INTRODUCTION

Asymmetries are found in molecules, life forming proteins, heart looping, brain organization, and animal kingdom and also in human relation and cultures. An interesting and common asymmetry is the functional preference of limbs or sense organs to one or the other side.

An important fact about functional preferences is that among human there is predominant right side use in hands, foots, eyes, and ears (Mandal, Pandey, Singh & Asthana, 1993; Singh, Manjary & Dellatolas, 2001). Studies have shown that functional preferences in hands are stable across the geographical and time spread (Coren & Porac, 1981). The importance of lateral preferences lies in that they are markers of cerebral lateralization (Rasmussen & Milner, 1997). Language lateralization has been found to be related with hand preferences and eye preferences (Rasmussen & Milner 1997; Searlman, 1980). Handedness has further been found to be related with spatial ability, musical ability, mathematical ability, sports etcetera (Bishop, 1990).

Several theories have been forwarded to explain the universal right side bias in functional preferences. Annett (1985) and McManus (1985) proposed similar but very influential single – gene models. The model assumes that there is a single gene with two allele s ‘D’ and ‘C’. The ‘D’ is the dextral allele, which determines
a right - shift in preference and is dominant. The ‘C’ allele is chance allele and has no specific preference coding. The ‘D’ and ‘C’ alleles in combination determine the cerebral lateralization and the hand preferences.

Prenatal testosterone has also been implicated by Geschwind and Galaburda (1985) theory. It suggest that high prenatal testosterone somehow slows the development of left hemisphere thereby shifting the language and other left hemisphere abilities to right and concomitantly shifting the typical handedness to left.

Cultural bias has also been emphasized by research as important in determining lateral preferences. Studies have shown that traditional (non-tolerant) cultures have significantly lower left – handedness than liberal (tolerant) cultures (Dawson, 1977).

In recent years, the relationship between different lateral preferences has been in focus. The dominant right side preference in different organs has been sought to be defined by right – shift models (Annett, 1999). However, the stable differences in preferences across modalities, as found through studies in different populations, remain unanswered. McManus, Porac, Bryden and Boucher (1999) explain the difference in incidence of hand and eye preferences through the differences in preference for throwing hand and writing hand. However, coherent
and comprehensive explanation of variation in incidence of different lateral preference is still illusive.

Handedness, the most studied lateral preference, has been found to be related with large number of development disorders including Schizophrenia (Bishop, 1990). The left-handedness has been found to be significantly higher among schizophrenic population than in general population (Green, Satz, Smith & Nelson, 1989). Crow (1989) has shown that a common ‘X’ locus gene effects cerebral lateralization and Schizophrenia. However, large number of studies has failed to find an association between left-handedness and developmental disorders (Bishop, 1990).

It has been suggested that since the occurrence of disorder is an event, involving immediate precipitating factors, the study of dispositional factors like personality disorders, as mentioned in axis –II of DSM-IV, may unequivocally establish the likelihood or otherwise of relationship between lateral preferences and developmental disorders.

The Schizotypal personality is an axis –II disorders of DSM–IV, which involves irrational thinking, odd belief and awkward relationship typical of Schizophrenia proper, however the contact with reality is not broken. Studies have shown that the relatives of Schizophrenics are more Schizotypal as compared to relatives of persons afflicted with any other developmental disorders (Kremen,
It has been suggested that Schizotypal personality is a better marker of genetic disposition to Schizophrenia (Torgerson, 1985).

The personality disorders are studied as ‘type’ in clinical setting whereas in a study of population it is considered as ‘trait’. Mathews and Deary (1990) have raised several psychometric problems involved in type approach to personality disorders and have strongly advocated the trait like study of personality disorders.

Studies which involved general population showed that mixed handers tend to have higher schizotypal personality scores than right handers (Kim, Raine, Tryphon, & Green, 1991; Poreh, Levin & Teves, 1997). Gruzelier and Doig (1996) found that left handedness, and to a lesser extent mixed handedness, were associated with odd speech, odd behavior, and negative Schizotypal traits.

