

“PAINTING AS A MEDIUM OF EXPRESSION OF PERSONALITY CHARACTERISTICS” - A COMPARATIVE STUDY BETWEEN SCHIZOPHRENIA, BIPOLAR-1 AND SUBSTANCE ABUSE PATIENTS.

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ABSTRACT

Art, as a universal mode of communication has been widely understated and underused as a Diagnostic Tool, largely due to lack of objectivity in its interpretive process. The present study was conducted with the aim to empirically identify the personality factors of three different clinical groups through their drawings and also to explore the potential diagnostic effectiveness of the medium. For the study 3 groups of patients viz. those diagnosed(using DSM-IV) with Paranoid Schizophrenia, Residual type, Bipolar-1 disorder, Residual type and Substance Abuse Disorder, In partial remission and one non-clinical group, as control group, was considered. 18 educated participants between 18 to 45 years were considered in each group. Each were asked to make two pictures, one landscape and the other was open themed.. The data was analyzed by a psychological data interpretation schedule prepared by the researcher on the basis of existing researches in the field about dynamic interpretation of specific elements of art universal to all artworks, and by three artists and three psychiatrists with prior experience of art based analysis. Concurrence was calculated in percentages in each method, among each group of analyst (artists and psychiatrists) across sample groups and within the drawings of each sample group and was qualitatively matched and compared to find commonalities and patterns of personality characteristics specific to each group as revealed from their drawings. Despite slight inter-analyst differences, personality traits specific to each of the pathological sample groups were reliably identified enabling differential identification among groups. Definite Differences in personality traits were also found between the non-disordered group and Disorder groups which indicated that pathology was indeed identifiable in the drawings of the clinical population. Thus, this study could substantiate, in part that art can be reliably used as an invaluable diagnostic aid with the potential to reveal the psychological functioning of the artist(creator) specially with the non- communicating patients.

Keywords: Art, Artists, Painting, Personality, Drawing

I. Introduction

The desire to make images and to communicate through it is innate in all human being. Early in their lives they make patterns and representations with anything that comes to hand, unconsciously exploring the bounds of space with the objects one arranges and depicts. Later in life this exploration becomes more systematized and developed, leading to mature symbolic expressiveness. Passing through this entire journey, man begins to learn, interact and enter into a dynamic relationship with the world within and around him. Primitive men made use of images in order to document their struggle for existence, their lives and rituals. Through the various phases of evolution of man, the nature of the images, its content, meaning and purpose, have also evolved. The images man creates may celebrate the joy of life, praise a deity, humanity, and the world of nature which they encounter or it act as an entirely personal symbol that often eludes formal analysis. They can record a living presence or commemorate an event, preserve a memory or give substance to fantasy.

Art or for that matter any artistic activity cannot be fully explained and explored within a single definition. Various artists and aestheticians have held different viewpoints from time immemorial as to “what is meant by art” and “who are the artist”. However, all of them agree that art as a human activity, is a means of interaction between man and man (Tolstoy, 1904) and involves expression of emotion(Collingwood, 1958) and is created in its unique style with a potential to stir emotive reactions among the viewer/reader/listener by organizing the various elements of art in a particular composition. There is little doubt, therefore, that apart from its apparent aesthetic value an artwork incorporates the psychological bearings of the artist (Arnheim,1984). It may arise out of the common sympathies and interest of the community to which the artist belongs or may also have its root in his unconscious needs, drives and wishes (Freud,1910) in addition to the basic need to communicate and find expressive means for his imagination.(Kant,1965). All these factors often interact dynamically and “force” the artist to create. Art

encompasses a variety of creative activities like music, literature, poetry, craft, and the graphic art forms like sculpture, drawing and painting. The present paper limits itself to the subtype of painting, i.e. when artist uses color to create works of art and the more basic form of drawing and understanding it's relevance to the artists' psyche and personality.

For long, the term "artist" was applicable solely to individuals who were trained to be skilled in one or the other forms of art. But with age, it has been modified to include anybody, trained or untrained, who engages in any activity considered as a work of art (Webster's Learner's Dictionary). This led it to, therefore, encompass in its fold the "outsider artists" (Cardinal, 1972) a term used to denote creators of artwork who are fundamentally different to their audience, even dysfunctional in respect of the parameters for normality set by the dominant culture. It is in this construct that the term artist will be used in this paper.

