

MULTI-DIMENSIONAL STUDY OF THE INTELLECTUALLY GIFTED ADOLESCENTS

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The present study is aimed at studying some intellectual and non-intellectual endowments and characteristics of the intellectually gifted children and also to see how their self-development could be influenced by a planned orientation through lectures and exercises. 740 boys and 520 girls from five randomly selected senior secondary schools having IQ of 145 or above comprised the sample for study. Intelligence, interests, self-esteem, creativity, neuroticism and extraversion, anxiety and sociometric status were studied of such students. These students were given eight sessions of orientation consisting of lecture-cum-demonstration of communication skills, creative thinking and problem solving, leadership and initiative, self-motivation techniques, interpersonal relations and self-development. The results of the study show that gifted children need three things from their parents and teachers. These are (i) acceptance (ii) understanding and (iii) superior insight into problems given their ability for generalising, reasoning and dealing with abstraction. They learn readily and easily, have good memory to listen to. Parents must give active help to their child in assisting him/her to discover his/her assets and limitations - physical, mental and social and to match these with the requirements of different vocations.

KEYWORDS: Intellectually Gifted, Interests, Creativity, Academic Achievement, Personality

INTRODUCTION

Over 2000 years ago, Plato advocated that children with superior intellect be

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selected at an early age and offered a specialised form of instruction in science, philosophy and metaphysics. Plato felt that the survival of Greek democracy was contingent upon its ability to educate the superior citizens for leadership positions in society. History records with authenticity that civilizations like Egypt, Rome, Greek, Harappa and China owe their greatness largely to the efforts of their rulers to identify develop and exploit the intellectual superiority in the citizens. Khatena (1982) rightly observes that "It is the creative potential of the gifted and the talented that excites us and that removes the issue from some kind of educational frill to the central question of whether our society can maximise creative performance in its adults soon enough to avoid disaster". His observation although made for the American society appears to be more relevant to Indian situation where total emphasis for the last many centuries has been on 'education for all' and where gifted children seldom get opportunities to reach the actualization referred to above.

The monumental five-volume longitudinal study by Terman and his associates (1959) of 1528 gifted urban children of California who were followed from Kindergarten through high school and, then, on through mid life marked the beginning of 'gifted child care programme' in the world. Terman concretises the task connected with the gifted children in the following words.

"..... to identify the internal and external factors that help or hinder the fruition of exceptional talent, and to measure the extent of their influences, are surely among the major problems of our time. These problems are not new; their existence has been recognised by countless men from Plato to Francis Galton. What is new is the general awareness of them caused by the manpower shortage of scientists, engineers, moral leaders, statesmen, scholars and teachers that the country must have if it is to survive in a threatened world."

India lacks this awareness. Assertions made here and there by educationists and psychologists are usually unheeded in the wake of emphasis on the limited meaning of democracy and renewed gusto favouring the implementation of policy of reservation and thus ignoring if not murdering merit or gift. If some Termans decide to be born in India, they will have to struggle against heavy odds, they may face infanticide. It was pointed out by Sharma (1980) that 17% of University toppers remained under employed and employment was seldom available on the strength of merit alone. Not long ago 101 College/University meritorious boys and girls, for a simple purpose of registering their protest against the refusal to recognise merit resorted to self-immolation. In short the movement to which Terman refers is a far-off dream, but beginnings have to be made, no matter what price is asked for its birth and growth. Democracies need the gifted citizens for their growth and survival but being in acute minority the gifted cannot make their presence felt.

REVIEW OF RELATED LITERATURE

What is required to be done has been enunciated by Terman and we have miles to go. The present study is only one step forward beyond what has been done by Suri (1973), Saxena (1980), Rajguru (1987), Singh (1993), Sair (1998), Taj and Bargava (1999), Winner (2000), Prusty (2001), Ahmed (2002), Biswas (2002), Meenakshi (2003), Devi (2003), Singla (2008), Ani (2009) and Kim (2011) in the Indian Setting.

