of human beings. There is no gainsaying that man over a few thousand years ago, was barbaric and brutal. He was nude, lived in caves, eating raw flesh of animals. He was probably no more than the animals among which he lived. When the first ray of creativity flashed into his mind, no one knew his inner self would have started thundering due to his innate creative potentialities, like an ocean surging with its roaring waves.

Herolbyon (1976) has oftenly remarked. "The planet survival depends on how successfully the potential of the gifted and creative children are realized and integrated". In order to change the destiny of any nation there is great need to identify and nurture this creative talent. As far as India is concerned, this potential was neglected and after a decade, it was realized that in order to keep pace with the developed countries of the world, identification and nourishment of creative talent is essential. It would be worthwhile here to quote the observation made in the report of Indian Education Commission (1964-66) "the dearth of competent and trained manpower is now felt in nearly every branch of national life and this probably is one of the biggest bottle necks to progress. Poor as we are financially, the poverty of trained intellect is still greater". The report further recommended sustained and energetic research in talent processes as talent is the most valuable asset a country can have. Recognition and nourishment of creative talent is the demand of present times in order to avoid cultural stagnation and promote cultural vitality. In fact the creative and the talented are "seed people, concept changers and pulse takers of the society". The idea of nurturing talent has however, now been accepted in our educational system. The new educational policy (1986) is an obvious effort to help the creative potential to blossom (David

G.Berry H, L.Henry, 2006) [4].

At present, the development and adjustment of the creative and gifted children is a matter of concern for parents, teachers and to all who are interested in the welfare of creative children and in the progress and welfare of their country in particular and mankind in general. As such creative children are valuable resource of any country Research studies on creativity is very much significant and meaningful at all levels of education in general and at pre-university level in particular. Education at this level is vital significance for the development of the individual in particular and nation in general because this is the level at which individuals have divisions to gain proficiency in selected subjects, which, in turn add them to a particular proficiency. This provided the researcher with an insight to know whether creativity play a role in determining the individual destiny (Future) and also to know the relevant factors which influence the development of creativity among pre-university students. Hence, the researcher intended to know whether the creativity of a person is being influenced by the factors like S.E.S, types of personality, gender, subject of study and birth ordinal position. Hence, the research problem is selected for study (G.L. Arora, 1999) [2].

Objectives of the study

1. To study the influence of different levels of SES of puc students on different levels of creativity.
2. To find out significant interaction effects of Gender and SES on different dimensions of Creativity of pre-university college students.

Review of related literature

Kaur, Praveen and Kharb, Deepak (1993) made an attempt to explore the creative abilities in children brought up in differential home, school and socio-cultural environment. Sample comprised of 144 students with an equal number of boys and girls in the age group of 10 to 12 years from the schools of Hissar District. The findings of study revealed that

1. Urban schools were better than rural schools in terms of physical facilities, school activities and teacher's behaviour.
2. Children of urban schools had scored higher on all the four aspects of creativity than their rural counterparts.
3. A significant positive correlation between creativity and home environment was found
4. Significant and positive correlation existed between creativity and socio-economic status.

A similar attempt was made by Nagpal. S. (1997) on the possibility of developing creativity and cognitive thinking in terms of academic achievements in a rural classroom through thinking games as advocated by "Genevan approach and objective based teaching models". The sample comprised of 66 students of class IV of Antah village, Kota district, Rajasthan. Tools used were self-made achievement test in science, coloured progressive matrices, culture fair test in intelligence, non-verbal creativity test of Wallah Kogan and socio-economic status scale. Data were treated with t-values, ANOVA, ANCOVA Kuskal Wallis test and contingency correlation.

It was found in the study that SES and intelligence were significantly related to the verbal creativity in all the groups.

