A Comparative Assessment of the Creativity in Adolescents Across Two Categories of Schools in Pithoragarh, Central Himalaya

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Abstract

The present study, conducted among the adolescent students of Class XII attempts a comparative assessment of creativity (i) in girls versus boys, (ii) in students enrolled in government run schools versus those enrolled in private schools, and (iii) across different economic groups of students. Adolescents, in the age group between 15 and 18 years, and studying in the 12th standard were selected across six different schools: Private run-3 and government funded-3, located within the township of Pithoragarh, Uttarakhand. Altogether 178 adolescents, represented by 103 boys and 75 girls were selected randomly. Measurement of potential creativity was done through Passi tests of creativity. In an overall appraisal of difference between sexes in ability, achievement, and readiness, the differences were very slight, and certainly not sufficient to warrant the fact that creativity differs across the sex. However, a sharp difference is conspicuous in the functioning of creativity of the adolescents, enrolled in private run with those enrolled in government run schools, with creativity level being significantly more in adolescents enrolled in the former. Creativity shows a positive correlation with the socio- economic status of the family, irrespective of the sex of the student. It is strongly felt that if the potential of creativity is to be harnessed, a requisite motivating environment, which boosts up their self-concept and achievement motivation, remains obligatory.

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Introduction

Social work, as a discipline and a professional method, is the process of helping people to help themselves to become integral, independent, productive and authentic human beings. In the wider sense, it also aims at the restructuring of the preset defective social systems and practices for the construction of a better world through widening the horizons of human existence and achievements. If this is to be effected, i.e., if tomorrow is to be a better and brighter one, today's children and adolescents are to be made more focused. For this, the urgent attention of both theoretical and practical social work is required with the creativity of the adolescents, since it is their creativity, which is going to design and determine the future, for as per Erickson (1963), *Adolescence is the most decisive period in the formation of an adult personality.*

Adolescence remains the most energetic period of development, ruled by the inquiring mind, roving curiosity, intellectual robustness and creative energy. It is the period when the instinctual creativity of the childhood is replaced by rational creativity, out of the development of operational and formal thinking. The convergent style of childhood will be challenged and the divergent options will start to rule and guide them. This immense productive force in them is of vital importance, not just for the individual, but society at large. And hence, the same needs to be nurtured, guided, so that the individual's creativity becomes an invariable cog in the overall development of the society.

Needless to emphasise, creative insights form an essential component of the survival process, in turn leading to the prosperity and sustainable development of the society. It is very often pointed out that the potential capacity to be creative is not a characteristic of a selected few, but rather a process that is inherently present in one and all. It is infact, a dynamic process in person, which helps him/her to achieve dignity and meaning in life. Hence, more creative a person, more independent he/her would be, and thus more contributing to the society, since he/she would accomplish much more, at much less expense, than other less creative people. In the present, socio-cultural context of institutionalised values, where the potential creative abilities are very often neglected and rather condemned and disparaged, this natural abundant grace is very often in danger of institutionalisation and convergence.

Creativity: The Definition

As per Dehaan and Havighurst (1961), potential creativity is defined as the capacity, which leads to the production of something new and desirable. This new product may be new to the society or merely new for the individual, who creates it. According to Rogers (1970), creative potential is the capacity for the emergence in the action of a novel rational product growing out of the uniqueness of the individual, on the one hand, and the materials, events, people or circumstances of his life on the other. While, Flanagan (1963), defines creativity as a broad concept of being potent to bring forth almost anything new in a way of an idea, a formulation, a model, or a theory of an aesthetic or practical product. Hence, the term creativity may be defined as the potential capacity of

human being to be multi-dimensional in thinking and the creation of something unique and new. This potential capacity is functionalised or expressed through the divergent thinking and creative productions, but is clearly observable or otherwise represented through certain characteristics and behavioural traits. This potential creativity, remains an inner call to deviate from the traditional single-headed convergence to the multi-faceted new flexible way of inquiry and creation, and is a basic instinct to be different and unique through directed, rational and divergent thinking in the process of living and making the existence successful and productive.