Researches exploring the links between human psychological functioning and artistic activity have only recently gained impetus though its existence has been acknowledged since the time of Aristotle. The different Schools Of Psychology hold different viewpoints with respect to the reasons that motivate an artist to create and regarding the method of unraveling the psyche from the art so as to not only gain an insight into the mental process of the artist but also to effectively use the medium as a therapeutic tool. Recent researches have implicated different brain centers in various sub processes of artistic activities from perception of the external object to recreating it on the canvas thereby providing and establishing a neurobiological basis of artistic behavior. The artists themselves concede the healing effect of art and that it is not a passive activity learned through training but an outcome of an interaction between what he sees outside him and his own temperamental characteristics. Further, all these viewpoints have emphasized that all these theorizations also holds true for those creators who suffer from some form of Mental Disorders.

Mental Disorder, as defined by Diagnostic Statistical Manual-V, is conceptualized as "Clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., a painful symptom) or disability (i.e impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability or an important loss of freedomthat is not a culturally sanctioned response to a particular event....it must currently be considered as manifestation of a behavioral, psychological, or biological dysfunction".

Literature reviews in the field show that though art has been formally established as an alternative mode of communication, a mode of 'externalised thinking' that often acts as an auxiliary to or substitute for verbal communication. The connection between Mental Disorders and its manifestation in the drawings of the patients have long been a controversial and much debated issue. Mainly two major streams of thought were found to exist: 1) Mental illness influencing, modifying and thereby manifesting through works of art 2) Mental illness as giving birth to creative activities not previously indulged in by the individual. Prinzhorn, a pioneer in the field, has made important observations about the art form produced by the patients suffering from Mental disorders. Apart from this Aloise Corbaz (1886-1964) and Rainer in the 1960's, Karl Jaspers (1883-1969) and Ludwig Klages (1872-1956) deserve special mention in exploring their work and comparing it for diagnostic purposes with the "normal" individuals. Throughout the history there have been evidences of masterpieces created by "artists" like Van Gogh, Eugene Delacroix, Pablo Picasso, Adolf Wolfi, who had been diagnosed with mental disorders of schizophrenia and Bipolar-I disorders, which not only have immense artistic value but they also on being psychologically analyzed reveal a distinct map of their inner conflict, wishes, dreams and even their disease process.

Most of the research aimed at understanding personality through art has had a nomothetic approach. (e.g. Harris James, 2006) Ideographic researches have focused either on assessment through art as secondary to its therapeutic potential or have insisted on a need to devise a holistic objective assessment protocol for the drawings. (e.g. Betts, Donna J., 2005). The present research attempts to explore and bridge these existing gaps

II. RESEARCH METHODOLOGY

2.1 Aim

- 1) To identify the personality factors of patients suffering from Schizophrenia, Bipolar-I and Substance Abuse Disorder through their art work
- 2) To differentiate between the three groups on the basis of the revealed Personality characteristics from their artwork.
- 3) To see if the revealed characteristics are diagnostically meaningful.

This study was an ex-post facto, non-experimental, qualitative research. It was a cross sectional study.

2.2 Population and Sample

For the study Purposive Sampling was done. Four Groups were considered, of which three groups were Clinical Group: Schizophrenia, Paranoid Type, Residual Phase (Gr. A); Bipolar –I Affective Disorder, Recent Episode Manic/Hypomanic, In Partial Remission (Gr.B) and Substance Abuse Disorder, In Partial Remission. The Fourth Group, the Non Patient group was considered to be a controlled group which consisted of individuals having no past or present history of mental illness or of having received any psychiatric treatment thereof.

2.2.1 Sampling Size :

A Total N of 72 individuals consented to participate in the study, with 18 individuals in each group.

2.2.2 Sampling Criteria :

Inclusion Criteria:

Adult Individuals within age range 20 years to 40 years, both male and female in no definite ratio, having a minimum educational qualification as Secondary in regular mode or equivalent was considered.