Santhosh Arora (2000) [2], in his study concentrates on a comparative study of creative potential of congenitally and adventitiously visually impaired children. For matching on socio-economic status, the socio-economic status scale was administered, for equalizing the status to select the sample and match the sample on impairment, age, socio-economic status, family size, class, etc., the selected sample were then administered transcribed verbal test of creative potential in their schools. It was found in the study that,

1. The't' values among CVIB, CVIG and AVIB, AVIG groups are found significant 0.01 level. It indicates that the CVIB and AVIB groups are superior in comparison than their girl's counterparts. All the groups however, have only slight fluctuations on fluency scores. The't' values of boys and girls among the CVI and AVI groups are 16.9 and 0.5 respectively. The't' value of CVIB CVIG are significant. Mean scores of these groups (CVI) show that the CVIB group (boys) in superior in flexibility than the CVIG groups (girls).
2. Mean values of both the groups indicate the AVIG and AVIBG groups are superior than that of CVIG and CVIBG groups. Boys of both groups are homogenous on the creative ability i.e., originality.
3. The't' values of boys and girls of CVI and AVI groups are found significant at 0.01 level mean scores indicate the boys are superior in relation to creative potential than the girls.

Anice James (2001) [1] undertook a study on socio-cultural differences in creative thinking. It is a study done to examine the differences in creative thinking and its components owing to variations in socio-cultural factors. The findings of the study revealed that Gender was found to be second best predictor variable for discrimination between the HCT and LCT groups. Girls were found to be more creative than boys.

Hypotheses

1. There is no significant difference in verbal creativity, non-verbal and total creativity scores of Pre-university College students of low and moderate SES.
2. There is no significant difference in verbal creativity, non-verbal creativity and total creativity scores of Pre-university College students of low and high SES.
3. There is no significant difference in verbal creativity, non-verbal creativity and total creativity scores of Pre-university College students of moderate and high SES.
4. a. There is no significant main effect of gender of pre-university students on verbal creativity.
   b. There is no significant main effect of socio-economic status of pre-university students on verbal creativity.
   c. There is no significant interaction effect of socio-economic status and gender of pre-University students on verbal creativity.
5. a. There is no significant main effect of gender of pre-university students on non-verbal creativity.
   b. There is no significant main effect of socio-economic status of pre-university students on non-verbal creativity.
   c. There is no significant interaction effect of socio-

economic status and gender of pre-university students on non-verbal creativity.

6. a. There is no significant main effect of gender of pre-university students on total creativity.
   c. There is no significant main effect of socio-economic status of pre-university students on total creativity.
   c. There is no significant interaction effect of socio-economic status and gender of pre- University students on total creativity.

Sampling Procedures

Population of the study

The 1st pre-university students enrolled in different pre-university colleges of Tumkur district during the academic year 2008-09 constituted the population of the study.

According to the information obtained from Deputy Director, Pre-University Board, Tumkur District, it was found that the population of 1st Pre-University students enrolled in different colleges in different taluks in Tumkur district during the academic year 2008-09, were 15426.

Sample for the study

There were nearly 150 pre-university colleges affiliated to pre-university Board in Tumkur District. Out of 150 colleges only 25 pre-university colleges having optional subjects such as Arts, Commerce and Science were selected for the study. The size of the student population of these 25 selected I PUC Colleges was 9297. Out of 9297 student population, 600 students were selected from these colleges by following Stratified Proportionate Random Sampling.

Tools used for the collection of data

The tools used in the study were as follows:

Table 1: Showing variables, tools used and authors who devised them

Sl. No.	Variable	Instrument used	Devised by
1	Creativity	Verbal and non-verbal test of creativity	Baqer Mehdi (1973)
2	SES	SES scoring key	L. Laxminarayana

T-test

Hypothesis -1

There is no significant difference in the verbal, non-verbal and total creativity scores of pre-university college students of low and moderate Socio-Economic Status.

Table 2: Number, Mean, SD, Mean difference. Standard Error difference, df and t-value of verbal, non-verbal and total creativity scores of pre-university college students of low and moderate Socio-Economic Status.

