CHAPTER ONE: INTRODUCTION

Background to the Study

Diagnosis of psychopathology and assessment of psychological well-being are some of the primary responsibilities of clinical psychologists. To carry out these responsibilities, clinical psychologists require accurate tools (valid and reliable) and adequate skills. Most of the available instruments for the clinical diagnosis have been modified over time. This may be because of the sophistication and complexity of the environment or because of new discoveries regarding the biological concomitants of psychopathology. The most interesting aspect of assessment is understanding the symptoms and there complexity. These symptoms of the diseases have to be understood properly and measured accurately to be able to accomplish correct diagnosis, treatment and prognosis of every psychological condition.

It is in this connection that research becomes expedient to possibly explore valid and more reliable ways of measuring symptoms of psychopathology, and wellbeing. One of such important instruments that are sparsely used in Nigeria is Rorschach inkblot test. This test holds high promise for assessing psychological symptoms because it can be used for clinical and non-clinical, educated and non-educated populations as well as children and adults (Ganellen, 2006; Frick, Barry & Kamphaus, 2009). Thus, the present study explored the validity of the comprehensive system of Rorschach test in Nigerian samples.

Historically, the comprehensive system of Rorschach by Exner (1974) originated from five different systems of Rorschach (Arguerite, 1959; Beck, 1934; Klopfer, Ainsworth, Klopfer & Holt, 1954; *Piotrowski*, 1950; *Rapaport*, 1946). It is important to note that Exner's comprehensive system of Rorschach is a compendium of the various systems of Rorschach inkblot test as mentioned above with the diverse administration, scoring and interpretation techniques which created differences in results (Wood, Lilienfeld, Nezworski, Garb, Allen & Wildermuth, 2010). Therefore, the study explored the Exner's comprehensive system because

of its standardised form of administration, scoring and interpretation that eliminated differences in results. To the best of researcher's knowledge, no published article has examined this especially in relation to the assessment of depressive, paranoid personality and psychotic symptoms in Nigerian samples.

Psychological symptoms may be experienced by any individual in one way or the other and at different occasions. All psychological disorders are characterized by various levels of psychological symptoms which are used in the identification and diagnosis of such symptoms *(*Kearney & Trull, 2016). The diagnostic and statistics manual V (DSM V) (2013) mentioned over 250 categories of psychological disorders. Among them are psychosis, depression, several personality disorders, anxiety disorders, eating disorders, and so on. Importantly, all these disorders have accompanying symptoms that are used in identifying them. Thus, in clinical practice, diagnosis and intervention are basically focused on the clear understanding of various symptoms that are theoretically and empirically related to these disorders.

Psychologists in order to make meaning of the numerous psychological symptoms have grouped them into various generic categories as can be seen in the DSM V (2013) and International Classification of Disease (ICD 10) (2015). Similarly, various psychological tests MMPI (Butcher, Dahlstrom, Graham, Tellegen & Kaemmer, 1989), SCL 90 (Derogatis, 1994) and Rorschach test *(*Exner, 2003*)* are designed to equally identify different levels of these categorized psychological symptoms. Specifically, the group of symptoms covered by MMPI includes hypochondriasis, depression, hysteria, psychopathic, masculinity/femininity, paranoid, psych-asthenia, schizophrenic, hypomanic and social introversion symptom (Tellegate, et al., 2008). The SCL 90 R measures somatisation, obsessive-compulsive, depression, anxiety, hostility, paranoid ideation and psychoticism (Derogatis & Unger, 2010). Rorschach test was designed to elicit information on symptoms related to psychosis, depression, paranoid personality and anxiety disorders. The test can also be used to screen for

coping deficits related to the developmental problem in children and adolescents (Exner, 2003).

Stein (2013), opined that the presence of the symptoms does not necessarily imply psychological disorder rather the severity of these symptoms in a certain pattern that meets an established or standardized criterion may imply the diagnosis of a psychological disorder. Similarly, Medline (2014), emphasized that mental disorders can only be diagnosed by mental health professionals and it is not all psychological symptoms complaint that leads to the diagnosis of a psychological disorder. By implication, different levels of psychological symptoms may be experienced by humans, however, only those that meet the diagnostic criteria or standard are regarded as clinical population, others that did not meet up with these diagnostic criteria or standards are regarded as non-clinical population (DSM V, 2013).

As indicated earlier, there are numerous generic categories of psychological symptoms and a single research may not explore them all. Therefore, the present research limited its scope to three of these generic categories of psychological symptoms namely: depressive, paranoid personality and psychotic symptoms. The reasons for focusing on these three major generic categories are: They cover the three major areas an individual could be affected psychologically; emotion, thought and personality (Exner, 2003). Malla, Joober and Garcia (2015), noted that emotion, perception and behaviour are the essence of human identity and the self-concept, unfortunately, these are the prime domains altered in mental disorders. The authors also asserted that psychological disorders, affect the very core of one's being through a range of experiences and phenomena of varying severity that alter the individual's thinking, perception, consciousness about the self, others and the world. The three symptoms are frequently and commonly experienced in Nigeria (Odejide, & Morakinyo, 2003; Suleiman, 2016).

Whereas depressive symptoms signal emotional disorder (Twenge, Joiner, Rogers & Martin, 2017), paranoid personality symptoms represent the personality disorder *(*Rizeanu, (2015), and psychotic symptom mainly affects the human thought (APA, 2014). These symptoms in clinical and non-clinical population have been associated with many undesirable outcomes e.g. career difficulties (Senel, 2015), Interpersonal challenges (Tomko, et al., 2014), marital problems (Zargar, Foruzandeh, Omidi & Mohammadi, 2014), various forms of crime (APA, 2014), self-harm (DSM V, 2013) and suicidal ideation (Richardson, et al., 2012).

Specifically, depressive symptoms refer to negative thoughts, moods, and behaviours that diminish or decrease the individual activity level due to change in physical and mental functioning (Debjit, Sampath, Shweta, Shravan & Amit, 2012). People with depressive symptoms usually exhibit a very low mood which permeates all aspects of life and the inability to experience pleasure in activities that were formally enjoyed (ICD 10, 2015). The depressive symptoms include: extended periods of excessive sadness, feelings of hopelessness, loss of interest in activities, sleep problems (too much or too little), loss of appetite, lack of energy or excessive fatigue., feelings of worthlessness or guilt, difficulties thinking or concentrating, increased irritability or anger, social withdrawal and recurrent thought of death (DSM V, 2013; Fried & Nesse, 2014). In severe cases, depressive symptoms may be accompanied with symptoms of psychosis which include: having disturbing false fixed beliefs (delusions) or hearing or seeing upsetting things that others cannot hear or see (hallucinations) (National Institute of Mental Health (NIMH, 2016). Usually, depressive symptoms are considered a psychological disorder if all the relevant symptoms and known causes of depression are properly identified (Jose, Nuevo, Emese, Naidoo & Somnath, 2010). Judd, Rapaport, Paulus, and Brown (1994); Judd and Akiskal (2000) agreed that the symptoms must persist for at least two weeks or more and must be affecting the individual's daily routine before it is considered a depressive disorder.

Research has found that both for clinical and non-clinical population, depressive symptoms were associated with so many life conditions which include: unhealthy lifestyle (Jorma, Hannu, Juhani, Leo. & Pekka, 2014), unrealistic negative predictions of future life events (Daniel, Howard & Robert, 2006), cognitive decline (Turner, Capuano, Wilson & Barnes, 2015), memory impairment (Brigola, et al., 2015), lifetime alcoholic and substance abuse (Bravo, Pearson, Stevens & Henson, 2016), suicide and mortality (Yi & Hong, 2015), prepartum & postpartum mood swing (Lahti et al, 2017), physical illness (Rodic, Meyer & Meinlschmidt, 2015), poor socio-economic status (Jokela & Kelikangas-Jarvinen, 2011).

Paranoid symptoms are defined as abnormal conditions of the personality where an individual has a pervasive, persistent, and enduring mistrust of others, and a profoundly cynical view of others and the world (DSM V, 2013). Triebwasser, Chemerinski, Roussos and Siever (2013) stated that people with paranoid symptoms are always on guard, believing that others are constantly trying to demean, harm, or threaten them. These generally unfounded beliefs as well as their habits of blame and distrust, interfere with their ability to form close or even workable relationships. Oldham and Morris (1995) opined that they are hypervigilant to physical, verbal or social attacks, and do not trust others, and therefore tend to have few if any close or intimate associates. They tend to be aloof, cold, distant, argumentative, and frequently complain. They may also appear guarded and secretive, very rational, logical, and unemotional but at times will be sarcastic, hostile, and rigid (Triebwasser, et al., 2013).

Generally, paranoid individuals have difficult time getting along with others. The people with paranoid personality symptoms tend to do poorly in group activities and collaborative projects. They are highly critical of others but will respond to criticism of themselves with hostility or defensiveness (Lee, 2017). Though the fear and mistrust manifested by paranoid are irrational and disproportionate, it can only be diagnosed when such condition begins to

make negative impact on the person's work, personal and interpersonal relationship (Mandal, 2014).

Paranoid symptoms are very broad and can mean anything from relatively peculiar mistrust experienced by normal people to the complex delusional tendency by paranoid, Paranoid schizophrenia and bipolar disorder I (Bobrov, Rozhkova & Rozhkova, 2014). It is one of the symptoms to look out for in clinical assessment. However, many non-clinical populations have some level of the paranoid symptom which can interfere with their daily routine (Mandal, 2014).

Research has found that both for clinical and non-clinical populations, paranoid symptoms are associated with difficulty in sustaining meaningful relationships (Million, Meagher, Grossman & Ramnat, 2004; Esterberg, Goulding, & Walker, 2010; APA, 2014; Million) career difficulties (Zunker, 2015), marital problems and various forms of crime (Vyas & Khan, 2016).

Psychotic symptoms are abnormal mental state characterized by serious impairment or disruption in the most fundamental higher brain functions, perception, cognition, cognitive processing and affect as manifested in behavioural phenomena such as delusions, hallucination and significantly disorganized speech (APA Dictionary of Psychology, 2007). People experiencing psychotic symptoms experience changes in their thought and personality (Butler & Zeman, 2004). It may be accompanied by unusual or bizarre behaviours as well as difficulty with social interaction and impairment in carrying out daily life activities (Kelly, 2001). Usually, psychotic symptoms are considered a psychological disorder (psychosis) if all the relevant symptoms of psychosis are properly identified to be beyond the borderline criteria (Gitta, Klaus, & Oliver, 2013).

Parker (2014) and DSM V (2013), are of the view that the symptoms must persist for at least one month before it is considered a psychotic disorder. Some of the symptoms as enlisted by the DSM V (2013), included delusion, hallucination, disorganized speech and catatonic behaviour. Frankenburg and Xiong (2017) further divided the psychotic symptoms into four main domains:

- Positive symptoms - such as hallucinations, which are usually auditory; delusions; and disorganized speech and behaviour.
- Negative symptoms - Decrease in emotional range, poverty of speech, and loss of interests and drive; the person with schizophrenia has tremendous inertia.
- Cognitive symptoms - Neurocognitive deficits (deficits in working memory and attention and in executive functions, such as the ability to organize and abstract); patients also find it difficult to understand nuances and subtleties of interpersonal cues and relationships.
- Mood symptoms - Patients often seem cheerful or sad in a way that is difficult to understand; they often are depressed.

