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## **Comparison of Rorschach indices among normal, Schizophrenic and substance induced psychotic males**

**Bibin Chand K. S.**

(Rtd) Indian Air Force Psychologist, Clinical Psychologist & Assistant Professor, Department of Clinical Psychology, SRM Medical College Hospital & Research Centre, Chennai

**Pangajam A.**

Assistant Professor, Department of Clinical Psychology, SRM Medical College Hospital & Research Centre, Chennai

**Abstract**---The complex and inter correlated nature of symptoms often construct hurdles in the diagnostic and therapeutic management of primary psychotic and substance induced psychotic individuals for mental health professionals. The significant role of psychological projective assessments comes at this juncture, where the subject is unaware of the purposes of the test due to the ambiguous nature of stimulus and also, unable to judge how particular responses are interpreted. Among projective assessments Rorschach Ink Blot Test (RIT) by Herman Rorschach occupies a noble position that demonstrates detailed protocols to identify Psychopathological construct. The Exner Scoring system provides most comprehensive process with focus on interpretation based on Hypothesis formulation. In the method, various indices are used to elicit significant findings pertaining the psychopathology of individuals which is explored in the current study viz: Perceptual Thinking Index (PTI), Depression Index (DEPI), Coping Deficit Index (CDI), Suicide Potential Constellation (S-CON), Hyper Vigilant Index (HVI), Obsessive Style Index (OBS), Intellectualization Index, Isolation Index and Egocentricity Index. The objective of the current study was to understand the difference in Rorschach Ink Blot Test indices among normal, schizophrenic and substance induced psychotic males using Exner comprehensive system and to verify the possibilities of add in research findings towards the implementation of various Psychotherapies. Null hypothesis framed to fulfil the aim of study is there is no significant difference between normal, schizophrenic and substance induced psychotic males based on Rorschach Indices. Based on Purposive sampling method data collected from total 90 males between 30 – 50

years of age, consisting of 30 males in normal, Schizophrenic and Substance induced psychotic groups. Inclusion criteria for normal male group was a below score of 4 in General Health Questionnaire and for Clinical groups were males diagnosed with Schizophrenia and Substance-induced psychosis as per ICD-10. The statistical evaluation is done reflecting descriptive statistics and chi square test using SPSS version 16.0. Hypothesis testing conducted in two-tailed at a significant level ( $\alpha = .05$ ). There is significant difference between normal, schizophrenic and substance induced psychotic males based on Rorschach Indices. The verdicts of present study can be used retrospectively for the clarity as well as the confirmatory of psychotic disorders, differential diagnosis and its efficient management using psychotherapy by mental health professionals. Moreover, these findings can be adopted for the precise therapeutic formulations for primary and substance induced psychotic disorders.

**Keywords**---rorschach ink blot test, exner comprehensive scoring, schizophrenia, substance induced psychosis.

## **Introduction**

The symptoms and criteria for behavioural disorders vary significantly, still it often amalgamates with each other and makes it a difficult task for mental health professionals for diagnosing and management (Holt, 1958; Singer & Brabender, 1993). Personality dynamics, physiological factors and environmental factors often make this task more intricate. The common neuro pathways, role of neuro transmitters and the psychogenic properties of specific substances viz cannabis, amphetamines, cocaine, opioids, hallucinogens play a vital role in differentiating between schizophrenia like psychotic disorder and substance induced psychosis disorder (Shariff & Tandon, 2019). Substance-induced psychosis is confirmed when the diagnosis criteria meet psychotic symptoms which occurs during or within two weeks of substance use and persists for more than 48 hours and not exceeds a duration of six months (ICD-10). Whereas schizophrenia is diagnosed with the criteria meeting first rank symptoms, its intensity, duration along with the exclusion criteria of organicity and psychotic substance usage. Intensity of symptoms pertaining to thought, coping, affect and behaviour, varies with individual to individual. At this complex juncture, projective techniques play a notable role in abetting mental health professionals to confirm diagnose and formulate therapeutic interventions effectively as these techniques relies on the unconscious process of responding to a stimulus by an individual (Bellak & Abrams, 1997). Among the various projective techniques, Rorschach Ink Blot Test (RIT) developed by Herman Rorschach is perhaps the most widely used and controversial projective technique among Psychiatrists and Clinical Psychologists (Exner, 2003). Among the various RIT interpretation methods viz: Klopfer, Rapaport, Beck, Piotrowski and Hertz, the most comprehensive system is the Exner comprehensive method. In Exner comprehension interpretation system various indices are used to elicit significant findings pertaining the psychopathology of individuals. Indices often gives a cumulative value which will overpower the discrete scores in any tests. The core indices focused in RIT for