Creativity	Socio-Economic status	Number	Mean	SD	Mean difference	Standard Error difference	df	t-value
Verbal creativity	Low	159	63.02	37.398	5.525	3.482	442	1.587 (NS)
	Moderate	285	68.54	33.880				
Non-verbal creativity	Low	159	132.01	42.267	12.703	4.038	442	3.146 (S*,S**)
	Moderate	285	144.72	39.945				
Total creativity	Low	159	195.03	68.607	18.228	6.389	442	2.853 (S*,S**)
	Moderate	285	213.26	62.175				

In the above table, with regard to the verbal creativity scores of pre-university college students of low and moderate socio-economic status the obtained t-value 1.587 is lesser than the table value 1.97 at 0.05 level of significance for df 442. Therefore, null hypothesis was accepted. It means that the obtained t-value was found to be not significant. So it was inferred that there is no significant difference in the verbal creativity scores of pre-university college students of low and moderate SES. This means that the socio-economic status has no significant effect on verbal creativity.

In the above table, with regard to the non-verbal creativity and total creativity scores of pre-university college students of low and moderate socio-economic status the obtained t-value is greater than the table value at.05 and.01 level of significance. Therefore there is significant difference in the non –verbal creativity and total creativity scores of pre-university college students of low and moderate SES. Hence, null hypotheses were rejected and alternative hypotheses were accepted. As the mean scores of students of moderate SES is greater than the mean scores of low SES students, the moderate SES students excel the low SES students in non-verbal creativity and total creativity.

Hypothesis 2

There is no significant difference in the verbal, non-verbal and total creativity scores of pre-university college students of low and high Socio-Economic Status.

Table 3: Number, Mean, SD, Mean difference. Standard Error difference, df and t-value of verbal, non-verbal and total creativity scores of pre-university college students of low and high Socio-Economic Status.

Creativity	Socio-Economic status	Number	Mean	SD	Mean difference	Standard Error difference	df	t-value
Verbal creativity	Low	159	63.02	37.398	14.847	4.121	313	3.603 (S*,S**)
	High	156	77.87	38.703				
Non-verbal creativity	Low	159	132.01	42.267	20.224	4.834	313	4.188 (S*,S**)
	High	156	152.26	43.531				
Total creativity	Low	159	195.03	68.607	35.090	7.624	313	4.603 (S*,S**)
	High	156	230.12	66.659				

In the above table, with regard to the verbal creativity, non-verbal creativity and total creativity scores of pre-university college students of low and high socio-economic status the obtained t-value is greater than the table value at.05 and.01 level of significance. Therefore there is significant difference in the verbal creativity, non –verbal creativity and total creativity scores of pre-university college students of low and high SES. Hence, null hypotheses were rejected and alternative hypotheses were accepted. As the mean scores of students of high SES is greater than the mean scores of low SES students, the high SES students excel the low SES students in verbal creativity, non-verbal creativity and total creativity.

Hypothesis 3

There is no significant difference in the verbal, non-verbal and total creativity scores of pre-university college students of moderate and high Socio-Economic Status.

Table 4: Number, Mean, SD, Mean difference. Standard Error difference, df and t-value of verbal, non-verbal and total creativity scores of pre-university college students of moderatre and high Socio-Economic Status.

Creativity	Socio-Economic status	Number	Mean	SD	Mean difference	Standard Error difference	df	t-value
Verbal creativity	Moderate	285	68.54	33.880	9.332	3.439	439	2.710 (S*,S**)
	High	156	77.87	35.703				
Non-verbal creativity	Moderate	285	144.72	39.945	7.541	4.108	439	1.836 (NS)
	High	156	152.26	43.531				
Total creativity	Moderate	285	213.26	62.175	16.862	6.354	439	2.654 (S*,S**)
	High	156	230.12	66.659				

In the above table, with regard to the verbal creativity and total creativity scores of pre-university college students of moderate and high socio-economic status the obtained t-value is greater than the table value at.05 and.01 level of significance. Therefore there is significant difference in the verbal creativity and total creativity scores of pre-university college students of moderate and high SES. Hence, null hypotheses were rejected and alternative hypotheses were accepted. As the mean scores of students of high SES is greater than the mean scores of moderate SES students, the high SES students excel the moderate SES students in verbal creativity and total creativity.