Psychotic symptoms are very broad and can mean anything from relatively normal aberrant experiences to the complex and catatonic expressions of schizophrenia and bipolar disorder (Gelder, Mayou & Geddes, 2005). It is one of the symptoms to look out for in clinical assessment. However, many non-clinical populations may have some levels of psychotic symptoms which can interfere with their daily routines (Kelly, 2001).

Research has found that for clinical and non-clinical populations, psychotic symptoms are associated with career difficulties (Senel, 2015), interpersonal challenges (Tomko, et al., 2014), marital problems (Zargar, Foruzandeh, Omidi & Mohammadi, 2014), various forms of crime (APA, 2014), self-harm (DSM V, 2013), and even suicidal ideation (Richardson, et al., 2012).

From the foregoing, it is obvious that there is a need for an understanding of depressive, paranoid personality and psychotic symptoms so that this knowledge could be used for identification and diagnosis of various psychological disorders associated with them. These processes will ultimately make intervention easier and meaningful (Lonneke, Jos, Ineke, Doety, & Paul, 2017). Thus for accurate diagnosis, psychological assessment becomes indispensable. Since the invention of psychological assessment in the early 19th century, various forms of psychological tests have been developed and used to make a psychological diagnosis and decision about an individual (Urbina, 2004).

According to Shane and Gustaf (2013), psychological assessment is a process whereby a combination of techniques and multiple sources provide integrated information on an individual's behaviour, personality and capabilities. Similarly, psychological assessment is a process of evaluation that uses a combination of techniques to help arrive at some hypotheses about people and their behaviour, personality and capabilities (Bornstein, 2015). One of the tools used for assessment is psychological tests (Framingham, 2016).

America psychological association dictionary (2007) defined a psychological test as a standardized instrument used in measuring intelligence, specific mental abilities, specific aptitudes, achievement, attitudes, values, interests, personality or personality disorders or other attributes of interest to psychologists. The main advantage of psychological tests over other techniques is that it is scientifically consistent (Framingham, 2016). In other words, every good psychological test has the following characteristics: (a) they are standardized (b) they are objective (c) they have norms (d) they are reliable and (e) they are valid. These characteristics are not easily found in other forms of psychological assessment (Urbina, 2004).

Generally, these different types of tests can either be objective or projective. The objective tests are psychological tools used in measuring an individual's characteristics. Such

characteristics may fall within the normal range or they may represent extreme abnormal characteristics or a symptom of psychopathology (Heiden &, Hersen, 2013). An objective test is described as structured and requires the test taker to respond to different structured manner through dichotomous or multiple rating scales. In other words, objective and their meaning or purpose is hidden from the client (Hoberman & Riedel; 2016).

Most often objective tests do not have the biases common among subjective tests. They have a restricted response format, such as allowing for true or false answers or rating using an ordinal scale. Though it does not go without limitations, Trull (2005) stated that gaining an understanding of motives, emotions, defenses and the general psychodynamics of personality are limited when using most objective test in assessment. Moreover, manipulation and faking of the answers is very easy with objective assessment. Some of the most common objective tests include the Minnesota Multiphasic Personality Inventory (MMPI-2), the Myers-Briggs Type Indicator, Million clinical multiaxial Inventory-IV, Symptom checklist, Child behaviour checklist, Big Five Personality Inventory, Beck Depression Inventory, and so on.

Projective tests are subset of personality testing in which the examinee is given a simple unstructured task with the goal of uncovering personality characteristics (Kreutzer, DeLuca & Caplan, 2011). They differ from the objective test as mentioned above in that they uncover thoughts, emotions, and desires that may not be known to the test-taker. In other words, they reveal the unconscious motives and dynamics that may be driving current behaviours (Heffner; 2014). Unlike the objective tests, projective tests are described as unstructured. The test-taker is required to respond to unstructured or ambiguous stimuli; for instance Rorschach inkblot test, incomplete sentences, and thematic appreciation test (Newstead, Irvine & Dan, 2012). It is believed that the taker of projective tests projects themselves into

the task they are asked to perform. Their responses on the other hand, are based on what they believe the stimuli mean and the feeling they experience while responding.

Wood, Nezworski, Lilienfeld and Garb (2011) have strongly criticized projective tests especially the Rorschach test for poor agreement between scorers, poor evidence of validity, its ambiguity and lack of theory. However, recent developments have proven that in the hands of gifted practitioners, projective tests have yielded impressive psychological insight which could not be obtained by other means (Choca, 2013; Exner, 2003; Rosen & McReynolds, 2013; Swerdlik, Sturman & Cohen, 2012). Exner (2003), had clearly proven that Rorschach inkblot test can be scored quantitatively and objectively making it a viable instrument for psychological assessment. However, these quantitative processes are only meaningful if they are done by experts (Choca, 2013). It has also been observed that projective tests have been criticized by many for not having consensus on the standardization of instructions for application, correction and interpretation (Hojnoski, Morrison, Brown & Matthews, 2006).

Exner, (2003), has proven that standardization of the projective test is possible. In addition, projective tests have an advantage of easy administration to both literate and illiterate populations (Sturner; 2009; Thom, 2016). With the recent revision by Exner (2003), in the comprehensive system of Rorschach test, the assessor can use both objective and subjective scores in diagnosis.

Rorschach Inkblot test is made up of 10 inkblots or printed cards (five in black and white, five in colour). It was first unveiled to the professional public in 1921 and from that time the test has been synonymous with clinical psychology. It has been proven to be internationally relevant in assessing the psychological symptoms (Smith, Hilsenroth & Exner, 2001). Yet many clinicians, especially in Nigeria, do not include it in the test batteries during the

psychological assessment. Only a few empirical evidences have been provided in the assessment of both clinical and non-clinical population in Nigeria (Ugokwe-Ossai, 2008). This available work explored one of the patterns of the objective scoring of Rorschach test that was popular in the last four decades. Unfortunately, the literature cited in the book (e.g. Allen, 1953; Beck, 1945; Klofer, 1954; Small, 1956) by Ugokwe-Ossai (2008) have been criticized for being cumbersome and rendered the Rorschach test as if each one of them is discussing four different types of Rorschach tests (Wood, Nezworski, Lilienfeld & Garb, 2011).

Exner (1993, 2003), however developed a comprehensive system for using the Rorschach test in the assessment of the clinical and non-clinical populations. Assessors in Nigeria seem to be lagging behind in benefitting from the new knowledge injected in the comprehensive system of administration, scoring and interpretation of Rorschach test as seen in Exner (2003). This may be evidenced in the paucity in literature available on the comprehensive system of Rorschach test in diagnosis among Nigerian clinical experts. However, the interest of the present study is basically on the validity of the comprehensive system of Rorschach inkblot test for assessing psychological symptoms among clinical and non-clinical populations in Nigeria.

Kimberlin and Winterstein (2008), defined validity as the extent to which an instrument measures what it purports to measure and the extent to which the interpretations of the results of a test are warranted. Validity also explains how well the collected data covers the actual area of investigation. Kimberlin and Winterstein (2008), indicated that one cannot talk about the validity of an instrument without talking about its reliability and therefore they suggested that a valid instrument also requires to be reliable. Reliability refers to the consistency of scores obtained by the same persons when they are re-examined with the same test on different occasions, or with different sets of equivalent items, or under other variable

examining (Anastasi & Urbina, 2007). Testing for reliability is important as it refers to the consistency across the parts of a measuring instrument (Deniz & Alsaffar, 2013). A scale is said to have high internal consistency or reliability if the items of a scale "hang together" and measure the same construct (Heale & Twycross, 2015). The most commonly used internal consistency measure is the Cronbach Alpha coefficient. There is no absolute rule existing for internal consistencies, however, most agree on a minimum internal consistency coefficient of .70 (Bolarinwa, 2015).

Therefore, the present study investigated the validity and reliability of the comprehensive system of Rorschach test. If the present study provides an evidence to support the validity of the test, this may certainly activate the interest of experts in Nigeria to use and benefit from the rich objective and standardized information available in the comprehensive system as regards assessment and diagnosis of the psychological symptoms.

Statement of the Problem

Although using objective tests in psychological assessment have yielded positive results over the years, the diagnostic process seems to have been adversely affected by the use of only objective tests. Hence it is increasingly being obvious that the use of objective tests alone cannot be relied upon (Groth-Marnat, 2009). A combination of objective and projective tests is believed to be more reliable and allows the clinician to gather a wide range of information as it regards the patient's personality, cognitive and emotional ability (Meyer, et al., 2001). Rorschach inkblot test is one of the best projective tests that can enhance the assessment outcome but unfortunately, in Nigeria, Rorschach inkblot test has not been in use because its' validity has not been assessed.

Hence, this study becomes imperative and necessary in Nigeria. Additionally, many tests are preferably used among clinical than non-clinical populations and vice-versa. This is also a

problem because accurate mental health statistics should depend on measures that are so standardized as to be able to cover large groups of humans hence there is need to assess the validity of the instrument among clinical and non-clinical populations. Furthermore, the validity of Rorschach inkblot test has been studied in the developed world and subsequent application of research findings seem to have benefitted patients and other stakeholders (Dilmore, 2016; Kishimoto, et al., 2016; Opaas, Ellen, Wentzel & Varvin, 2016). There is obvious paucity of such research in Nigeria (Ugokwe-Ossai, 2008) and as a result, this study becomes imperative. The present study bridged the gaps in knowledge by assessing the validity and reliability of the comprehensive system of Rorschach inkblot and thus adapting it culturally so that it could be used for the assessment of depressive, paranoid personality and psychotic symptoms among clinical and non-clinical samples in Nigeria. In the light of these gaps in knowledge, the present study addressed the following:

Research Questions

(1) Is it established that Rorschach test would discriminate between the clinical and non-clinical sample in assessing the depressive, paranoid personality and psychotics symptoms?

(2) What is the correlation between Rorschach test and SCL 90 (concurrent validity) in assessing the depressive, paranoid personality and psychotic symptoms) in clinical and non-clinical samples in Nigeria?

(3) What will be the divergent validity when non-similar subscales of Rorschach test are inter-correlated for the clinical and non-clinical sample?

(4) Will Rorschach test be able to predict the symptoms according to the institutional diagnosis among clinical samples?

5. Will there be the test-retest reliability for the non-clinical samples after one-month interval?

Purpose of the study

The general purpose of this study was to explore the validity and reliability of the comprehensive system of Rorschach inkblot test in the assessment of clinical and non-clinical samples in Nigeria. The specific Objectives were:

(1) To find out if the Rorschach test will discriminate between the clinical and non-clinical samples in assessing their psychological symptoms (psychotic, depressive and Paranoid).
(2) To ascertain the concurrent validity of the Rorschach test when co-related with SCL 90.
(3) To examine the divergent validity when non-similar subscales of Rorschach test are inter-correlated for clinical and non-clinical sample
(4) To identify if Rorschach test will be able to predict the symptoms according to the institutional diagnosis among the clinical samples?
(5) To determine the test-retest reliability for the non-clinical samples after one-month interval?

