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The journal includes (a) research articles (b) book reviews (c) brief reports (d) news about conferences etc. and letters to the editor.

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FIRST ANNOUCEMENT

5th SIS INTERNATIONAL CONFERENCE OF SOMATIC INKBLOT SOCIETY

November last week (likely from 24-28) 2004

Dear Sir,

The Somatic Inkblot Society is planning it's 5th International Conference at Kochi, Kerala(India) in the last week of November 2004. We are expecting the participation of approximately 40 psychologists from the USA, Italy, Greece, Switzerland, U.K., Netherlands, Finland, Russia, Australia and Brazil. We would be honored to have you attend the conference.

The SIS is an international, non-profit scientific organization with its main office in Anchorage, Alaska (USA). We are devoted to the advancement of research in the areas of projective psychology, personality assessment, psychotherapy and mental health. Dedicated to the use of projective technique in the healing arts, one of our primary goals is the promotion of teaching, research and practice of the SIS test, a projective assessment tool.

The November 2004 conference is a reflection of our aim to reach clinical psychologists, psychotherapists, social workers, medical professionals and business executives interested in the understanding and modification of human behavior. The conference brochure will reach you soon. Kindly write to the undersigned for detailed information regarding accommodation and tentative program.

Theme of the conference:

Personality Assessment, Stress Management and Enhancing Human Potentials.

Sub-Themes:

I) Projective Psychology-Screening & Evaluation
II) Mental Health in Industry
III) Diagnostic evaluation
IV) Therapeutic Intervention.

Registration fee:

	Until Sept. 30.2000		**After Sept. 30.2000**
Delegates	Rs 1500/-.	Delegates	Rs.1800/-
Students	Rs. 800/-.	Students	Rs.1000/-.

Call for Scientific Papers & Symposia :

The abstract should be typed double-spaced, consisting of approximately 200 words, stating the objectives, methodology, results and conclusion, along with name mailing address and email of the author (s). Send submissions to:

A.Prakash Chandran, Org. Chairman, OR **Prof. B.L.Dubey,** on address/emails given below.

Detailed proposal symposia is invited on the major theme and should reach by 15th Sept.2004.

I hope you will accept my sincere invitation to attend the conference. Indians are known for their hospitality and I am sure you will enjoy your visit to India.

Looking forward to welcome you,

Sincerely,

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Editorial

The Importance of Cultural/Ethnic Norms: An Example Based on American Individualism versus Japanese Collectivism as Reflected in the Hand Test Dependence Response.

Panek (2001) presented five significant issues and challenges facing projective psychology as we begin this new century. One of these issues is that projective psychology needs to address cross-cultural differences, as well as ethnic differences within cultures. As the world becomes smaller through advances in technology and transportation, and industries continue to "Globalize," projective techniques must be able to adequately measure and explain variance due to cross-cultural and ethnic differences. A specific score or response on a projective test must be interpreted within the context of each culture or ethnic group, rather than an absolute standard derived for that test in another culture/country. If specific responses are interpreted in terms of absolute standards as opposed to appropriate cultural/ethnic group norms, there is the potential for misinterpretation and/or misdiagnosis. Hence, there is a need for projective techniques to develop norms for a variety of countries and ethnic groups within a particular country or culture.

This is of major importance since cultures can differ on a number of dimensions. First, cultures differ in the kinds of information persons from that culture sample from the environment (Triandis, 1999). For example, according to Choi, Nisbett, and Norenzayan (1999), lay theory in the modern West locates the responsibility for behaviors primarily in the individual, while the lay theory in East Asia focuses on the whole context of the behavior. Thus, Westerners focus on the individual, and Easterners focus on the social situation. The contrast between the object focus of the West and the context focus in the East may underlie different thinking styles characterizing the two general cultures that can be termed analytic versus holistic. Westerners are held to be analytic, paying attention primarily to the object and categorizing it on the basis of its attributes. Alternatively, East Asians supposedly reason holistically, attending to the field in which objects are embedded and attributing causality to interactions between the object and the surrounding field. These factors help shape a person's thinking, attitudes, and personalities within a specific culture and may produce predictable differences in personality characteristics among cultures that are considered either simple (hunters and gatherers) or complex (information societies).

Cultures can also be compared on the dimensions of homogeneity-heterogeneity as well as collectivism-individualism (Diener & Diener, 1995). Homogeneity refers to the degree to which people in a society share the same culture. When a nation is homogeneous, people share important characteristics, such as language, values, and religion. In a homogenous society, the family, friends, and self may not stand out as singular.

There are four defining attributes of the dimensions of the constructs of individualism versus collectivism (Triandis, 1999). These are: 1) Definition of Self. Collectivists view the self as interdependent with others, while individualists view the self as autonomous

and independent from groups. Thus, individualists are concerned mostly with their own success, while collectivists are more concerned with the success of their groups. 2) Structure of goals. For collectivists, individual goals are usually compatible with in-group goals, while for individualists individual goals are often not related to in-group goals. Consequently, when individual and group goals are not compatible, collectivists give priority to in-group goals and individualists give priority to personal goals. Hui and Triandis (1986) propose that Western cultures encourage individuals to pursue personal goals and to develop personal autonomy, while Asian cultures encourage individuals to accommodate personal needs to the overall goals of the family and to adhere to social norms. 3) Emphasis on norms versus attitudes. The determinants of social behavior among collectivists are both (a) norms, duties, and obligations, and (b) attitudes and personal needs; while for individualists the determinants are primarily attitudes, personal needs, perceived rights and contracts. Consequently, collectivists tend to be more formal and to depend on rules for social behaviors to a greater extent than do individualists. Thus, according to Ji, Peng and Nisbett (2000) Asian cultures have a tight social structure in which group members need to accommodate each other and strive to regulate one another's behavior. 4) Emphasis on relatedness versus rationality. Collectivists emphasize unconditional relatedness while individualists emphasize rationality. Relatedness refers to giving priority to relationships and taking into account the needs of others, even when such relationships are not advantageous to the individual.

Based on these factors, one would expect to observe differences among people from different countries in terms of personality characteristics, based on a country's placement on these dimensions. A lack of awareness and appreciation of these differences can lead to an incorrect interpretation of proje ctive test responses, producing inaccurate assessments.

We can illustrate these potential problems by comparing the Japanese norms (Yoshikawa & Yamagami, 2001) and the American norms for the scoring category of Dependence (DEP) on the projective Hand Test (Wagner, 1983). DEP responses involve a desire or need for help or aid from another person and signifies deference to authority. Inspection of the norms for these countries indicates that the Japanese gave significantly more DEP responses than the Americans. Thus, this finding suggests that the Japanese are more willing to seek succor from others than Americans. In this respect, Americans may be more "independent" than the Japanese. However, it is important to point out that, as discussed by Triandis (1999), "dependence" is a negative concept in individualist cultures and a positive concept in collectivist cultures. Individuals from individualist cultures often feel frustrated if they have to depend on others, and they value self-reliance. Alternatively, individuals from collectivist cultures feel good about interdependence (Triandis, 1999). Yamaguchi (1998) suggests that, in Japan, the concept of "amae" is widely used and reflects the positive value of interdependence, and the cultural ideal that a person can indeed depend on others. It's meaning includes the idea that even if the other person did not behave correctly, one will accept the dependent person (Yamaguchi, 1998). Thus, the finding that more DEP responses are given by the Japanese is not surprising since Japan is considered a very homogenous and collectivist culture, compared to the United States (Diener & Diener, 1995). This illustrates

that, while projective tests are capable of mirroring personality traits across cultures, these traits must be interpreted in a cultural context and based on appropriate normative samples in order to minimize misdiagnosis and “cultural misunderstandings.”

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Students Attitude Towards the Vital Problems and Somatic Inkblot Images of the SIS -I Test

Anatoly B. Khromov, Rakesh Pandey and B.L.Dubey

The present research makes an attempt to explore the SIS-I correlates of certain attitudes and problems of students (both conscious and unconscious) related to their various interpersonal and intra-personal domains of life. Twenty-two university students (18 females and 4 males) were assessed on two projective measures (the SIS- I and the SSCT) and on one questionnaire measure of student's attitude and problems. Finding suggests that greater number of animal and movement responses are associated with little concern for one's health, and activity/ passivity. High anxiety over one's own infantilism was found to be related with more Typical, Human, and Heart responses. Non-blaming attitude towards mother, women, friends, and one's own past was linked with more heart responses on SIS –I. Individuals giving more normative responses were found to have less problems in dialogue with friends. The atypical visual images were more frequently seen in the SIS-I protocols of those who were anxious with their emotional life. These persons more often claim against their mothers, and they are socially dependent. Those who make claims against elderly people reported more pathological contents on SIS-I. The persons producing a lot of verbal responses of the depressive character have problems with health and they are concerned with a problem of innocence and sexual encounters. The persons anxious with the innocence frequently identify images of an eye (paranoid attribute), and make fewer claims against women. The research finding reveals that the SIS-I can be used successfully to reveal the psychosomatic symptoms, and define personality characteristics, interpersonal problems and broken interpersonal relationship.

The Russian scientist V. N. Miasischev considered that the system of social attitudes into which man lives from the time of birth to death determine one's subjective attitude to various aspects of reality. The formation of the attitudes in the cognitive structure of a person takes place as a result of his reflection on the conscious experiences of the essence of the objectively existing social phenomena in their macro and micro spheres of life. The factors of macro and micro lifes, working in indissoluble connection with the body's features of the person and especially with it's nervous system, create the subjective "prism", through which the unique and original external influences refract and promote formation and display of the needs, propensities and interests of the man.

The perception of the social reality is mediated through the prism of an individual's attitudes. The properties of an object is same for everybody, but the experiences caused by the object differs among people as a result of differences in the means, the features of the experience and actions of the individual, their subjective attitudes, as well as past experience with the object. Miasischev considers that the attitudes include interests as well as values and is formed in connection with the emotional experiences of the man. The true attitudes of the man as potential characteristics are fully manifested when he begins to work in situations which are subjectively very important for him.

Anatoly B. Khromov, Kurgan State University, Russia(E-Mail : anatolykh@hotmail.com), Rakesh Pandey,Ph.D., Dept of Psychology, M.G..K.V University, Varanasi and B.L.Dubey,Ph.D. Director SIS Center, Chandigarh

Key Words : SIS Test, SIS Imagery

The somatic perception theory of the American psychologist W. Cassell, based on the theoretical concepts of Sigmund Freud, emphasized on the child's perception of the body of himself and that of significant others. The infant's consciousness at birth is characterized as being a composite of reflexes and perceptions from both internal and external sources. Freud considered, that "the own body of the man, first of all is its surface and it is that place from which simultaneously can proceed to external and internal perception. The consciousness of the man (the image of the ego) is formed, first of all, on the basis of sensuous perception of the body". Freud (1927) observed that "the conscious ego is first and foremost a body ego", "It is not only superficial essence, but also is the projection of the body".

From Cassell's opinion each man has unique and highly personalized system of the psychological installations, both realized and non-realized, projected in the gestalt representing the complex of secondary images and complex interaction of the sources of the feedback and the internal sensitivity. The isolated psychological perception arising from specific somatic regions, which specifically exist always and rather independently from each other, is constantly competing for the right to be the most complete image submitted in consciousness. These secondary images are experienced on the level of consciousness, when the sensitivity of the man to somatic images increases in situations such as the state of emotional or sexual excitation, famine, physical exhaustion, physical or mental illnesses or in some vital situations having important and the personalized value for the subject. Though Cassell's SIS test is directed primarily for revealing somatic infringements, it also "is sensitive" to the psychological reaction of the subject to the features of external social environment.

For revealing the person's problems existing at an unconscious level, and submitted to consciousness as somatic images, use of such diagnostic engineering, as the body-guided technique, has some advantages in comparison with other diagnostic methods such as questionnaires. The projective quality of the SIS technique allows investigating deeper level of consciousness as it is based on perception of the visual stimulus evoking images of the same level of reflection, as language of dreams and imagination. The same figurative language, psychological mechanism of replacement, which hides the images from conscious levels into the depth of the psyche is closer to a non realized or conscious level.

In this research the correlation between the conscious (questionnaire based) and unconscious (based on projective assessment) attitudes of the person has been examined. We assumed, that the analysis of different levels of a psychological reality can give a more complete picture of the problems of a person, especially existing at an unconscious level, as well as the laws of the social reality in which they are embedded.

Tools and Procedure :

Twenty-two university students (18 females and 4 males) participated in the present research. All the participants were assessed on the following tests.

1. The Cassell's Somatic Inkblot Series (SIS-I) was used to reveal non-realized (unconscious) problems of the persons studied. The SIS-I test represents a set of visual stimulus (inkblots) printed on 20 cards in black-and-white, grey and red tones. The

majority of the cards of the SIS-I test comprise obvious anatomic structure capable to sensitize the unconsciously represented body images leading to somatic perceptions. Some of the cards are designed in such a way that they limit the response contents to designation of some parts of the body or attitudes to those body parts. While others evoke attitudes to interpersonal contacts of the subject.

The responses or reactions to the cards are reviewed and categorized into various content categories. Based on the projective response to the data it is possible to make a diagnosis of the accentuated body image which can comprise the characteristics of the increased sensitivity to psycho-somatic state, changed image about a body, fears or incorrect interpersonal attitudes. Variations in the reactions or responses of the examinee from the normative responses are interpreted as evidence of the psycho-somatic symptom or non-conforming social attitude of the person.

Besides the qualitative analysis we applied quantitative analysis of the SIS-I by scoring the responses contents data into seventeen categories and scales (see tab. 1) in order to carry out some statistical analysis such as correlations with the other tests. Some of the 17 categories and scales in the Cassell's test are same as in Rorschach's test e.g. (R, Sex, M, D, HA), others are completely original such as the scale of pathological anatomy - PA, the scale of somatic repression –SR etc. Rejection (Rej) was scored when subjects failed or denied to give response on any specific card.

2**. The Sacks Sentence Completion Test (SSCT test)** was developed by Joseph M. Sacks. Four areas (categorys) of the attitudes related to family, sex, interpersonal relation and self-perception are included in the test. The SSCT test can reflect conscious, preconscious and unconscious emotional attitudes to the problems of the subject. The area of family includes attitudes towards the mother, the father and relatives. Each of the scales consists of four items, that allows to quantify the attitude to each of the parents and to the family as a whole. The area of sex includes the attitude towards women and sex contacts between male and female. The 8 items of this area allow the respondent to express feelings and attidues in relating with women, to marriage as well as to the sexual sphere of life. The area of interpersonal and mutual relation includes attitude towards friends, acquaintances, colleagues and boss at work or at school, and subordinates.

The self-perception includes fears, feeling of fault, and attitude to one's own abilities including past and future. The attitudes expressed in this area give the psychologist a picture of the subject's self-perception, including what he/she is, he/she was, and what he/she wants to be.

The SSCT test consists of 60 items (incomplete sentences), which express 15 attitudes containing several categories. (see tab. 2) There are four items in each category. While scoring protocols the psychologist gathers together four items of each category and calculates an average rating to determine one of the three levels of intensity of the attitudes to a problem and to describes the degree of the respondent's frustration in that sphere: the rating ranges from 0 to 2.

2- Serious frustration. The help of the psychotherapist to solve the emotional conflict in this sphere is required;

1-Low frustration. There is an emotional conflict in this area, but there is an opportunity of its elimination without the psychotherapist's help;

0 - There are no noticeable frustration in this area.

3.**The Questionnaire of the Attitudes to the Vital Problems of the Students** – was used to examine the level of the realized (conscious) attitudes towards the vital difficulties and problems of the personality. The questionnaire (developed by the first author) consists of 97items grouped into 22 generalized scales. In the present paper the data of the 17 scales of the SIS-I test was correlated with 13 of the 22 scales of the questionnaire of the attitudes to the vital students problems, and with 9 of the 15 scales of the SSCT tests (see tab. 1 - 3).