In the above table, with regard to the non-verbal creativity scores of pre-university college students of moderate and high socio-economic status the obtained t-value 1.836 is lesser than the table value 1.97 at 0.05 level of significance for df 439. Therefore, null hypothesis was accepted. It means that the obtained t-value is found to be not significant. So it was inferred that there was no significant difference in the non-verbal creativity scores of pre-university college students of moderate and high SES.

ANOVA

Hypothesis 4

1. There is no significant main effect of Gender of pre-university students on verbal creativity.
2. There is no significant main effect of Socio-Economic Status of pre-university students on verbal creativity.
3. There is no significant interaction effect of Socio-Economic Status and Gender of pre-university students on verbal creativity.

Table 5: Represents the summary of ANOVA of verbal creativity scores of pre-university students with their Gender and Socio-Economic Status

Source of variance	Sum of squares	df	Mean sum of squares	F-value
Gender	63.775	1	63.775	0.01 (N.S.)
SES	16630.38	2	8315.019	6.635**
Gender* SES	77.472	2	38.736	0.031 (N.S.)
Error (within set)	744447.827	594	1253.279	
Total	3660844.000	600		

(** Significant at 0.01 level) (N.S.: Not Significant)

The analysis of variance of verbal creativity scores of pre-university students with their gender and socio-economic status is indicated in table number 4.41. the F-value (0.01) of gender (gender) was found to be not significant at 0.05 and 0.01 level of significance. Hence, the null hypothesis was accepted. This indicates that gender has no significant effect on verbal creativity scores.

The F-value (6.635) for the main effect of socio-economic status was found to be significant at both 0.01 and 0.05 levels of significance. Hence, the null hypothesis was rejected and alternative hypothesis was accepted. This indicates that the socio-economic status such as low, moderate and high have significant effect on verbal creativity.

The F-value (0.031) of interaction effect was found to be not significant. Therefore, the null hypothesis is accepted and there is no significant interaction effect on verbal creativity scores.

In case of socio-economic status of pre-university students, it was found that high SES students excel moderate SES students and moderate SES students excel low SES students in verbal creativity. This shows that high socio-economic status students are extremely creative than that of moderate and low SES students. This was confirmed by ‘t’-test.

Hypothesis -5

1. There is no significant main effect of Gender of pre-

university students on non-verbal creativity.
2. There is no significant main effect of Socio-Economic Status of pre-university students on non-verbal creativity.
3. There is no significant interaction effect of Socio-Economic Status and Gender of pre-university students on non-verbal creativity.

Table 6: Represents the summary of ANOVA of non-verbal creativity scores of pre-university students with their Gender and Socio-Economic Status.

Source of variance	Sum of squares	df	Mean sum of squares	F-value
Gender	1739.044	1	1739.044	1.007(N.S.)
SES	29813.289	2	14906.644	8.630**
Gender * SES	660.968	2	330.484	0.191(N.S.)
Error (within set)	1025978.283	594	1727	
Total	13385130.00	600		

(** - Significant at 0.01 level) (N.S. – Not Significant)

The analysis of variance of non-verbal creativity scores of pre-university students with their gender and socio-economic status is indicated in table 6 F -value (1.007) of gender was found to be not significant at 0.05 and 0.01 level of significance. Hence, the null hypothesis was accepted. This indicates that the gender has no significant main effect on non-verbal creativity scores. There is no need to go for t-test.