Operational Definitions of the Key Study Variables

Clinical samples: This refers to adults who are receiving treatment for different psychological diagnoses as described in the inclusion criteria (see page 77).

D**epressive symptoms**: this refers to negative thoughts, moods, and behaviours that diminish or decrease the individual activity level due to change in physical and mental functioning as described in the comprehensive system of Rorschach and SCL 90 (Derogatis, Lipman & Covi, 1977; Exner, 2003).

Non-clinical samples: This refers to adults who have not been diagnosed with any psychological symptoms nor have received treatments for any psychological related problems (see page 77).

Paranoid personality symptoms: These are defined as abnormal conditions of the personality where an individual has a pervasive, persistent, and enduring mistrust of others, and a profoundly cynical view of others and the world as described in the comprehensive system of Rorschach and SCL 90 (Derogatis, Lipman & Covi, 1977; Exner, 2003).

Psychotic Symptoms: They are abnormal mental state that bring about serious impairment or disruption in the most fundamental higher brain functions, perception, cognition, cognitive processing and affect as manifested in behavioural phenomena such as delusions, hallucination and significantly disorganized speech as described in comprehensive system of Rorschach (Exner, 2003) & SCL90 (Derogatis, Lipman & Covi, 1977; Exner, 2003).

Reliability: This refers to the consistency of scores obtained by the same persons when they are re-examined with the same test on different occasions, or with different sets of equivalent items, or under other variable examining (Anastasi & Urbina, 2007).

Rorschach test: This is a projective test which measures an individual's perceptions of the inkblots and also examines personality characteristics, emotional functioning and thought processes (Exner, 2003).

Validity: This is the extent to which an instrument measures what it purports to measure as assessed by the following indices (discriminant, concurrent, divergent and predictive validity) (Kimberlin & Winterstein, 2008).

CHAPTER TWO: REVIEW OF RELATED LITERATURE

This chapter comprises four sections. They are the conceptual review, theoretical review, empirical review, and hypotheses.

Conceptual Review

Five major concepts were discussed in this section. They are depressive symptoms, paranoid personality symptoms, psychotic symptoms, Rorschach inkblot test, validity and reliability of a test tool.

Depressive Symptoms

Generally, depressive symptoms are conceptualized as a common mental disorder, the presence of depressed mood, loss of interest/pleasure, feeling of guilt, low self-worth, disturbed sleep, low energy and poor concentration (DSM V, 2013). Depression is a classical term in psychology that had been described by many authors. For instance, Beck (1996) described it as a negative view of the self, the world and the future. A depressed person views the world through an organized set of depressive schemata that distorts experiences about the self, the world and the future in a negative direction. Similarly, Ellis (1958) stated that depression is characterized as a state of low mood and/or loss of interest or pleasure in most previously enjoyed activities. Depression can occur acutely (often in reaction to certain life events) or chronically (for long periods of time) and can have major adverse effects on one's relationships, work or school life, sleeping and eating habits, and general well-being. Depression can affect an individual's thoughts, feelings, and actions. Ellis (1957, 1958, 1962), also proposed that depression is largely the result of irrational and unrealistic thinking, and several cognitive-behavioural models of depression have been widely used and experimentally tested.

Derogatis and Della-Pietra (1994), Derogatis and Wise (1989), noted that clinical depression is well-established as the most prevalent manifestation of psychiatric disorder and depressed

affect is a very common occurrence. Depressive affect manifest itself in emotional response like experiences as fatigue, loss of interest, feelings of loneliness, lowered self-esteem and suicidal ideation.

These definitions above are different from DSM V (2013) and ICD 10 (2015), descriptions of the symptoms of depression. DSM V (2013) mentioned that five (or more) of the following symptoms must be present for the period of two weeks and they are:

1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad, empty, hopeless) or observation made by others (e.g., appears tearful).

2. Markedly diminished interest or pleasure in all or almost all activities most of the day, nearly every day (as indicated by either subjective account or observation.)

3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day.

4. Insomnia or hypersomnia nearly every day.

5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).

6. Fatigue or loss of energy nearly every day.

7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).

8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).

9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

ICD 10 (2015) defined depression as a mental disorder characterized by at least two weeks of low mood that is present across most situations. It is often accompanied by low self-esteem, loss of interest in normally enjoyable activities, low energy, and pain without a clear

cause. People may also occasionally have false beliefs or see or hear things that others cannot. A major depressive disorder can negatively affect a person's personal, work, or school life, as well as sleeping, eating habits, and general health. Between 2–7% of adults with major depression die by suicide and up to 60% of people who die by suicide had depression.

Researchers like Beck, Steer and Brown (1996), Guedes and Pereira (2013), Payne and Thompson, (2015), Russo, Mahon, and Burdick (2015), Ruziana and Nicholas (2017), classified depressive symptoms into different categories which include emotional, cognitive, memory and physical/physiological; they showed that all increased with severity of symptoms present.

The Emotional Depressive symptoms

The emotional symptoms have to do with those symptoms that affect the mood majorly and they include withdrawal from socializing, loss of interest in previously enjoyed hobbies, constant irritability or sadness, constant pessimism, feelings of inadequacy and self-loathing. These symptoms make one feel that the individual's world is messed up, hopeless and crumbling.

The Cognitive Depressive Symptoms

The cognitive symptoms of depression can be debilitating, for individuals with these symptoms not only struggle with low mood, but also find out that their thinking process has changed. The cognitive symptoms of depression include diminished ability to think and to concentrate. There are five main areas people experience the cognitive symptoms of depression and they are the memory, concentration, physical and physiological actions, the speed of thought (reduced brain processing speed) and decision-making.

Memory and Concentration Depressive Symptoms

For individuals with the depressive symptom, memory loss is well established (Ruziana & Nicholas, 2017). People with depression may complain of both long/short term memory loss. More severe depression tends to result in greater memory impairment. Also, people with major depressive symptom find it difficult to concentrate. The concentration difficulty may worsen when for the person when so many things are all happening at the same time. In this way, they may end up not focusing on any of the events. This can drastically impact the person's ability to multitask (Russo, Mahon & Burdick, 2015).

Physical and Physiological Depressive Symptoms

Depression does not just affect the psyche; it also affects the soma. Some of the physical effects include erratic sleep habits, loss of appetite or increased appetite with atypical depression, constant fatigue, muscle aches, headaches, and back pain. It is easy to dismiss these symptoms as stemming from another condition, but they are often because of depression (Guedes & Pereira, 2013).

The Speed of thought (reduced brain processing speed) and decision-making - research has revealed a connection between performance decrements in an array of activities requiring effortful processing, or processes that rely on working memory and controlled attention. Depression impairs such cognitive functions as verbal fluency, verbal memory, mental flexibility, effortful processes and executive functions (Payne & Thompson, 2015).

The aetiology of depressive symptoms is traced to the genetic/biological factors, cognitive factor and environmental factor.

Biological factor

Biological factors include the brain structure, genetic information and neuro-chemical transmitter factors.

Brain Structure

Researchers have reported that depression may be as a result of decreased metabolism in the prefrontal cortex, especially dorsolateral and dorsoventral brain regions. This fact is a frequently replicated finding in major depressive disorder (Pandya, Altinay, Malone &Anand, 2012; Kimbrell et al; 2002). Furthermore, deficient prefrontal perfusion in these regions, coupled with a reduction in problem-solving abilities and higher propensity to act on negative emotions, has been implicated in suicidal behaviour (Desmyter, Van &Audenaert; 2011).

This finding has been successfully used to formulate a therapeutic strategy to stimulate the dorsolateral prefrontal cortex (DLPFC) using transcranial magnetic stimulation (George; 2010). The decrease in DLPFC metabolism/blood flow in depression has also been found to reverse with antidepressant treatment (Mayer et al; 2000). Structural brain MR imaging research suggests that a decreased frontal lobe volume may also be present in depression (Coffey et al, 1993; Kumar, Bilker, Jin & Udupa; 2000; Schweitzer, Tuckwell, Ames, & O'Brien, 2001).

Genetic Information

Genetic vulnerability to depression seemed to be inherited. Research has revealed that depression runs in families and suggests that some people inherit genes that make it more likely for them to get depressed. Evidence for a genetic component to mood disorders has been documented consistently using family, twin, and adoption studies. The first genetic studies of mood disorders were conducted more than 70 years ago and included assessment of concordance rates for monozygotic and dizygotic twins with mood disorders (Lohoff & Berrettini; 2008). A recent review of twin studies in Major Depressive Disorder - Recurrent

Unipolar (MDD-RU) estimated heritability at 37%, with a substantial component of unique individual environmental risk, little shared environmental risk (Sullivan, Neale & Kendler; 2000). Family studies of MDD-RU have shown that first-degree relatives of MDD-RU probands are at increased risk of MDD-RU disorders compared with first-degree relatives of control probands (Weissman et al. (1993). There was a twofold to fourfold increased risk of MDD-RU among the first-degree relatives of MDD-RU probands.

Neurotransmitters

Scientists have identified many different neurotransmitters. Here are descriptions of a few of them believed to play a role in the depression they include Serotonin, Acetylcholine, Norepinephrine, Glutamate/ GABAergic and EEG and Hormonal system.

Serotonin

Serotonin helps regulate sleep, appetite, and mood and inhibits pain. Research supports the idea that some depressed people have reduced serotonin transmission. Low levels of a serotonin by-product have been linked to a higher risk for suicide (Belmaker & Agam; 2008).

Acetylcholine

Acetylcholine (ACh) is a potent regulator of neuronal activity throughout the peripheral and central nervous system. This transmitter ought to remain moderate. Studies suggested that individuals who are actively depressed appear to have significantly higher levels of Acetylcholine than healthy subjects indicating that increased ACh signalling may contribute to the aetiology of depression (Esterliset al, 2013; Mineur et al, 2013).

Norepinephrine

Norepinephrine (NE) is a major monoamine neurotransmitter that has widespread effects across multiple brain areas to regulate arousal and stress responses. The underlying function of the NE cortical system is to balance vigilance/scanning behaviour with focused attention on novel environmental stimuli and the state of arousal (Mathew, Manji &Charney, 2008).

Dysregulation of this transmitter has been implicated in the pathogenesis of anxiety and depressive disorders (Ressler & Nemeroff; 1999). The use of pharmacological interventions that facilitate NE-release may promote and restore the regulatory control of NE which in turn give relief the patients.

Glutamate and GABAergic

Glutamate constitutes 50-60% of all neurotransmission in the brain and the remaining 40-50% is GABAergic (Storm-Mathiesen & Iversen, 1979; Winfield et al., 1980; Winfield et al., 1981). Therefore 90-99% of neurons (depending on the source) are GABAergic or glutamatergic, and less than 10% is left for all the others monoamines, neuropeptides and neuroendocrine neuromodulators. The fundamental functioning of the CNS is in keeping the excitatory/inhibitory physiological balance (Altamura, et al., 1993; Linden & Schoepp, 2006; Yildiz-Yesiloglu, et al., 2006). Any disruption within this balance will lead to a brain dysfunction reflected in mental disorder or affective disorder such as depression. The results of the preclinical and clinical investigations confirm that disrupted activity within the glutamate neurotransmitters leads to depression (Kendell et al.; 2005). Generally, it can be concluded that antidepressant drug diminishes glutamatergic neurotransmission (Tokarski et al. 2008) and increases GABAergic neurotransmission.