Table 1
SIS Test

1.	Total Responses	(R)
2.	Human Responses	(H)
3.	Animal Responses	(A)
4.	Anatomical Responses	(At)
5.	Sexual Responses	(Sex)
6.	Movement Responses	(M)
7.	The Most Typical Responses	(MT)
8.	Typical Responses	(T)
9.	Atypical Responses	(AT)
10.	Positive Emotion	(Em)
11.	Rejection of Images	(Rej)
12.	Somatic Repression	(RS)
13.	Pathological Anatomical Scale	(PAS)
14.	Depression Scale	(D)
15.	Hostility and Aggression Scale	(HAS)
16.	Paranoia Scale	(P)
17.	Responses of the Heart	(Ht)

Table 2
SSCT Test

1.	Attitude towards mother
2.	Attitude towards father
3.	Attitude towards members of the family
4.	Attitude towards woman
5.	Attitude towards friends
6.	Attitude towards subordinantes
7.	Attitude towards colleagues
8.	Attitude towards past
9.	Attitude towards purposes

Table 3
The Questionnaire Reflecting Attitude of Students' on Vital Problems

10.	Attitude towards one's own higher emotionality	(Em)
11.	Attitude towards sexual interdictions	(Sex)
12.	Attitude towards peoples' harmful health habits	(Heb)
13.	Attitude towards one's own relationship with the opposite sex	(Ops)
14.	Attitude towards problem of women's status in society	(We)
15.	Attitude towards one's own passiveness and inactiveness	(Act)
16.	Attitude towards one's own problem of innocence	(In)
17.	Attitude towards the problems of sexual life	(Sl)
18.	Attitude towards success and independence	(Ind)
19.	Attitude towards relationships between generations	(Age)
20.	Attitude towards problems of education	(Edu)
21.	Attitude towards problem of one's own health	(Hth)
22.	Attitude towards one's own infantilism	(Inf)

Results and Discussion :

The 17 SIS- I indices were correlated with the 22 scales measuring attitudes and problems related to various domains of life (the first 9 scales are taken from SSCT and the remaining 13 from the questionnaire measure of students problems). The obtained correlations have been displayed in Table 4.

The obtained patterns of correlation reveals that persons with lower concern for problems related to health and activity/passivity have perceived more images of animals in the SIS-I images and they have used more frequently the phrases conveying process of activity and movement in their responses. These persons also have greater verbal efficiency that attests their more advanced verbal thinking ability and imagination. The persons having anxiety over their own infantilism gave a lot of most typical responses and human responses and their protocol contained more heart images. The images with the heart in the blots are more frequently identified by persons anxious over the problems related to education, and by those who to a lesser degree show complaints against their mother, women, friends and to their past. The persons giving more typical responses (the normative responses) have less problems in dialogue with their friends as indicated by negative correlation between the two. These persons belong to such group of people who are more tolerant to other people and at the same time they condemn unhealthy human habits. The persons with increased emotionality gave atypical responses. These type of persons more often make claims against their mothers, and they show social dependence. Individuals anxious with their own emotionality tend to give low rejection responses. Persons who are likely to report positively marked emotional images in their responses on a vague stimulus, showed less demands to women, but they care about the status of women in society and they are also concerned with such problems as one's own independence and problems of safe sex. People who claim against elderly people tend to show more somatic repression and perceive move pathological images of the body. The individuals who repressed body images from the conscious also showed increased interest for safe sex. The persons who gave more

Tab. 4 The Correlations of the Parameters of the Students's Attitudes Towards Vital Problems with the Scales of Somatic Projective Technique SIS-I

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	R	**H**	**A**	**At**	**Sex**	**M**	**MT**	**TR**	**AT**	**Em**	**Rej**	**RS**	**PA**	**D**	**HA**	**P**	**Ht**
1					-.412				.518								-.450
2					-.414												
3														-.430			
4										-.409						-.467	-.455
5								-.530									-.440
6							-.478				.509						
7	-.463						-.424						-.435		-.432		
8																	-.416
9														-.436			
10									.558	.460	-.647						
11						-.410								.505			
12								.425						.408			
13							-.428										
14										.433							
15	-.628		-.617			-.578											
16														.647		.411	
17										.433		-.470		.531			
18				-.417					.487	.459							
19				.450								.509	.473	-.432			
20																	.445
21			-.460											.429			
22		.502					.554										.461

Note: The values having insignificant correlations are missed. The critical values significant at .05 level are equal: r = 0.404; at .01 r = 0.515; and at .001 r = 0.628. All the values are submitted without zero.

frequently sexual responses tend to report less claims against the mother and the father especially in comparison to those persons who have repressed from their consciousness the sexual side of the life. Persons producing a lot of repressed verbal responses on inkblot stimulus had the following vital and personality problem: they were concerned with problems of their health, their own innocence and they are bothered by such sexual problems, as sexual restrictions of society and safe sex. At the same time, they think less of their future plans, and make less claims against members of the family and adult people. The persons disturbed by their innocence frequently identified images of an eye (paranoid attribute) in ambiguous stimuli, and give less claims against the women.

Conclusion :

The research has shown, that the SIS-I technique can successly be used for revealing psychosomatic symptoms and complaints and for unfolding, the often hidden, personal character problems as well as the damaged interpersonal relations. It was found that overall the diagnostic material obtained by the Somatic Inkblot Series (SIS-I) is similar to what has been obtained from the SSCT test. These two techniques allow the psychologist to recognize more obviously unconscious problem. As SIS-I will effectively penetrate through “the external shell” and may reveal successfully the many aspects of unconscious attitudes to vital problems of the individuals, and more specifically for overcoming its psychological defense mechanism.

As the body-focus technique is effective for revealing non-realized problems of the individual, it is also possible to use it as therapeutic method throughout the process of the therapy. To this purpose, the inkblot stimulus can be showed at various stages of the therapy. The Psychotherapist helps the patient “to see” the valid contents of an inkblot. He strengthens the understanding of the patient’s unique way of repressing an image from his consciousness, and thus, raises the degree of understanding of the body image by the patient. The future of the SIS technique is in SIS therapy.

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Somatic Inkblot Series: Historical Background and Earlier Projects

Wilfred A. Cassell & Bankey L. Dubey

The article summarizes three cases using the original 12-card form of the SIS. The first case explored the notion that when the cardiovascular system is activated by exercise or emotional stress, the resultant sensory feedback lowers the perceptual threshold for visualizing SIS cardiac content. The second case introduced the potentially new diagnostic category “Body Phobia” and illustrates how during deep relaxation, SIS stimulated imagery can provide an effective Cognitive Behavioral treatment aide. The third case examined the relationship of body consciousness, and heart rate in newly hospitalized patients who experience Schizophrenic Disorder. It reveals how psychotic patients experiencing high sensory feedback from tachycardia can become unduly conscious of the heart and develop related somatic delusions.

Many of us have devoted much of our lives to serve our brief time on this small planet as practitioners of the healing arts and sciences. The power of the SIS to release the “inner cry” can expose us to the intense aspects of human suffering placing us at personal risk for experiencing secondary or empathetic PTSD. In spite of this occupational hazard, we must carry on to combat the excessive influence of the geneticists, psychopharmacologists and other fundamentally important, but yet reductionistic thinking scientists. As SIS work expands our basic knowledge of body-mind-spirit, the battle also needs to be waged against the extreme quasi religious-political groups who advocate suicidal violence.

Ideals of using the multiple SIS technical advances in the stimulation of imagery for scientifically exploring dimensions of human mental existence motivate us all. However, we do not confine our work to the pursuit of knowledge, simply for the joy of discovery or ego. Sometimes allowing us to vicariously witness the higher planes of human existence can reward our struggle. Rarely, it provides us with a powerful technological-based imagery window for peering into mysterious spiritual forces. By contrast, it can force us to deal with the more crude and even vulgar aspects of the body gestalt.

Sometimes study of the history of knowledge can be almost as interesting as learning about the new natural phenomenon itself. It is hoped that the reader will view the three following projects primarily from the historical point of view, rather than representing definitive scientific methodology. It should be kept in mind that they are simply early pilot studies.

Two of the projects (I & III) represent studies with psycho physiologic underpinnings. The remaining one (Project II) reviews an early attempt to apply the SIS mind-body theory in clinical therapeutic work utilizing concepts derived from the early behavior therapy field.

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Key Words : SIS Test, Projective testing, Inkblot imagery

Project I

This study was conducted with healthy young college students registered in an introductory psychology course at the University of Alberta in Canada with the assistance of professor Theodore E. Weckowicz and his graduate student Steven F. Nicely in 1976 using the original 12 Card Form of SIS.

Seventy-one students (twenty-six male and forty-five female) volunteered for the present study. Thirty-five were randomly assigned to an exercise group and the remainder served as controls. A brief medical interview was initially completed to exclude any having heart disease. This interview also enabled the identification of anxiety prone students, who experienced psychophysiologic heart symptoms at times of psychological stress. Examples of these include “heart palpitations” “pounding sensations in the chest”, “rapid heart sensations” etc.

This exclusion was based on the following theoretical body gestalt framework: When anxiety is linked to an organ image, the threshold of recognition and subsequent projection of the symbolic anatomical response may be significantly altered. Usually it is lowered but sometimes it is elevated depending on the preexisting idiosyncratic neural inhibition mechanisms or repressive psychological defenses of the symptomatic subject.

After confirming these background data, exercise was introduced by having the subjects pedal a standing bicycle obtained from the department of physical education. Significant cardiovascular arousal effect was induced by instructing subjects to pedal the bicycle at a constant rate equivalent to 30 miles per hour.

In order to activate the sensory feedback conditions of arousal, a five-minute warm up period was routinely used. The control subjects were asked to sit on the bicycle without pedaling but otherwise treated in an identical manner. In both groups, their pulse was taken initially and after giving their verbal responses to Card X.

Results:

As expected, there was no difference between the groups with regard to resting heart rate. With exercise subjects had a statistically significant increase ($t = 6.58$ $p< 0.001$) of 24.0 beats per minute. The SIS data were initially assessed to determine in regard to the number of human movement responses in viewing Card III (e.g. “Dancing figures”). A chi - square distribution of these values was consistent with the prediction that subjects with exercise will project significantly more imagery of this type ($X^2= 5.15$ $p < 0.05$).

The data were next examined excluding all subjects ($N = 23$) who previously at initial interview had been found to suffer from the possible perceptual contaminating influence of past psycho physiologic heart symptoms. Afterwards the data were analyzed to access the expectation that physical arousal would give rise to the students visualizing heart imagery on pre-selected cards having embedded cardiac color-form connotations (i.e. II, V, VI, VII, and VIII). It was observed that the exercise group had a higher number of such anatomical responses. A Chi - square analysis revealed that the difference was highly statistically significant ($X^2 = 13.98$ $p < 0.001$). Next their responses to Card XVII were quantified to ascertain the effect of arousal on respiratory awareness. It was observed that significantly more activated subjects saw chest anatomical content ($X^2 = 5.95$ $p < 0.02$).

Lastly, the data were analyzed regarding the effect of exercise on cardiac awareness in those with histories of stress induced psycho physiologic heart symptoms. Here, in spite of physical activation of the cardiovascular system, no exercise increment was found to be statistically significant. This suggested that cardiac concerns could be a more powerful influence on heart consciousness than exercise. It appeared that the dysphoric affect, when neurally linked with the cardiac imagery, had the power to overshadow exercise stimulated sensory feedback stimuli competing for registration in an individual's body gestalt.

Clearly, more psycho physiological research needs to be completed to replicate or refute these preliminary observations. Although it was not part of this experimental exercise project design, for heuristic interest, the data were further analyzed. This was completed in the non-exercise group. It examined the type of relationship between body perception and heart image anxiety.

A Comparison of the data for 10 symptom free subjects with 13 having histories of anxiety induced psycho physiologic cardiac symptoms revealed that those with symptoms projected more cardiac responses ($X^2 = 6.65$ $p < 0.01$).

These observations support the notion that cardiac anxiety dramatically can increase heart consciousness. This is not surprising. Many such hypochondriacal individuals suffer from imaginary fears of dying from a "heart attack". Apart from the subjective tragedy of their own inner suffering, unless given the opportunity of preventive clinical intervention, such subjects pose a future burden to the health care system.

Project II

Cognitive-Behavior Therapy with the SIS in Body Phobia:

Although not formally recognized in any existing diagnostic manual, "Body Phobia" represents a clinically definable and treatable condition. In 1976 it first occurred to me that this symptom pattern might possibly be worthy of formal recognition. At that time a small series of case studies were initiated.

For illustration purposes one will be outlined. It utilized an early 12-card form of the SIS called "A Projective Test of Body Awareness". It involved a 29-year old professional engineer who had initially been referred by his family physician for treatment of depression. During the course of his evaluation, it was noted that a major stressor was his fear of losing his wife. Their marital relationship was characterized by communication conflicts at all levels.

In rating his responses in a hierarchy of threat, he selected Card 2 as most threatening. He initially had responded: "A woman with a big mouth...the black is the hair...When elaborating further, he quickly became angry and felt like tearing up the card. He revealed that it strongly reminded him of his mother's highly critical nature and the verbal abuse he suffered as a child. Eventually he became tearful as the projective scene activated painful emotions associated with these memories.

Initially it seemed problematic to determine the mental mechanisms by which this oral imagery got transferred or projected onto the image of his wife's body. It was partially clarified as a result a subsequent interview with a female member of the treatment team. He reluctantly reported to me that he did not feel comfortable in talking to her. The

reason was that he could not take his attention off her mouth. He was embarrassed and puzzled to admit that the therapist's lips resembled his mother's. The treatment team then realized that this distorted transference reaction was partially mediated through symbolic body imagery.

The threatening nature of this symbolism was also evident in his selecting Card 10 as the next most upsetting one. Consistent with the above outlined transference hypothesis, he imagined seeing the following scene: "Lips and pictures taken by the subject from the air (referring to the lower aspect of the card)".

Here it is evident that initially the threatening maternal oral image intruded upon conscious awareness. This triggered psychological defenses of spatial withdrawal enabling his mentally distancing from unresolved childhood PTSD memories of verbal abuse. Focusing on the SIS inkblot as "a photo" taken from a great distance facilitated the repressive perceptual inhibition and resultant threat reduction.

The third most emotionally arousing situation involved his viewing Card 4. Once again he became quite disturbed in visualizing imagery of a "woman" with its concomitant traumatic memories. This additional projective clue signified a new evident response pattern.

At this point in the evaluation, it seemed that for him maternal originated female body symbolism was capable of stimulating confused memories of love-eroticism- fear-hate etc. These had strongly shaped his life long perceptions especially distorting his interaction with females.

As might be expected some of this confusion had been historically transferred of the developmental years to his perception of his own body. Consistent with this projection onto his own body gestalt, his response to the upper object in Card 4 was "Penis". This abnormal visualization in close SIS proximity to potentially erotic arousing female imagery reflected his heterosexual phallic dysphoria.

His high degree of ambivalence about genital sexuality was illustrated by his response to an original SIS cards which clearly depicted the outline of the human body with reddish lung-like internal organs and a sexually ambiguous pelvic area.

Clinical trials indicated that it simply had too much structure to effectively serve as a projective stimulus. Most viewers perceived it as "The outline of a man's body showing lungs". For historical background interest, it is noteworthy that only a small minority perceptually inhibited the somatic content and projected other than human or anatomical responses. All suffered from severe conversion pain syndromes now categorized in modern diagnostic nomenclature as Somatization Disorder.

This man responded as follows: "A man...also the picture of the vagina (pointing to the pelvic region)...and a Penis (Pointing to the white background between the lung-like objects in the chest). Here it is noteworthy that an image of the vagina first intruded into projective awareness. This response indicated that his negative feelings about a woman's oral region had been displaced downwards to the female pelvic region. It was understandable that vaginal intercourse with his wife was associated with more emotional pain than pleasure.

Lastly, it might be noted that in a similar fashion as his response to Card 4, visualizing a "Penis" in the white background between the lung like organ representations was highly abnormal. It provided additional projective evidence of phallic dysphoria,

Overall in analyzing the significance of the above outlined sexually ambivalent imagery it was hypothesized that he may have primarily identified with his aggressive mother's

female body. Thus it appeared that the characteristics projected onto his own body gestalt during psychosexual development may have been unduly bisexual.