Only those suffering from Schizophrenia, Paranoid Type; Bipolar 1 Affective Disorder, Recent episode Manic/Hypomanic, In partial Remission; Substance Abuse Disorder, In Partial Remission, as diagnosed by treating Psychiatrists of various State-run and Private Hospital, Following ICD and DSM-IV guidelines.

Also, a control group of individuals meeting the aforementioned demographic requirements, consisting of individuals not suffering from any diagnosed psychopathology or has been/ is being treated for any psychiatric illness was considered.

Exclusion Criterion:

For Clinical Group, individuals having any co-morbid psychiatric or physical disorders or having the Schizophrenia, OCD or Bipolar Affective Disorder as secondary diagnoses were not considered for the study because every illness has different psychodynamic aetiology and influences personality of the individual in unique ways and co-morbidities would make the analysis ambiguous and the sample loose homogeneity.

Only individuals willing to participate in the study, as indicated through written consent, were considered for the study

2.3 Data and Sources of Data:

Data was collected from Indoor and Outdoor Patient Department of Psychiatry Department of various Government as well as private Mental and General Hospitals after obtaining due permission from the administrative authorities, treating doctors and the client and his family members.

Only those who consented participated in the study.

After this, the client was introduced to the study and rapport was established.

Structured Clinical Interview was conducted with the client as regards his demographic details, presenting complaints, treatment history together with his mental status examination.

The subjects were then instructed in their own language, to make a picture as per their choice, with the materials provided. After the drawing was completed the subjects were also asked to elaborate on their drawings and their responses were noted down in verbatim.

After giving break for 10 minutes to allow the client to freshen up, the client was asked to make a second drawing, where the client was asked to make a “landscape”.

As Before, after the drawing was completed the subjects were also asked to elaborate on the drawings and their responses were noted down in verbatim.

2.4 Theoretical framework:

Spontaneous drawings, as shown by multiple researches in the field of art based assessment, allows for free association and is more useful and amenable for the analysis of personality trait.(Neal &Rosal, 1993, Cohen, 2004;Oster, 2016).Naumberg (1928) also stressed that “spontaneous drawing tasks allows to make Unconscious Conscious” and later this became the basis of what she named “Dynamic Art Therapy”. Furthermore free drawing tests are “most facilitating and least intrusive” therefore allowing to free an individuals initial resistance to expression as anything from a scribble to well formed images are accepted means of communication.

Landscape drawing, in Indian education system, is the most frequently taught drawing that is introduced to an individual at the early age and therefore almost all clients in the present study could be assumed to be familiar with thus reducing performance anxiety which could be evoked when confronted by an unfamiliar task. Also as the child develops physically and mentally there occurs a natural integration of senses in the artistic expression”(McNiff,1981). Also, previous drawing tests such as Kinetic House-Tree-Person Drawing Test, have employed elements of landscape drawing. It is also more directional in approach

and thereby assess an individual's mental flexibility, capacity to follow through an instructions and organizational capacity.

Further, the client was encouraged to use color, because color use and affective reaction/behavior have long been related (Klopfer, 1954; Schaie, 1966, Brooke, 2004). It has been found to be linked the client's mood state that inclines an individual to express his emotional desires and needs in a certain way, his arousal level, control of and response to emotionally arousing stimuli(Schaie, 1966). Also, According to Naumberg (1928) "only valid meaning of any art came from the person" and that it often supplements the diagnostic process and ensures that art analysis is not merely reduced to a dictionary method of analysis, therefore in the current study the client was asked to elaborate on his drawings.

2.5. Treatment of the data:

Post collection of the data, the drawings were subject to analysis. For the purpose, both drawings of each individual considered in the study were subject to blind analysis by three artists, who had been in the field of art for 10 years or more during the time of the study, had teaching experiences, had held many exhibitions in various galleries, and had experience in art criticism, three Psychiatrists with orientation towards and knowledge or specialized training in art based therapy and art based assessment for more than 10 years.