psychodiagnostics as well as the therapeutic formulation are Perceptual Thinking Index (PTI), Depression Index (DEPI), Coping Deficit Index (CDI), Suicide Potential Constellation (S-CON), Hyper Vigilant Index (HVI), Obsessive Style Index (OBS), Egocentricity Index, Isolation Index and Intellectualization Index. Even though numerous researches have targeted the more snarled psychosis disorders and its relationship by administrating projective techniques, there exists a significant research gap pertaining projective techniques like Rorschach Ink Blot test and psychotic disorders (Aiken, 1993). In Indian context Beck's interpretation system is most widely followed than Exner Comprehensive System. The purpose of the current study was to compare the Rorschach Ink Blot indices among normal, schizophrenic and substance induced psychotic males using Exner comprehensive system.

## **Method**

### **Objectives**

To study the difference in Rorschach Indices viz: Perceptual Thinking Index (PTI), Depression Index (DEPI), Coping Deficit Index (CDI), Suicide Potential Constellation (S-CON), Hyper Vigilant Index (HVI), Obsessive Style Index (OBS), Egocentricity Index, Isolation Index and Intellectualization Index among normal, schizophrenic and substance induced psychotic males.

### **Hypothesis**

Following null hypothesis was framed to study the objective.

**H<sub>0</sub>** : There is no significant difference between normal, schizophrenic and substance induced psychotic males based on Rorschach Indices.

### **Variables studied**

Independent Variables studied were normal male population and males with schizophrenia and substance-induced Psychosis as per ICD-10 criteria. Dependent Variables were Rorschach Indices (Exner, 2003) viz;

- Perceptual Thinking Index (PTI): Difficulties in perceptual accuracy and thinking consists of cognitive triad disturbances including information process, cognitive mediation and ideation of concepts that can have a pervasive impact throughout an individual's personality structure (cut off score 4 & above).
- Depression Index (DEPI): Measure of sadness or depression clinical features, identify individuals who may be emotionally distraught, cognitively pessimistic, lethargic, or self-defeating (cut off score 5 & above).
- Coping Deficit Index (CDI): Compute the capacity for control and tolerance for stress as well as predisposed to functional disorganization, especially in unusual stress situations or those in which there are expectations for social /interpersonal effectiveness (cut off score 4 & above)
- Suicide Potential Constellation (S-CON): Reckon vulnerability of an individual towards Deliberately Self-Harm (DSH) (cut off score 8 & above).

- Hyper Vigilant Index (HVI): Estimate the mistrusting attitude towards environment / safe guarding the individual's personal integrity (cut off score 4 & above).
- Obsessive Style Index (OBS): Signifies a preoccupation with perfectionism, which if carried to excess can become a pathological abnormality.
- Egocentricity Index: Estimate self-concern of an individual. It can be considered as a rough measure of self-attending behaviour. The normal range of the Index for adults is .33 to .45, a below score indicates self-esteem is lower than the other same aged groups & a above score indicates an excessive involvement with the self by an individual.
- Isolation Index: This index is used to elicit the interpersonal perception of an individual by gauging the social involvement. When this index falls between .26 & .32 it indicates the individual is less active in social interactions than might be expected and an above score of .32 indicates social cut off.
- Intellectualization Index: Conceptual thinking can be sometimes used by an individual for defensive purpose which can be termed as Intellectualization, which is a form of denial. If the value of this index falls between 4 and 6, then the person is adapting a distorted form of conceptual thinking that assists to deny the true impact of a situation, if the value exceeds 6 then this adaptation might have become a major defensive tactic for that individual.