Treatment Plan:

These projective data were helpful in developing a comprehensive multidimensional treatment plan. This necessarily included antidepressant medication, cognitive psychotherapy, couple psychotherapy and sexual counseling. The additional dimension to be presently illustrated was behavior therapy.

To set the stage for the latter, he received four separate training sessions in Jacobson relaxation. When he demonstrated relative competence with this procedure, desensitization sessions were scheduled. In the initial clinical trial, after inducing Jacobson relaxation, the SIS cards were exposed to him in an ascending order of threat. Initially the viewing time of 5 seconds was used followed by a relaxation period of 20 seconds.

An attempt at measuring his level of arousal was made by asking him to use a subjective scale as follows: This ranged from 0 representing the psyche condition of feeling free of emotional discomfort to 100 - the greatest dysphoria ever remembered. In the initial phase, he rated his feelings as O. In viewing the 12 card series his arousal level gradually rose to an estimated rating of 20/25. However, with the last one (Card 2) his rating jumped to 50.

After a five-minute relaxation period the procedure was repeated but in a modified fashion by increasing both the exposure time and the relaxation period to 30 seconds. Also, he was given the opportunity of rejecting any card before 30 seconds, if the viewing proved too upsetting. This time his arousal level only reached 20. However, to accomplish this, he rejected Cards 2 & 5, after only brief exposure.

One week later the above procedure was repeated with a further modification. On this occasion he was instructed to view each SIS inkblot but only to the degree of sensing some minor degree of arousal. Under these desensitization conditions, he rated all cards as 0 with the exceptions of Card 5 (15-25), Card 4 (10-15) and Card 2 (0-10).

The next week the procedure was repeated for a final desensitization treatment session. By this time he was relatively comfortable in viewing all cards.

Discussion:

Clinically this behavior therapy was associated with reduction in his anatomical image dysphoria. Moreover, there was a temporal correlation with improvement in his psychological and sexual intimacy with his wife. Consequently, it appeared that he had benefited from this SIS assisted behavioral therapy. Of course, in such a multidimensional complex treatment program, it is virtually impossible to sort out efficacy for one modality. Clearly more sophisticated research designs are required to follow the encouraging clinical leads evolving such pilot studies.

In contemplating future investigations, it might be helpful to conceptualize further about the possible mental mechanisms underlying Body Phobia Disorder. During critical periods of psychosexual development, it appears that childhood exposure to stressful situations can distort anatomical imagery. In this condition, the threat primarily involves exposure to sensations and emotionally charged images of the body, rather than external physical objects. The resultant concomitant affect can strongly shape perception and cognition, as well as ultimately behavior. Depending upon the individual's genetic diathesis, this sequence can play a major underlying psychophysiologic role in symptom formation including sexuality.

An example of this complex process was presented. The subject had a childhood history involving a relatively weak father figure, exposure to a verbally abusive mother and resultant distortions in body imagery. Eventually in his marriage, these played an underlying role in his multiple communication and sexual problems. The presenting problem as labeled by his family physician was “Major Depression,” a medically valid symptom complex and socially acceptable label for seeking therapy. However, it turned out to be much more complex. Apart from being clinically depressed, on the basis of the original SIS assessment, it appeared that problems related to sexuality needed to be resolved.

Consistent with such complexity, evaluators of SIS anatomical responses are advised to keep in mind the following principle. Distorted body image affect and its cognitive misinterpretation, not only can relate to the suffering person’s own body gestalt, but also that of psychologically significant others. This is essentially a “dehumanizing” conceptual model. During extreme psychological stress in childhood, anxiety reducing dissociative defenses become activated. In such situation, the child may sense leaving the body only to view it from an imaginary safer distance. Frequently victims may perceive their perpetrator’s body in a concrete and primitive manner. Such distortions as illustrated in the above case study can underlay a variety of clinical problems. One involves the victim’s tendency to sexually identifying with the perpetrator’s body gestalt.

Historically, conceptualizing about such cases provided my original insights into the importance determining the original somatic focus of projected anatomical responses. These not only can reflect altered awareness levels for the assessed individual’s own body but also that of other psychologically significant people. Frequently the detailed enquiry will throw light on the image’s original reference. Sometimes for clarification purposes other techniques should be employed to clarify the root source. With children sand tray with figurines and art therapy involving human figure drawings can assist in the interpretative process. Other approaches include verbal association tests with key anatomical words, analyzing the body symbolism in dream imagery, and as an additional example, measuring organ specific physiologic activity as it relates to sensory feedback awareness.

Finally, from the historical standpoint, it is noteworthy that this early work also established the importance of establishing an operational plan utilizing projective data reflecting the hierarchy of organ dysphoria. This facilitates the introduction of a SIS behavioral therapy program that may provide additional therapeutic potency. The findings of this project helped in theoretical background for eliminating the contaminating influence of the examiner’s presence during viewing, as well as the incorporation of relaxation verbal instructions and hypnotic guided floral imagery in designing the SIS-II video.

Project III

Cardiac Consciousness and Heart Rate in Schizophrenic Disorder:

This work investigated the relationship between heart awareness and sensory feedback of cardiovascular sensations, using the original 12 card form of SIS in 1977. It was completed in newly hospitalized patients suffering from Schizophrenic Disorder. These consisted of 25 males with no known heart disease. Their median age was 25 (range 19 - 49).

The pulse rate was taken immediately after entering the admission ward. The median was 84 beats per minute (52-132). With SIS projective testing, the median number of responses symbolizing the cardiac region was 2 (0- 6).

A chi -square distribution of heart rate versus number of cardiac responses was initially computed. As predicted those with heart rates exceeding the median were more likely to project cardiac content (X^2= 4.66 $p < 0.05$).

The data were further analyzed regarding those subjects who projected responses emphasizing the cardiovascular system as being " large". This was based upon the assumption that as subjectively perceiving larger heart imagery symbolized heightened cardiac consciousness.

Examples of the five patients who projected such responses follow:

#1 "A woman with a big heart" (Card 2) "A chest x-ray with an enlarged heart" Card 8)

#2 "That's the heart of me! I have a big heart!" (Card 2)

#3 "A human chest. A human doesn't have a chest that large" (Card 8)

#4 "A big heart" (Card 7)

#5 "blood vessels busting" Card 10)

Next, those patients with tachycardia - as defined operationally by pulse rates exceeding the median of 84 - were compared with a control group (49 healthy fireman) on the basis of total number of cardiac responses. Patients with tachycardia had significantly more cardiac responses($X^2 = 7.36$ $p < 0.01$).

Lastly, the tachycardia group was compared with the fireman relative to the total number of responses emphasizing size. In this comparison the differences were highly statistically significant. These were much more likely to visualize the heart as large in their visual fields. ($X^2 = 18.7$ $p < 0.001$).

Finally, to illustrate bizarre distortions in the body concept of patients suffering from Schizophrenic Disorder two histories will be presented. The first (Subject #3) was a 37-year-old man who was hospitalized after he went to the police carrying a piece of hamburger meat. In his delusional rambling, he claimed that it was a "human heart".

When the patient got admitted he was actively psychotic with numerous paranoid delusions. These embraced the paranoid belief that the people were persecuting, allegedly by hurting his heart with "radiation". Interestingly enough from the sensory feedback standpoint of exaggerated cardiac consciousness, he had the highest heart rate in the group (132).

The second (Subject #2) was a 33-year-old individual with admission tachycardia. The following interview was completed in regard to Card 2

Patient: That's the heart of me! I have a big heart!

Dr C: Do you think about your heart a lot?"

Patient: I have heart trouble...I have heart trouble...I need aspirin...I have arthritis heart trouble.

Dr C: Is that right?

Patient: For lack of cigarettes!

Dr C. You say that you have heart attacks. What do you mean?

Patient: My heart goes like this (He illustrated his heightened cardiovascular feedback sensations by pounding his chest).

Dr. You say that you have heart attacks...what do you mean?

Patient: My heart goes like this (Illustrating by pounding his chest over the heart area loudly, ten times in three seconds).

With this gesture, he clearly indicated that he had correctly identified his interoceptive cardiac sensations arising from his tachycardia. However, he subjectively misinterpreted them as do to “heart attacks”.In a subsequent interview, he reported that when his heart “fluttered” that it tended to feel “larger and swell”. On the basis of such reports, it is understandable that some of the schizophrenic patients projected SIS heart symbolism denoting larger size.

When he was questioned further about his neologism of “arthritis heart trouble” had broken his ribs” and was “spreading his arthritis to other regions”. This illustrates how such somatic delusional material can generalize to other aspects of the psychotic patient’s body concept.

After his florid psychosis was treated with anti psychotic medication, it was possible to introduce reality-testing psychotherapy designed to correct such body schema cognitive disorder.

Conclusion:

The SIS has proved to be the most powerful projective test and a tool for therapeutic intervention. The first case demonstrated how SIS images helped in reducing the anxiety of cardiac patients and the second case illustrates how during deep relaxation, SIS stimulated imagery can provide an effective Cognitive-Behavioral treatment aide to a patient of “Body Phobia. The third case examined the relationship of body consciousness, and heart rate in newly hospitalized patients who experience schizophrenic disorder. These works further indicate the need for the SIS users to more actively inform biologically oriented behavior scientists, clinical investigators and medical educators about the relevancy of SIS instruments to their respective fields of intellectual endeavor.

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Deviation from Right Hand Preference and Increased Likelihood of Mental Health Complaints, Immunological Disorders and Accidents

Rakesh Pandey, Shambhu Upadhyay and Neelam Singh

Three groups of left , mixed and right - handed subjects (N= 10 in each group) were assessed on SCL – 90- R for various types of psychopathological traits . Results revealed that left handers reported more symptomatic complaints as compared to mixed handers, which in turn scored higher than right handers. This trend was evident on dimensions of somatization, obsession-compulsion, interpersonal sensitivity, anxiety , and paranoid ideation. Though, due to small sample size the main effect of handedness was not found to be significant, statistically significant differences were obtained between left and right as well as mixed and right handers on dimensions of somatization, obsession-compulsion, and anxiety. It was also observed that left handers are at risk for immunological disorders and accidents, as higher percentage of left handers reported history of immunological disorders and accidents. Mixed handers were also found to be at risk for immunological disorders but not for accidents (as compared to right handers). Findings have been discussed in the light of relevant theories of cerebral lateralization.

Handedness is a type of conative asymmetry which involves a preference for, or proficiency of one hand over the other in performing various kinds of unimanual activities. Though, most of the world population is right handed, around 10 to 12% of them show a deviance from this modal hand preference. The deviant handedness (i.e., left or mixed handedness) may be either a genetically determined phenomenon (see McManas & Bryden, 1992,) or a result of impaired/delayed development of the left hemisphere during pre-natal period or very early years of life (Satz,1972,1973). The manifestation of left or mixed handedness is, therefore, considered as an index of the deviation in the functional organization of the cerebral hemispheres.

Deviant handedness (left or mixed handedness) has been found to be more prevalent in patients with psychiatric, immunological or psychosomatic disorders (e.g., Cannon, et.al., 1995; Manoach, 1994; Sat 3, 1972; Taylor & Amir,1995). An explanation for the link between psychopathology and deviant handedness is that both may occur due to deviation in functional hemispheric organization. For example, number of researches have documented that structural or functional impairment of the cerebral hemisphere may result in deviant handedness (e.g. Satz,1972, 1973) as well as psychopathology (Flor-Henery & Gruzelier, 1983, Mandal , Asthana, Pandey, & Saibadhikani, 1996). The observed association between deviant handedness and psychopathology leads to two equally plausible speculations- 1)Deviant –handedness is a post-pathology phenomenon, that is, psychopathology produces a deviation in the functional organization of the cerebral hemisphere which in turn leads to deviation in hand preference and proficiency and 2) Deviant-handedness is a pathology-concurrent phenomenon, that is disturbance in hemispheric organization (caused by either internal biological factors or external factors such as disease of accident) leads development psychopathology and deviant

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Key Words : Right & Left Hand Preference

handedness simultaneously. To sum up, the first proposition suggests that psychopathology induces deviation in hand preference via deviant hemisphere organization, whereas the second hypothesis, implies that disturbed hemisphere organization is the cause of both deviant handedness and psychopathology. Studies reporting the high prevalence of deviant handedness in psychopathological population (compared to normal controls) support the possibility that deviation in hand preference occur due to psychopathology. However, the Geshwind and Galaburda's(1987) theory of cerebral lateralization provide support to the later possibility. According to this theory the elevated inutero-fetal testosterone level impairs the normal growth of the left hemisphere as well as the immune system, which in turn results in anomalous cerebral and hand dominance associated with a number of psychological and immunological problems.

This inconsistency in the interpretation of the link between deviant handedness and psychopathology/ immunological /psychosomatic disorders may be empirically addressed by the reversal of the antecedent and consequent variables in future research. That is, rather than examining the prevalence of deviant handedness in various psychopathological groups, it is suggested to examine the prevalence of psychopathological symptoms or immunological disorders in deviant handedness (left and mixed handed) groups. Such empirical approach is based on the assumption that both handedness and health (or illness) is continuous individual differences variables. Based on this approach and assumption the present study makes an attempt to compare the left, mixed and right handed individuals in terms of prevalence of psychological symptoms, immunological diseases and accidents.

Method:

Participants:

Three groups of left, mixed and right handers (10 participants in each group) participated in the present study . The mean age of the left, right, and mixed handed group was 22.5 years (SD=6.57 years), 22.1 years (SD= 3.43 years) and 22.7 years (SD=4.92 years), respectively. The classification of the handedness groups was based on the scores on waterloo Handedness Questionnaire (Steenhuis & Bryden, 1989). A proportional scoring system was used for determining handedness of the participants(instead of the conventional mean scores or laterality scores). In this scoring system the observed degree (score) of left or right handedness is compared to the maximum possible score for a right or left hander on this questionnaire. Such scoring system has an advantage over the others in that it provides information about the of hand preference along with the direction in a single index. Those subjects were included in the present study who obtained a score of more than 70% in favor of either left hand (left handed group)or right hand (right handed group) . Those who scored in the range –10 to 10 were grouped as mixed handed.

Tools and Procedure:

Slightly modified, Hindi version of the Waterloo Handedness Questionnaire of (WHQ; Stunhuis & Bryden, 1989) was used in the present study to assess handedness. In the modified WHQ, 13 additional negatively keyed items were added to the original pool of 32 items in order to control the right-right or left-left response bias. WHQ has been found to be reliable in terms of its factor structure and across hand items in both left and

right-handed population (Steemhuis, Bryden, schwarty & Lawson, 1990). The questionnaire asks the preference of hand for various unimanual activities on a 5-point scale. However, in the present study a 7-point scale was used in order to provide more room for mixed hand preference.

The psychopathological traits were assessed using the revised edition of the ninety item symptomatic complaint checklist (SCL-90-R; Derogatis, 1977) . It assesses the degree of psychopathological traits of somatization, obsessive-compulsive neurosis, interpersonal sensitivity, depression , anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. Besides these measures, subjects were also asked two specific questions regarding history of accident or injury and psychosomatic illness including immune disorders .

Subjects were asked to report the frequency and intensity of symptoms experienced during the last six months on SCL-90-R. The responses on SCL-90-R were scored for presence of number of symptoms in each psychopathological category followed by total score (sum of ratings) for each category. Since the number symptoms reported in each category may vary from individual to individual as well as across various subscales the total score was transformed to percent score using the formula-

$$\text{Percent score} = \frac{\text{Total obtained score}}{\text{No. of symptoms reported} * 4(\text{maximum possible rating})} \times 100$$

Such conversion allows between categories comparisons across various groups.

Results:

Mean & S.D. Scores Obtained by the subjects are shown in table 1 and discussed ahead.