Studies carried out by them show that gifted students are more confident, mature, anxious, highly competitive, more adjusted, emotionally stable, obedient, have high super-ego sociable, bold, intelligent, relaxed, self-significant, and practical in comparison to their average counterparts. They are self-efficacious, use cognitive strategies as compared to non-gifted peers (Hong & Aqiu, 2004). Gifted students are higher on openness to experience and lower on anxiety and neuroticism (Zeidner & Shani-Zinorich, 2011).

The personality characteristics of highly able youth have been investigated extensively (Chiang, 1991; Cordrey, 1986; Gallagher, 1987; Geiger, 1992; Hawkins, 1997; Jackson, 1989; McCarthy, 1975; McGinn, 1976; Mills, 1984 and Mills & Parker, 1998). In these studies, gifted adolescents were found to be different from the general adolescent population, as well as different among themselves in personality types. They also show a high level of persistence, attention, curiosity, enjoyment of learning and orientation towards mastery and challenge from their early years (Gottfried & Gottfried, 1996). Research studies also show that there is no significant difference in self esteem between the gifted and non gifted students (Heaven et al., 2005) but gifted girls' seemed to have more self esteem as compared to gifted boys (Enright, 2001). Matthews and Meltom (2012) found that summer enrichment programmes positively influence students' attitude, aspirations and actual behaviours supporting academic achievement. Further Aljughaiman and Ayoub (2012) investigated that school enrichment programmes have significant effect on developing analytical, creative and practical abilities of elementary gifted students.

How their development is influenced by planned orientation has not been largely studied. Hence it became significant to carry out the present investigation.

SIGNIFICANCE OF THE STUDY

Gifted students are considered as the backbone of the country. They have to be identified in their early years and their characteristics/features have to be first found out and then their potentialities, needs; intellectual and non intellectual abilities be nurtured properly by parents, schools and the community simultaneously. Intelligence, creativity, self-esteem, personality, anxiety, interests, socio-economic status and popularity among peers are some

important areas in which gifted need to be studied so that they can be provided with proper orientation for their development. There is a need to find out what gifted student extensively need from their teachers and parents. The present study is an attempt in understanding the multi-dimensions of the gifted and is thus a humble effort in direction of finding the impact of orientation programme provided to them. The results of the study will help the policy makes, teachers and parents to better understand gifted and will provide directions for their bringing up.

OBJECTIVES OF THE STUDY

The study aims at studying some intellectual and non-intellectual endowments and characteristics of the intellectually gifted children and also to see how their self-development can be influenced by a planned orientation through lectures and exercises. This omnibus type of aim is broken into the following specified objectives:

1. Identification of intellectually gifted children - boys and girls from amongst the 9th graders in schools at Patiala.
2. Assessing the levels of (a) socio-economic status (b) academic achievement (c) intelligence (d) interests, (e) self esteem, (f) creativity (g) neuroticism (h) extraversion (i) anxiety and (j) sociability.
3. Giving exposure to lecture-cum-demonstration in (a) motivation (b) imagination (c) communication skill (d) creative thinking (e) concentration (f) leadership and (g) initiative for a period of twenty hours.
4. Measuring the impact of the exposure in (3) above.

TOOLS USED

The following criteria and tools were used for the purpose of collecting data for the study:

- i. Social status was determined by administering Meenakshi's Socio-Economic Status Scale (2011).
- ii. Aggregate marks obtained by the subjects in Middle School Examination were taken as a measure of academic achievement.
- iii. Jalota's Intelligence Test (1990) was administered to find the level of intelligence of the subjects.
- iv. R.P. Singh's Interest Record Scale (1975) was employed to measure subjects' interests.
- v. Rosenberg's Self-Esteem Scale (1965) was employed to measure self esteem of the subjects.