### Sample

In this cross-sectional study, males diagnosed with Schizophrenia and Substance-induced psychosis as per ICD-10 were targeted, non-probability purposive sampling method was used to collect data from an outpatient department of Psychiatric Hospital. Total sample size (N=90) consisting of 30 normal males, 30 Schizophrenic males and 30 substance-induced psychotic males between 30 and 50 years with secondary education at least up to 10th standard were included. Inclusion criteria for normal male group was a below score of 4 in General Health Questionnaire (GHQ-28). All individuals who possessed knowledge about the Rorschach Inkblot Test (RIT) or other types of Inkblot Tests were excluded.

### Tools

- *General Health Questionnaire (GHQ-28) Goldberg and Hiller (1979):* Administrated to screen out normal group having the potential mental illness morbidity. GHQ-28 consists of total 28 items with four responses, which can be scored using binary scoring (0,0,1,1). The cut off score for GHQ-28 is a score higher than 4, which is highly sensitive for the person to have potential psychiatric / mental illness morbidity. Validity in Indian context is .94 (Goldberg, et al.; 1997).
- *Rorschach Inkblot Test: (Rorschach,1942):* The test was developed by Hermann Rorschach in 1921 as a Psychodiagnostic. Rorschach test consists of 10 cards, on each of which is one bisymmetrical inkblot. Five are achromatic cards, three cards are chromatic and two cards are semi-

chromatic with various shades. The cards were presented to the subject one at a time and in prescribed sequence, responses and enquiry part were noted in verbatim for further analysis.

- *The Rorschach - A Comprehensive System: (Exner, 2003)*: was utilized for interpretation and scoring. Reliability of Exner Scoring System is reported between 0.85 to 0.94 (Mattlar, 2004) along with a high validity (Weiner, 1966).

### Statistical analysis

Descriptive statistics, Chi-Square test have been used for analysing data and hypothesis testing. Hypothesis testing conducted in two-tailed at a significant level ( $\alpha = .05$ ). The statistical package for social sciences (SPSS), version 17.0 was used for the analysis of the data.

### Results

Table 1 reveals the chi-square values of frequencies of various Rorschach Indices among the three groups. Significant difference in frequency and percentage was elicited among the groups based on (PTI) Perceptual Thinking Index ( $\chi^2(2) = 30.39$ ,  $p < .01$ ), (CDI) Coping Deficit Index ( $\chi^2(2) = 4.608$ ,  $p < .05$ ), Egocentricity Index ( $\chi^2(2) = 19.289$ ,  $p < .01$ ) and Isolation Index ( $\chi^2(2) = 9.145$ ,  $p < .05$ ). Hence, the null hypothesis  $H_0$  is rejected. There is significant difference between normal, schizophrenic and substance induced psychotic males based on Rorschach Indices.

Table 1  
Rorschach Indices among normal, schizophrenic and substance induced psychotic male groups

