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A study on the impact of social subdivisions (Hindus and Muslims) on children's human figure drawing and cognitive style: An attempt to find the difference between the two social subdivisions

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Abstract
Drawings are better forms of expression for children. They are the expression of creativity and intellect. They can also reflect their personality characteristics and behavioural problems. The present study aims to find out the impact of social subdivisions on Human-Figure Drawing and Cognitive Style. The study uses Draw-A-Man Test by Dr. Pramila Phatak and Group Embedded Figures Test by Philip K. Oltman, Evelyn Raskin and Herman K. Witkin. Along with this test an investigator made questionnaire was also used. Mean & Standard Deviation was calculated. The effect of gender and subjects caste on Human Figure Drawing and Cognitive Style was found out. Correlation between the two variables among the two social subdivisions were calculated. Correlation coefficients were found out for this purpose. The study also aimed to find out the difference in scores of Human Figure Drawing and Cognitive Style of the two social subdivisions. T – test was administered for this purpose. The results revealed that gender and subjects caste did not have a significant impact on human figure drawing and cognitive style scores. Human figure drawing and cognitive style scores were significantly related and there was no significant difference between the human figure drawing and cognitive style scores of the different social subdivisions. In conclusion we may say that emotional problems of children and adolescents, which can not be expressed verbally, find expression in their drawings. Therefore the present study can be used as an effective tool of therapy which will enable children overcome emotional and behavioural problems.

Keywords: Children, Human – Figure Drawing, Cognitive Style, Social Subdivisions, Correlation.

1. Introduction
Drawings are expressions of creativity and intellect. Researchers have argued that drawings are distinguished from other modes of symbolization by three different characteristics firstly, aesthetic and formal qualities, secondly, emotional content of the artist and the audience and thirdly, the union of the former attributes that is formal qualities and the emotional content represented in the image. Investigations have indicated that children's drawings of human figure reflect their intellect (Abell *et al*., 2001) [1] and children's and adolescents' drawings may be considered as effective tools for assessing neurocognitive development (Dilworth *et al*., 2004) [8].

Drawings created by children and adolescents also reflect their personality characteristics (Coopersmith *et al*., 1976) [6] and behavioural problems. Emotional problems of children and adolescents which can not be expressed verbally find expression in drawings (Veltman and Browne, 2003) [22]. The reason behind this can be, that drawings are a better form of expression than speech and drawings may express a subtelty of intellect and affect that is beyond the power of verbal expression. Drawings also prove to be effective tools of therapy (Frostig and Essix, 1998) [9]. Art therapy helps children and adolescents overcome emotional and behavioural problems.

The inclusion of details is the focal point of assessment using human –figure drawing tests. So the question of the test – taker's cognitive style becomes relevant. Many studies (e.g. Ward *et al*., 1987) have found that human – figure drawing tests effectively measure cognitive style. Human – figure drawing tests effectively measure the intelligence of subjects also (Abell *et al*., 2001) [1].

Qualitative changes take place in drawings (including drawings of human figures) created by individuals as they progress through the life span. related these changes to the intellectual and socioemotional developments which occur as individuals grow up. Studies have reported evidences in support of the clear age – related changes in field – dependence – independence over the life span.

Adolescents typically have a more sophisticated view of what a sense of self encompasses than children do. While the self – descriptions of children focus on concrete characteristics like appearance, possessions, behaviours etc., those of adolescents are more abstract and revolve around psychological characteristics, interpersonal relationships, self – evaluations and conflicting feelings. Self – evaluations become more differentiated and better organized during adolescence. These age – related changes in self-esteem are associated with cognitive and socio - emotional developments.

Research literature is replete with evidences of gender difference in human – figures specially those drawn by children and adolescents. Since the content and form of children's and adolescents' artworks appear to differ significantly by sex, asserted that an individual's gender socialization can be inferred from his or her artwork. A rigidly gender socialized person would tend to draw gender stereotyped images.

According to different studies gender do not seem to play a significant impact on human – figure drawings of children and adolescents though in others there is reported better performance of girls over boys. The girls' drawings are generally more proportionate, detailed and embellished. This is a reflection of gender socialization which dictates that girls should cultivate gentle, decorative skills. So socialization (an agency of culture) may bring about gender difference in human – figure drawing. It seems logical to assume, then, that egalitarian socialization can bridge the gender gap in human – figure drawing.