Obtained data was subjected to a 3(Handedness group)x 9(psychopathological Dimensions) ANOVA with repeated measure on the last factor. Though, due to small sample size the main effect of handedness was not found to be statistically significant [$F(2,27)=2.33$, $p> .05$], inspection of the mean scores on various psychopathological dimensions reveal a clear trend of increasing psychopathology as a result of deviation from normal right hand preference to left hand preference (See table-1) . From Table –1 it is evident that left-handers have scored higher (M=40.36, 5D=14.28) than mixed-handers (M=37.7, 5D=13.74) which in turn scored higher than right handers (M=33.18, SD=15.04) on SCL-90-R. This trend was visible for almost all the dimensions of psychopathology (except for hostility and depression where mixed hander have scored slightly higher than left, and psychoticism where right handers have scored slightly higher than left and mixed handers). However, left handers have showed more symptoms of psychopathology as compared to right handers on all the psychopathological subscales of SCL-90-R(except psychotocism).

Statistical test of between group differences revealed statistically reliable differences on some psychopathological dimensions. Left handers scored significantly higher than right handers on the subscales of somatization, obsession –compulsion and anxiety dimensions [$t(18)=3.61$, 2.44, 2.91,respectively, $p<.05$]. Similarly mixed handers also scored significaltly higher than right handers on the dimension of somatization and anxiety [$t(18)=2.37$,2.17, respectively, $p<.05$ respectively].

Table 1
Mean & S.D. Scores Obtained by Left, Right, and Mixed Handed Individuals on Various Psychopathological Dimensions

	Left Handed	Mixed handed	Right Handed	Total (across three handedness groups)
Somatization	33.02 (4.48)	33.2 (8.14)	26.80 (2.36)	31.006 (6.45)
Obsession-compulsion	48.44 (16.05)	44.70 (18.88)	34.37 (8.2)	42.503 (16.28)
Interpersonal sensitivity	45.44 (14.29)	39.63 (14.25)	35.93 (11.56)	40.330 (13.99)
Depression	44.61 (17.11)	46.04 (10.21)	37.37 (13.04)	42.670 (14.28)
Anxiety	41.5 (12.00)	37.43 (10.36)	29.54 (4.77)	36.160 (10.75)
Hostility	33.16 (10.55)	34.83 (15.69)	31.25 (26.96)	33.080 (19.07)
Phobic Anxiety	39.10 (18.08)	33.67 (15.83)	34.38 (19.62)	35.720 (18.07)
Paranoid Ideation	43.49 (12.42)	39.04 (8.49)	33.57 (9.91)	38.700 (11.17)
Psychoticism	34.44 (7.58)	30.78 (8.38)	35.38 (18.21)	35.107 (7.00)
Total SCL-90 score	40.36 (14.28)	37.7 (13.74)	33.18 (15..04)	

Examination of history of immunological and psychosomatic disorders in various handedness groups revealed that significantly higher percentage of left handers (30%) reported history of such diseases compared to right handers[(10%); Z=2.25, p<.05]. In mixed hander group 20% individuals reported history of such diseases. Similarly deviant handedness was also found to be associated with history of accidents and injuries. It was observed that 50% of left handers reported history of accidents and injuries, whereas 30% right handers and only 10% mixed haanders reported history of accidents and injuries(left Vs right :Z=1096, p<.05; left Vs mixed handers: Z=3.92, p<.01; mixed Vs right handers: Z= 2.25, p<.05)

Discussion:

Findings of the present study suggest that deviation from normal right hand preference increases- a) The degree of psychopathological symptoms and b) The risk of immunological and / or psychosomatic disorders as well as the risk of having accidents.

The present observation that left handers report more psychopathological symptoms than mixed handers which in turn present more symptoms than right handers, support the speculation that deviant handedness is associated with increased likelihood of psychopathology. It also supports the hypothesis that handedness is a continuous variable (Bryden, 1982) which vary from right to left through mixed handedness. Though, earlier findings reported higher incidence of left/mixed handedness in various

psychopathology groups (e.g., Cannon, 1995; Manoach, 1994; Satz, 1972; Taylor & Amir, 1995) , the reverse was also observed in the present study, that is, a higher prevalence of symptomatic complaints in deviant handers. Taking these research observations into account, it can be suggested that the association of handedness and psychopathology is bi-directional . Thus it implies that both possibilities exist- psychopathology may induce left /mixed handedness (switching of hand preference) and deviant (left/mixed) handedness may increase the likelihood of developing psychopathology. However, here it should be pointed out that such inferences are based on the observed trend and not on the statistical significance. Statistically significant differences were obtained only for 3 dimensions of psychopathology (somatization, obsession –compulsion, and anxiety) out of 9 dimensions studied in the present study.

Several speculation can be made to explain th observed association between deviant handedness and Psychopathology. For example,Geschwind and Galburda(1987) have suggested that left or mixed handedness is a reflection of anomalous cerebral dominance and a number of researches suggest that anomalous cerebral dominance may result in psychopathology (see Flor-Henery & Gruzelier, 1983; Mandal et.al , 1996 for review).Thus anomalous cerebral dominance may be considered as a factor which links psychopathology to deviant hand preference.

Besides this, left-handedness has been found to be associated with other psychosocial factors, which may impose additional adjustment demands and thus, may predispose the left-handers to experience greater stress and thereby greater psychopathological symptoms. For example, left handers face difficulties in a world arranged for right-handed majority and are also likely to have certain behavioral problems such as stuttering, learning difficulty etc. (Hatta & kawabami, 1994; parac, 1993), associated with negative social consequences. These psychosocial problems associated with left-handedness may predispose the individual to experience more stress and thereby more psychopathological symptom.

The finding that deviant handedness increases the risk of having immunological problems (Bishop, 1986; Coren, 1994; Smith, 1987) is corroborated by the present observation. The association of deviant handedness and immunological problems have been generally explained on the basis of Geschwind and Galaburda's (1987) theory of cerebral lateralization which states that increased inutero testosterone level impairs the normal cerebral development as well as the development of the immune system and thereby increases the incidence of left-handedness and immunological problems.

The observation that left handers , living in a world arranged for right handerrs, are more likely to have accidents (Porac, 1993) than right or mixed handers in supported by the present findings . However, it is interesting to note that mixed handers (of the present study) are less accident prone as compared to both right and left handers. Equal proficiency of both the hands in mixed handers makes them more flexible in coping with varied demands of various types of unimanual as well as bimanual activities and thereby reducing their chance of having accidents.

The findings thus suggest that deviation from right handedness results in a number of pathological consequences including psychopathology, immunological disorders and accident.

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Differences in Terms of the Defense Mechanism Technique Modified (DMTm) Between Psychotic and Non-psychotic Drug Abusers

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Psychological defense mechanisms and anxiety were investigated in three groups of drug abusers with DMTm (Defense Mechanism Technique modified). One group (n=19) was diagnosed to have a psychosis according to DSM-III-R, but without a diagnosis of uni-/bipolar mood disorder, schizophrenia, schizoaffective or organic psychosis. All but one were mixed drug abusers. The subjects in the other two groups were abusing mainly heroin (n=36) or amphetamine (n=29). Since the two groups were similar in how they differed from the psychotic group in terms of DMTm signs, they were combined to form a single non-psychotic comparison group. The following DMTm signs were found to be more frequent in the psychotic than in the comparison group: (traumatic) anxiety, repression, denial, denial through reversal, splitting and reference. The results were interpreted according to the Andersson psychoanalytic model of the mind. The psychotic drug abusers were more prone to see their projected selves as petrified, inanimate or disguised being in relation to "the threatening mother"; show a deficiency in reality-testing; fail to maintain three emotional barriers, the first dealing with separating from and being different from the other, the second distinguishing the barrier of gender and the third, oedipal position concerned with the generation gap.

One application of the DMTm (Defense Mechanism Technique modified), a percept-genetic technique (see Andersson, 1991; Andersson & Ryhammar, 1998), has been in studying different clinical groups. Among these are groups of patients suffering from hypochondriac complaints (Hallborg, Andersson, Nordgren & Von Schéele, 1987), fibermyalgia or other forms of bodily pain (Jacobsson, 1989), suicide attempts (Christensson, 1990), schizophrenia of different types (Lööf & Svensson, 1993), adjustment or personality disorder (Petersson, Andersson & Nilsson, 1997), depressive symptoms of different kinds (Hallborg, 1997) and current or earlier drug abuse (Bergstrom, 1998). These investigations have involved within-group comparisons, subgroups formed on the basis of symptoms being compared in terms of signs of anxiety and of defenses against anxiety in the DMTm.

In the study that Bergstrom (1998) conducted, three groups of women were compared: those actively abusing drugs, those rehabilitated from drug abuse, and those who had just overcome drug abuse but were still in a marginal state of conflict regarding their drug problems. The women actively abusing drugs were found to have difficulties in dealing with the anxiety that DMTm evoked and in expressing it symbolically. They showed no signs of either affect or identity anxiety and no more than a single type of affect defense.

The women in marginal conflict were those who most frequently employed the denial defense, at the same time as they showed no identity defenses (denial through reversal). Since it was assumed that these women had not yet established a secure identity as non-abusers, denial on their part can be seen as an effective way of dealing with their

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feeling of loss (connected, in terms of the Andersson [1991] model of the mind, with a sense of abandonment caused by loss of a primary object), and also as a means of keeping the self intact under the conditions of uncertainty in which they were living. By way of comparison, the rehabilitated women were characterised by affect and/or identity anxiety and by various forms of affect defense, and they usually displayed identity defenses (denial through reversal) as well.

Bergstrom's results are of particular relevance for the present investigation. Like her, I am concerned with differences in DMTm between drug-abuser groups – in my case between drug abusers (both women and men) diagnosed as being psychotic and those without such a diagnosis. All patients in the psychotic group except one were mixed drug abusers, whereas those in two non-psychotic groups were mainly abusers of either heroin or amphetamine. The hypothesis was that the subjects in the psychotic group would differ from those in the other two groups in their DMTm signs. Since the nature of the differences was not specified, statistical testing was always two-sided. In addition to using the DMTm signs described in the latest manual (Andersson, 1995a), I explored how useful a number of additional signs were. One such sign that I term "reference" proved to be of relevance. That sign is one that has been described earlier, both in a case study of psychosis with use of DMTm (Andersson & Hallborg, 1986) and in manuals of the two percept-genetic techniques closely related to DMTm, namely DMT (Defense Mechanism Test; Kragh, 1969) and MCT (Meta Contrast Technique; Smith, Johnson & Almgren, 1989).

To obtain a more inclusive personality description of an individual, DMTm is often complemented by use of the SAT (Spiral Aftereffect Technique), which aims at providing a description of basic personality characteristics (Andersson, 1991; Andersson & Ryhammar, 1998). I used SAT here for determining whether the psychotic group differed from any of the other two groups, the heroin and the amphetamine group, in terms of this percept-genetic technique. It was my hope (one not fully satisfied) that such differences would not be found, since otherwise differences in terms of DMTm could be partly reflective of differences in basic personality characteristics. Regarding differences in sex, no major problem existed, the three groups being quite similar in terms of numbers of men and women.

Methods:

Groups studied:

The patients, all of them drug abusers who injected drugs, were gradually recruited during the years 1994-96 from the drug abuse clinic of a large hospital in Stockholm. At that hospital, use was made of the criteria for diagnosing drug dependency or drug abuse that appear in ICD 9 (International Classification of Diseases, Ninth Edition; World Health Organisation, 1987), although the patients likewise conformed to the criteria for this diagnosis contained in DSM-III-R manual (Diagnostic and Statistical Manual of Mental Disorders, Third Edition – Revised, 1987).

The 19 patients in the psychotic group (5 women, 14 men) were recruited from both a closed and an open ward for psychotic drug abusers. The closed ward is conventional in character and is designed for psychotic drug abusers acutely in need of treatment when admitted. Following detoxification, pharmacological treatment and consultation

with a psychologist or social worker, the patients were often referred to an open ward specially adapted for treating drug abusers with serious mental illness (see Jess & Westerlund, 1999).

Although one of the patients in the psychotic group abused only heroin, the others were mixed abusers of primarily amphetamine, benzodiazepines and alcohol, and in a few cases heroin. They had all been drug abusers for at least five years and had been diagnosed by a psychiatrist as being psychotic according to DSM-III-R (module B, axis I, general criteria for psychosis). The most usual symptoms were delusions, tactile or auditory hallucinations, disorganised speech, disorganised behaviour and catatonia. None of these patients had a diagnosis of brain damage, organic psychosis, schizophrenia, schizoaffective disorder, or uni- or bipolar mood disorder. All of them had been detoxified for at least six weeks prior to being tested by SAT and DMTm. Administration of any neuroleptic drugs was also discontinued three to five days prior to testing. The median age of these patients was 30 years, with a range of 23-40 years.

The remaining patients, 65 altogether, had all been drug dependent for at least five years and could be described as being basically abusers of heroin or amphetamine alone. As a rule they had taken large doses of the drug daily, although some had abused alcohol or benzodiazepines for periods of time. All of them were recruited from one examination and motivation unit for non-psychotic drug abusers. None of them had a diagnosis of brain damage or of an uni- or bipolar mood disorder. At the time of testing with SAT and DMTm, all of them had been drug-free for at least four weeks. The median age and age range, respectively, were 32 and 23-43 years for the 36 subjects in the heroin group (11 women and 25 men) and 31 and 21-43 years for the 29 subjects in the amphetamine group (8 women and 21 men).

Spiral Aftereffect Technique:

The SAT has been described by Andersson (1991; Andersson & Ryhammar, 1998). The test person first gazes for 45 seconds at a rotating spiral line, rotating so that the spiral appears to be moving inwards. Directly after watching it, the person is shown a circle that, objectively speaking, is standing still but is perceived as either growing larger or coming closer, due the person's projecting onto the circle the aftereffect of the rotating spiral. The person indicates when this aftereffect has ceased, the test administrator noting how long the aftereffect lasted. Ten successive trials of this sort are carried out, the times that are registered being used to classify the person in terms of a particular personality pattern.

The task presented in SAT can be seen as in principle being that of recreating the "preferred" relationship between subjective reality (the experienced aftereffect) and objective reality (the unmoving circle upon which the aftereffect is projected). How this task is solved is termed the SAT strategy. It manifests itself either as a successive decrease (minus-trend, or -), as a successive increase (plus-trend, or +) or as no appreciable trend in either direction (zero-trend, or 0). The preferred relationship between subjective and objective reality, assessed as the mean of observations 9 and 10 (final level) is termed the person's SAT identity. If the duration of the aftereffect is extremely short throughout, as judged on the basis of norms that have been established (Andersson, 1995b), the classification LLs ("Low Low short") is employed. Additional

classifications employed are LL (a very low final level, always involving a minus strategy, which for that reason is not indicated by use of a minus-sign), L- or L+ (a low final level involving the trend that is indicated), H- or H+ (a high final level, again involving the indicated trend) and M-, M+ or Mo (an intermediate final level involving the trend that is indicated).

Defense Mechanism Technique Modified:

A more thorough description of DMTm is found in Andersson (1991). DMTm is a percept-genetic technique representing a further development of Kragh's (1969) DMT but designed to facilitate interpretation of the results in terms of the Andersson (1991) model of the mind (for a brief summary, see Andersson & Ryhammar, 1998). An essential aspect of this model is that motives for defense can be derived from developmental positions, and that two basic types of defenses are to be found: instrumental and relational. Instrumental defenses are also termed affect defenses. Relational defenses are of two types: denial and denial through reversal (or identity defense).

According to the Andersson model, the specified motives behind a particular defense can be obtained from different psychoanalytical models. The specified motive behind denial is derived from Freud's (1900) reflex-arc (attachment) model; the specified motives behind affect defenses from Melanie Klein's (1935, 1940, 1945) affect positions model; and the specified motives behind identity defenses (denial through reversal) from Heinz Kohut's (1971, 1977, 1984) model of self and selfobject.