Indices		Groups						Chi-square	Sig
		Normal males N=30		Substance induced psychotic males (N=30)		Schizophrenic males N=30			
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage		
PTI	Present	0	0	0	0	13	43.33	30.39	.000*
	Absent	30	100	30	100	17	56.67		
DEPI	Present	05	16.67	08	26.67	10	33.33	2.21	.33
	Absent	25	83.33	22	73.33	20	66.67		
CDI	Present	07	23.33	15	50	18	60	4.60	.04**
	Absent	23	76.67	15	50	12	40		
S-CON	Present	0	0	0	0	0	0	--	--
	Absent	30	100	30	100	30	100		
HVI	Present	2	6.67	2	6.67	4	13.33	1.09	.578
	Absent	28	93.33	28	93.33	26	86.67		
OBS	Present	0	0	0	0	0	0	--	--
	Absent	30	100	30	100	30	100		
Egocentricity Index	Low	06	20	18	60	21	70	19.28	.000*
	Normal	12	40	08	26.67	07	23.33		
	High	12	40	04	13.33	02	6.67		
Isolation Index	Normal	27	90	17	56.67	20	66.67	9.14	.035**
	Less Active	02	6.67	06	20	01	3.33		
	Socially cut off	01	3.33	07	23.33	09	30		

Intellectual Index	Normal	20	66.67	19	63.33	21	70	3.21	.503
	Distorted Denial	06	20	05	16.67	03	10		
	Defensive denial	04	13.33	06	20	06	20		
				$p < .01^*$ ,	$p < .05^{**}$				

## Discussion

The findings of present study were consistent with previous research conclusions pertaining to Rorschach Ink Blot Test (RIT). The disparity in brain physiology and neuro transmitters can predominantly justify the significant difference in cognitive, functional as well as coping strategy domains among primary psychotic and substance induced psychotic patients (Stahl, 2013). Even though behavioural indications including hallucinatory behaviour shares certain similarities between both groups, the nature of critical and enduring transformations found in brain anatomy differs from each group (Kalivas & Volkow, 2005). Perceptual thinking, encompassing cognitive triads of information processing, cognitive mediation and ideation often gets pathologically distraught among patients with thought disorders (Casey & Kelly 2007). As in the case of primary psychotic patients like schizophrenic, a serious deficit in perceptual thought process is not warned in substance induced psychotic patients (Hall, 1980). The dysfunctional intensity of neurotransmitters like dopamine and serotonin on Dorsolateral prefrontal cortex which accounts for cognitive dysfunctions differs from schizophrenic and substance induced psychotic patients (Stahl, 2013). Egocentric Enormous studies concluded lower self-esteem and self-worth in psychotic as well as substance abusers (Mary, 2010) which in turns promote dysfunctional interpersonal relationships. This can be addressed by the poor reality checking by an individual (Exner, 2003). These loosened reality checking can be a precursor for delusional like symptoms and poor modulation of emotions among these individuals. The lower self-esteem as well as self-worth can contribute an individual to react inappropriately and in a disorganised manner in complex situations (Exner, 2003 & Mary, 2010). The negative self-worth aroused due to the consideration of self as less favourable than others and the unrealistic interpersonal perceptions, often nurture coping deficits among these groups (Donald & Muriel, 1974). Several researches concluded that substance abusers have poor coping skills and is significantly correlated with low self- concept (Verma & Misra 2002). Impulsivity and reward seeking have a significant biological basis in the medial prefrontal cortex (mPFC) and lateral prefrontal cortex (LPFC). The former plays the key role in reward processing, attention and drug reinstatement; while the later in decision-making and behavioural inhibition (Jennifer et., 2011). Whereas the key dopamine pathways responsible for positive and negative symptoms in schizophrenia are mesolimbic and mesocortical respectively. It can be concluded that the difference in brain circuit anatomy and role of neurotransmitters as well as unique personalities of individual can be accounted for these dissimilarities among groups.

The study was envisioned to elicit the variance in the Rorschach indices among normal, schizophrenic and substance induced psychotic males and the results revealed significant disparity in perceptual thought, coping strategies, self-esteem and interpersonal perception among the groups. The verdicts of present study can

be used retrospectively for the clarity as well as the confirmatory of psychotic disorders, differential diagnosis and its efficient management using psychotherapy by mental health professionals. Moreover, these findings can be adopted for the precise therapeutic formulations for primary and substance induced psychotic disorders.

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