Adolescence: The Concept and the Creativity

Derived from the Latin *adolescere*, the literal meaning of 'adolescence' is apparent- '*to grow*' or '*to grow to maturity*'. The adolescence, as conceived presently, has more profound, broader meaning, and not just confined to the biological aspect-the attainment of the reproductive potency, and thus is inclusive of the process of mental, emotional and social maturation! However, adolescence is do marked by the attainment of puberty, and thus marked by appearance of secondary sex characteristics, and ends with psychosocial markers, such as adult responsibilities. And hence, this whole process involves profound intellectual changes and transformations, typical of the adolescence thinking, all of which enables him/her to integrate into the social relationships of the adults, which remain, in fact the most conspicuous characteristics of this period of development. Invariably, for all the causes enumerated above, as well as myriad others, this period remains the most difficult period of transition, very often described by phrases such as '*storm and stress*', *identity crisis*, *the generation gap*, *the turmoil period* (Hall 1943).

In the case of the adolescents, the significance of development and utilisation of divergent thinking is very high, since it is during this time that they bloom out with their cognitive field through the development of their operational thinking. Importantly, while creativity during childhood is instinctual, the creativity in case of the adolescents is more rational and productive, and this becomes more and more obvious and conspicuous with age. What is more important is the fact that this creativity and its evolvement can or rather should be treated as yet another cognitive capacity like intellect, to be harnessed, moulded, directed and focused through continuous interventions, leading to novel contribution. According to Getzels and Jackson (1962), creative thinking (the functionalised elaboration of the potential creative capacity) is the highest of mental functions and creative production, the highest peak of human achievement; and hence, if appropriate measures are not taken to nurture this potentiality, the achievements and success in life will be badly affected and if so, they not just become problematic to themselves, but to the society, at large. And henceforth, it becomes all the more pertinent to understand and appreciate the creativity in adolescents, that appropriate training and care be provided, so that the person attains optimum achievement.

Why the need of the present study

Even though, there are numerous studies and theoretical formulations about creativity in general, they all generally focus on children's creativity. There are some studies pertaining to the creativity of artists, literary writers and other similarly classically accepted creative groups, however, no studies, or rather any study has been done on creativity in adolescents. Lest to emphasise, adolescence remains the most important period in life, more so as concerns the development and utilisation of creativity. Infact, the researchers have not yet made any ample attempts to study the specific reality of this unique period scientifically. Another important aspect of creativity remains the fact that many a creative talent go into disuse between the age group 16 to 19. Again, whatever studies pertaining to creativity in adolescents have been mostly carried out in the Western or European countries, wherein the culture is significantly different from our own and thus the need to undertake the same in the prevalent socio-cultural milieu as well as economic conditions, at home. It is all the more important, that creative abilities are identified early in life and creative individuals provided with viable environment sustaining and encouraging their innate urge to contribute.

There is a general perception among the populace that girls are more creative than boys; that the pattern of study in the private schools is more conducive for creativity than that of government run schools, and that economically well off students score relatively better as compared to the less fortunate ones. Even though, these perceptions and observations are so very conspicuous, however, very little or no serious scientific inquiry or research has been made to verify their veracity, and hence the present study, conducted among the adolescent students of Class XII attempts a comparative assessment of creativity (i) in girls versus boys, (ii) in students enrolled in government run schools versus those enrolled in private schools and (iii) across different socio-economical class of students.

Methodology

Adolescents, in the age group between 15 and 18 years and studying in the 12th standard were selected across six different schools-privately run-3 and government funded-3, located within the township of Pithoragarh, Uttarakhand. The selection of the schools was done on two basic criteria-(i) the location of the schools (rural versus urban), and (ii) privately run versus government funded. Altogether 178 adolescents, represented by 103 boys and 75 girls were selected randomly. Measurement of potential creativity was done through Passi tests of creativity (Passi 2001). The collected data were coded according to the answer keys, and the score of each item of each tool of each individual respondent were abstracted and summated accordingly. The scores were then transferred to the master sheet, tabulated and edited for appropriate statistical treatment. The entire process of data analyses and interpretation was organised on the basis of the objectives and the hypotheses. The statistical techniques used for data analyses include the percentage analyses, Pearson's correlation test, t-test for equality of means and multiple

regressions. Eventually, the results derived from the statistical treatment of the data were interpreted on the basis of the available theories and other established findings of the research studies. The study delved into the more commonly perceived hypothesis about creativity, i.e. (i) *Creativity potential is significantly determined by the sex of an individual*, (ii) *There is a significant difference in creativity between adolescents studying in private and government run schools*, and lastly, (iii) *Creativity potential is significantly determined by the economic condition of an adolescent.*