The experts were instructed to comment on the drawings with emphasis on the following points:

1. the nature of interpersonal relationships of the client as manifested through paintings.
2. Manifest emotions of the client as apparent from the paintings and control over the emotionality of the artist
3. Thought process and disturbances of thought process, if any, as manifested in the drawings
4. Adequacy of Cognitive Functions, including attention and concentration faculties as revealed from the works of art.
5. Disturbances in Psychological Functioning, especially presence or absence of mental illness, extent of reality contact of the client as revealed on analysis of the drawings created by them.

The appraisals made were recorded in verbatim.

Apart from the analysis by the experts delineated before, An interpretive chart was formulated by the researcher by abstracting and synthesizing research results, that documents behavioral attributes suggested by and associated with a particular type of test responses related to fundamental elements of art, which is common for all art-work irrespective of the theme/topic of the art, from existing drawing tests like Draw-A-Person test (qualitative) and Bender Gestalt Test(qualitative) as in Interpreting Psychological Test Data Result by Joseph Gilbert(1979) . Following this chart (Appendix B) each drawing was analyzed by the researcher for specified characteristics.

2.6Statistical Analysis:

As the present study is primarily a qualitative study, to ascertain validity and reliability of the findings, Investigator triangulation (Bogdan&Biklen ,2006;Denzin ,2006) was used to determine consistency of findings reported from the drawings. Triangulation, as a qualitative validation method, has been defined by Denzin (1978) as " the combination of methodologies in the study of the same phenomenon". This construct was first used by Campbell and Fiske (1959), who advocated that "more than one method" is ideal in determining validity of a finding so as to ensure that "the variance reflected is that of trait and not of the method." or in other words a mere "methodological artifact" (Bouchard,1976). This method assumes that the effectiveness of the method depends on the notion that " the multiple and independent measures do not share the same weakness and potential for bias" so that the weakness of one method can be counterbalanced or compensated by the other. (Rohner, 1977).

Among the different types of triangulation techniques, the present study, uses "theoretical triangulation" type that allows for cross validation between different theoretical perspectives or interpretive protocol. In this technique the same phenomenon is interpreted by more than one theoretical scheme (Denzin, 1978).

In the present study, the three theoretical standpoints considered, were employed for analysing the same work of art created by each individual belonging to one or the other study groups under consideration, viz: The artist's or the Formal-aesthetic viewpoint, The Psychiatrists, or the Clinical viewpoint and the Interpretive Protocol that employs Psychodynamic viewpoint as applied to art analysis.The qualitative data obtained from the three methods were reviewed for consistency and convergence.For the two expert analyst's group, Within-Method Triangulation(Denzin,1978) was carried out to search for congruence of opinion within each group. Statistically though there are no definitive referential values for assessment of the extent of congruency of the stated opinions, a general rule is that for Within method triangulation, a character trait was considered to be reliably identified by a particular group of experts, if two or more

experts of each group agreed on the presence or absence of the trait. If more than one disagreed with the others then that trait was discarded as it might have occurred to due methodological errors.

If a trait was considered to be reliably identified by a group of experts, then percentage of occurrence of that particular trait in a diagnostic group was calculated, by averaging the percentages of occurrence of that trait, as identified by each expert, of that particular group of experts.

Next, Between Methods Triangulation was carried out, for which Intra-comparisons of the traits identified by the Artist, Psychiatrist and the Interpretive Protocol, as revealed from the drawings of each group, were done, so as to identify possible congruence and consistency among character traits identified, by the three analytical methods.

Patton(2002), opined that, in case inconsistencies are revealed, these should not be viewed as a mere weakness of the findings but rather should become platform for further and in-depth analysis of the phenomenon.

Therefore, in line with this, inconsistencies where revealed though not considered in calculating percentages, were not entirely rejected but was used to supplement findings.

A particular character trait was considered to be characteristic feature of individuals belonging to the study groups under consideration, if it was identified by not less than two methods of interpretation delineated above.

Analysis and the interpretation of the drawing were based on the assumption that in drawing the picture, the subject becomes ego involved, conflicting needs and tensions are expressed through details and the organization of the drawn figures.