A tachistoscope is used for presentation of two different picture-motifs. First the one motif and then the other is shown in a series of 20 expositions each, the exposition time increasing successively in each series from 5 to 1150 milliseconds. After each exposition, the person's task is to report what he/she has seen or experienced, doing so both verbally and by making a simple drawing. This results in a total of 40 such reports, 20 for each picture-motif. At the centre of both pictures, a young person of the same sex as the test person can be seen. This person, termed the hero or heroine (H), is also provided with a disguised sexual attribute (A). Shown in a peripheral position in the picture is an older person of threatening appearance, who in the first picture is a woman ("the threatening mother") and in the second picture a man ("the threatening father"), termed in both cases the Pp (peripheral person).

Deviations by the test person from "correct" reporting of the content of the pictures are of primary concern. Some deviations are interpreted as signs of defense and others as signs of anxiety. Still other deviations, referred to in the manual (Andersson, 1995a) as "additional signs", are interpreted as signs neither of defense nor of anxiety. It is primarily within this category that, in this investigation and in others, "new" signs such as that referred to here as "reference" have been explored.

The DMTm protocols obtained were coded by A.L. Andersson (who has developed the scoring scheme and who had no knowledge of how subjects were grouped) and by me, independently of each other. In those few cases in which our codings failed to coincide, we reached agreement prior to the start of data analysis. The signs we employed (except for that of "reference") are explained in detail in the latest manual (Andersson, 1995a). Certain of the signs included in the manual (anxiety 6, introaggression 2, denial through

reversal I 1b, III 4 and IV 1b, Pp only and only part of A) were not represented in the present material.

If a sign was found in the protocols of at least 4 of the 84 participants, it was included in the data analysis. This procedure resulted in the use of 36 (dichotomous) variables for either or both of series 1 and 2 (DMTm as a whole, referred to as series 1 and/or series 2), in 29 variables for series 1 and in 32 variables for series 2. The following signs were involved: anxiety 1-2, 3, 4 (series 1 and/or 2) and 5; repression 1, 2 (series 2, series 1 and/or 2), 3, 1-3, 4, 5 (series 1 and/or 2), 6, 4-6 and 7-8 (series 1 and/or 2); projected introversion 1, 2 (series 2, series 1 and/or 2) and 1-2; introversion 1; inhibition 1-2 (series 1, series 1 and/or 2); isolation 1-2 and 3-4; denial 1 and 2-3; denial through reversal I 1, II 1, II 2, II 3, III 1-3, IV 1-5, IV 6-8 and IV 1-8; splitting; reference (series 2, series 1 and/or 2); H positive; H afraid (series 2, series 1 and/or 2); disappearance of threat, and disappearance of A (series 2, series 1 and/or 2).

In the following, the content of the different signs reported in the table of results (Table 1) is described:

Anxiety 5. Colour (other than white, black or grey) is used and its location is specified in descriptions that are provided of persons, objects or clearly delineated surfaces (traumatic anxiety).

Repression 1-6. H is seen as (1) a petrified, inanimate or disguised being, (2) an animal or (3) a specified object; and/or Pp is seen as (4) a petrified, inanimate or disguised being that is neither threatening nor unpleasant, (5) an animal or (6) a specified object.

Denial 2-3. Pp (2) is lacking or is not interpreted on at least two consecutive expositions, after having previously been specified as being something other than a person or a face or (3) is lacking on a least two expositions in succession after having been specified prior to that as a person or a face.

Denial through reversal I-Ia. H is doubled.

Denial through reversal III. H's sex (1) changes from being correct to incorrect, (2) is incorrect on at least eight consecutive expositions but not on all expositions on which it is specified or (3) is referred to during the series without its being correct in any case.

Denial through reversal IV. Pp is doubled (1a); the positions of H and Pp are reversed (2); Pp is seen as a duplicate of H (3); Pp's sex changes from being correct to incorrect and Pp is seen as neither threatening nor unpleasant at the change (4); Pp is specified in the first series as being H's father and/or in the second series as being H's mother, without being described as either threatening or unpleasant (5); Pp is seen as younger than H and as neither threatening nor unpleasant (6); H changes from a younger to an older person (7); or H is seen as an older person on at least 12 expositions in succession (8).

Splitting (denial through reversal I 1a combined with splitting). H is doubled, the two versions being seen as different or separate, e.g. through its being specified that they are far apart, are of differing sex, or differ markedly in some other way.

Reference. H or Pp or both are seen as being someone who is "known" to the test person (e.g. the test administrator, some other patient, someone working on the ward, some well-known actor, musician, author or politician, or some other official person).

Statistical Analysis :

All statistical comparisons involve fourfold tables and two-tailed testing with use of the Fisher Exact Probability Test.

Results :

For SAT, it was found that LL/L and its subgroup LL/L-, as well as LL alone, were more common in the heroin group than in the psychotic group (p=0.002, p=0.004 and p=0.02, respectively). In contrast, there were no appreciable differences in personality patterns on SAT between the psychosis and the amphetamine group.

In view of these SAT results, one might expect that the heroin and the amphetamine group would likewise differ from each other in how they compared to the psychosis group on DMTm. Such was not found to be the case, however. Therefore, only results for the comparisons between the psychosis group and the combined heroin and amphetamine group will be given. These are shown in Table 1

Note: The first number in the distribution indicates the number of persons in the psychosis group who have the sign in question, the second number the corresponding number of persons in the comparison group, the third number the number of persons in the psychosis group who lack the sign, and the fourth number the corresponding number of persons in the comparison group.

It should be observed that if a sign appeared in what is referred to in the table as DMTm series 1 and/or 2, this means that the sign was found in DMTm as a whole, i.e. in either series 1 alone, in series 2 alone or in both series 1 and 2. When only one series is referred to in Table 1, the comparison between subjects in the psychotic and the non-psychotic group was restricted to scores of that particular series in the DMTm. Note that there was a wide variety of DMTm signs which were significantly more common in the psychosis than in the comparison group.

Discussion :

The significant differences found for SAT between the psychotic and the heroin group, but not between the psychotic and the amphetamine group, suggested initially it to be appropriate in analysing the DMTm results to compare the psychotic group with the other two groups separately. However, since the heroin group and the amphetamine group were close to identical in how they differed from the psychotic group on the DMTm, it was adjudged more relevant to compare the psychotic group with the group formed by combining the heroin and the amphetamine group.

Significant results were obtained for 11 of the 36 comparisons that involved DMTm as a whole, i.e. series 1 and/or 2. A problem of mass significance is inherent here, however. One approach to this problem is to multiply the highest p-value that is significant (p=. 03) by 36. This yields an estimate of 1.08 for the number of comparisons (of the 36) expected to achieve a p-value of p=.03 or lower on the basis of chance. A chance result of this sort would be less likely to occur if most of the remaining p-values were considerably lower than this, which in fact is the case. This suggests the mass significance problem here to not be very great.

Table 1
DMTm Signs More Common in the Psychosis than in the Comparison Group

DMTm series	Sign	Distribution		p		
2	Anxiety 5	4	2	15	63	.02
1 and/or 2		6	4	13	61	.008
1	Repression 1	13	19	6	46	.003
1	Repression 1-3	15	26	4	39	.004
1	Repression 6	9	12	10	53	.02
1 and/or 2		10	16	9	49	.03
1 and/or 2	Repression 4-6	13	24	6	41	.02
1 and/or 2	Denial 2-3	9	7	10	58	.001
2	Reversal I 1a	6	0	13	65	.00007
1 and/or 2		8	4	11	61	.0005
1	Reversal III	12	17	7	48	.005
2		9	8	10	57	.002
1 and/or 2		14	23	5	42	.004
1	Reversal IV 6-8	14	18	5	47	.0004
1 and/or 2		14	21	5	44	.003
1	Reversal IV	15	24	4	41	.002
2		7	5	12	60	.004
1 and/or 2		15	27	4	38	.008
1 and/or 2	All three of reversal I 1a, III and IV 6-8	7	0	12	65	.00001
2	Splitting	4	0	15	65	.002
1 and/or 2		6	2	13	63	.001
1	Reference	7	2	12	63	.0003
1 and/or 2		8	2	11	63	.000006

A more conservative approach to the problem is that of Bonferroni (cf. Huberty & Morris, 1992), according to which the alpha level employed (here p=.05) is divided by the number of comparisons made (36) to yield a new alpha-value (p=.0014). Thus seen, 5 of the 11 comparisons referred to would still be statistically significant (those for denial 2-3, reversal I-1a, the combination of the latter together with reversal III and reversal IV 6-8, splitting and reference). It can be argued, however, that the Bonferroni method, which amounts to the expected value for the number of significant comparisons attributable to chance remaining the same, however many comparisons are made, is unnecessarily strict (personal communication, R. W. Goldsmith, August 29, 2002).

Whatever view the reader may have of these matters, it should be borne in mind that the discussion that follows concerns not only the comparisons just referred to but also those in which the first series and the second series in DMTm are considered separately. These results are of interest because of the one series involving a female threat figure and the other a male threat figure – and also because of their affording a comparison with earlier results concerning these two series.

Traumatic anxiety (anxiety 5), found here to be more prevalent in the psychotic group, has been studied by use of other percept-genetic techniques than DMTm. Smith et al.

(1989) consider its occurrence in MCT to represent ”regression to infantile ways of experiencing”. Kragh (1969) refers to its occurrence in DMT as “regression” and interprets it as reflecting either schizophrenic psychosis or a pre psychotic condition. Rubino, Pezzarossa and Ciani (1991) found such signs to be more common in non-hospitalised schizophrenic patients in an active phase of their illness than in non-psychotic patients. Kragh (1969) suggests tentatively that signs of this sort, which involve the experiencing of colour in the percept-genesis of a black-and-white picture, are connected with an “early, exceptionally traumatic experience” (p. 51). It is this interpretation on which use of the term “traumatic anxiety” in DMTm is based. Such anxiety is related to the first position (viewed from Freud’s [1900] reflex-arc model) of the Andersson model of the mind. One motive behind traumatic anxiety is to avoid unpleasure rather than activating the “pleasure-principal” (a paranoid world). If the child, during the early development, is unable to canalise stimulation through adequate motorical expressions, there is a risk for painful over stimulation of the mental apparatus, which can lead to a traumatic condition (Andersson, 1991).

It was in the second series (involving “the threatening father”) that traumatic anxiety was found to be more frequent in the psychotic than in the comparison group. This can be compared with Amnér’s (1997) finding for the first series in DMTm (involving “the threatening mother”) that traumatic anxiety was more common in persons who were fearful of flying than in persons who were not. Similarly, Petersson et al. (1997) found traumatic anxiety in the first DMTm series to be more frequent in young adult patients diagnosed as having both personality and adjustment disorder than in those diagnosed as having only the one or the other of these diagnoses.

The only affect defences in DMTm found to be more frequent in the psychotic group than in the comparison group were various types of repression. The most marked difference of this sort was obtained for H-repression (repression 1-3), specifically for repression 1 (H is seen as a petrified, inanimate or disguised being), and concerned only the first DMTm series. In contrast, the difference for Pp-repression (repression 4-6) was also found for DMTm as a whole (series 1 and/or 2). In a previous study, Hallborg (1997) found repression 4-6 to be particularly common in depressive men with suicidal thoughts and in depressive women with relatives who had suffered from depressive episodes.

According to the Andersson model, the specified motive behind the affect defence of repression belongs to the paranoid-schizoid position, this defence thus being a way of coping with something “unconditionally evil”. Hallborg et al. (1987) suggest that this “evil”, besides being situated at the place of the threat (Pp), can be displaced to H, i.e. to the projected self. If one accepts this idea, it can be thought to be of special importance that this displacement in the psychotic group was found in the first DMTm series, the one involving a female threat.

No difference between the two groups was obtained for denial 1 (Pp not being reported or not being interpreted on at least seven consecutive expositions, starting from the first). Denial 2-3 (Pp not being reported or not being interpreted on at least two consecutive exposures after being specified as something other than a person, or Pp not being reported on at least two consecutive exposures after being designated as a person or a face) was more frequent, however, in the psychotic than in the comparison group. There is a similarity between denial 2-3 and what Smith et al. (1989) term “light discontinuity”

in MCT and consider to be a type of regressive strategy linked with depressive or paranoid psychosis or with schizophrenia. Rubino et al. (1991) found similar signs in DMT to be common in schizophrenic patients. According to the Andersson model, denial is a defence against feelings of being abandoned and an attempt to hold the self-intact when exposed to external threat. Although this interpretation has mainly been applied to denial 1, it can probably also be applied to denial 2-3.

Four different types of identity defence in DMTm are distinguished: denial through reversal I, II, III and IV. All of these except denial through reversal II (in which H and Pp are seen as having a positive relationship or Pp is described in positive terms on at least two expositions; H is viewed as aggressive or as threatening, whereas Pp is not described in this way; or Pp is described at no point as being either unpleasant or threatening) were more frequent in the psychotic than in the comparison group. A number of additional points can be noted. One is that an appreciable difference between the two groups in the doubling of H (reversal I a, either with or without splitting) was only found in the second series (involving the male threatening figure), and that an appreciable difference between them in describing the age relationship between H and Pp "incorrectly" (reversal IV 6-8) was found in the first series (involving the female threatening figure). Another is that for reversal III and IV (all types of the latter included) the difference obtained was found for each of the two series and in DMTm as a whole (series 1 and/or 2). Finally, it can be noted that it was only patients in the psychotic group who were scored for all three reversal defences, I 1a, III and IV 6-8.

A parallel can be seen between the frequent occurrence of identity defence in the psychotic group and Lööf and Svensson's (1993) report of more frequent occurrence of reversal III, and of reversal defences generally, in paraphrenic than in hebephrenic and non-regressive schizophrenic patients. It appears that, in the present study, members of the psychotic group, in their efforts to deal with the identity anxiety elicited in the DMTm situation, made use of identity defences corresponding to various or even to all positions in the Andersson model that link identity anxiety with some specific content. Three such positions are involved: the very early oedipal position (position 3 early), in which the child needs to deal with separating from (and being different from) the other; the somewhat later oedipal position (position 3 late) connected with one's own gender; and the major oedipal position (position 4), concerned with the generation gap. In comparison to the non-psychotic drug abusers, the psychotic drug abusers were less ready to maintain any of the distinctions applying to these three positions, as can be seen in their more frequent use of reversal I, III and IV.

What is termed "splitting" in DMTm is often given a literal interpretation. Andersson and Hallborg (1986), in their account of a woman with a "borderline" diagnosis who displayed considerable splitting in the first DMT series (identical with the first DMTm series), describe the woman's (projected) self as being split into a "good" and a "bad" part. It is a split of this sort which appears to have been manifest in various of the psychotic drug abusers, particularly in their second DMTm series. One can note by comparison that Amnér (1997) found persons with strong fear of flying to more frequently display splitting in DMTm (series 1 and/or 2) than those who were not afraid of flying.

The sign coded here as "reference" is considered in the MCT to represent a projective strategy (Smith et al., 1989) and in the DMT to represent regression (Kragh, 1969). Andersson and Hallborg (1986, s 29) regard it (together with allusion, concretisation

and sexualisation) as being indicative of psychotic regression. They argue that psychotic regression need not necessarily be viewed as a defense and that it may possibly represent just the opposite, a lack of defense (p 11). This suggests that “reference” can be considered as a deficiency in reality testing, obviously more common in the psychotic than in the comparison group.

All of the DMTm signs found in the present study to differentiate between the psychotic and the comparison group are ones that likewise occur both in non-clinical groups and in clinical groups with a diagnosis other than that of psychosis. Considering these signs as indicators of psychosis per se, in the same sense as a given set of symptoms needs to be present for a particular psychiatric diagnosis to be made does not seem justified. Therefore in line with this, Andersson and Hallborg (1986) avoid in their interpretations of the individual patients' DMT and DMTm protocols the practice common in a psychopathological frame of reference of distinguishing between primitive, psychotic, narcissistic and neurotic defences. Instead, they are primarily concerned, as I am here, with attempting to understand the significance of the defences and other phenomena that are manifest in DMTm. The aim of such research is not to explore alternative routes to conventional psychiatric classifications (in the present case those of psychosis and non-psychosis in combination with drug abuse) but to complement such classifications by use of a psychological and psychodynamic model of interpretative character, one based on the Andersson model.