The F-value (8.630) for the main effect of socio-economic status was found to be significant at both 0.01 and 0.05 levels of significance. Hence, the null hypothesis was rejected and alternative hypothesis was accepted. This indicates that the socio-economic status such as low, moderate and high have significant main effect on non-verbal creativity.

The F-value (0.191) of interaction effect was found to be not significant. Therefore, the null hypothesis was accepted and there was no significant interaction effect on non-verbal creativity scores.

In the case of socio-economic status of pre-university students, it was found that high SES students excel moderate SES students and moderate SES students excel low SES students in non-verbal creativity. This shows that high SES students are extremely creative than that of moderate and low SES students. This was confirmed by 't'-test.

Hypothesis 6

1. There is no significant main effect of Gender (Gender difference) of pre-university students on total creativity.
2. There is no significant main effect of Socio-Economic Status of pre-university students on total creativity.
3. There is no significant interaction effect of Socio-Economic Status and gender of pre-university students on total creativity.

Table 7: Represents the summary of ANOVA of total creativity scores of pre-university students with their Gender (gender) and Socio-Economic Status.

Source of variance	Sum of squares	df	Mean sum of squares	F-value
Gender	2468.875	1	2468.875	0.580 (N.S.)
SES	88409.365	2	44204.883	10.392**
Gender * SES	504.276	2	252.138	0.059 (N.S.)
Error (within set)	2526682.199	594	4253.674	
Total	29801078.00	600		

(** - Significant at 0.01 level) (N.S. – Not Significant)

The analysis of variance of total creativity scores of pre-university students with their gender and socio-economic status is indicated in table 7 F-value (0.580) of gender was found to be not significant at 0.05 and 0.01 level of significance. Hence, the null hypothesis was accepted. This indicates that the Gender has no significant main effect on total creativity scores.

The F- value (10.392) for the main effect of socio-economic status was found to be significant at both 0.01 and 0.05 levels of significance. Hence, the null hypothesis was rejected and alternative hypothesis was accepted. This indicates that the socio-economic status such as low, moderate and high have significant main effect on total creativity.

The F-value (0.059) of interaction effect was found to be not significant. Therefore, the null hypothesis was accepted and there was no significant interaction effect on total creativity scores.

In the case of socio-economic status of pre-university students, it was found that high SES students excel moderate SES students and moderate SES students excel low SES students in the total creativity. This shows that high SES students are extremely creative than that of moderate and low SES students. This was confirmed by 't'-test.

Educational Implications

The results of the study have revealed that socio-economic status, is the major contributory factor on creativity.

It is evident from the study that lower SES groups scored less on the scale due to their impoverishment opportunity and thereby fail to secure bright environment which would help them do better in a new learning situation like testing situation. The implications here is that the environment of the lower SES groups was not as stimulating towards new learning situations as that of upper SES groups.

As such, to help improve the creativity of the children belonging to low socio-economic strata, special programs should be taken up by the schools. Parents should also provide them better facilities within their means. Every father and mother should be alert to notice the child's creative work and give him proper encouragement, guidance and assistance. The feeling of confidence in one's own original ideas should have its foundations in childhood and parents can do as much as, if not more than the teachers, to encourage that attitudes. Parents have many opportunities for encouraging creative ability by carefully looking after their interests and accepting their ideas.

Teacher dealing with the students belonging to low S.E.S and also parents of such students may be oriented in this direction so as to help them to become aware of such factors, opportunities and other facilities which promote creativity among students belonging to lower SES.

Parents should also encourage the habit of reading among their wards. They should be encouraged to record what they think about the different episodes in what they read. This is advantageous in that it makes them appreciate the value of their imagination.

It may be reiterated that, in the age of explosion of constructive as well as destructive knowledge. It is the creative individual who can adopt himself to the changed

environment in which he will find himself sooner or later. Hence, creativity is the urgent need of the coming generations and the schools must raise to the occasion and train the children in the creative work.

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