Peculiar traits identified from the drawings of each group was compared with each other and the control group, to identify if diagnostic differentiation among the groups is possible

III. RESULTS AND DISCUSSION

3.1 Results of Qualitative Statistical Analysis

Table 4.1: Personality Characteristics As Revealed From Drawings By The Three Methods

	Personality Characteristics	Method of Analysis	Schizophrenia (Group A)	Bipolar-1 Disorder (Group B)	Substance Abuse Disorder (Group C)	Non - Patient (Group D)
1	Isolatory tendencies (Loneliness. Aloofness)	Artist	83.33%	61.11%	83.33%	33.33%
		Protocol	83.33%	55.55%	61.11%	50.00%
		Psychiatrist	66.66%	66.66%	55.55%	0%
2	Mood Fluctuation (Emotionally unstable, poor control over emotions)	Artist	16.67%	83.38%	27.77%	22.22%
		Protocol	16.67%	72.22%	33.33%	5.55%
		Psychiatrist	33.33%	66.66%	27.77%	22.22%
3	Depressive features (low mood, anergia)	Artist	33.33%	27.77%	66.66%	11.11%
		Protocol	55.55%	11.11%	44.44%	16.67%
		Psychiatrist	44.44%	N.I.*	55.55%	11.11%
4	Manic features (Elation/ euphoria / unrealistic cheerfulness)	Artist	N.I.*	66.66%	N.I.*	5.55%
		Protocol	N.I.*	83.33%	16.67%	0%
		Psychiatrist	16.67%	55.55%	5.55%	5.55%
5	Anxiety and Stress	Artist	22.22%	N.I.*	61.11%	22.22%
		Protocol	83.33%	22.22%	77.77%	44.44%
		Psychiatrist	N.I.*	N.I.*	55.55%	11.11%

6	Decisive/ definite	Artist	77.77%	44.44%	55.55%	83.33%
		Protocol	83.33%	44.44%	44.44%	94.44%
		Psychiatrist	66.66%	55.55%	27.77%	83.33%
7.	Impulsivity	Artist	33.33%	66.66%	27.77%	5.55%
		Protocol	16.67%	83.33%	44.44%	0%
		Psychiatrist	11.11%	55.55%	33.33%	11.11%
8.	Aggressiveness (covert/ Overt)	Artist	55.55%	55.55%	44.44%	5.55%
		Protocol	94.44%	72.22%	72.22%	44.44%
		Psychiatrist	66.66%	33.33%	N.I*	N.I.*
9	Poor Reality Contact	Artist	55.55%	66.66%	55.55%	N.I.*
		Protocol	77.77%	55.55%	66.66%	50.00%
		Psychiatrist	83.33%	44.44%	44.44%	N.I.*
10	Thought disturbances (form, Content and Process)	Artist	77.77%	22.22%	0%	0%
		Protocol	66.66%	16.67%	16.67%	5.55%
		Psychiatrist	66.66%	33.33%	0%	0%
11.	Impairment in Attention & Concentration	Artist	27.77%	55.55%	66.66%	22.22%
		Protocol	44.44%	61.11%	55.55%	16.67%
12	Cognitive Impairment/ deterioration	Psychiatrist	27.77%	61.11%	77.77%	16.67%
		Artist	44.44%	N.I*	N.I.*	0%
13	Presence of Mental Illness	Protocol	33.33%	N.I*	N.I.*	0%
		Psychiatrist	33.33%	61.11%	16.67%	0%
		Artist	55.55%	66.66%	33.33%	0%
		Protocol	66.66%	83.33%	50.00%	0%
		Psychiatrist	66.66%	66.66%	44.44%	0%

Table 4.1 displayed the percentage of cases in each diagnostic group having each of the revealed personality characteristics.

From the above table it can be seen that all the three diagnostic groups were found to be having significant **Isolatory tendencies**, which indicates difficulty and distance in Inter-personal relationships of individuals belonging to these group. However, among these three groups, In Gr.A ,viz, individuals suffering from Schizophrenia, on an average, significantly more number of individuals, i.e., 77.77% were found to be having Isolatory tendencies, as opposed to 61% individuals of those suffering from Bipolar-1 Disorder(Gr.B) and 66.66% of individuals diagnosed with Substance Abuse Disorder. Also, qualitative elaboration of the nature of such tendencies by the experts and as substantiated by the Interpretive Protocol, revealed that while the individuals of Gr.A were characterized more by a “preferred tendency to voluntarily remain aloof from others”, the Substance Abuse Disorder group was characterized more frequently by “strong feelings of loneliness resulting from perceived or actual social isolation”. The Bipolar-1 Disorder group, on the other hand, were revealed to be “absorbed and happy in their own world but occasionally suffering from feelings of loneliness”.