EEG and Hormonal system

Other researchers have observed Electroencephalography (EEG) abnormalities and hormonal system irregularities are linked to depression (Jacobs, Orr, Gowins, Forbes & Langenecker, 2015). Recently, the National Institute of Mental Health has linked over-activity in emotion-regulating circuitry in the midbrain area to depression (Phillips, Hewedi, Eissa, & Moustafa, 2015).

The Cognitive factor of Depression

Beck (1967) studied people suffering from depression and found that they appraised events in a negative way. The author found a significant correlation between the amount of negative automatic thoughts and severity of depression. Researchers identified three mechanisms that are responsible for depression or thinking that are typical of individuals with depression: namely negative thoughts about the self, the world and the future. These thoughts tended to be automatic in depressed people as they occurred spontaneously. As these three components interact, they interfere with normal cognitive processing, leading to impairments in perception, memory and problem solving with the person becoming obsessed with negative thoughts (Beck, 1967; Clarke, Flint, Attwood & Munafo; 2010, Gotlib & Joormann; 2010).

Environmental factors

Individuals who have experienced high levels of stressful (be it in the family problem and relationship challenges, financial difficulties, loss of job etc.) life events are more vulnerable to depression (Tafet & Nemeroff**,** 2015). A loss of a significant other is another disposing factor to depression (DSM V, 2013). Conclusively, genetic/ biological, cognitive and environmental factors work in combination to produce depression.

Paranoid Personality Symptoms

Paranoid personality symptom is used to describe illness with persistent persecutory and grandiose delusion without hallucination but emotional response and behaviour consist of ideal held. An individual with paranoid personality symptom displayed extremely guided behaviour, highly suspicious and distrustful of others (DSM V, 2013; Triebwasser, Chemerinski, Rousso & Siever, 2013). Researchers agreed that the common description of paranoid personality symptom includes difficulty in developing and sustaining any trust in

relationships. Because of feelings of blame, these individuals are unable to confide in others and demonstrate jealousy and hostility (APA, 2013; Esterberg, Goulding, & Walker, 2011). Social interactions are negatively impacted for a person with a paranoid personality disorder since the individual tend to display controlling behaviour, is critical and unable to collaborate effectively with others. The controlling behaviour stems from an innate need for autonomy. Individuals suffering from paranoid personality disorders are often confrontational and over-react to perceived threats by the frequent filing of lawsuits and involvement in legal disputes. Fantasies of grandiosity are also frequently entertained, and they can be seen as fanatical (APA, 2013, Esterberg, Goulding & Walker, 2011; Hoermann, Zupanick, & Dombeck, 2015a).

The DSM V (2013), established some of the symptoms of paranoid personality and according to DSM V (2013), there are two primary diagnostic criteria for paranoid personality disorder of which criterion A has seven subfeatures, four of which must be present to warrant a diagnosis of paranoid personality disorder: Criterion A is, Global mistrust and suspicion of others motives which commences in adulthood. The seven sub features of criterion A are:

- The person with a paranoid personality disorder will believe others are using, lying to, or harming them, without apparent evidence thereof.

- They will have doubts about the loyalty and trustworthiness of others.

- They will not confide in others due to the belief that their confidence will be betrayed.

- They will interpret ambiguous or benign remarks as hurtful or threatening and hold grudges.

- In the absence of objective evidence, they believe that their reputation or character are being assailed by others and will retaliate in same manner.

- Will be jealous and suspicious without course that intimate partners are being unfaithful.

Criterion B is that the above symptoms will not be during any psychotic episode in schizophrenia, bipolar disorder, or depressive disorder with psychotic features. Vyas and Khan (2016) specified that paranoid symptoms are non-psychotic symptoms, in that it is a discrete diagnosis involving an individual's dysfunctional and maladaptive personality characteristics, rather than a thought or mood disorder.

Al-Dujaily (2009), presented seven subtypes of paranoid disorder and they include erotomanic, grandiose, jealous, persecutory, somatic, mixed and unspecified type. Delusion happens to be the core symptom that is shared by all the subtypes of paranoid disorders although manifesting in different ways.

Erotomanic type – This is also known as the old maid's insanity. The core in this subtype is delusion. The core symptom here is delusion. This delusion is with another person with a higher statue that is in love with the client. The clients with this type of delusion are generally female (APA, 2000; Kelly, 2005). Delusional love is usually intense in nature. Signs of denial of love by the object of the delusion are frequently falsely interpreted as an affirmation of love (Kelly, 2005; Manschreck, 2000). The clients may attempt to contact the object of the delusion by making phone calls, sending letters and gifts, making visits, and even stalking. Some cases lead to assaultive behaviours as a result of attempts to pursue the object of delusional love or attempting to rescue her/him from some imagined danger (APA, 2000).

Grandiose type – The clients believe that they possess some great gift, have made some important discovery, have a special relationship with a prominent person, or have special

religious insight (APA, 2000). Grandiose delusions in the absence of mania are relatively rare and the distinction of this subtype of the disorder is debatable. Many clients with paranoid show some degree of grandiosity in their delusions (Fennig, Fochtmann & Bromet, 2005).

Jealous type -The main issue here is that her or his spouse or lover is unfaithful. Some degree of infidelity may occur; however, clients with delusional jealousy support their accusation with a delusional interpretation of "evidence" (disarrayed clothing, spots on the sheets) (APA, 2000; Fennig, et al., 2005). The clients may attempt to confront their spouses and intervene in imagined infidelity. Jealousy may evoke anger and empower the jealous individual with a sense of righteousness to justify their acts of aggression. This disorder can sometimes lead to acts of violence, including suicide and homicide (Fennig, et al., 2005).

Persecutory type - Here the clients believe that they are being persecuted and harmed (Fennig, et al., 2005). Unlike the persecutory delusions of schizophrenia, the persecutory types are systematized, coherent, and defended with clear logic. No deterioration in social functioning and personality is observed (Manschreck, 2000). The clients are often involved in formal litigation against their perceived persecutors. Munro (1999) identifies the following characteristics of deluded litigants and they include a determination to succeed against all odds, tendency to identify the barriers as conspiracies, endless drive to right a wrong, quarrelsome behaviours, and saturating the field with multiple complaints and suspiciousness (Munro, 1999). The clients often experience some degree of emotional distress such as irritability, anger, and resentment (Fennig, et al., 2005). In extreme situations, they may resort to violence against those whom they believe are hurting them (APA, 2000). The distinction between normality, overvalued ideas, and delusions is difficult to make in some of the cases (Fennig, et al., 2005).

Somatic type – This type is also known as the monosymptomatic hypochondriasis (Fennig, et al., 2005). The core symptom here is around the bodily functions and sensations. The most common are the belief that one is infected with insects or parasites that they are emitting a foul odour or that some parts of the body are not functioning and that some parts are distorted (APA, 2000). The sensory experiences associated with this illness (e.g. a sensation of parasites crawling under the skin) are viewed as components of systemized delusions (Fennig. et al., 2005).

Mixed type – Here, the client exhibits more than one of the delusions simultaneously (Fennig, et al., 2005), and no one delusional theme predominates (APA, 2000).

Unspecified type - Delusional here themes fall outside the specific categories or cannot be clearly determined (APA, 2000). Misidentification syndromes such as Capgras syndrome (characterized by a belief that a familiar person has been replaced by an identical impostor) or Fregoli syndrome (a belief that a familiar person is disguised as someone else) fall into this category. Misidentification syndromes are rare and frequently are associated with other psychiatric conditions (schizophrenia) or organic illnesses (dementia, epilepsy) (Fennig, et al., 2005). Another unusual syndrome is Cotard syndrome, in which patients believe that they have lost all their possessions, status, and strength as well as their entire being, including their organs (Fennig, et al., 2005). Having explored the symptoms of paranoid personality disorder, the causes of this condition will be reviewed.

Aetiology of Paranoid Personality Symptoms

Paranoid personality symptoms have been linked with a biochemical factor, Psychological/cognitive factor and environmental/traumatic life event.

Biochemical Factors

Researchers reported that biochemical factors may play some roles in the development of paranoid symptoms. The basal ganglia and temporal lobe are most commonly associated with

delusions (Gorman & Cumming, 1990; Sadock, 2008). Hyperdopaminergic states have been implicated in the development of delusions. Recently, Morimoto, et al., (2002) reported that 13 patients with the delusional disorder were reported to have increased levels of plasma Homovanillic Acid (HVA) (a dopamine metabolite) compared with control subjects. Patients responded well to treatment with low-dose haloperidol (average 2.7 mg/d) and showed decreased posttreatment plasma level of HVA, which correlated with the improvement of their symptoms. The same authors reported an increased prevalence of a polymorphism at the D2 receptor gene at amino acid 311 (cysteine-for-serine substitution) among individuals with the delusional disorder, particularly those with persecutory delusions.

There is also a case of a somatic delusion involving reduplication of body parts which implicated the temporal and parietal lobes, showing hypoperfusion of both regions (Akahane, Hayashi, Suzuki, Kawakatsu & Otani; 2009). Compana, Gambini and Scarone (1998) used eye tracking movement tests to explore the relationship between frontal lobe functions and clinical symptoms of a delusional disorder. They found that compared with normal participants, patients with delusional disorder showed abnormalities of voluntary saccadic and smooth pursuit eye movements, which is also seen in schizophrenia

Cognitive Factor

The fields of cognitive and experimental psychology suggested that persons with delusions selectively attend to certain information, a cognitive pattern that overlaps with hypochondriacaly patients (Xiong, Bourgeois, Chang, Liu D & Hilty; 2007). Conway, Bollini, Graham, Richard, Susan and McEvoy (2002) reported that patients with delusional disorder made probability decisions based on fewer data compared with normal controls. Despite using fewer data, they were similarly certain as controls regarding the accuracy of their decisions.

Two neuropsychological models proposed for schizophrenia appears to have some validity in delusional disorder. A Cognitive Bias Model (CBM) proposes that paranoia is a defence against thoughts that threaten the idealized self to protect a fragile self-esteem. Positive events are attributed to the self-whereas negative events are ascribed to the external environment. In contrast, the Cognitive Deficit Model (CDM) focuses on cognitive impairments and distortions of threat evaluating mechanisms as the cause for delusion formation (Abdel-Hamid & Brüne, 2008).

Environmental/traumatic life event

Researchers suggest that paranoid symptoms can be triggered by stress (Kesting, Bredenpohl, Klenke, Westermann & Lincoln; 2013; Veling, Pot-Kolder, Counotte, Jim, & Mark; 2016). National Institute of Drug Abuse (NIDA, 2017), noted that alcohol and drug abuse also might contribute to the paranoid symptoms. Gilliver, Sundquist, Xinjun and Sundquist (2014) stated that people who tend to be isolated, such as immigrants or those with poor sight and hearing, appear to be more vulnerable to developing paranoid symptom.