Results and Discussion

Hypothesis 1: *Creativity potential is significantly determined by the sex of an individual.*

Creativity scores were measured in terms of three categories- below 40 as low, between 40-70 average, and more than 70, as high level of creativity. The relative distribution of the adolescents across these three different levels of creativity are depicted across the two divides (i) Boys versus girls (table 1), and (ii) Government versus privately run (table 2). A comparative assessment of the two groups of adolescents, boys and girls, brings forth the fact that creativity level is *not* determined by the sex (figure 1), and hence the above hypothesis remains a null hypothesis. Again, irrespective of the sex of adolescents, the creativity is high among the adolescents, with the average score (approx. 76) in totality (table 1).

Table 1

Average Test Scores by the Adolescents across the Gender Divide

CLASS	*AVERAGE TEST SCORE*					
	Problem test	*Unusual uses test*	*Consequences test*	*Inquisitiveness test*	*Square puzzles test*	*Total Marks*
Girls	14.5	25.6	16.1	7.7	12.9	76.80
Boys	12.5	25.3	17.8	7.2	13.3	75.06
Average	13.5	25.45	16.95	7.45	13.1	75.93

However, creativity levels across the different tests do differ across the sex divide, as exemplified by the Table 1, where the girls have fared slightly better than the boys. It is however, generally observed that gender differences in verbal, visual-spatial and mathematical performances are not only very small but also shrinking in recent years that boys and girls are increasingly becoming more similar in academic performance (Hyde and Linn 1988). Mixed results (as depicted in table 1) are do found, when problem solving, creativity, analytical skill, and cognitive styles are examined. Boys are found to possess greater ability to break 'sets' or to try new approaches in problem solving, as exemplified by the relative higher score earned by them in square puzzle test (table 1). They are generally more field independent, i.e. free from the effects of the context in which the problem is placed, as verified by the relative higher score in consequences test (table 1).

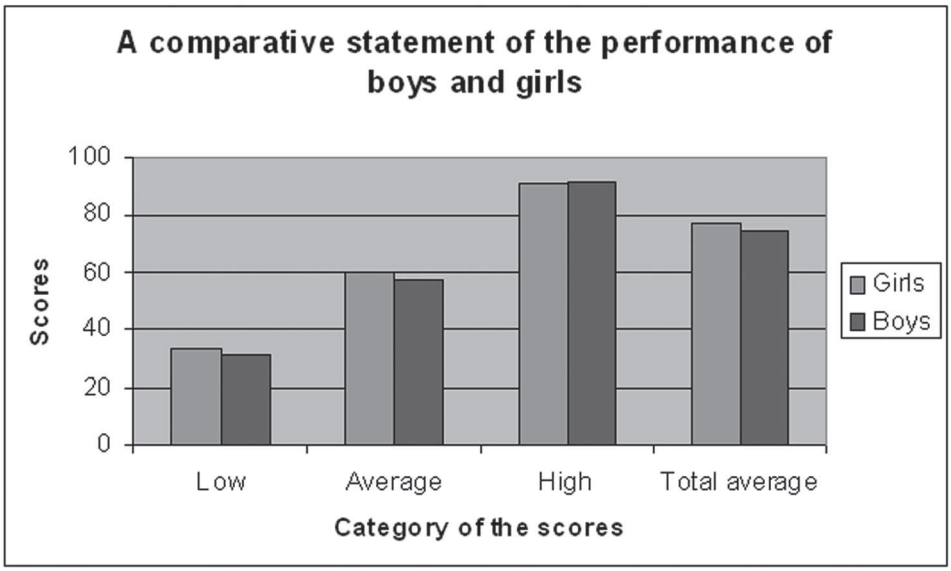

Figure 1: *Distribution of low, average and high groups of creativity across the sex groups*