- vi. Torrance Verbal Creativity Test (1965) was used to have an idea of creativity of the subjects.
- vii. For measuring neuroticism and extraversion Eysenck's Maudsley Personality Inventory (1959) was employed.
- viii. Cattell's IPAT Anxiety Scale (1957) was used for measuring the level of anxiousness of the subjects.
- ix. Sociometry technique was employed to find the level of social acceptance or rejection of the subjects.

The tools to measure socio-economic status, general intelligence, interests, self esteem, creativity, personality and anxiety are standardized tools. They have high reliability and validity. They have been extensively used, thus the investigator choose them. Academic achievement was measured by obtaining the aggregate marks obtained in eighth class examination and for sociometry self prepared three different exercises were used.

SAMPLE

Randomly five senior secondary schools in Patiala were selected to have the 9th class school population of boys and girls. From these schools 1260 children comprising 740 boys and 520 girls were taken as the sample for the study.

METHOD AND PROCEDURE

The sample of 1260 children comprising 740 boys and 520 girls, in groups of 20-25 children were administered the Jalota General Mental Ability Test and such boys and girls having an I.Q. of 145 or above were selected to contribute towards the sample of the study. In all 26 boys and girls (about 2% of the school population) here after called the intellectually gifted children were administered the psychological tests and inventories enlisted above.

The Intellectually Gifted Children were given an eight session orientation on every Sunday from 10.00 am to 1.00 pm during January and February 2011. The programme consisted of lecture-cum-demonstrations of (a) Motivating yourself, (b) Imagination and logical thinking, (c) Communication skill, (d) Creative thinking and problem solving, (e) Reading and Concentration, (f) Leadership and initiative (g) Interpersonal relations and (h) Self-development. The faculty comprised Professors and Associate Professors drawn from the departments of Psychology, Education and Sociology of the Panjab and Punjabi Universities.

Immediately after the Orientation Programme had concluded Faculty-cum-Parents-cum-Childern gathering was convened to attempt an appraisal of the programme with a view to find if there was any impact of orientation on the Intellectually Gifted Children. For each of the items from (a) to (h), which

constituted the contents of the Orientation programme a five-point scale was employed to measure the impact from the substantial to positive uselessness. Of course no standardised tools were employed to measure the impact of the programme except in the area of sociability.

ANALYSIS

The mean scores of boys and girls on different variables along with values of 't' are presented in Table 1.

Table 1

Intellectual and Non-Intellectual Traits of the Intellectually Gifted Children.

Sr.No	Trait	Scores				t	Significance
		Boys (N=11)		Girls (N=15)			
		Mean	SD	Mean	SD		
1.	Age	14.2	0.78	14.1	0.59	0.34	N.S.
2.	Socioeconomic Status	4.1	0.6	3.4	0.7	2.41	p<0.05
3.	Academic Achievement	77.0	14.5	74.0	12.1	7.5	p<0.01
4.	Self Esteem	25.0	2.54	27.0	2.52	1.92	N.S.
5.	Neuroticism	22.0	9.4	21.0	9.3	0.26	N.S.
6.	Extraversion	26.5	3.7	23.6	6.9	1.37	N.S.
7.	Anxiety	35.0	7.9	40.0	8.4	1.49	N.S.
8.	Intelligence	154.0	10.7	151.0	10.3	0.70	N.S.
9.	Creativity	125.4	31.3	120.8	28.3	0.37	N.S.

Table 1 indicates that intellectually gifted boys are significantly better in academic achievement than intellectually gifted girls. In the case of age, neuroticism, extraversion, anxiety and creativity, sex/gender is not a discriminating factor. However, intellectually gifted boys belonged to a better socio-economic status group than the intellectually gifted girls.

Data was further analysed to compare the intellectually gifted boys with general population of boys on different socio-psychological variables. Table 2 reveals that intellectually gifted boys are significantly better in academic achievement than general population of boys. The table further shows that both the groups i.e. intellectually gifted and general population of boys do not differ from one another on the variables age, socio-economic status, neuroticism and extraversion. Intellectually gifted boys have high self-esteem, high IQ and are more creative than general population of boys.