All the three percentages were found to be significantly higher than that revealed among individuals in the Control Group-those not having any form of mental illness, where only 27.77% were revealed as having feelings of “Loneliness” by the artists and the protocol. The Psychiatrists, however, were unable to find any such feelings among the Control group.

A simple analysis of the nature of drawings revealed that, as a group, Individuals of Gr.A did not include any human figures in their drawings, few used one or two animal figures that were placed far apart or in a corner of the drawing. Comparatively more human figures were drawn by Individuals belonging to the other two groups of which Substance Abusers tended to use more than one figure that was placed far apart from each other.

As regards the **Emotional Functioning**, Depressive tendencies were found in a significantly higher number of individuals (55%), on an average in those diagnosed with Substance Abuse Disorder, as compared to those belonging to Group B, where only the artist and the protocol could identify such symptoms that too in only 19.44% individuals and Group A where 44.44% were found to be having such symptoms. On the other hand, more number of individuals (68.83%) belonging to Gr.B, i.e. those diagnosed with Bipolar Affective Disorder, were found to have Unrealistic Cheerfulness, elation, and euphoric tendencies, a trait not identified by the expert artist and protocol in individuals with Paranoid Schizophrenia and in only 11.11% in case of those with Substance Abuse Disorder. This was also starkly contrasted against the control group where only 5.55% were found to be characteristic by “unrealistic cheerfulness”. Anxiety and Stress were revealed more frequently in 64.81% of individuals suffering from Substance Abuse Disorder, as opposed to 35.18% individuals of Group A and Group B, where only the protocol could identify symptoms of anxiety and stress but not the other two methods. Mood Fluctuations were found to be highest, 74.07%, in individuals belonging to the Bipolar affective Disorder group, who were revealed to be emotionally labile, and having poor control over emotions, and Least among individuals diagnosed with Paranoid Schizophrenia. Lack of Emotional Control was revealed in only 29.6% of individuals having Substance Abuse disorder.

Prima Facie analysis of the artwork reveals that, with respect to **Color Usage**, the individuals suffering from Paranoid Schizophrenia, tended to use Sparse(30%) but made appropriate Use of Color (37%), Color, though appropriate, were not filled in fully within forms (56%) Tended to use Colors to outline the forms without filling (10%) and did not use color in at least one drawing (30%); while drawings of the individuals suffering from Bipolar Affective Disorder were characterized by Bold Usage of colors that were used to fill in forms(97%), sometimes not appropriate to the object drawn (65%), often destroying the original concept to the extent of becoming bizarre was noted. On the other hand, in case of the Substance Abuse group, the individuals tended to use appropriate colors, fully filled within forms(99%) and tended to border the figures with black (88%). The individuals belonging to the Paranoid Schizophrenia group tended to fill in color with minimum pressure(96%) as compared to the later. Individuals in the BPAD group often tended to draw with colors and not use pencil to sketch the drawing a tendency not revealed in the Substance Abuse Groups.

In terms of **Color Choices**, most individuals in the former group, Gr.A tended to use only Cool Colors, out of a wide array of choices, with less than 5% individuals belonging to that group using deeper colors to color their picture more than necessary, indicating “Shallow personality or emotional disturbances has led to the establishment of withdrawal and inhibition as primary defence mechanism” (Schaie, 1966). While on the other hand, Impulsive uses of Red, Orange, Black, Purple, Navy blue was more often evident (72%) but not to entire exclusion of all other colors (56%) in the BPAD group with many times colors spilling out of boundaries, or becoming smudgy due to overcoloring was noted. (23%) suggestive of