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Psychotherapy of a Male Patient with Dissociative Convulsive Disorder: SIS II Breaks the Resistance

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Treatment of dissociative convulsive disorder is difficult to manage in outpatient setting. Here we present the case of 24-year-old male patient who was successfully treated in three sessions through administering SIS-II in the out patient setting. The projective technique of SIS II was administered to a male patient who was diagnosed to have dissociative disorder. SIS showed severe repression of sexual impulses by rejecting all the images, which are likely to evoke a sexual response. A conscious denial of sexual responses prompted to challenge the patient at the initial and early phase of the therapy without threatening the ego functions. Further interview helped the patient to disclose his unprotected homosexual and heterosexual relationships and his anxiety related to sexually transmitted infections including HIV. A dramatic cessation of the pseudo seizures following the session prompts to make use of the SIS technique at the appropriate time in psychotherapy, in order to reduce the cost of treatment and care of psychological disorders.

Dissociative convulsive disorder or pseudo seizures are episodes of altered movements, emotions, sensations or experience similar to those due to epilepsy, but which is of psychological etiology. Liske and Forster (1964) were the first to introduce the term pseudo seizures. Though pseudo seizures can also present as a symptom of several psychiatric disorders like major depressive disorder and anxiety disorder, it is more frequently seen with dissociative disorder. Crimlisk, et. al., (1998) observed that pseudo seizures among patients with dissociative disorders demonstrated considerable stability in the psychiatric diagnosis.

Pseudo seizures are rarely reported in men as part of dissociative disorders. Evaluating the physical symptoms manifested as part of psychiatric disorders, Chadda, et. al., (1991) observed that subjective weakness , headache, pain in extremities and pseudo seizures were more common in women whereas palpitations were more common in men. But several studies have demonstrated a strong relation between trauma and dissociative symptoms in male patients (Bremner, et. al., 1992; Marmar, et. al., 1994).

From a psychodynamic perspective Laughlin (1987) defined dissociation as “an ego defence or dynamism operating outside of and beyond conscious awareness through which affect and emotional significance are separated and detached (i.e., dissociated) from an idea, situation, object or relationship” (p.94). Irvin (1994) found that the main predictors of dissociation were familial loss in childhood, interfamilial sexual abuse and extra familial sexual abuse. Basu, et. al., (2002) reported the case of a 47 year old lady, who presented with symptoms of trance and possession that could be diagnosed as dissociative disorder. But investigations showed lesion in the basal ganglia and fronto- parietal lobes. Based on their observations, they suggested the possibility of underlying neurological abnormality, for every case of possession like states.

Several screening tools such as the Dissociative Experience Scale, (Bernstein & Putnam,

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1986) Dissociation Questionnaire, (Van Dyck, et. al.,1993)Questionnaire of Experiences of Dissociation (Riley, 1988) is available to identify patients who are at risk for a dissociative disorder. Armstrong (1991) indicated that psychological testing, such as the Rorschach, may help to improve the understanding of the patient's personality structure. However the screening tools and psychological tests are not able to diagnose the dissociative disorders. Therefore the identified patients should be evaluated clinically to establish a dissociative disorder.

Different forms of therapies are recommended for dissociative disorders. Behaviour therapy (Kass, et. al., 1972), psychodynamic therapy (Griffith, 1997) hypnosis (Gardner, 1973), biofeedback (McKee, et. al., 1983) and couple or family therapy (Griffith, et. al., 1994) are found to be efficacious in these patients. Cornell and Olio (1991) suggested integrating affect in the treatment of dissociative disorders. In order to elicit affect they recommended body – centred techniques, hypnosis and collateral group treatment as techniques, which can trigger "flashbacks". But use of these techniques must be paced to allow the material to be assimilated in ongoing treatment. Unless cautiously used, the techniques may be overwhelming to the client, resulting in increased difficulties in daily functioning, and may lead to heightened use of denial and dissociation, or premature termination of therapy. Cassell, et. al., (2000) used SIS projective technique as a therapeutic tool with a girl client who had dissociative disorder. However no particular treatment method claim to have more general application than others do.

Wilfred A. Cassell developed somatic InkBlot Series in 1960 (Cassell, 1980). It is founded on the basic philosophy that the "therapists can more sensitively "hear " a suffering individual's cry for help, the "inner cry" that is not only hidden from others, but often hidden from one's own conscious awareness as well" (p.18.Cassell and Dubey, 2003). Over the past several years, the SIS tool had undergone various modifications based on research and clinical experience, and had incorporated modern technology in its administration (Dubey, 2000, Dubey,2003). The different versions of the test have established reliability and validity (Dubey, et. al., 1992; Verma, 1995) and effectiveness in clinical settings (Dubey and Cassell, 1997; Cassell and Dubey, 2003; Manickam and Suhani 2003). One of the earliest report of using SIS projective tool with dissociative disorder is that of Cassell, et. al., (2000). They used SIS-I inkblots and SIS-II video stimuli with a girl who had dissociative disorder, and that had helped the client release long forgotten and emotionally painful feelings and memories.

In this paper we present the case history of a male patient who was diagnosed to have dissociative convulsive disorder. SIS-II was administered to explore the use of the tool in identifying the traumatic memories and it helped to break the resistance. The therapy was effective in treating the pseudo seizure in very short span of time. Exploring the wider use of SIS-II as a diagnostic and therapeutic tool is also discussed.

Case History:

Mr. G., 24-year-old man educated up to X standard hailed from a low socio economic family. His father is a manual laborer, and also runs a vegetable vending shop and patients' mother looks after the shop in father's absence. When Mr. G. failed in X class, he found it difficult to continue his studies due to his poor learning skills and the inability of his parents to financially support him for further studies. Therefore his parents persuaded him to join a scooter maintenance workshop as a trainee. He learned the skills and worked in the same workshop for six years. He worked as a scooter mechanic for two years after mastering the skill. About a year ago he moved to another workshop

for better salary. He is the only son of his parents and his paternal grandmother Mrs. S. also lived with the family. He was emotionally close to his grandmother and she used to pet him, as Mr. G. was the only grand child. When he grew up, he picked up quarrels with Mrs. S. quite often, but at the same he had great affection for her. During his squabbles with the grandmother she used to abuse Mr. G. using obscene words.

Nine months prior to the consultation, his grandmother died. On the 16th day of the demise of the grandmother, as per the Hindu customs followed in Kerala, a memorial ritual was conducted. The following day Mr. G. developed unconscious spells. He fell unconscious on the ground, rolled around, and talked as if he possessed the 'spirit' of his grandmother. He talked in authoritative manner and abused those who gathered around him using obscene words, simulating his deceased grandmother. The similarity of his verbal expressions to that of the deceased grandmother convinced the family members to believe that Mr. G. had possessed the spirit of Mrs. S. Therefore with much secrecy, the parents consulted a 'mantravadi" (black magician, a traditional healer). He stayed during daytime at the house of the mantravadi for the poojas (chanting mantras and offering prayers to a particular deity) for three days. While he was with the traditional healer he neither had any seizures or dissociative states. But when he returned home in the evening the seizures recurred.

Since there was no relief to the symptoms even after one week of the onset of symptoms, his family members consulted a psychiatrist. The psychiatrist prescribed anti psychotic medication and minor tranquillizers to Mr.G. The medication made him very drowsy and there was no cessation of the symptoms. Therefore the family members consulted a neurologist. The neurologist investigated him thoroughly and got all the laboratory investigations done, including EEG and CT scan and all the test results turned out to be normal and referred him to a another psychiatrist. After six months of pharmacological treatment they changed to another psychiatrist since there was no expected relief to the symptoms. The third psychiatrist referred Mr. G. to Center for Applied Psychological Studies, Thiruvananthapuram for psychological evaluation.

At the time of initial contact, case history including the sexual history was elicited in order to establish a provisional diagnosis. Mr. G. reported history of masturbation and quickly added that he had controlled himself and is not practicing it. He denied any homosexual or other sexual ideation or relationship. In the second session psychological tests including Rorschach were administered. While administrating Rorschach, no discomfort related to phallic symbols was observed in the protocol and it was difficult to discern whether he had any sexual conflicts. Therefore SIS –II was administered.

Findings on SIS:

The total number of response was 52 and it is below average, which indicated that the client has poor imagination capacity and low average intellectual capacity. This is also supported by his low academic achievement (Mr. G. failed in class X and his percentile score on RPM was below 25). He had only 7 most typical responses, which indicated poor ego strength. But he had given 19 typical responses and 26 atypical responses. He had rejected 10 responses (16.12%), which implied that there is block in his thinking process. In the light of other response pattern being with in limits, it implied that there is inner block related to the content of the rejected images. There were 22 human responses, and it showed good interpersonal relationship. The animal responses (5) and anatomical responses (12) were within limits. However there were no sexual responses, which unequivocally suggested intense sexual anxiety in the client. This conjunction was

supported by the previous experience of administering SIS II to a client with somatoform disorder (Manickam and Suhani 2003).

Breaking the Resistance Using SIS:

Though clients feel uncomfortable in disclosing their traumatic sexual experiences, acknowledging sexual experiences are not found to be so traumatic when a male therapist interviews a male client in the cultural context in Kerala. Since Mr. G. suppressed sexual responses on SIS-II, it was quite evident that he has unresolved and repressed conflicts related to that specific area. While probing sexual conflicts again, he strongly denied having any sexual problems. At this phase, reference to SIS-II was made.

Dr. S.M. (Therapist): You had taken the last test (referring to SIS-II) Do you remember the pictures?

Client : I do not remember all pictures.

Dr. S.M.: Was there any reference to any sexual themes?

Client: No, I did not see.

Dr. S.M.: Were you disturbed by some of the pictures?

Client: (Long pause)

Dr.S.M.: Did it remind you of some of your experiences?

Client: (Long pause, fidgeting)

Dr.S.M.: Be comfortable, relax, tell me what had happened…

Client: (Long Pause)

Dr.S.M.: Yes, carry on, whatever you say will be strictly confidential, very confidential. It will not be divulged to any one who has accompanied you.

Client: (Pause). It did not happen now sir,.. it happened two to three years ago. (Pause)

Dr.S.M. : Uhm…

Client: I had sex with an elderly unmarried lady, who persuaded me to do it. But, I was not interested, I was very scared. But please don't tell this to my brother-in-law or any one in the family.

Mr. G. reported that though he evaded the lady whenever she approached him again, he developed intense sexual desire. Therefore he started watching porno films at his home during his lunch break, when his parents are away. As the session progressed he disclosed that he had unprotected homosexual contacts with more than 6 different people, in a theatre, while watching porno films. When enquired he admitted that he has burns and blisters on his penis and has been suffering from it for almost a year. He was a passive participant in the homosexual encounters initially, but had interest for sexual pleasures. Though he was aware that he has 'some' infection, he was courageous enough to share his problem to others. His parents were overprotective and therefore he had to seek his parent's permission even to visit the theatre to watch a film. Therefore consulting a physician for his sexually transmitted infection was also equally traumatic for him. If he asks for permission to consult a doctor, one of the family members would always accompany him to the doctor. His family members – father, mother, sister and brother – in- law in turn used to accompany him for the previous consultations related to the present problem. Since he was asked to come alone for further sessions, he could visit the skin specialist without infusing his family members.

Therapeutic Priorities:

In the third session, other traumatic experiences were also probed. Since he had unprotected sex with several unknown partners, pre-test counselling for HIV was provided by the third author (JJ) who had worked as HIV/AIDS counsellor. The client was referred to a skin specialist and Mr. G. was tested negative on VDRL and HIV and that further relieved the client's anxiety.

In the fourth session, he was provided with information about HIV and AIDS and STI's and mode of transmission. Safe behaviour options were also discussed with him. In addition, social skills were imparted to him, in addition to the training to use a condom.

In the fourth session, one of the major concerns, which the client brought in the therapy session, was related to his economic status. He hailed from a poor socio-economic family. The total cost related to his illness and treatment, both traditional and medical, expensive investigations, loss in income from his father and sister's husband's work who used to accompany him to different treatment centers and his work, incurred a debt of Rs. 35,000/- to the family.

When the sexual conflict related to his physical status was resolved he became free of the symptoms within two sessions. Though he was asked to come for further sessions, he dropped out after the fourth session. His family members also did not encourage him to continue the sessions since he was free of the symptoms irrespective of educating them the need to continue the sessions. However he was contacted again after four months and he was found to be symptom free, but continued to live in stressful situation.

Discussion:

Therapeutic Process:

In the initial interview it was presumed that the client was maintaining the symptoms as he was getting the psychological gain of avoiding unpleasant work schedule. He had to work from 9 am to 6 PM, which he reported as stressful. The fact that the symptoms started after shifting to a new work place also strongly supported this conjunction. Initially he could avoid working at the scooter workshop due to the occurrence of pseudo seizures during daytime. He was asked to work at the vegetable shop, which the patient disliked, even when he had symptoms. Following this the pseudo seizures during daytime stopped and he preferred go back to his job as mechanic. However, his seizures continued, when he came home from work. Therefore, it led to conclude that there are other psychodynamic factors that prompted Mr. G to maintain the symptoms.

The client denied having any discussion about his marriage after the death of the grandmother. It is one of the practices in some of the families in Kerala to get the eligible male member married, when the person who does the domestic work dies and there is no one to take care of the 'kitchen'. It is not sure whether, the family members had suggested it and with his present sexual preferences, he wanted to avoid the marriage and that conflict has led to the manifestation of the symptoms.

However using SIS, one of the major sexual conflicts of the client was unraveled and that led to the resolution of the symptoms. Cornell and Olio (1991) opined that while treating adult survivors of sexual abuse the process of denial and dissociation have to be cautiously managed. The healthy mind integrates consciousness, that is, awareness, affect, identity and behavior. In dissociative states, one or more of these elements is split off from conscious experience, and with this separation, the mind disintegrates

rather than integrating experience. Therefore dissociation can be sudden, momentary disruption of affective experience or leads to a chronic impairment of identity and consciousness. In the present case it is premature to state whether the therapeutic intervention was adequate to help the client integrate affect, identity and behavior within the consciousness.

Therapy is difficult when clients use both denial and dissociation (Cornell and Olio, 1991). The therapeutic process of acknowledging and integrating the trauma is fragmented. As a result, holding onto the experience of the trauma without dissociating or forgetting varies from moment to moment, from session to session. Resolution of the trauma has not occurred if clients can only acknowledge the trauma in the safety of the therapeutic relationship and not while sharing the memories to others. Victims of abuse may tolerate sharing details of the trauma with the therapist, but experience a re-emergence of denial and dissociation when they disclose the memories to others (Cornell and Olio, 1991). Therefore therapy should be focused to empower the client to share the trauma with others without denial and dissociation. It is also likely that the use of the SIS tool helps the clients to overcome the denial and dissociation, and helps to integrate the trauma with the self.

Opinions diverge on the length of treatment. Early reports about treatment outcome showed that clients could reach a relatively stable condition in which they did not experience a sense of internal separateness over 2-3 years of intensive outpatient psychotherapy. However, most therapists provide therapy for 3-5 years following the diagnosis as a minimum length of treatment. Many of the more complex clients require 6 or more years of outpatient psychotherapy, often with brief inpatient stays during crises. Review of literature shows that the length of treatment varies with the complexity of the patient's dissociative pathology, usually lengthening with severe pathology or other significant comorbid mental disorders. But in Indian situation, due to several factors, clients willing to undergo long-term psychotherapy are very rare. Most of the clients drop out after 4 to 10 sessions of therapy (Manickam, et. al., 2002). Therefore, if SIS could help relieve the symptoms in a short span of time, its potential has to be used to the maximum extent possible.

The integrative theory of change based on Indian concept of person presumes that the optimum change occurs when the treatment or therapy is targeted to the appropriate sheath or dimension from which the problem originates (Manickam, 1992). Therefore it is also likely that the therapeutic interview that followed the administration of SIS-II was focused to the appropriate dimension that resulted in sudden removal of the symptoms.