Table 2

Intellectually Gifted Boys Compared on Psycho-Sociological Traits with General Population of Boys.

S.No	Trait	Scores				't'	Significance
		Gifted Boys		General Population of Boys (N=1)			
		Mean	SD	Mean	SD		
1.	Age	14.2	0.78	14.9	1.2	2.8	N.S.
2.	Socioeconomic Status	4.1	0.60	3.5	1.1	19	N.S.
3.	Academic Achievement	77.0	14.5	51.3	18.4	5.21	p<0.01
4.	Self Esteem	25.0	2.54	21.8	2.5	4.1	p<0.01
5.	Neuroticism	22.0	9.4	19.89	11.02	0.70	N.S.
6.	Extraversion	26.5	3.7	24.91	9.71	1.33	N.S.
7.	Anxiety	35.0	7.9	30.0	11.4	2.1	p<0.05
8.	Intelligence	154.0	10.7	101.0	24.3	12.6	p<0.01
9.	Creativity	125.4	31.3	101.4	34.4	2.30	p<0.05

Table 3

Intellectually Gifted Girls Compared with General Population of Girls on Socio-Psychological Variables.

Sr.No	Traits	Scores				't'	Significance
		Gifted Girls		General Population of Girls (N=1)			
		Mean	SD	Mean	SD		
1.	Age	14.1	0.59	14.6	1.7	3.01	p<0.01
2.	Socioeconomic Status	3.4	0.30	2.8	0.40	6.6	p<0.01
3.	Academic Achievement	74.0	12.1	54.3	19.6	5.06	p<0.01
4.	Self Esteem	27.0	2.52	21.4	2.8	6.63	p<0.01
5.	Neuroticism	21.0	9.3	20.91	10.09	0.06	N.S.
6.	Extraversion	23.6	6.9	28.53	8.28	2.64	p<0.01
7.	Anxiety	40.0	8.4	33.1	11.6	3.03	p<0.01
8.	Intelligence	151.0	10.3	104.4	23.8	16.46	p<0.01
9.	Creativity	120.8	28.3	97.6	24.4	2.92	p<0.01

Table 3 presents information, which compares intellectually gifted girls with general population of girls on socio-psychological variables. Table 3 shows that there are significant differences between gifted girls and general population of girls on the variables of age, socio-economic status, extraversion, anxiety, intelligence and creativity. The intellectually gifted girls are high on socio-economic status, academic achievement, self-esteem, anxiety, intelligence and creativity, whereas the general population of girls are higher in case of age and extraversion. In case of neuroticism, both the groups do not show differences.

FINDINGS OF THE STUDY

- a) Intellectually gifted boys and girls are younger in age than the general population. Kirk (1962) opines that a gifted child learns rapidly and early. John Stuart Mill could read Greek at the age of 3. He wrote History of Rome at the age of 6 1/2. Norbert Weiner the greatest authority on cybernetics could read Alice and Wonderland at the age of 3 1/2. He obtained his Ph.D. at 18. Thomas Alva Edison the greatest scientists of the nineteenth and twentieth centuries had covered such books as Gibbon's Deline Fall of Roman Empire at 12. Adiguru Shankracharya had finished the study of the Vedas at the age of 8. Tagore Vivekananda and many other gifted personalities started reading at the age of 3.
- b) The socio-economic level of the families of the intellectually gifted children is higher than the families to which general population belongs. Even in Terman study, the gifted children came from homes which were notably in the higher socio-economic levels. Their parents averaged 4-5 years more schooling than the average for America. Terman had found that some differences between the gifted and the general population were due to their superior homes as much as to their high intelligence. In the present study out of 26 intellectually gifted children only four children belonged to below average socio-economic status families.
- c) In the area of academic achievement the intellectually gifted children show much greater accomplishments than children belonging to the general population. The percentage of marks in the case of boys is 26.7 points higher than the mean score of general category boys. And intellectually gifted girls are higher than general category girls by 19.7 points. Between themselves, intellectually gifted boys have an edge over the intellectually gifted girls by nearly 3% marks.
- d) Although between themselves intellectually gifted boys and intellectually gifted girls don't differ in self-esteem as compared with the general group of boys and girls however, there are marked differences in favour of intellectually gifted children. The gifted children have higher self-esteem than general rung of children and it helps in enriching their personalities and creating a silent inspiration or motive for higher achievements. French