“somewhat unstable, but moderately well differentiated personality” that is characterised by “excitation, impulse expression and intense arousal but with presence of anxiety” (Schaie, 1966). Use of purple also indicate presence of depression within these individuals(Napoli, 1951,Murray, 1952, Schaie, 1966). On the other hand, the substance abusers used colors only to a moderate amount. Around 55% of the participants chose not to use colors. Color brown was most frequently used, irrespective of training showing that most of the substance abusers are generally sad and disagreeable, but are secure and comfortable in their surroundings. (Schaie, 1966) This is proved further by the frequent use (33%) of the color blue, among those who did use color. This preference for the color indicates that in addition to the previous mentioned characteristics they are tender, soothing and have adequate control over emotionality(as indicated by the green color usage in the paintings by the substance abusers . Purple and yellow colors were used only in 16.67% and 11.11% of the drawings respectively. Only 5.5% of the patients used white to color their drawing.

Aggressiveness was found to be highest among the individuals suffering from Paranoid Schizophrenia, 72.21% , though most were revealed as being “covert” or “passive” aggressive, followed by the individuals of Bipolar affective Disorder group where an incidence of 53.7% were revealed to be having significantly high “acting out tendencies” and 38.88% among the Substance abuse group. The Discrepancy of percentage stated by the artist and the protocol could be attributed to the fact that artists could identify only those having overt signs of aggression , while the protocol being more dynamic in its approach could reveal both covert and overt signs of aggression. Further, substantiating these findings, **Impulsivity** was found to be heightened in the BPAD group where 68.51% were characterized by Impulse Control problem, as opposed to 35.18% in Substance Abusers and 20.37% in Case of those suffering from Schizophrenia. Amongst those suffering from Schizophrenia around 75.92% were found to be Decisive, as opposed to 42.5% individuals in the Substance Abuse group and 48.14% of Bipolar Disorder group.

Thought disturbances characterized a higher percentage of individuals suffering from Schizophrenia (70.36%)as identified by all the three analytical methods and were seen to be having a larger incidence of Poor Reality Contact (72.21%), followed by Bipolar-Affective disorder group, where on an average, 24.07% and 55.55% were seen to be having thought disorders and Impaired reality contact, respectively. In the Substance abuse Disorder group , thought disorder was revealed only on analysis of the drawings by the protocol devised, while both group of experts failed to find the same from the drawings. However poor reality contact was seen in among 55.55% of individuals of these group. These findings were again found to be in sharp contrast to the Control group where no thought disorder was apparent and Reality contact was reported to be “adequate”.

Cognitive Deterioration was pronounced, as per, all the three methods of analysis, in 37.03% of the individuals suffering from Schizophrenia, while in case of the other two diagnostic groups only psychiatrists were able to identify such signs indicating that possibly such signs were not definitely apparent, or it may be because of the clinical disposition of the psychiatrist that led them to be more aware of such signs. On the other hand, Attention and Concentration, i.e. the capability to sustain attention was found to be impaired significantly in all the three diagnostic groups, as compared to the control group. Of them the Substance abuse Group had an highest incidence of 66.66% followed by the Bipolar-affective Disorder Group which had an incidence of 59.25% ,and was found to be least in Schizophrenic Disorder Group.

Mental Illness was definitely apparent and was identified by all three analytical methods in 62.95% of individuals belonging to Schizophrenic Disorder Group, 72.21 % in the Bipolar Affective Disorder group and 42.57% Substance Abuse Disorder.

The personality characteristics, thus identified on analysis of the drawings of individuals and found to be characteristic of individuals suffering from Schizophrenia, bipolar -I and substance Abuse Disorder, by the three interpretive method can be abridged as under in Table 2.

Table 2: Summary of the personality characteristics as revealed from the drawings of schizophrenic, Bipolar-I and Substance abuser patients

Diagnostic Group		
Schizophrenic Disorder	Bipolar-I Affective Disorder	Substance abuse Disorder
Decisive/ Definite	Impulsive	Anxiety and stress
Isolatory tendencies	Isolatory tendencies	Isolatory tendencies
Thought Disorder	Difficulty in sustaining attention concentration	Difficulty in sustaining attention concentration
Depressive Tendencies	Manic Features	Depressive features

Poor reality contact	Poor reality contact	Poor Reality contact
Passive Aggressiveness	Acting out tendencies/externalized aggression	

4.2 Discussion:

Thus, artwork, in the present case, drawings and paintings, can be said to indeed act as a mirror for expression of personality characteristics and thereby act as an insightful diagnostic aid in psychopathological population, specially with non-communicative patients.