Advantages of Using SIS:

Armstrong (1991) indicated that Rorschach test might help understand the personality structure of the patients with dissociative disorder. However in this case, Rorschach test did not bring out the phallic symbols, and was not helpful in identifying the unconscious conflict. Though the client had consulted different specialist physicians and mental health professionals, as per the client's report, no one had asked him about his sexual history. Even if they did probe, they may not have been able to elicit the client's sexual problems. At the time of initial contact at our Center, when Mr. G. was interviewed alone in a confidential setting, he denied having any sexual problems. Therefore, it is easy to conclude that administering SIS, had helped to overcome the client's resistance. Free-associating, after breaking the resistance, brought about a dramatic and total remission of the psychological symptoms, even before he consulted

the skin specialist and knew about his HIV status. Cassell, et. al., (2000) also reported helping a client with dissociated identity disorder to project menacing inner child on to SIS-I inkblots and SIS –II videos stimuli successfully.

Childhood Vs Adult Traumatic Experiences:

The relationship between childhood sexual abuse and subsequent psychiatric disorder –either somatoform disorder or dissociative disorder or physical disorder in female patients is well augmented (Pribor, et. al., 1993, Brown and Anderson 1991). In the early work of Freud, he espoused the view that hysteria (dissociation) was caused by sexual trauma during childhood. Freud postulated that patients with hysteria had been subject to extreme abuse as a child and that the somatic complaints, which appeared later, represented the unconscious manifestations of the trauma. It is also well known that in his later thinking, Freud radically changed his stance and conceived that the reported histories of sexual abuse could be childhood fantasy. However, the recent findings makes it a controversy, since there are researchers who believe that Freud's shift in thinking ignored the actual abuse the children have suffered (Pribor, et. al.,1993).

Though sexual abuse or trauma during childhood are considered significant in the manifestation of dissociative disorder, in the present case the traumatic experience have occurred during late adolescence or early adulthood period. Since Mr. G. was reluctant to talk about his current sexual experiences, irrespective of his physical discomfort due to sexually transmitted infections, repressing his childhood sexual experiences is also a possibility. But in another adult male patient from Kerala, Manickam and Suhany (2003) observed that sexually traumatic experiences in adulthood had led to the manifestation of somatoform disorder. Probably conducting the therapy with the help of the Video version of SIS as reported by Cassell, et. al., (2000) would have yielded more information about the childhood sexual trauma by projecting the 'inner child' to the Video stimuli. Another possibility is that the forgotten memories could have been released at the time of taking the test itself.

The observations raise several questions for those researching on impact of sexual abuse on the population in India and particularly in Kerala. First one of them is that whether the sexually traumatic experience during late adolescence or early adulthood has a different impact on male gender when compared to those who have childhood trauma? Secondly, whether abuse/sexual experiences during the late adolescence and early childhood can lead to a different symptomatology in male gender when compared to that of the female gender? Thirdly, whether dissociative disorder and medically unexplainable behaviour are more prevalent in Kerala, which has sexually highly repressed culture?.

Economic Burden and Potential of SIS:

The cost of Mr. G's treatment, both traditional and medical incurred a debt of Rs.35,000/-, which is more than 20 times his monthly income. Added to his other conflicts, the client in addition has the economic stress to be sorted out. The cost of the treatment of medically unexplained behaviour is a serious concern, especially in developing countries. With the reduction in the provision of medical services in the government sector and the existing services that are inadequate to cater to the mental health needs of the community, the patients have to depend on the services of the private sector. In the private sector, there is an increasing and unhealthy trend to recommend unwarranted clinical investigations that are economically beneficial to the service providers. Basu,

et. al., (2002) suggested the need to screen every patient with dissociative disorder for neurological abnormality. Before subjecting the patient for expensive laboratory investigations, less expensive and sensitive neuro psychological evaluation may be conducted. Probably it requires the compulsory intervention of a health psychologist or clinical psychologist in the medical settings to screen those patients with unexplainable medical symptoms, before they are subjected to unaffordable investigations that may lead to economic distress and poverty. The potential of the SIS as a neuro psychological evaluation tool has to be explored to elicit "typical" responses among patients with generalised organic involvement and specific lesions. Appropriate administration of SIS, may help limit the expensive laboratory investigations cost and ease the economic burden of caring of those with different psychological disorders.

Conclusion:

SIS-II was administered to a male client with dissociative convulsive disorder and that helped to break the resistance in therapy and relieved the symptoms of the client in a short span of time. The manifestation of psychological disorder as a result of sexually traumatic experiences in late adolescent or early adulthood may implicate the need for further study. The potential of SIS as a diagnostic and therapeutic tool has to be explored to get the maximum benefits to the clients and to ease the economic burden of the clients with different psychological disorders.

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SIS in a Case of Depressive Neurosis

Pravina Vimal.

Nineteen years college student with complaints of feelings of sadness, excessive crying, dejection, hopelessness and lethargic behavior was administered Somatic Inkblot Series-II for evaluating underlying psychopathology. SIS responses were able to bring out his aggressive attitude towards parents, suicidal ideation and low self. Therapeutic intervention helped him in developing positive attitude and hope for better future.

It's a case of a nineteen years college student experiencing long spell of feelings of sadness, excessive crying, dejection, worthlessness, hopelessness and lethargic behavior. He has lost interest in almost all activities. He also complaints of poor appetite, disturbed sleep, poor concentration, and suicidal thoughts. The symptoms varied in intensity at different times leaving him completely helpless.

The patient is the only child of his parents. He feels sick of his parents as they have very high expectations of him, which he is unable to fulfill. He realizes that his parents have done lot for him and feels guilty for wasting his parent's money. He describes himself as a worthless son. The father is highly critical and calls him 'Non productive and useless'.

Somatic Inkblot Series is a powerful projective diagnostic instrument for detecting the severity of emotional problems. The SIS-II was administered to the patient for exploring underlying psychopathology. He has given 59 responses and rejected three images A6 A7 and B4. Image A6 projects childhood imagery and image B4 depicts Father son relationship. Rejection of these two images suggests his poor interpersonal relationship with his parents and underlying painful memories during childhood. Constant feelings of pressure to meet high expectation and inability to stand against such pressure may lead to aggressive attitude and poor interpersonal relationship with parents. Rejection of A7 is uncommon as the image projects two Most Typical responses - an Apple and a Dancing Lady. More than 95 percent people perceive Apple and a Dancing Lady. Rejection of this image suggests depressive outlook and poor relationship with mother.

Analysis of the conflicting behavior shows his non-cooperation due to the hostile attitude towards his parents, particularly his father. Such negative feelings towards parents, made him feel guilty and ashamed. This feeling has further robed his courage and crippled his reasoning and adjustment. Since this area is disturbed because of poor relationship he may not feel like responding anything to the images depicting parents. He feels that his parents have failed to give needed support during crisis.

The patient has given twenty depressive responses. The most plausible reason might be the expectation from parent's to succeed beyond his capability resulted in loss of self- esteem. The loss of hope and disappointment may lead to suicidal ideation projected on images A3, A4, B2.

A3 as crucified Christ A4 as a sad man jumping from the hills and B2 as headless Boy. Through these images he is directly projecting his feelings of wanting to be free of his inner traumatic feelings. His anatomical responses show his excessive concern about

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Key Words : SIS Images, Depression

his physical health. Through images of SIS the patient is taken back to his original trauma. He projected freely his repressed and long forgotten feelings and re-experienced images of forgotten trauma.

A few significant responses on Somatic Inkblot Test are interpreted below.

A1: He viewed this image as "Two ladies crying in veil." This is Atypical response depicting his depressive feelings and wishful thinking to see his mother crying.

A3: was seen as "Crucified Christ." It is Atypical depressive projective response of suicidal thoughts due to the feeling of sadness, worthless and as living in a hopeless situation. On intervention he accepted the constant suicidal thoughts though he has never committed.

A4: was seen as "A sad man jumping from the hills." The depressive ideation once again projected on this image. Repeated suicidal ideation on projective test gives signal for therapeutic intervention and the parents were advised to take medical help to control suicidal thinking. The patient has become terribly critical of himself. He has poor concentration on studies and unable to enjoy the company of friends.

A10: was seen as "Frozen eyes of a woman." Again the hostility towards a female (might be mother) is projected on this image. The patient feels that he is a failure in the eyes of his mother.

A13: was seen as cry for help, ‘Kuch Nahi Ho Sakta’(Nothing is possible now). Such feelings of hopeless, wortless and unable to do any thing need immediate therapeutic intervention. Such patients may commit suicide and needs hospitalisation.

B2: He viewed it as “headless boy”. The response may indicate his inferiority complex and hostility. Keeping earlier responses in view this may also project his suicidal ideation to the extent of inflicting pain on self.

B5: was seen as "Teacher showing Zeros to the students." The response may again indicate his feelings of inferiority and low intellectual ability. Seeing zero response has also projected constant poor academic achievement.

B13: was seen as "Endless night no morning." This is a clear indication of the depressive mental state with little hope for improvement. He seems to be under constant threat and such responses should be taken as suicidal indicators.

B29: was seen as "A lame boy trying to run." It projects some hope to cope with the present situation and it can also be taken as an indicator of good prognosis.

During the therapeutic session the patient came out with lot of aggressive feeling towards his parents. The catharsis helped him to release his pent up aggression. In consecutive sessions he reported gaining confidence and insight about his behavior. He is feeling better and developing positive attitude towards his parents.

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A Comparison of Human Figure Drawing Among Schizophrenics, Manics and Control Groups

S.Kumar, V.D. Sharma, S. Mohanty and R. Kumar

Human figure drawings of schizophrenics, manics and normals were compared to identify quantitative and qualitative deviations in the drawings of the patient groups. The sample consisted of 28 schizophrenics and 25 manic patients drawn from OPD of Institute of Mental Health & Hospital Agra. A group of 30 normal persons was also drawn from general population to serve as control. Draw-A-Person Test (Machover, 1949) was administered on each participant. Quantitative and qualitative analysis of drawing was performed. The results indicated that qualitative aspects differentiated the groups more than the quantitative dimensions.

The interest in drawing has a long and well-documented history. Good Enough (1926) reported that an article by Ebenezer Cooke appeared in England as early as in 1885 that described development stages in children's drawings. The human figure drawing is used both as a measure of mental maturity and mental disorder. The exponents of projective drawing technique are Machover (1949, 1953, 1960), Levy (1958), Hammer (1958) and Jolles (1952).

The experiences and experimentation with human figure drawing has revealed that it could be valuable aid in the evaluation of pathological traits. Kay (1978) evaluated human figure drawings according to schizophrenic subtype. Significant differences appeared in comparison groups. Ericson et al. (1996) tested the hypothesis that freehand human figure drawing can be used as a complementary screening instrument to differentiate between demented elderly people and healthy controls. An examination of the drawings of 668 elderly participants showed quite clearly that the body details and the height decrease with decreasing cognitive functioning. Demented people place their figure in the upper left corner of the sheet.

Harrower and associates (1975) observed that hypertension/coronary group, malignant tumor group and emotional disturbance group are different from their specific control groups on human figure drawing. Verma et al (1967) reported that the drawings of children undergo many changes with increasing age such as less omission of body parts, transparent clothing, rejection etc. The omission and distortions were frequently seen in adult psychotic patients.

A few researchers (Chandramani et. al. 1995) compared human figure drawing of prisoners before and after vipasana training. More positive changes e.g. more holistic, balanced picture of self (more complete and proportionate with reduced dependence (buttons, pockets, mid-line emphasis) and aggression (eyes, teeth, gun) were observed in the study group compared to the control group.

The foregoing literature suggests that Draw-A-Person test has been employed to assess and predict pathological phenomena in a wide range of clinical and non clinical population.

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Key Words : Human Figure Drawing

The index study is designed to explore the comparative efficacy of quantitative and qualitative analysis in differentiating groups of psychiatric patients.

Material and Method:

The sample consisted of 28 schizophrenic and 25 patients drawn from OPD of Institute of Mental Health & Hospital, Agra. 30 normal persons were also included from general population to serve as control group. The patient groups were diagnosed on the basis of ICD-10 diagnostic criteria. The sample included persons of both the gender and in the age range of 20-25 years.

The participants were provided A4 sheets with pencil and eraser. They were instructed to draw a human figure. Each participant was required to draw only one figure.

The drawings were analyzed both quantitatively and qualitatively. For quantitative analysis the participants were provided A4 sheets with pencil and eraser. They were instructed to draw a human figure. Each participant was required to draw only one figure.

The drawings were analyzed both quantitatively and qualitatively. For quantitative analysis the depicted body parts were measured in centimeters. The mean and S.D. were computed for each group. For qualitative analysis frequencies of omitted body parts were computed and converted into percentages. The emphasis (frequent eraser, disproportionate size, heavy shading) were also identified and counted in the drawings of each group. A few prominent characteristics of the drawings were also analyzed.

Results and Discussion:
The result of quantitative analysis of the drawings are presented in Table 1

Table 1
Mean and S.D.of Depicted Body Parts in Three Groups.

Sl. No.	Feature	Normal		Schizophrenics		Manics	
		Mean	S.D.	Mean	S.D.	Mean	S.D.
1.	Face Height	2.697	1.024	2.842	2.182	2.188	2.121
2.	Face Width	2.423	0.912	2.803	2.168	1.968	1.845
3.	Neck Height	0.823	0.564	0.813	1.057	0.708	1.072
4.	Neck Width	1.017	0.715	1.013	1.188	0.824	1.105
5.	Trunk Height	5.47	1.771	4.793	3.759	4.112	2.767
6.	Trunk Width	3.93	1.676	3.710	3.143	3.236	3.827
7.	Right Hand Length	4.853	2.552	3.652	3.359	3.160	2.673
8.	Left Hand Length	4.647	2.785	3.533	3.236	3.440	3.780
9.	Right Hand Width	0.817	1.075	0.385	0.387	3.448	2.853
10.	Left Hand Width	0.567	0.529	0.388	3.468	0.276	0.329
11.	Right Leg Length	6.147	3.217	0.669	3.134	2.924	2.543
12.	Right Leg Width	1.617	2.723	0.520	0.552	0.452	8.830
13.	Left Leg Length	6.540	3.715	3.730	3.562	3.176	2.629
14.	Left Leg Width	1.017	0.818	0.460	0.529	0.368	0.541

A perusal of Table 1 revealed that face height, neck width, neck height, trunk height and trunk width are more or less equal across groups. The manic patients have lower face width. The patient groups produced a little lower trunk height, lower right hand length, lower right hand width, lower left hand width when compared to normals. The dimensions of legs are quite different across the groups. The patient groups depicted shorter legs than the normal group. The Percentages of Omitted Body Parts are presented in Table 2.

Table 2
Percentage of Subjects Who Omitted Body Parts

S. No.	Features	Normal	Schizophrenics	Manics
1.	Hair	0	43	36
2.	Forehead	3	14	16
3.	Nose	0	25	8
4.	Eyes	7	7	4
5.	Eyebrows	23	46	52
6.	Mouth	0	29	52
7.	Teeth	64	79	100
8.	Ears	20	61	52
9.	Ear Hole	47	68	72
10.	Nostril	7	96	68
11.	Chin	3	79	56
12.	Neck	0	39	48
13.	Arms	3	36	24
14.	Hands	7	68	56
15.	Fingers	7	43	8
16.	Trunk	3	39	8
17.	Dress	17	68	52
18.	Legs	7	18	8
19.	Feet	7	61	24
20.	Toes	37	89	76
21.	Pocket	83	89	96
22.	Tie	90	96	100
23.	Button	47	89	92

Table 2 revealed that high number of patients omitted hairs, nose, eyebrows, mouth, teeth, ears, ear hole, nostril, chin, neck, arms, hands, fingers, trunk, dress, legs, feet, toes and button.