(1962) has rightly remarked that, 'Parents need to help the gifted child to accept himself. Usually he is well aware that he achieves in a superior fashion to his age mates. Trying to make him believe he is mediocre is frustrating and discouraging. The gifted child must be encouraged to recognise and accept, in realistic fashion, his assets. Torrance (1965), Myres (1970), Renzulli (1973) reported that self-esteem of the gifted is higher as compared to others.

- e) On neuroticism the gifted and the non-gifted children do not differ. Between intellectually gifted girls and intellectually gifted boys also neuroticism is not a differentiating trait.
- f) On extraversion intellectually gifted boys and boys belonging to the general group have no differences. But intellectually gifted girls are more extraverts than girls in the general group. This rejects the common belief that the gifted ones are usually reserved and introverted.
- g) On anxiety the intellectually gifted children, both boys and girls are showing higher, statistically significant scores than the boys and girls belonging to the general group. The scores on anxiety scale are rather high i.e. 35.0 in the case of boys and 40.0 in the case of girls. The characteristics are apparent. These boys and girls are apprehensive, self-reproaching, insecure, worrying, troubled (not at all relaxed), tense, slightly frustrated, driven, uncontrolled, following own urges, careless of social rules, emotionally unstable, easily upset, suspicious and also jealous. Anxiety is surely a negative personality trait but quite a few research studies have shown that high achievements particularly in academic field and the field of sports are closely related to anxiety.
- h) Between themselves, the intellectually gifted girls and intellectually gifted boys show no differences in their creative thinking. But as compared with the general group of boys and girls intellectually gifted boys and intellectually gifted girls have shown greater creativity.
- i) The reasoning ability of gifted children is superior to that of other children, they see relationships and grasp ideas more readily.
- j) The gifted children were found to possess insatiable curiosity. They were fascinated with imaginative activities and wanted to know the ways and where-fore's of many things.
- k) During demonstrative and communicative exercises it was found that gifted children were critical of what teachers talked. They wanted a convincing explanation for every event. They were very observant. On the average they could observe 27 articles out of the 36 shown to them over a period of three seconds. A great majority of them were able to correctly attend to five different tasks being enacted before them simultaneously. In other words a convergent attention but also a distributive attention.

INTERESTS AND PRE-OCCUPATIONS

R.P. Singh's Interest Record was administered to 1260 children as also to be group of intellectually gifted children (N = 26). The means and SD's are given in Table 4.

Table 4

Interests of General Groups of Children and the Intellectually Gifted Children.

Sr. No	Description of Group	Interests						
		Mechanical	Business	Science	Aesthetic	Social	Clerical	Outdoor
1.	General Group							
	Mean	24.7	18.8	30.5	19.7	28.9	18.0	27.2
	SD	9.0	6.5	8.5	8.0	7.0	7.0	6.0
	(N=1260)							
2.	Gifted Group							
	Mean	21.9	11.7	36.8	31.8	30.1	11.3	21.3
	SD	8.1	4.6	3.5	4.6	6.5	6.4	4.6
	(N=26)							
3.	't'	1.76	7.86	8.66	16.64	.93	4.97	6.42
4.	Significance	N.S.	P<.01	P<.01	P<.01	P<.01	P<.01	P<.01

The interests of gifted children are as varied as those of general population. Their greatest interest lies in Science. Next comes the aesthetic interest, which is closely followed by social interest. Other interests are not much pronounced and are lower than the means of interests of the general population. Mechanical interests do not show any differences between the gifted and the non-gifted children. The gifted children do not have any business interest either. In science, aesthetic and social field the gifted children are miles ahead of general population of children. The gifted children have no inclination towards clerical field. They are low even in outdoor interest.