Hypothesis 2: *There is a significant difference in creativity between adolescents studying in private and government run schools.*

When the adolescents are segregated in terms of the schools they were enrolled in, an entirely different picture emerges out- that the creativity level is significantly more in adolescents enrolled in the privately run schools, as compared to the adolescents enrolled in government schools. While the average score of creativity for government schools is below 70, the figure for private schools is notch ahead, more than 80 (Figure 2). This brings forth yet another facet of creativity, that it is synonymous with the kind of motivating environment, available to the adolescents, and thus, even though the kind of factors responsible for this significant high score of creativity in private schools was not studied, the figure 2 does bring forth the fact that motivation factor is relatively lower in case of government schools. One of the factors could be (as observed during the fieldwork) the absence of teachers and thus lack of resource, which could satisfy the urge and enquiries of adolescents in government schools; and concomitantly the very presence of the same in private run schools.

Yet another feature related with the private-government school divide remains the relative proportion of rural students enrolled in these two categories of schools, with the disproportionately large section of rural (and more or less belonging to lower socio-economic status-SES) getting themselves in government schools, in contrast to proportionately large section of higher SES wards opting

for private run schools. The results are in conformity with the fact that mean IQ (as correlated with the creativity level) is consistently lower in rural children as compared to that of urban children (Asher 1935, Chapanis and Williams 1945, Wheeler 1942). However, overall the results strengthen the fact that the adolescence remains the most creative period in life, since the findings that the adolescents are potentially highly creative than low or average creative (Figure 2), lends credence or rather consolidates the results of Eysenck (1972), Guilford (1966), and Anderson et al. (1981).

Table 2

Distribution of Low, Average and High Groups of Creativity across the Two Hypotheses-Girls versus Boys, and Govt. School versus Private Schools, Measured

Hypotheses Tested	*Low*		*Average*		*High*		*Total*	
A. Boys vs. Girls	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
Frequency	5	1	42	32	56	42	103	75
Percentage	83.33	16.66	56.76	43.24	57.14	42.86	57.86	42.14
B. Govt. vs. Private School	*Govt.*	*Private*	*Govt.*	*Private*	*Govt.*	*Private*	*Govt.*	*Private*
Frequency	5	Nil	53	23	35	62	93	85
Percentage	100	-	69.74	30.26	36.08	63.92	52.25	47.75

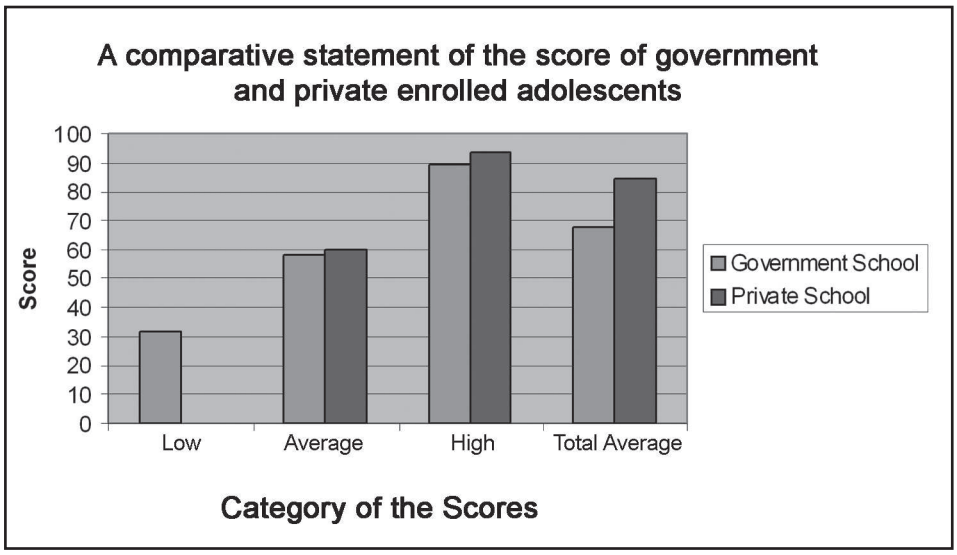

Figure 2: *Distribution of low, average and high groups of creativity of the government based and private run schools*