The Psychotic Symptoms

A psychotic symptom is generally referred to as the break from reality which include, severe confusion, distorted thinking, hallucination (seeing or hearing things that do not exist) and delusion (believing things that are not true) (Minton, Perepezko & Pontone; 2016). According to the researchers, psychotic symptoms are described as a mixture of symptoms that can be associated with many different psychological disorders which include hallucination, delusion, disorganized speech, disorganized behaviour, a gross distortion of reality (Arciniegas, 2015; Martins, Carvalho, Castilho, Pereira, & Macedo; 2015).

The APA (2013) and DSM V (2013) described the psychotic symptoms as hallucinations, delusions which is accompanied by grossly disorganized behaviour, alone or in combination.

The same document stated that symptom might include gross impairment in reality testing or loss of ego boundaries that interferes with the capacity to meet the ordinary demands of life.

Aetiology of Psychotic Symptoms

The exact cause of psychotic symptoms is unclear however, some of the etiological factors implicated in psychotic symptoms include the biological factor, genetic factor, environmental factor and psychological factor.

Biological Factors:

An alteration in brain structure and changes in certain chemicals especially the dopamine is found in people who have psychosis (Tost, Alam & Meyer-Lindenberg; 2010). Kesby, Eyles, McGrath and Scott (2018) stated that excessive dopamine signalling may directly lead to psychotic symptoms by compromising the integration of cortical inputs. Some other researchers suggested that the neurotransmitter serotonin also plays an inhibitory role in the regulation of mood, sleep, motor activity etc. and disruption of it leads to the psychotic symptom causing psychosis (Lanctot, Herrmann & Mazzotta; 2001; Meltzer, Horiguchi & Massey; 2011; Riga, Soria, Tudela, Artigas, & Celada; 2014).

Genetic Factors

Scientific findings indicate that genetic factors can play a role as regards people who develop psychotic symptoms. Researchers indicated that family history and gender are examples of genetic factors for people who might develop psychotic symptoms. This genetic factor is implicated especially for the person who has a first-degree relative with a history of a psychotic disorder. For the monozygotic twin of a person with psychosis, the probability to develop the symptom is 50% (Alastair, Frühling, Robin & McGuffin, 2002; Domschke, 2013; Heckers, 2009; Pepper, & Cardno, 2014).

Environmental Factors

Researchers proved that psychotic symptoms have also to do with adaptation to social context (Bentall, et al., 2014; Brown, 2011). In other words, the psychotic symptoms have a very strong affinity with environmental factors such as early life adversity, growing up in an urban environment, minority group position, the use of cannabis can trigger psychotic episode to the people that are already vulnerable (Cantor-Graae, 2007; Schlossberg, Massler &, Zalsman, 2010).

Rorschach Inkblot Test

The Rorschach test is a type of projective test created by Swiss psychologist named Hermann Rorschach in 1921. This test consists of a set of 10 bilaterally symmetrical inkblots. The clients are asked to tell the psychologists what it might be to them. It is believed that individuals usually project external stimuli based on the person-specific perceptual sets that are the individual needs, motives and conflicts. This is because the perceptual sets, that represents the behaviour used in real-life situations. The overall goal of this technique is to assess the structure of personality, with particular emphasis on how individuals construct their experience (cognitive structuring) and the meanings assigned to their perceptual experiences (Weiner, 1994). Abakumovaa, Achinab, Kukuliara and Kolenovaa (2016), stated that the psychologists use the Rorschach test to examine a person's personality characteristics and emotional functioning, it has also been used to detect underlying thought disorder especially in cases where clients are reluctant to describe their thinking processes openly. Similarly, Groth-Marnat *(*2003) held that the test can provide information on variables such as motivations, response tendencies, cognitive operations, affectivity, and personal and interpersonal perceptions.

The author of Rorschach did not make it clear where he got the idea for the test, like people of his time, he often played the popular game called Blotto (Klecksographie), which involved creating poem-like associations or playing charades with inkblots (Pichot, 1984). The inkblots could be purchased easily in many stores at the time. The idea of using the inkblot as a psychological tool must have come from his teacher's suggestion (Framingham, 2016). Rorschach took interest and wrote his dissertation about hallucinations. In his work on schizophrenic patients, he inadvertently discovered that they responded quite differently to the Blotto game than others. He made a brief report of this finding to a local psychiatric society, but much attention was not given to it. It was until he was established in his psychiatric practice in Russia in 1917 that he became interested in systematically studying the Blotto game (Alözkan, 2013).

Originally, Rorschach used about 40 inkblots in studies from 1918 through 1921, but normally administer only about 15 of them regularly to his patients. Data was collected from 405 clients of which 117 are non-patients used for his control group. A set of codes called scores was used to determine if the response was talking about the whole inkblot (W), for instance, a large, detail (D), or a smaller detail (Dd). **F** was used to score for the form of the inkblot, and **C** was used to score whether the response included colour.

In 1920, he tried to find a publisher to publish his work (the 15 inkblot cards he regularly used) this was not so easy for every publisher backed out due to the cost involved. In 1921 however, he found the House of Bircher publisher who accepted to publish his inkblots, but only 10 of them. He reworked his manuscript published it in 1921 and in the following year he passed on. (Hubbard & Hegarty, 2016).

Although the original inkblots were all in a solid colour without any shading, printing errors added some shading in the cards. Rorschach was happy about the new addition and accepted it as part of his work (Framingham, 2016).

After Rorschach's death, various authors reversed the original scoring system of the test. They include the following:

1. Samuel J. Beck (1934)
2. David Rapaport (1946)
3. Zygmunt A. Piotrowski (1950)
4. Bruno Klopfer, Mary D. Ainsworth, Walter G. Klopfer and Robert R. Holt (1954)
5. Arguerite R. Hertz (1959)

However, Exner (1969), compared these earlier revisions by the previous authors on Rorschach and came up with a disturbing findings. He realised that each author was different from others as if they were writing five different tests. So, he decided to establish the foundation which will unify the ideas from the five authors into a comprehensive system. Thus, in 1974 Exner published the first edition of the Rorschach comprehensive system. According to this edition which has further revision (see Exner, 2003) Rorschach test comes in three different stages and they are

1. Administration Stage
2. Scoring Stage
3. Interpretation Stage

Administration Stage

According to Exner (2003), in his Rorschach comprehensive system manual, the administration comes in two phases. Phase one is called free association stage whereas phase two is called the inquiry phase.

Free Association

Here, the psychologist having established rapport is presented with the first inkblot card with the words **"**What might it be". In sequence, the rest of the nine inkblots will be presented one

after the other. Each time, the client is expected to say what it might be to them while the psychologist records what the client says verbatim.

Inquiry

As earlier mentioned, phase two is called the inquiry. Here the psychologist will read out one after the other what the client said during the free association stage. Each time, the client is expected to give a detailed explanation of what was said on the different card earlier. At this phase, no new information will be accepted (Exner, 2003).

Scoring Stage

The scoring of Rorschach is reserved for the trained psychologists (Exner, 1993). It involves coding completely and accurately as described in the Rorschach comprehensive system manual (Exner, 2003). The characteristics that are coded are classified into 7 categories and they are (1) Location and Developmental Quality, (2) Determinants, (3) Form Quality, (4) Contents, (5) Popular Responses, (6) Organizational Activity (Z score) and (7) Special Scores.

Location and the Developmental quality

These refer to the sector or area of the inkblot being used which could be the whole inkblot, the detail which is a prominent aspect of the inkblot, the unusual detail which is the insignificant aspect and the space if the white space of the inkblot is mentioned (Exner, 2003).

Developmental Quality:

Developmental quality refers to the degree of meaningful organization or integration used in the response (Exner, 2003).

Determinants:

Determinants refer to the features, styles, characteristics, or aspects of the inkblot that the client responded to. It is to be noted that one or more determinants could be scored for one response (Exner, 200).

Form Quality

Form quality refers to how well the client's description of a form, fits the area of the inkblot used. It has four possible symbols from superior-over-elaborated to under-elaborated. The following codes are used for the form quality (+, o, u and -). **+:** very well described, **o**: appropriate to the area, **u**: unusual to the aspect described and when the described does not fit the aspect of the inkblot (Exner, 2003).

Contents:

The contents refer to the name or class of object(s) used in the response, with 26 possible animate or inanimate ranging from whole human figure to x-ray. They are:

1. Whole Human figure
2. Whole Human figure (historical)
3. Whole Human figure (fictional or mythological)
4. Incomplete Human figure
5. An incomplete human figure (fictional or mythological)
6. Human experience, emotional or sensory description
7. A whole animal figure
8. A whole animal figure (fictional or mythological or mythological)
9. An incomplete animal figure
10. An incomplete animal figure (fictional or mythological or mythological)
11. Anatomy
12. Art

13. Anthropology
14. Blood either human or animal
15. Botany (any type of plant life, individual parts or whole).
16. Clothing (any article of clothing).
17. Clouds (any cloud variations i.e., fog or mist)
18. Explosion (a blast or explosion, including fireworks).
19. Fire or smoke
20. Food or anything edible.
21. Geography (any map, general or specific);
22. Household (item used, inside or outside the house)
23. Landscape (i.e., mountains, underwater, deserts, swamps).
24. Nature (anything from a natural environment e.g. astronomical body: sun, planets, water, rainbow or weather related)
25. Science (anything associated with or that is a product of science or science fiction i.e., computers, microscope, vehicle of transportation, rocket, lightbulb).
26. Sex (any activity of a sexual nature, sex organs, or sexual reproduction i.e., buttocks, menstruation, intercourse, abortion, breast—unless used to point out the female figure (Exner, 2003).

Popular Responses

Popular responses refer to frequently given responses. The coding goal is to determine whether the client's response is the conventional or commonly given response for each card. Code Padded if the answer is exactly the same as the popular response for that card. If it is not a popular response, no code is necessary (Exner, 2003).

Organizational Activity (Z Score)

Organizational activity refers to the degree of organization required to integrate the form described in the response. It uses a Z score, a weighted method of assigning a score to a response. The coding goal is to provide a numerical Z score representing the degree of organizational activity. Every card has an organizational activity or Z score if the response includes the form and meets at least one of the following criteria. The location score is "whole" with developmental quality, either synthesized, ordinary, or vague synthesized. 2. It meaningfully integrates at least two adjacent or nonadjacent parts of the inkblot (portions that may or may not touch). 3. It meaningfully integrates white space (Exner, 2003).

Special Scores

Special scores refer to the presence of an unusual characteristic(s) in the response, with 14 possible scores ranging from deviant verbalizations to colour projection. They are the following: Deviant Verbalization, Deviant Inappropriate, Inappropriately Combination, Fabulized Combination, Contamination, Inappropriate Logic, Perseveration and Integration Failure, Confabulation, Aggressive Movement, Cooperative Movement, Morbid Content, Abstraction, Personalized Answer, and Colour Projection.

The first four of the Special Scores mentioned above (Deviant Verbalization, Deviant Inappropriate, Inappropriately Combination and Fabulized Combination) have two levels that determined the degree of cognitive slippage or bizarreness in the responses. They are usually represented on two levels 1or 2 in the responses.