Consistent gender differences have been found in field – dependence – independence dimension. Boys and men tend to be more field – independent than girls and women. This finding has been reported repeatedly across cultures (Witkin *et al*., 1971) [25]. The major reason for a finding such as this is gender distinction in socialization. It seems plausible that males are more field – independent because they are encouraged to develop autonomous functioning more often than females in most cultures. A minority of studies have either denied the existence of significant gender difference in field – dependence – independence or have favoured a superiority of females over males in field – independence. Since socialization influences field – dependence – independence, egalitarian socialization may wipe out gender difference in field – dependence – independence. Socialization promoting greater autonomy among girls may make them more field – independent than boys. The other aspects that may influence human - figure - drawing and self-esteem are age, gender, occupation of parents, habitat, type of school and language of instruction. Generally, age and the stages of development attained by individuals are closely associated. Therefore the increase in age may effect the quality of an individual. The socioeconomic status of children and adolescents are determined by that of their parents. Occupations of the parents have important roles to play in their socioeconomic status. According to researchers, there are three determinants of socioeconomic status viz., education, occupation and income. Obviously, occupation mediates in the relationship between education and income. It thus seems to be the most important determinant of socioeconomic status. Obviously the socialization of an individual is affected by the socioeconomic status. It is an ecological or environmental area that is inhabited by a particular species. It is the natural environment in which an organism lives or the physical environment that surrounds. The habitat of the individual may be effected by the individual economic condition and also by the culture in which the individual belongs. This may affect the socialization process and in turn affect the quality of an individual.

2. Method

2.1 Objectives

- The present study aims to find out the impact of social subdivisions on Human Figure Drawing and Cognitive Style.
- It also aims to find out that there is positive and significant correlation between the Human Figure drawing and cognitive Style scores of the two age groups and social subdivisions.

2.2 Hypothesis

- Human – Figure Drawing scores of both the age groups and social subdivisions are positively and significantly related to their cognitive style.
- There is positive and significant difference between human figure drawing scores of children belonging to the two social subdivision (Hindus and Muslims)
- There is positive and significant difference between cognitive style scores of children belonging to the two social subdivision(Hindus and Muslims)

2.3 Sample

Two samples, one of two hundred 8 to 10 year olds and 11 - 13 year olds belonging to Hindus and another of two hundred 8 to 10 year olds and 11 to 13 year olds belonging to Muslim community were randomly selected. Each sample comprised equal number of girls and boys residing in Kolkata. The subjects belonged to the middle income group and attended English-medium schools and Madrasas but all of them were able to understand English.

2.4 Instruments

The following standardized instruments were used for data collection:

- The study uses Draw-A-Man Test by Dr. Pramila Phatak
  It was devised by Dr. Pramila Phatak to assess human-figure drawings of children. It is a nonverbal test of mental ability and is suitable for use as either a group or an individual test. The subject is required to draw a picture of a man. The subject is urged to draw the pictures carefully in the best way possible and to take his or her time. The child receives one point for each detail that is present in his or her drawings. Each item is scored as pass or fail according to the rules given in the manual. The raw score is the sum of these credits.
- Group Embedded Figures Test developed by Philip K. Oltman, Evelyn Raskin and Herman K.Witkin (1971) [25]
  It is a standardized test used to assess the cognitive style (field – dependence – independence) of subjects in groups. The test is suitable for individuals who are 10 years of age and older. Being a non – verbal test it is widely applied in different cultures. The subjects task is to find out and trace a simple form embedded in a complex figure. The test has three sections containing 7 items, 9

items and 9 items respectively and the time limit for the 1st, 2nd, and 3rd section is 2 minutes, 5 minutes and 5 minutes respectively. The score is the total number of simple forms correctly traced in 2nd and 3rd sections combined. The raw scores range from 0 to 18. Higher scores indicate field – independence and lower scores indicate field – dependence. For inferring middle economic status from the occupations of the parents of the subjects, the manual of the Socio – Economic Status Scale (Urban) developed by was consulted.