A comparison of schizophrenics and manics revealed that higher number of schizophrenic patients omitted nose, nostril, chin, hands, fingers, trunk, dress, legs, feet, and toe, whereas, manic omitted mounth, teeth and neck more than the schizophrenics. Table-3 presents percent subjects who emphasized on various body parts.

Table 3
Emphasis on Body Parts

S.No.	Features	Normal	Schizophrenics	Manics
1.	Hair	60	57	48
2.	Nose	7	21	36
3.	Eyes	10	46	36
4.	Eyebrows	20	25	16
5.	Mouth	20	18	32
6.	Teeth	0	7	12
7.	Ears	0	21	16
8.	Lips	10	18	16
9.	Neck	3	11	36
10.	Shoulder	10	14	36
11.	Arms	3	21	32
12.	Hands	10	11	28
13.	Fingers	10	32	32
14.	Waist-Line	0	18	20
15.	Legs	7	21	32
16.	Feet	7	14	44
17.	Toes	3	11	28

The patients groups emphasized nose, eyes, teeth, ears, lips, neck, arms, finger, legs, feet and toes, Compared to maniocs, the schizophrenic patients emphasized hairs, eyes and eyebrow. The manics on the other hand, emphasized nose, mouth, teeth, neck shoulder, arms, hands hands, legs, feet and toes. A comparison of various features across groups is presented in Table 4.

Table 4
Percentages of Various Features in Three Groups

S. No.	Features	Normal	Schizophrenics	Manics
1.	Front/Profile Confusion of Face	0	18	24
2.	Transparent Dress	10	32	20
3.	Genital Organs	3	32	0
4.	Face Type Front	83	79	28
5.	Face Type Profile	17	14	72
6.	Face Type Round	30	43	36
7.	Angular Face	70	46	48
8.	Round Trunk	3	14	56
9.	Square Trunk	57	36	20
10.	Angular Trunk	33	75	40
11.	Long Thin Neck	23	18	72
12.	Short Thin Neck	46	14	44
13.	Movement	73	54	40
14.	Long Thick Neck	20	21	80

Table 4 revealed that patient groups had front/profile confusion of face, depicted transparent dress, schizophrenics depicted genital organs, manics produced round trunk, schizophrenics produced angular trunk, manics depicted long neck.

The human figure drawings of both the patient groups revealed significant departures from the drawings of normal persons. Even the clinical groups are found to have different patterns of drawing indicating that it could be utilized as an aid in psycho diagnosis. However, additional well-designed researches are required to detail various aspects of drawings in different clinical population.

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Personality Profile of Siblings of Children with Autism: A Comparative Study.

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The present study, attempts to examine the personality profile of ten healthy siblings of the children with autism, in comparison to ten children who do not have siblings with autism (mean age –14.4 years, SD –1.35 years). They were matched in terms of relevant variables including intellectual level (as measured by the Standard Progressive Matrices). Rorschach Inkblot Test was administered individually to all 20 subjects and protocols were interpreted following Exner (1986). Evaluation of the D-scores and the Four Squares (EA, EB, eb, es, ADJ D and D-scores) indicated presence of ambitence, stimulus overload, greater stress tolerance capacity, greater awareness of primitive impulses and adoption of defensive maneuvers, in siblings of autists in contrast to introversiveness, balance between stimulus demand and coping resources, prevalence of situational stress and lesser reactivity in the normal controls.

Sibling research characterizes siblings as attachment figures, antagonists, playmates, protectors and friends. Through a shared history and common bonds, siblings have the potential to provide one another with intense emotional experience, support, guidance, information and companionship (Davies, 2002). Consequently the significance of the sibling relationship suggests that the pervasive unalterable disability of one child will have an effect on his healthy sibling. Since the presence of a disabled child and the resultant home environment is not a fact that holds true for the rest of the population, naturally it is prudent to apprehend that the adjustment pattern of this family differs from that of the normal population.

Hurlock (1978) observed sibling relation to be an important determinant of home climate. Favourable sibling relationship helps to maintain a pleasant and friction free home life, but the presence of a maladjusted child or a disabled individual who requires the parent's constant supervision and care may jeopardize the other family relationships. Particularly special attention or time demands made by the chronically disabled child from their parents make their healthy counterparts resentful**.** Although there is an appreciation of the needs of the disabled child (Powell and Gallagher, 1993), it is reported that the healthy sibling continues to feel deprived (DeMyer, 1979). Simeonsson and McHale (1981) reported that an emphasis in parental time and attention towards the child with the disability might arouse feelings of jealousy or resentment among the other children of the family, thus exacerbating general familial stress.

The researchers investigated the subjects who were not affected by any pathology themselves but their siblings were affected by autism, showed a greater amount of conflict, higher levels of anger, resentment, guilt (Miller, 2001), feeling of distress (Fisman et al, 1991), depression (Gold, 1993) and various internalized and externalized problems (Rodrigue et al, 1993). On the contrary, although scarce, research reports of able

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adjustment (Howlin, 1998), absence of feeling of loneliness (Kaminsky and Dewey, 2002), presence of altruistic attitude (Cantwell and Baker, 1984) were also observed. Other researchers did not observe significant amount of problem behaviours in them. (Mc Hale et al, 1979; Auletta, 1991; De Myer, 1979).

Keeping the above scenario in mind, the present study attempts to investigate the impact of psychosocial situation on the personality profile of the healthy sibling of a child with autism. In particular autism was taken up because unlike other disabled individuals, their 'mind-blindness' (Baron –Cohen, 1995), could have the possibility to adversely influence the healthy siblings, due to the absence of emotional reciprocation from their (autist siblings') side.

Since Mc Hale et al (1986) in studying sibling relationships of children with autistic, mentally retarded and non-handicapped brothers and sisters found that children with autistic and mentally retarded siblings did not differ on any self-reported measures, need was felt to employ a projective technique.

In order to obtain a comprehensive view of the problem stated above, the present study employs the Rorschach Inkblot Test to identify personality profile of the healthy sibling of a child suffering from autism.

Method :

Subjects:

The Study Group or SG: The study group was identified with the help of three different special schools catering to autistic children, in Calcutta. The healthy siblings were selected when two mental health professionals following the DSM IV criteria diagnosed their disabled sibling as autistic. The selection criteria were as follows:

The study was restricted to subjects belonging to the age group of 12-18 years, residing in the metropolis of Kolkata, attending schools for healthy children, fulfilling the criteria of completion of primary education at least till class V, belonging to middle / high middle class strata. They were considered for the investigation only when reported to be free from psychological disorders, systemic medical illness and developmental delay. On the whole 10 such adolescents could be identified and all were included in the study. Siblings suffering from any other pervasive developmental disabilities were not taken into consideration.

The Control Group or CG: A stringent one to one matching procedure was taken to select the control group. 10 matched subjects were selected on the basis of same age, mother tongue, religion, per capita income, sex, educational level, ordinal position, family type, medium of instruction in schools, intellectual level of functioning (as measured by Standard Progressive Matrices). They have siblings who were ascertained to be free from any psychological disorder /developmental disability and all of them were of average or above average intellectual functioning as assessed by the Standard Progressive Matrices.

Measure Used:

1. A detailed information schedule
2. Standard Progressive Matrices (Raven, 1938) – it was used as a screening tool to match the groups in terms of intellectual level.

3. Rorschach Inkblot Test (Rorschach, 1921) - All 10 cards were used, scored and interpreted following Exner (1978) system. Exner's system was preferred over other systems, because of the availability of children's age norms and other supportive information. Only the D scores and the four Squares (EB, EA, eb, es) were taken for further analysis.

After collection of data, the Rorschach protocols were submitted to experts for blind scoring and analysis. In order to maximize objectivity in scoring, only the unanimous decision of the three raters were taken into account. The first two raters were not informed about the group divisions, the precise objectives of the study to ensure minimized bias. The investigator was the last rater, accepting only the ratings, which were unanimous between the first two raters.

Results:

Table 1 depicts Means and Standard Deviation of the variables namely D-score, Adjusted D-score, EA, es and component parts - M, Weighted Sum C, FM+m, m and Fc+c+C'. The obtained set of data was treated in terms of their deviation from the normal proportion of occurrence as suggested by Exner (1986).

Table 1
Means and Standard Deviation of the Variables

Variables	SG		Norm		CG	
	Mean	SD	Mean	SD	Mean	SD
D-Score	-1	1.56	0.41	0.93	0	2.04
ADJ D-Score	+2	1.65	0.49	0.83	+1	2.05
EA	6.27	3.62	6.69	2.91	5.9	4.79
M	3.15	1.95	2.81	1.19	4.05	3.38
Weighted Sum C	3.12	2.29	3.48	1.52	1.85	1.59
FM+m	7.7	5.69	3.77	1.62	5.05	2.44
FM	5.75	3.37	3.34	1.33	4.5	3.34
m	1.68	1.8	0.43	0.29	1.39	1.34
Fc+c+C'	2.7	3.37	1.81	0.91	3.35	2.89
es	10.4	8.42	5.18	3.01	8.4	4.7

EA: Experience Actual: Denoting the resource organization that makes it accessible to the individual, calculated by the formula M+Weighted Sum C.

Es: Experienced Stimulation: Calculated by the summating the two components of the eb ratio. It relates to impinging stimulus experience.

D-Score: Calculated by the formula EA-es provides ADJ D-Score information concerning the relationship among resources that are available for use and stimulus demands that are being made on the individual.

It was observed that the SG had a higher adjusted D-score, EA, Weighted sum C, m and es along with a lower D-score and M as compared to the CG.

Table 2 depicts Mean ratios of the variables namely EB and eb. The difference between the component parts of EB and experience base are greater, in the SG as compared to their control counterparts.

Table 2
Mean Ratios of the Variables Namely EB and eb

Ratio	SG	CG
Mean	Mean	
EB	3.15: 3.12	4.05: 1.85
Eb	7.7: 2.7	5.05: 3.35

EB Erlebnistypus: Denoting the underlying preferential response style., calculated by the ratio M: weighted sum C

eb Experience base: Provides information about the experiences of stimulus demand. It is expressed in the form of a ratio, the component parts being FM+m and Fc+c+C'

Discussion:

The variable of D-score provides information concerning the relationship among resources that are available for use and stimulus demands that are being made on the individual. The observation that the D- score of both the groups of subjects, namely, the SG and the CG lying well within the normative range implicate that they are operating more or less at a functional level. However, the zero score on the variable of D-score suggests one's adequate capacity to maintain a balance between environmental demand and one's coping skill to adapt to it. Evidence of D score of –1 in the SG, in contrast to that of the zero in the CG, suggests a relatively lesser capability of the SG to cope with a situation and its vulnerability to stress. Although the negative D-score may be referred to as a "Stimulus overload" condition, this experience of stimulus overload suggests immaturity rather than over-taxation of resources at the developmental phase of life (Exner, 1986). Thus, although within the normative range, the observation of negative D-score indicates a deficit in coping resource utilization in the SG (Exner, 1986). In this context it is to be mentioned that the present finding of D-score is also in agreement with the observation of high m constituent obtained in the SG (table I), where a high m score reflects a feeling of helplessness in the face of threatening forces. Relatively higher m score in the SG validates their experience of stimulus overload (D-score= -1), that could have a baffling effect on them resulting in the said helplessness. The 2.00 unit excess score of es observed in SG compared to that of the CG indicates their tendency to overemphasize the current stimulus demand that explains their coping deficit and helplessness - being baffled by over-stimulation.

The variable of the Adjusted D-score is an index of the contribution of situational elements in causing stress. However, in contrast to the D-score obtained for the SG, a better score on this variable confirms presence of greater level of control and greater stress tolerance capacity in the SG. It indicates their capacity to remain organized under stress, which is in tandem with their everyday coping with a chronic negative life situation. Although the subjects in SG have been found not to be able to balance environmental demands and their capacity to cope with the situation (D = -1), they are better able to

tolerate stress (ADJ D= 2). This discrepancy between the D-score and the adjusted D-score presumably entails employment of certain self-modulating mechanism that helps them to reduce their effort to cope with different stressful life situations. In this context it may be presumed that the SG could use premature closure as a defensive maneuver to refrain themselves from organizing information when they feel comfortable with the gestalt already provided to them. This discrepancy (between D and ADJ D) also explains the probability of using defenses to protect self from negative emotional states that otherwise might overwhelm them. Thus, despite vulnerability to stress, higher Adjusted D (+2) in the SG suggests their effective modulation of coping resources to stress.

The variable of Erlebnistypus (EB) reflects the ambitent response style in the SG (EB of 3.15: 3.12). Klopfer et al (1960), explained ambitence as a constricted or a pathological tendency characterized by impoverished resources and faulty emotional responsiveness owing to their indecisiveness and consequent vacillating tendency. Exner (1986) also categorically reported an ambitent to be much more vulnerable to intra or interpersonal problems, in contrast to the formerly held belief of more flexibility and adaptability (Rorschach, 1921). The vacillating attitude of the ambitents was found to prevent them from developing a consistent style of coping, leading to a lag in efficiency (Exner, 1978), which is presumably a difficulty in closure of environmental inputs in a meaningful gestalt. In contrast to the ambitent characteristic of the SG, the EB of 4.05: 1.85 in the CG clearly reflects their introversive tendency. The difference in the ratio, tipped to 2: 1 in the favour of M, reveals a well developed imaginal function, either in terms of fantasy, long range goals or acknowledged impulses with adequate responsiveness to, and involvement with the outer world in terms of his own definition and interpretation of reality (Klopfer et al, 1960). Greater “cortical harmony” in the introversives (Rabinovitch, Kennard and Fister, 1955) owing to their capacity to mentally review alternatives and potential before execution and to exert greater control over feelings during ideational operations, substantiates the observation of presence of self sufficiency in them (as reported by the mothers in the present investigation).

On the variable of weighted C in equation of EA, the SG is noted to be within the value (score=3.12), being close to the mean, while the CG (score = 1.85) lies below the range. The finding of below 3 sum C score in CG (score =1.85) on this variable further confirms their introversive tendency indicating their emotional stability even in presence of so-called demanding external events. Perhaps, owing to their introversion, the external event is almost a programmed reality constructed by them. On the contrary, beyond cut-off C responses in the SG along with Adjusted D of +2 lend support to our assumption regarding their tendency to exercise over-control on their wishes, as presence of the impulse very close to the conscious level requires continuous effortful regulation. A further substantiation of this observation is obtained from the finding of Experience base (eb) that provides information regarding experience of stimulus demand. Observation of higher FM score in SG when taken with their behavior in real life situation, suggests the possibility of their awareness of impulses in absence of execution of the same. It indicates the possibility of suppression of their impulsive behavior. It also gets confirmation from the D score (-1) obtained by them, which is suggestive of their awareness of impulses. This exertion of control gets further confirmation when their

chronological age is taken into consideration. Because in early adolescence (mean age= 14.4 years), when they are expected to be "footloose and fancy-free", they are found to limit themselves and impose barriers to restrain impulsive actions. Thus present finding of higher FM, a constituent of eb, in the SG explains a ready awareness of impulses for immediate gratification. The report of Thompson (1948) who also noticed FM to be significantly related to MMPI measures of irresponsibility, aggressiveness and distractibility substantiates the present finding. Readily accepting impulses yet not indulging in them has also been reported (Klopfer et al., 1960).

Although the SG was matched on the basis of intelligence and other relevant factors with the CG, they were found to put added effort for coping beyond the optimal level to maintain a sense of well-being, since the near-conscious primitive impulses (obtained from the m-score in this study) demand greater cognitive effort to control its expression to maintain their integrity.

It suggests that this group needs special attention and psychotherapeutic help to decrease use of defensive maneuvers and to increase effortless coping patterns.

Conclusion:

The study indicated that presence of ambitence, stimulus overload, greater stress tolerance capacity, greater awareness of primitive impulses and adoption of defensive maneuvers, in siblings of autists in contrast to introversiveness, balance between stimulus demand and coping resources, prevalence of situational stress and lesser reactivity in the normal control.

These findings suggest that to cover up the anomalies of their siblings, they put in an extra amount of effort to meet up with environmental demands resulting in dysfunctional coping.

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