Deviant Verbalization (DV): This is incorrect Verbalizations in place of a correct one for instance, DV1: Some bacteria you might see under a telescope (instead of a microscope). On the second level, DV2: A woman is ready for a virginal exam.

Deviant Responses (DR): They are phrases that are inappropriate or completely irrelevant. On the level one, DR1: It's a cat. My father always hated cats. DR2: An abstract of President Carter if you look at it from a Democratic perspective.

Inappropriate Combination (INCOM): Incongruous separate inkblot details or combination images into a single object. Coded only when the combination describes a single object. INCOM1: An orange man. INCOM2: A woman with the head of a chicken.

Fabulized Combination (FABCOM): This is an implausible or fabulized unbelievable relationship Combination is described between two or more objects in the inkblot. FABCOM1: Two chickens holding basketballs. FABCOM2: A man sitting there and you can see his heart pumping.

Contamination (CONTAM): This is the most bizarre of the responses. The case is when two or more impressions are fused into a single response in a manner that clearly violates reality. For instance, it must be a bird dog because it has the body of a dog and the nose of a bird.

Inappropriate Logic (ALOG): Using inappropriate logic or Unconventional logic to justify a response. For example, it is white so it must be from an angel.

Perseveration and Integration Failure (PSV): This happens when the client fails to shift attention and gives the same answer have exactly the same location, determinant, content, DQ, FQ, and Z scores.

Confabulation (CONFAB): Inappropriate generalization from one detailed area to the whole inkblot. For instance, it is a claw, it is a lobster.

Aggressive Movement (AG): Movement response with current aggression e.g. two people waging war.

Cooperative Movement (COP): Movement response with a clearly positive or Movement cooperative interaction e.g. The two ladies and working for common good.

Morbid Content (MOR): An object is identified as dead, destroyed, ruined, spoiled, damaged, injured, or broken.

Abstraction (AB): Human Experience (Hx) content coded as noting but human emotion or sensory experience.

Personalized Answer (PER): Refers to personal knowledge or experience as part of the basis for justifying and /or clarifying a response.

Colour Projection (CP): When one Identifies an achromatic (black-white) area of the inkblot as chromatic e.g. here are the colours of the rainbow (Exner, 2003).

Once the codes are scored appropriately, the next is the interpretation of the codes scored. Nowadays, Computer scoring with computer software such as RIAP or ROR-SCAN interpretative report designed for Exner Comprehensive System is used to generate the Structural Summary and Interpretative Information. With these, one can proceed to the interpretation stage.

The Interpretation Stage

The Rorschach interpretation tries to integrate the findings from across all the responses on the test so that an overall test's findings be established. The interpretation stage comes in three steps: They are

1. Establishment of the validity of the test,
2. Noting of the values the constellation and key variables
3. Interpretation of the clusters.

The Validity of the Rorschach Test

The interpretation process proper begins by checking the validity of the test. Exner (2003) stated that responses below 14 automatically invalidate the test and as such, no information

regarding the clusters, variables and constellation will be established. The next variable to pay close attention to is the Lambda (Exner, 2003).

The Constellations and Key Variables

The constellation pays attention to suicidal Constellation whereas the key variables are: perceptual-thinking index, depression index, hypervigilance index and obsessive style index.

S-Constellation (Suicidal Potential)

Consists of an array of 12 seemingly variables, each of which is reviewed against a criterion to determine if the finding is positive or negative. It should be among the first variable to be reviewed by the clinician so that when the value is eight or more it will be regarded as a "red flag" signifying that the person has many features common among the individual that affected their own death within a relatively short period of time after having taken the Rorschach So, attention should be accorded to this index to understand if the person is considering termination of his or her life (Exner, 2003).

The Lambda

The Lambda is the totality of the pure form and non-pure form responses. These variables point to the degree of responsiveness/involvement or non-responsiveness/lack of involvement with the stimuli. The Lambda for the non-clinical population is between 0.11 and 2.33, with a mean of .60. In contrast, the schizophrenics (.05 to 29.00), depressives (.08 to 15.00), and personality-disordered (0.015 to 16.00); Exner, 1993, 2003). The important factor with these statistics is that psychiatric groups have a much wider range than normal groups. Thus, a maladjusted person may have a Lambda either greater than 0.99 or less than 0.32. High Lambda (L, .99) due pure Form responses represent a withdrawal from experiencing a situation fully and an avoidance of perceiving all the possibilities that may be present, high Lambda persons are likely to be conservative, insecure, and fearful of involvement (Exner, 1991, 1993, 2003). Di Nuovo & Castellano (2016) have demonstrated the association of high

Lambda with depression, guilt, and an increased potential for suicide. They avoid the complexities of a stimulus and often develop "tunnel vision" relating to certain ideas or perceptions. A low Lambda generally indicates that the person is involved with stimuli to the extent that it reflects in cognitive functioning (Exner, 1993, 2002). It might also be associated with persons who are achievement-oriented and who deal effectively with their environment (Exner, 2003).

Perceptual-Thinking Index (PTI): The PTI is a revision of what has been called the Schizophrenia Index. High PTI values (4 or >) signals mediation/ ideational trouble though this should not be used as the primary source for specific diagnostic decisions. The ideation problem should also be sorted as the clusters unfold (Exner 2003).

Depression Index (DEPI) and Coping Deficit Index (CDI): The depressive index focused on the sample of subjects that had been considered helpless but Exner (2003) suggested DEPI only is not enough for diagnostic decision but that CDI which is the coping Deficit Index should also be considered because it is the first by-product of DEPI. The Presence of the CDI among individual diagnosed as being depressed seems to have considerable relevance.

Hypervigilance Index (HVI): Positive HVI signifies the presence of a trait-like feature of the paranoid people. Such individuals use considerable energy to maintain a continuous state of preparedness. This leads to a sense of insecurity and vulnerability and a tendency to become more and more cautious when forming or implementing behaviours. This does not necessarily signal a pathological condition but the thinking that is less flexible than desired (Exner, 2003).

Obsessive Style Index (OBS): A positive OBS signifies a preoccupation with perfectionism. This style is not necessarily a liability but can become one if carried to excess or if the person experiences significant failures (Exner, 2003).

When all the information about the test validity, constellation and the key variables are noted, then the interpretation of the cluster follows.

The Cluster Interpretation

It is to be noted that the sequence of the cluster really depends on the result as seen from the structural summary (see ROR-SCAN software for the structural summary). The clusters to be interpreted are Ideation, Affect Features, Cognitive Mediation, Information Processing, Interpersonal Perception, Self-Perception, Capacity for Controls and Stress Tolerance Situation-Related)

Ideation: This cluster of variables provides information about the way people think about the experiences they have and the impressions they form of events in their lives. People adapt best when they are able to think about their experiences and impressions in a logical, coherent, flexible, constructive, and only moderately preoccupying manner. Conversely, being inclined to illogical, incoherent, inflexible, overly fanciful, or excessively preoccupying ways of thinking constitutes a personality liability that interferes with psychological adjustment.

Affect Features: This cluster of variables provides information about the manner and comfort with which people process emotional experience, with specific respect to how they deal with feelings arising from within themselves and how they respond to the feelings of others and to emotionally charged situations in general. The relevant Rorschach findings help to identify whether people have adequate capacities to experience and express emotion sufficiently, pleasurable and in moderation, or whether, instead, they are prone to process affect in a constricted, dysphoric, or overly intense manner that leads to adjustment difficulties.

Cognitive Mediation: This cluster of variables provides information about the manner in which people perceive their environment, particularly with respect to whether they perceive

people and events the way most other people do. Being able to perceive one's experience realistically and with a minimum of conventionality constitutes a personality strength that typically contributes to good adjustment. Conversely, difficulties in seeing themselves and their world in a realistic light is a personality limitation that often causes adjustment problems, and the same is true for inclinations to be unusually conforming or highly idiosyncratic in forming impressions of one's experience.

Information Processing: This cluster of variables provides information about the manner in which people focus their attention on events in their lives and how they organize the perceptions that enter into their awareness. Successful adaptation is promoted by openness to experience and efficient organization of the impressions one forms, whereas viewing the world with a narrow or disorganized frame of reference makes a person susceptible to various types of adjustment difficulty.

Interpersonal Perception: This cluster of variables provides information about how people relate to others, particularly with respect to their attitudes toward other people, the degree of interaction they have with them, and the manner in which they approach and manage interpersonal attachments. The relevant Rorschach findings help to identify whether people (a) are able to sustain a reasonable level of interpersonal interest, involvement, and comfort, or are instead inclined to be disinterested, disengaged, or ill at ease in social situations; (b) anticipate intimacy and security in their interpersonal interactions, or tend instead to regard interpersonal closeness as threatening to their well-being with a preference to keep their distance from others; (c) can strike an adaptive balance in relating to people between collaboration and acquiescence on the one hand, and between competitiveness and assertiveness on the other hand, or have a tendency to become excessively subservient or domineering in their interpersonal relationships; and (d) perceive people and social situations

accurately and with empathy, or instead, are prone to misinterpreting the motives of others and misconstruing the implications of interpersonal events.

Self-Perception: This cluster of variables provides information about how people view themselves, particularly with respect to their level of self-esteem, the extent of their self-awareness, and the nature of their self-image. The relevant Rorschach findings help to identify whether people feel satisfied and comfortable with themselves or are burdened by negative self-attitudes, whether they are excessively preoccupied with or paying little attention to themselves, and whether they have a clear and stable sense of their identity or an uncertain and unrealistic grasp of the kind of person they are.

Capacity for Controls and Stress Tolerance Situation-Related: This cluster of variables provides information about a person's psychological resources, ability to manage stress, and capacity to cope consistently and effectively with life events. The relevant Rorschach findings help to identify (a) the extent of adaptive capacity people can muster in planning and implementing ways of dealing with their everyday experiences, (b) the amount and kinds of stressful demands currently present in their lives, (c) how well they can tolerate their level of stress without becoming unduly upset and losing self-control, and (d) the adequacy with which they can bring a cohesive personality style to bear in managing their affairs. Sufficient resources to minimize subjectively felt distress and to maintain a consistent coping style promote psychological well-being and successful adaptation to life demands. Conversely, inadequate resources, excessive experienced stress, and inconsistent coping efforts typically result in lives marked by distress, disappointment, and limited accomplishment.

In the end, having affirmed that the test is valid, a comprehensive and synthesized report will be written based on the finding from the constellation, key variables and clusters. It is after this report that an appropriate treatment plan will be drawn.

The Validity of a test Instrument

Validity is one of the measurement properties and it has to do with measurement instrument measuring exactly what it claims to measure. Validity can be defined as the accuracy with which a scale measures what it is meant to measure (Roberts & Priest, 2006; Mokkink, Terwee, Patrick, Alonso, Stratford, & Knol, (2010). Similarly, Heale and Twycross (2015) defined validity as the extent to which a concept is accurately measured in a quantitative study.

There are three major types of validity and they are (i) content validity, (ii) criterion validity and (iii) construct validity.