3. Variables

Independent Variables
i) Age
ii) Gender

Dependent Variable
i) Human – figure drawing
ii) Cognitive style

4. Method of statistical analysis

Computation of Mean, Standard Deviation, Correlation Coefficient – Test was done.

5. Results and Discussion

The basic descriptive statistics (viz., the means and standard deviations) of the two age groups and two social subdivisions are presented in Table 1.

Table 1

	Variables	Age Groups	Mean	Standard Deviation
Hindus	Human - Figure Drawing	8 to 10 years (N = 100)	24.8	3.05
		11 and 13 years (N = 100)	34.48	3.18
		Total(N = 200)	29.64	5.76
	Cognitive Style	8 to 10 years (N = 100)	9.18	1.32
		11 and 13 years (N = 100)	11.12	1.68
		Total(N = 200)	10.15	1.78
Muslims	Human - Figure Drawing	8 to 10 years (N = 100)	23.74	3.72
		11 and 13 years (N = 100)	32.00	2.97
		Total(N = 200)	27.87	5.33
	Cognitive Style	8 to 10 years (N = 100)	9.16	3.72
		11 and 13 years (N = 100)	10.36	1.82
		Total(N = 200)	9.76	1.67

From observation of Table 1, it is clear that all the scores have on the average increased with the increase in age - level of the subjects as well as in two social subdivisions. The standard deviation values reported in Table 1 are moderate indicating that the human – figure drawing scores of the entire sample and the two age – groups are more or less homogeneous.

Table 2 represents the product-moment correlation coefficients between pair of the pertinent variables which were computed and tested for significance separately for the two age groups and the two social subdivisions.

Table 2: Correlations among Human – Figure Drawing and Cognitive Style Scores of children, 8 - 10years and 11 – 13years belonging to two social subdivisions.

Social Subdivisions	Age Group	Correlation Coefficients
Muslims	8 - 10 years (N=200)	0.53**
	11 - 13 years (N=200)	0.58**
	8 - 10 and 11 - 13 years (N=400)	0.73**
Hindus	8 - 10 years (N=200)	0.102**
	11 - 13 years (N=200)	0.343**
	8 - 10and 11 - 13 years (N=400)	0.618**

** p < .01

Table 2 reveals the positive and close relation between human – figure drawings and cognitive style of the eight and ten years old girls and boys belonging to the two social subdivisions. Similar results was also seen incase of eleven and thirteen year olds. Positive and significant relationship was revealed for girls and boys of both the age groups belonging to the two social subdivisions. Therefore the first hypothesis is accepted. Similar results were corroborated by results of previous investigations.

Table 3: Result of the t – Test of Human – figure drawing and Cognitive Style scores of children, 8 – 10years and 11 – 13years belonging to the two social subdivisions.

Age Group	Variable	T Calc	Df	T Crit .05	T Crit .01	Inference
8 - 10 years (N=200)	Human - Figure Drawing	0.360	198	±1.97	±2.6	difference between Hindu and Muslims human – figure drawing scores of children non significant
	Cognitive Style	0.67	198	±1.97	±2.6	difference between Hindu and Muslims Cognitive Style scores of children non significant
11 - 13 years (N=200)	Human - Figure Drawing	0.032	198	±1.97	±2.6	difference between Hindu and Muslims human – figure drawing scores of children non significant
	Cognitive Style	0.031	198	±1.97	±2.6	difference between Hindu and Muslims Cognitive Style scores of children non significant

8 - 10years and 11 - 13 years (N=400)	Human - Figure Drawing	0.0103	398	±1.97	±2.59	difference between Hindu and Muslims human – figure drawing scores of children non significant
	Cognitive Style	0.332	398	±1.97	±2.59	difference between Hindu and Muslims Cognitive Style scores of children non significant

Results reveal that there were no significant difference between the human – figure drawing and cognitive style scores of the 8 and 10 year olds and 11 and 13 year olds belonging to the two social subdivisions. Therefore the second and third hypothesis is rejected.

6. Conclusion

The result from the following tables shows that there is significant correlation between the human figure drawing and cognitive style scores of children irrespective of their social subdivisions. Findings revealed that there was no significant difference between the human figure drawing and cognitive style scores of children due to the difference in their social subdivisions (Hindus and Muslims).

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