SOCIABILITY

Sociograms developed on three different choices in three different exercise - choice of a partner to share a secret, choice of a partner to play with and choice of a partner for studying together showed that gifted children, both boys and girls were socially accepted children; gifted boys' (total choice index 74) had better social acceptance than gifted girls (total choice index 52). The myth that many or most gifted children are social misfits and rejected by their classmates has been disproved. Terman (1954) and Miller (1956) found that the gifted children were significantly more popular than average pupils. Gallagher (1958) found that gifted rated higher than average in popularity and that socio-empathy did count for the above average popularity of the gifted.

IMPACT OF THE ORIENTATION PROGRAMME

Individual interviews and collective conversations were held with gifted children, their peers and parents to find out the impact if any of the eight session lecture-cum-demonstration programme. No standardised tools were used to assess the degree or kind of influence i.e. positive or negative but detailed discussions did throw up some concrete indication of the impact of training. It was agreed by most parents that:

- a) Change had been witnessed in the behaviour pattern of the gifted children as a result of training. They had opened out more, they discussed their problems with parents and shared their experiences with them, had become more friendly and outward, frank and vocal.
- b) There was improvement in human relations; there was less quarrelling and more cooperative virtues among siblings.
- c) There was more orderliness and care in use of language, upkeep of things and manner of doing things.
- d) Communication skill was registering gradual progress and drifted children had taken to extra study. The newspapers, particularly the children section of the magazine pull out was now regularly studied and the use of dictionary had become more frequent.
- e) Children had found whether they were night birds or morning birds and had developed study habits accordingly.
- f) More clarity was now seen in their thinking process and they were learning fast the mechanism of solving their problems.
- g) Much change had come in aesthetic areas. Children were also beginning to devote care towards interior decoration, furniture arrangement, music, oratory skills, beautification of handwriting, singing and other hobbies of bird watching and flower growing etc.
- h) Children had expressed an inclination towards the following professions; medicine, engineering, designer, banking, teaching, civil administration, Air Force and Navigation, space travel and police.

To sum it up, as a result of orientation course children had become more scientific in their outlook and discussions, more social in their dealings and more friendly with their parents. They were now unfolding their personalities and had begun to satisfy their curiosities through the study of encyclopedia, and books on general knowledge.

Based on the findings of the study some specific recommendations for dealing with the gifted children are as below:

Gifted children need three things from their parents and teachers; (i) acceptance (ii) understanding and (iii) superior insight into problems given their superior ability in generalising, reasoning and dealing with abstraction,

learn readily and easily, have good memory and listen to, understand and carry out direction easily, that they have longer interest span and many interests, have a high level of self-esteem, and their gift lies in specific directions- art, music, dramatics etc. and that the books are not their only concern. It has to be understood by teachers that quite a few intellectually gifted children are faced with school work far beneath their ability work that is utterly boring and frustrating and destroys effective habits of study and thinking. Parents have to ensure easy access for a wide variety of books, magazines and pamphlets providing the children with as wide an experience as possible by visits to construction projects, zoo, museums, art galleries, and civic centres, exhibitions and lecture programmes. Parents must be willing to take time to listen, to discuss and to stimulate. They may also ensure that their youngsters have the opportunity for contact with important people in the field of his/her major interests. Parents must give active help to their child in assisting him to discover his assets and limitations - physical, mental and social - and to match these with the requirements of different vocations. Parents and teachers must realise that gifted children are quite different from the general rung of boys and girls and have different needs and levels of aspiration and as such they deserve a different treatment as suggested in this paper.

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