Content Validity

This pertains to the degree to which the instrument fully assesses or measures the construct of interest (Bolarinwa, 2015; Sangoseni, Hellman & Hill, 2013). In other words, the content validity looks at whether the instrument adequately covers all the content that it should with respect to the variable. Content validity has gotten a subset which is face validity. Bölenius, Brulin, Grankvist, Lindkvist and Söderberg (2012) stated that face validity is established when a researcher who is an expert on the research subject reviewing the questionnaire /instrument concludes that it measures the characteristic or trait of interest. The major disadvantage of content validity is that it is judged to be highly subjective. However, in some cases, researchers could combine more than one form of validity to increase validity strength of the questionnaire. For instance, face validity has been combined with content validity.

Criterion Validity

Kimberlin and Winterstein (2008) said that criterion validity is the relation between the score of a certain instrument and some external criterion. This criterion has to be a widely accepted measure and be considered as ‘gold standard’. In assessments of criterion validity, researchers test the validity of a measure comparing the measurement results with the ‘gold

standard' or established criterion. If the target test measures what is intended to be measured, then its results must agree with the results of the other tool that measures the same construct. In other words, whatever the assessed construct is, it is considered valid when its scores correspond to the scores of the chosen criterion. When the criterion validity is measured in the future, it is called predictive validity, and when it is in the present, we call it concurrent validity (Kimberlin & Winterstein, 2008). The major drawback of criterion validity is that such predictor may not be available or easy to establish.

Construct validity

This is the degree to which an instrument measures the trait or theoretical construct that it is intended to measure. It basically measures the meaningfulness of the scale or instrument when it is in use (Wong, Ong & Kuek, 2012) construct validity does not have a criterion for comparison rather it utilizes a hypothetical construct for comparison. It is the most valuable and most difficult measure of validity. There are four sub-categories of construct validity depending on the type of problem a research intended to solve. They are convergent validity, discriminant validity, factorial validity and hypothesis testing validity.

Convergent validity

This points to the evidence that the same concept measured in different ways yields similar results (Anderson & Sellbom, 2015). In this situation, one could include two different tests. In convergent validity where different measures of the same concept yield similar results, a researcher may use projective and objective test.

Discriminant validity

This differentiates one concept from another that is closely related. On the other hand, it assesses the hypothesis that the measurement studied is not improperly related to different constructs, that is, with variables from which it should differ (Aaronson, Alonso, Burnam, Lohr, Patrick & Perrin, 2000).

Factorial validity

This is an empirical extension of content validity. Its major stand is to validate the contents of the construct employing the statistical model called factor analysis (Dhillon, Zaini, Quek, Singh, Kaur & Rusli, 2014).It is usually employed when the construct of interest is in many dimensions which form different domains of a general attribute. Hypothesis testing validity confirms that a research hypothesis about the relationship between the measured concept or other concepts driven from a theory is supported (Parsian & Dunning, 2009).

Having gone through the different categories and subcategories of validity reliability will also be explored for it will be improper to talk about validity without talking about reliability (Kimberlin & Winterstein, 2008).

Reliability of a Test

Terwee, Bot, Boer, Windt, Knol and Dekker (2007) stated that reliability is the stability or consistency of scores of a measurement tool over time. In other words, it could be seen as an extent to which a questionnaire, test, observation or any measurement procedure produces the same results on repeated trials. Although it is not possible to give an exact calculation of reliability but it could be estimated through different measures. The three attributes of reliability are test-retest reliability, alternate-form reliability and internal consistency reliability.

Test-retest reliability

This is an aspect of reliability that occurs when the same or similar scores are obtained with repeated testing with the same group of respondents. The stability of reliability is assessed through a test-retest procedure that involves administering the same measurement instrument such as questionnaire to the same individuals under the same conditions after some period of time (Deniz & Alsaffar, 2013).

Alternate-form reliability

This is the amount of agreement between two or more research instruments such as two different questionnaires on a research construct that are administered at nearly the same point in time. It is measured through a parallel form procedure in which one administers alternative forms of the same measure to either the same group or different group of respondents. It uses a differently worded questionnaire to measure the same attribute or construct. The higher the degree of correlation between the two forms, the more equivalent they are (Litwin, 1995).

Internal consistency

This is concerned with the extent to which items on the test or instrument are measuring the same thing. The appeal of an internal consistency index of reliability is that it is estimated after only one test administration and therefore avoids the problems associated with testing over multiple time periods. Internal consistency is assessed through the split-half reliability index and coefficient alpha index which is the most commonly used form of internal consistency reliability (Wong, Ong & Kuek, 2012). Split-half estimate entails dividing up the test into two parts for instance, odd/even items or first half of the items/second half of the items, administering the two forms to the same group of individuals and correlating the responses. Coefficient alpha represents the average of all possible split-half estimates. The difference between the two is when they would be used to assess reliability. Specifically, coefficient alpha is typically used during scale development with items that have several response options.

Having gotten the x-ray of validity and reliability, it is necessary to point out the particular kind of validity that will be evaluated in this study. The study is on the validity of the comprehensive system of Rorschach inkblot test and the validity assessed in this study includes discriminant validity, concurrent validity, divergent validity, predictive validity and finally test-retest reliability. The details will be seen in the hypotheses of the study.

Theoretical Review

Some of the theoretical perspectives provided important logical evidence for the validity of Rorschach test in assessment and diagnostic of depressive, paranoid and psychotic symptoms. Some of these theories within the scope of this review are the psychoanalytic theory of Sigmund Freud, the humanistic theory of Carl Rogers and Abraham Maslow and the sociocultural theory of Lev Semyonovich Vygotsky.

Psychoanalytic Theory

Generally, this theory was propounded by Sigmund Freud (1856 – 1939). Freud assumed in his theory that the foundation of understanding an individual is the understanding the personality structures which according to Freud is composed of id, ego, and superego (Watson, 2014). Therefore, the mental health of an individual is dependent on keeping balance among personality structures. However, the theory assumes that the personality structure systematically develops through the psychosexual process (oral, anal, phallic, latency and genital stage).

Furthermore, psychoanalysis was born out of Freud inquisitiveness about the deep thought of his patient to uncover the causes of emotional disturbances. Thus, he adopted a method called free association in which a patient is encouraged to say anything that comes to one's mind thereby allowing the unconscious thought to pop-up. This free association is a very important procedure in Rorschach administration whereby the patient is given the Rorschach cards and is allowed to express freely what one saw on the card (Exner, 2003).

The implication of free association according to the Freudians (De Sousa, 2011; Fonagy & Lemma, 2012; Ronnie, 2008) is that the patient would gradually reveal the repressed and unconscious thoughts that are reflected in the patient's symptomatic condition for instance as in the cases of depression, paranoid and psychotic symptoms and even the aetiology of the condition. Generally, psychoanalysis assumes that during the personality structure

development in the early childhood, experiences especially the traumatic ones and the unresolved conflict leads to psychological symptoms and disorders (Heidarizadeh, 2015; Negele, Kaufhold, & Leuzinger-Bohleber, 2016). Similarly, Liu (2014) argued that some cases of depression could be linked to loss or rejection by a parent or the significant other. What happens is that the individual identifies with the lost person/ object, so that repressed anger towards the loss is directed inwards towards the self. The inner-directed anger reduces the individual's esteem of self and makes the individual vulnerable to experiencing depression in the future (Orth & Robins, 2013). Still on the early childhood development and symptoms generated by it, Freud (1912) and many others (Farell, 1998; Kinderman, 2007; Lis, 2013) suggested that paranoid develops as a defensive support for a denial of homosexual love. Paranoid represents the externalization of desires, fears, or conflicts. Therefore, Rorschach test is a projective test which allows the assessor to indirectly reawaken the unconscious mind of the patient while also assessing the conscious mind which the patient cannot express due to defence mechanism or lack of willingness to co-operate with the assessor.

Contrary to psychoanalysis assumptions that the psychological symptoms can only be traced to the psychosexual development due to fixation and unresolved conflict, the Rorschach test believes that both the past and present experiences can contribute to the individual psychological symptoms. Therefore, the stage two (the inquiry) of the Rorschach administration is focused on the inquiry into the conscious past and present of the patient life which may point to the type of conflict disturbing the patient.

Psychoanalysis has generally been criticized as being ambiguous, unmeasurable and un-pragmatic because of its emphasis in the early life psychosexual development, the unconscious needs and conflicts of the personality (Guimón, 2001). However, its techniques (exploration of the unconscious through free association, interpretation, transference, counter-

transference and resistance) and assumptions are very useful in projective techniques generally and Rorschach test particularly (Otto, 2016).

Humanistic theory

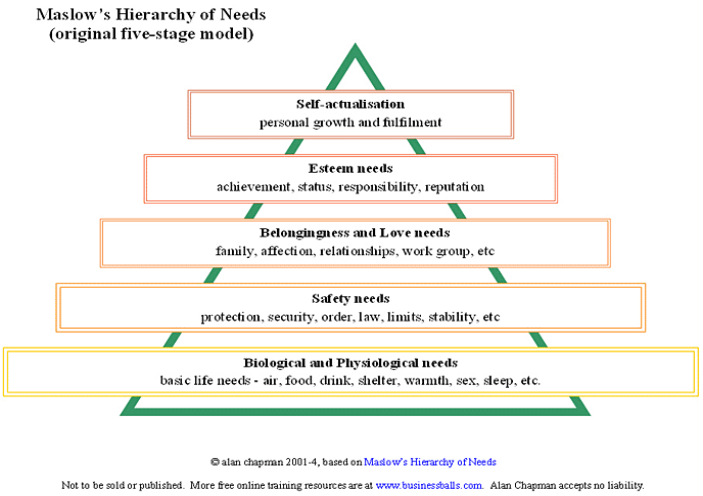
Generally, humanistic psychology is the third force in psychology alongside with behaviourism and psychoanalysis as a result of the effort of scholars like Abraham Maslow and Carl Rogers in the late 1950s (Derobertis & Bland, 2017). It has its root in phenomenology and existential thought. According to Schneider, Pierson and Bugental (2015), humanistic theory shares a vision of psychology as a holistic, phenomenological exploration of the process that originally promotes psychological health and growth in accordance with people's innate nature and potentials. Furthermore, it believes in the basic goodness and respect of humankind and thus it holds the following beliefs:

The present is the most important aspect of the person and therefore humanists focus on the here and now rather than looking at the past or trying to predict the future.

1. Humanistic theory is reality-based and to be psychologically healthy people must take responsibility for themselves, whether the person's action is positive or negative.
2. The individual, merely by being human, possesses an inherent worth. Actions may not be positive but this does not negate the value of the person.
3. The goal of life should always be to achieve personal growth and understanding. Only through self-knowledge, self-improvement and self-actualization can one be truly happy (Derobertis & Bland, 2017; Strazdiņa, 2014).

However, according to Schneider, Pierson and Bugental (2015), in responding to these challenges, the two pioneers Maslow and Rogers propounded their own model of the humanistic theory. Maslow was famous for his hierarchy of need while Rogers was known for his client-centred theory.

Abraham Maslow and hierarchy/pyramid of need



Maslow (1954), developed the hierarchy of needs which he agreed that experience is the primary phenomenon in the study of human learning and behaviour. He placed emphasis on choice, creativity, values, self-realization, all distinctively human qualities, and believed that meaningfulness and subjectivity were more important than objectivity. For Maslow, the development of human potential and self-actualization through the fulfilment of the basic needs are ultimate concerns (Maslow, 1954).