Hypothesis 3: *Creativity potential is significantly determined by the economic condition of an adolescent.*

The levels of creativity (low, average and high) were studied across the economic divide, across five categories of monthly income of the parents (Table 3). The results were astonishing: creativity showed a positive correlation with the economic condition of the family, irrespective of the sex of the student (Figure 3), which could be correlated with the fact that as the economic profile of the family improves, so does the ability to enroll their wards to a better school (mostly in the private run schools). Statistically, it is inferred that there is no significant difference between the male and female adolescents, with respect to their creativity, since the calculated 't' value stands at 0.54, which is less than the table value of 1.96 at .05 level. At the same time, the calculated t value-5.19, is far greater than the table value of 1.96 at 0.05 level, and thus is significant for the creativity as measured for the students enrolled in government versus private run school adolescents, signifying that there exists a significant difference in the creativity level of adolescents of the private run schools, as compared to those adolescents, enrolled in government schools (Table 4).

The above two facts-(i) creativity score being higher in adolescents enrolled in private run schools, as well as (ii) the economically well off adolescents, and their greater percentage in private schools, should be an eye opener for the policy makers, as regards the status of secondary education in the state government schools, where the staff is

Table 3: **Distribution of Low, Average and High Groups of Creativity Across the Economic Divide**

Economic Divide (monthly income)	*CREATIVITY LEVEL*															
	Low				*Average*				*High*				*Total*			
	Girls		*Boys*		*Girls*		*Boys*		*Girls*		*Boys*		*Girls*		*Boys*	
	Freq.	*% age*	*Freq.*	*% age*	*Freq.*	*% age*	*Freq.*	*% age*	*Freq.*	*% age*	*Freq.*	*% age*	*Freq.*	*% age*	*Freq.*	*% age*
<5,000	Nil	-	2	100	8	38.09	13	61.90	3	30	7	70	11	33.33	22	66.66
5,000-10,000	1	25	3	75	18	62.07	11	37.93	11	57.89	8	42.11	30	57.69	22	42.31
10,000-15,000	Nil	-	Nil	-	4	25.00	12	75.00	9	45	11	55	13	36.11	23	63.69
15,000-20,000	Nil	-	Nil	-	7	63.64	4	36.36	5	29.41	12	70.59	12	42.86	16	57.14
>20,000	Nil	-	Nil	-	3	37.50	5	62.50	6	28.57	15	71.43	9	31.03	20	68.96

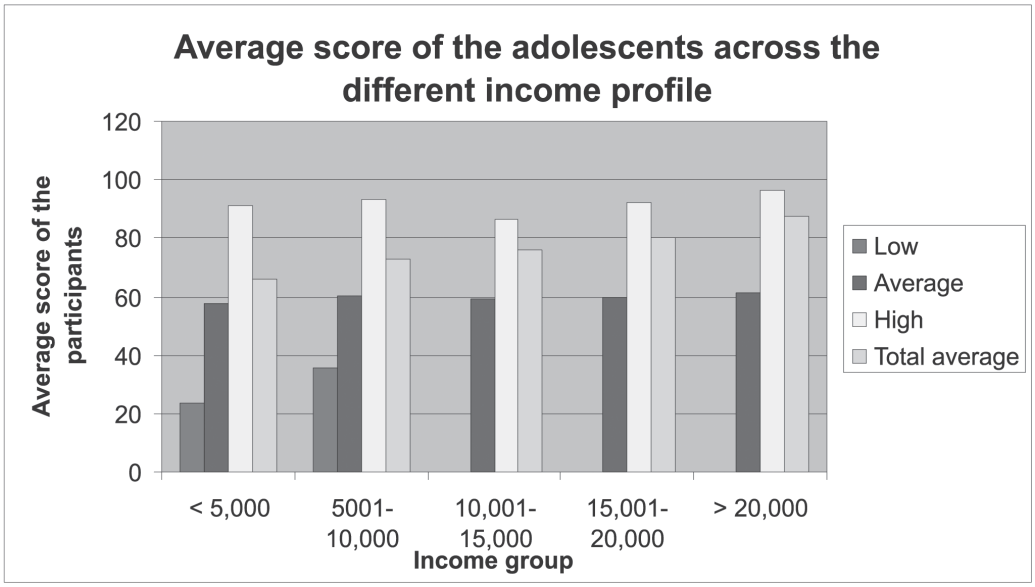

Figure 3: *Distribution of low, average and high groups of creativity across the economic divide*

more qualified, more highly paid, as compared to the private run schools, where the opposite exists. The answer lies in the fact that in the privately run schools, *the staff is made to work*, in contrast to the government schools, where the staff is more or less-conspicuous by their complete absence.