This is further substantiated as the findings of the present study was found to be in agreement with the previous researches that link Social rejection or deprivation leading to strong feelings of loneliness. In patients with Substance Abuse Disorder this could act as a precipitating factor (Hammer 1992; Medina-Mora, 1992) and also as a consequence faced by patients suffering from substance abuse and allied psychopathological conditions (Link, Struening, Rahav, et.al, 1997). On the other hand, patients with schizophrenia, mainly paranoid type have been often known to live alone, unmarried and with a few friends (Hare 1956b) as a part of their illness a finding also revealed here.

Researches (Clausen and Kohn, 1959) have, in retrospective studies, also found that this pattern of isolation often began as early as childhood and that those who were not isolated in early life was not isolated as adults. Again social withdrawal, as opposed to loneliness, is a common symptom in Bipolar-1 patients especially those with more than one depressive episode. However this could also be attributable to the fact that with increasing insight, the individuals with some form of diagnosable psychopathology become increasingly aware of the stigmatisation from the society (Link et .al ,1987, 1989, 1999) which leads to such feelings.

For long Formal thought disorders, were considered vital in establishing a primary diagnosis of Paranoid Schizophrenia (Schnider, 1939) while affective disturbances are considered vital for diagnosis of Mania. (Kaplan & Sadock, 1981) a conceptualisation which was found to be substantiating the findings of the study as expounded above and as evidenced in Table 2.

Further, Kaplan and Sadock, (1981) also argued that poor impulse control, inadequate reality contact, and even on certain occasion, psychotic features, with gross disturbances of thought process were also pathognomic of Bipolar-1 Disorder group, all of which are revealed in the drawings as delineated above. Sadock, Sadock & Ruiz, (2015) also stated that Substance Abuse is often a defense against anxious impulses and leads to impairment of attention and concentration and poor reality orientation specially during the withdrawal phase. As is evident from Table 2, all such signs were manifest and recognizable from the drawings created by the individuals belonging to this group, thereby answering research question.

Despite the inherent limitation of subjectivity, this study could substantiate in part that, psychopathology and related personality characteristics can be identified reliably from drawing, as was evident from the sharply contrasting percentages between the non-clinical and the clinical group, in terms of the identified traits. Hacking & Foreman (2001) also reported identification of significant differences with reference to psychopathological traits between non patient control group and diagnostic groups, as evident from their meta analytic art based studies. In case of the present study, similar results were found with respect to the non-patient control group and the diagnostic groups. Inter diagnostic group differences, though identifiable, was found in limited number of traits. This could be attributed to the difference in the terminological standpoints of the analytic methods, as stated earlier. Thus, this study can be conceived of as a pilot study, in essence, for further investigative explorations directed to overcome these differences and develop a comprehensive analytical method that can scientifically establish its utility in diagnosis and therapy.

One of the major challenges in the applied field of psycho-diagnostics and psycho-therapy is that of eliciting substantial and reliable information about the disease process, disturbances and distress of the clients, especially for unco-operative, deaf, dumb, or withdrawn clients, so that it can provide a reliable platform for initiation, intervention and prognosis assessment.

With this backdrop in mind, it may be, thus be concluded from the present study that:

1) Drawing test allows for easy rapport establishment and is dynamically revealing of personality characteristics of the artists.

2) As results reveal, there are idiosyncratic differences between the paintings created by different diagnostic group. In such a scenario, then spontaneous works of art can be evaluated systematically along these markers to look for responses that suggest the behavioural syndromes/ diagnosis related to the traits in question.

2)The technique viz. triangulation or evaluation by more than one investigator, used in the drawing analysis allows to reduce subjective bias arising from different approaches to analysis as it does not focus on interpretation based on analysis of either formal elements of art or on content alone as was the case with many previous approaches.

5)Finally the method is general enough to be used by investigators of different fields and has seeds for further research that should focus on refinement and further validation of the procedure.

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