Raine (1992) found that female score higher than male on positive symptom sub-scales (ideas of reference and odd beliefs/magical thinking) and the factor of cognitive/perceptual dysfunction of Schizotypal personality. Miller and Burnes (1995) also found that males scored higher on negative symptoms of Schizotypal personality. However, they did not find female scoring higher than male on positive schizotypal features. Langdon and Colheart (1999) found higher cognitive-perceptual scores in female and high interpersonal deficits in male. Roth and Baribeau (1997) found that male score higher on the ideas of reference, odd
beliefs/magical thinking, and social anxiety subscales of the Schizotypal personality whereas female scored higher on the interpersonal deficits factors.

The Schizotypal personality has been found to be varying according to the cultural setting (Raine, 2001). Shamanism and magical thinking are part of some cultures, including India, and are not consider as odd, while the typical definition of Schizophrenia or Schizotypal personality include these as important symptoms of disorder. Some liberal cultures are more acceptable to varied and rather weird ideas, especially the artist communities, and they are more Schizotypal than general population (Raine, 2001). A search of APA abstracts from year 1998 to 2005 has failed to find a published work on Schizotypal personality in India.

Thus, the proposed study seeks to find the relationship between lateral preferences and Schizotypal personality in India.

THE PROPOSED STUDY

Objectives

The main objective of the proposed study is to find relationship between lateral preferences and Schizotypal personality. The study shall further explore how Schizotypal personality is related with the concordance and discordance in lateral preferences.
Another major objective of the proposed study is to find the effect of sex on schizotypal personality.

*Hypothesis*

Based on prior research following hypothesis will be followed.

1. Non right-handers are expected to have higher schizotypal scores than right-handers.

2. Participants with left lateral preferences (foot and eye preference) are expected to have higher schizotypal scores than participants with right lateral preferences.

3. Participants with discordance lateral preferences are expected to have higher schizotypal scores than participants with concordance lateral preferences.

4. Male participants are expected to have higher score on negative schizotypal personality factor (interpersonal-affect) subscales and lower score on positive schizotypal personality factor (cognitive-perceptual) subscales than female participants.

*Subjects*

The proposed study will involve literate/ subjects over 18 years of age from general population. The study will include a large number of subjects (500+).
Tools

Schizotypal personality will be assessed through Schizotypal Personality Questionnaire (SPQ) developed by Adrian Raine. The questionnaire contains 74 items with a forced choice responding option of ‘Yes’ or ‘No’. The questionnaire has high reliability and strong construct- and cross- cultural- validity (Manual, SPQ, 2001).

Lateral preferences will be assessed through a questionnaire including items of Coren’s Lateral preferences questionnaire (1992) and Oldfield’s handedness questionnaire (1971).

Variables

Independent variables. Handedness, Footedness, Eyedness, Concordant - discordant lateral preferences, Sex and Age will be the Independent variables.

Dependent variables. Schizotypal personality will be the Dependent variable.

Procedure

The proposed study intends to find the difference between left - preferring and right- preferring people on Schizotypal personality score. Further, it seeks to find the effect of concordant and discordant preferences on Schizotypal personality.
The study, therefore, involves administering the questionnaires of lateral preferences and Schizotypal personality to large number of people, available in groups or as individual, so that a fair number of subjects preferring left side (in each category /modality) may be included in the sample. The administration / instructions for filling the questionnaires will be the same in both individual and group situation.

Design and statistical analysis

The proposed research will be a survey type quasi-experimental study. Frequency Analysis, Correlation, ANOVA and/or Multiple regression techniques will be used for the analysis of data.

Controls. Since the study is correlational/ quasi- experimental other relevant variables are also expected to have an effect on dependent variable. Information about such covariates as SES, age, religion, and education level will be derived and their effect controlled statistically, that is, the effect of confounding variables will be calculated simultaneously with the effect of independent/criterion variables so that the pure effect of later, on dependent variable, can be delineated.
Results

The data obtained through this study will be analyzed using appropriate statistical techniques. The analysis of variance will be used to find the effect of left- and right-preference on Schizotypal personality.

Discussion

The results so obtained through this study will be discussed in the light of relevant studies done in other societies/countries. The results will also be used to understand the nature of interrelationship between lateral preferences.

REFERENCES