Socio-economic status (SES) encompasses a number of variables, including family income, parents' occupations, and formal education. Invariably, student's performance is correlated with the socio-economic condition or status of his or her parents. Infact, wards of the average SES parents tend to be higher academic achievers in contrast to the lower SES parents' wards, who are at greater risk of dropping out from the school (Frazer and Wilkinson 1990). This phenomenon could be explained thus- the parents in many lower SES households had little education, which in turns affects the quality of their children's education in variable ways, for example, parents with little education very often cannot help their children with schoolwork. Also, researches indicate that children's early experiences are definitely related to later school success (Laosa 1982). The differences in creativity, thus are found in children belonging to different social classes, and the influence of environmental stimulation on development of intelligence (a corollary of creativity) is well established-upper SES groups contribute a disproportionately large number of intellectually gifted and disproportionately small numbers of mentally retarded children to the total population (McGhee and Lewis 1942, Bayley and Jones 1937).

Table 4

Details of Equality of Means between the Creativity of Government vs Private School Students, and between Boys and Girls Adolescents

Group	*Sample*	*Number*	*Mean Difference*	*Standard Error Difference*	*t-Value at .05 Level*
1. Boys and girls	Boys	103	1.74	3.21	0.54
	Girls	75			
2. Govt. vs. Private	Govt. School	93	15.94	3.07	5.19
	Private School	85			

Conclusion

In an overall appraisal of difference between sexes in ability, achievement, and readiness, one may conclude that differences are very slight, and certainly not sufficient to warrant grouping them into separate classes. There is a considerable difference in the functioning of creativity of the adolescents, enrolled in private run and government run schools. It is strongly felt that if the potential of creativity is to be developed to appropriate fruits, there should be a purposeful effort and attempts in a very encouraging atmosphere, which boosts up their self concept and achievement motivation (Getzels and Jackson 1962, Busse 1981, Torrance 1966), which unfortunately, is at present lacking in the government run schools.

Creativity does not come about in a vacuum. Empirical work carried out by investigators trained in social psychology tells us that there is a direct link between the motivational orientation brought by a student to a task and the likelihood of his or her being creative at that task, and it is the environment that in large part shapes that motivational orientation. Giftedness can be nurtured, if conditions are right for an appropriate interaction to take place between the individual and the environment. Close attention thus must be paid to school climate, if student motivation, creativity, and special talents are to be developed. Infact, motivation is one of the biggest ways to enhance creativity. The development of creativity could be accomplished through *teaching creatively* and *teaching for creativity*. Schools may offer a flexible learning atmosphere, where children can express themselves freely and positively. A good teacher should be an expert in creativity, facilitator of creativity and a practitioner of creative curriculum. The students ought to be given opportunities to exercise their brain, their curiosity and imagination has to be stimulated and unusual ideas and responses reinforced. Some of the steps, which could be implemented at the level of the school (as per our experience), are the following:

- towards realisation of the creative potential, particular attention must be paid to the promotion and maintenance of intrinsic motivation in the classroom.
- there is a direct link between the motivational orientation brought by

a student to a task and the likelihood of his or her being creative at that task, and it is the environment that in large part shapes that motivational orientation.

- particular attention must be paid to the impact of extrinsic constraints on the motivation and performance of gifted children coming from linguistically and culturally diverse backgrounds.
- when children experience the interpersonal context of the classroom as supporting of self-determination, they are more intrinsically motivated.
- gifted and talented students, who consistently approach their class work with high levels of skills, may be specifically impacted by the negative effects of extrinsic constraints, which threaten their perceptions of self-determination.
- teachers must work diligently to create an interpersonal atmosphere, which allows students to feel in control of their learning process.

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