These Maslow's concerns e.g. (choice, creativity, values self-realization) and beliefs such as meaningfulness and subjectivity are similar to the concerns of Rorschach test. This is because, the Rorschach emphasizes more on the subjectivity than objectivity, the creativity, the choice and values of the client. Maslow also assumed that fulfilment or unfulfillment of the basic needs may be related to psychological symptoms. Thus, the role of Rorschach assessment protocol is to probe individual subjective experiences which could be projected as fulfilled or unfulfilled needs. Those unfulfilled needs are later classified as psychological symptoms depending on the nature and its distinctive relations to various human qualities.

Below is the famous pyramid or hierarchy of needs. There are five categories: physiological needs, safety needs, belongingness and love needs esteem needs and need for self-

actualization. Maslow claimed that these needs are universal (Morrison, Tay & Diener, 2011; Noltemeyer, Bush, Patton, & Bergen, 2012).

Physiological Needs

They consist of needs for oxygen, food, water, shelter and a relatively constant body temperature. They are the strongest needs because these needs are essential for basic survival. Maslow's theory said that the physiological needs must be fulfilled for one to get the motivation to attain the higher-level needs like safety, social needs and esteem.

Safety Needs

When all physiological needs are satisfied and no longer dominating our thoughts and behaviours, we progress to safety needs. A person's attention turns to safety and security for himself/ herself to be free from the threat of physical and emotional harm. Such needs might be fulfilled by living in a safe area, medical insurance, job security, financial reserves. Maslow said that, if a person feels that he or she is in harm's way, higher needs would not be attained that quickly.

Belongingness & Love needs

When a person has attained the lower level like physiological and safety needs, higher level needs become important, the first of which are social needs. Social needs are those related to interaction with other people such as, the need for friendship, need for belonging, need to give and receive love. When safety and physiological needs are met, we desire, to be loved by others and to belong. Maslow states that people seek to overcome feelings of loneliness & alienation. This involves both giving and receiving love, affection and the sense of belonging (family, friends, social groups).

Esteem Needs

After the first 3 classes of needs are met, the needs for esteem can become dominant. These involve needs for both self-esteem and for the esteem a person gets from others. Esteem

needs may be classified as internal or external. Self-respect and achievement are some examples of Internal esteem needs. Social status and recognition are some examples of External esteem needs. Some esteem needs are self-respect, achievement, attention, recognition and reputation. Humans have a need for a stable, firmly based, high level of self-respect, and respect from others. When these needs are satisfied, the person feels self-confident and valuable as a person in the world. When these needs are frustrated, the person feels inferior, weak, helpless and worthless.

Need for Self-Actualization

When all of the foregoing needs are satisfied, then and only then are the needs for self-actualization activated. The last necessity is the self-actualization or fulfilment needs. This includes personal growth and the full realization of one's potentials. This is the point where people start becoming fully functional, acting purely on their own volition, and having a healthy personality.

The implication of fulfilment and non-fulfilment of the Maslow's needs

Fulfilment versus unfulfillment in Maslow's theory has been variously shown to be related to psychological well-being. A study by Lester, Hvezda, Sullivan and Plourde (1983) showed that the higher the level of satisfaction of the basic needs, the more psychologically healthy the individual becomes. On the contrary, the lesser the individual fulfilled the basic needs, the less psychologically healthy the individual becomes. Thus, Rorschach test could be said to be a subjective tool for the level of fulfillment manifested in the different form of psychological symptoms. This view was supported by the work of Spielberger, Ritterband, Sydeman, Reheiser and Unger (1995) who tested the relationship between psychological symptoms (depression, anxiety and anger expression) and need satisfaction and found that need satisfaction is significantly and negatively correlated with psychological symptoms.

Carl Rogers and his Client-Centred Theory

Rogers (1951), proposed a client-centred theory and it was more useful in the therapeutic situation. Rogers saw individuals rather than the treatment or therapeutic process as the centre of effective change. Therefore, he proposed the following basic concepts for understanding and intervention on psychological problems; are:

1. The unconditional positive regard
2. Non-judgemental attitude
3. Reflection

The unconditional positive regard

This is a concept in client centred theory which encourages the therapy or assessor to believe that people are basically good and must demonstrate this belief to the client (Eremie & Ubulom, 2016). According to Rogers without unconditional positive regard, the client will not disclose certain information, could feel unworthy and may hold unto negative aspect of the self. The theory further assumed that accepting the client as innately worthwhile does not mean accepting all actions exhibited by the client. This aspect of the theory seems to be one of the foundations and assumptions of the Rorschach test which stated that the individual should be accorded unconditional positive regard during the administration of the test to allow them freely and fully disclose the necessary information.

Non-Judgmental attitude

The client-centred theory also assumed that the assessor or therapist should never pass judgment on the client or individual being assessed. It believes that people are competent in seeing their mistakes and knowing what needs to be changed even if they do not initially admit it (Gibson, 2004). Therefore, to help an individual, the world must be viewed from the individual's perspective. This assumption is held highly in Rorschach protocols and

procedure because the assessor as much as possible does not interfere or judge the client during the procedure.

Reflection

This is another assumption of the client-centred model which stated that the key to understanding the self is not in interpretation but rather in reflection. According to Roger reflecting the client's word can accomplish two things: Firstly, it shows the client that the assessor is paying attention, thinking about what she/he is saying and also understanding the underlying thoughts and feelings. Secondly, it allows the client to hear their own thoughts in a different way. Although reflection is not exactly as inquiry in Rorschach but both play the same role. Therefore, the Rogers model has a significant role in understanding the mechanism and administration of the Rorschach test. Importantly, Rogers focuses on uniquely human issues such as self, health, hope, love creatively, nature, individuality and meaning which are all component probed by Rorschach assessment.

The humanistic theory has been criticized by Schneider, et al., (2015) as being undisciplined, unworkable and outdated. They further argued that this perspective at research level is seen as overly philosophical with ambiguous constructs which are scientifically not verifiable. Kelland (2017) criticised this theory as promoting narcissism, being simplistic and overly optimistic. However, this perspective seems to be more relevant for therapy than for psychological research.

Sociocultural Theory (SCT)

The Sociocultural theory was propounded by Vygotsky (1896 - 1934) who is considered the father of sociocultural theory. Vygotsky's theory is recognized as one of the most innovative psychological theories of the twentieth century. This is because the cultural background of the client must be known for a better understanding of the client's personality, behaviour and symptoms.

The theory is based on the assumption that culture plays a major role in cognitive development (Kuwabara & Smith, 2012). Most, Vygotskians (Harland, 2003; Lantolf, 2008; Walqui, 2006; Wertsch, 1991) believed that the origin of knowledge construction should not be sought in the mind but in the social interaction co-constructed between a more and a less knowledgeable individual. Moreover, the construction of knowledge is a socio-cultural mediated process affected by the physical and psychological tools and artefacts. Walqui (2006) listed the following assumptions as the core tenets underlying Vygotsky's SCT:

(1)Learning precedes development.

(2)Language is the main vehicle (tool) of thought.

(3)Mediation is central to learning.

(4)Social interaction is the basis of learning and development. Learning is a process of apprenticeship and internalization in which skills and knowledge are transformed from the social into the cognitive plane.

(5)The zone of proximal development (ZPD) is the primary activity space in which learning occurs.

It is to be clearly noted that social interaction plays a fundamental role in the development of cognition and everything learned comes in two levels first, through interaction with others and then internalization into the individual's mental structure, in other words, learning occurs first and foremost on the social level (inter-psychological) and then individual level (intra-psychological) (Sternberg & Grigorenko, 2002). SCT also affirms that human mental activity is mediated process through symbols and socio-cultural artefacts. The most significant of this is language. Language plays an essential role in the mental life between the younger children and more experienced members of the society. The concept of mediation suggests that human relations with the world are not direct but "mediated" by physical and symbolic tools.

Having noted the role of interaction and mediation in SCT, another basic concern of SCT is that certain psychological symptoms developed during the process of socialization as a result of interaction between sociocultural environment and cognitive/information processing mechanism. Thus, it seems as though psychological symptoms are contextually triggered and the content can only be liable and valid in a given culture or learning environment (Kolstad, 2015). SCT experts suggested that the diagnosis of particular psychological symptoms can only be valid with a cultured fair instrument (Weiss, Weiss, Suwanlert, & Chaiyasit, 2006). Therefore, there is a need for revalidating or adopting every process of assessment to ensure cultural friendliness. SCT supports the examination of the comprehensive system of Rorschach test in the Nigerian context. This is to ensure that the established norms do not deviate significantly from Nigerian samples.

SCT has been criticized by couple of scholars for four reasons which include: The first criticism is that the concept of zone of proximal development is vague since it does not account for a precise picture of child's learning needs, current capacity level, style of learning, current level of development and the child's motivational influences. There is really no metric scale to measure the zone of proximal development (Chaiklin, 2003). The second limitation of the theory is that the individual's role is disregarded whereas priority is accorded to the group. The theory does not accept that individuals can rise above the social norms based on their ability about personal understanding (Lui & Matthews, 2005). The theory does not seem to apply to all groups. That is, social groups may not be whole and equal with all learners being able to gain the same meaning from engagement. For instance, there are differences in skill set for each learner, which produces learning constraints.

Learners with learning disabilities or learning difficulties, for example, may not be able to compete with those without learning disabilities or learning difficulties (Lui & Matthews, 2005). The theory does not give room for negotiation that could be achieved through

imagination among the player but adheres strictly to already established rules games (Saifer, 2010).

Theoretical Framework

The three important theories (psychoanalytic, humanistic and socio-cultural theories) served as the theoretical framework for the present research. While psychoanalytic theory supported the free association in the administration phase of Rorschach test. In this phase, the client is expected to project to the pictures the unconscious and subconscious emotions associated with psychological symptoms. Humanistic theory is connected to the fact the respondent is at the centre of assessment and is given unconditional positive regard during the assessment procedure. Also, fulfilment versus unfulfillment in the theory are linked to psychological well-being. The higher the level of satisfaction of the basic needs, the more psychologically healthy the individual becomes. On the contrary, the lesser the individual fulfilled the basic needs, the less psychologically healthy the individual becomes. Thus, Rorschach test could be said to be a subjective tool for the level of fulfillment manifested in the different form of psychological symptoms. Finally, sociocultural theory portend that the information processing mechanism may be influences by cultural factors. However, these cultural factors are expected to elicit similar emotional universal responses. Thus creating the need to assess the validity and universality of Rorschach comprehensive system within Nigerian samples.

Empirical Review of related literature

Whitehead (1985) in a study with psychologists and advanced graduate students made diagnoses using the MMPI alone, Rorschach alone and Rorschach and MMPI combined together. The comprehensive system by Exner (2003) was used to administer, score, and interpret the Rorschach. The aims of the research were to differentiate back pain patients from psychiatric hospital patients with diagnoses of Schizophrenia or bipolar disorder,

depressed back pain patients from non-depressed back pain patients, and psychiatric patients with bipolar disorder from psychiatric patients with schizophrenia. The results for psychologists and advanced graduate students indicated that the average score was 76% for the MMPI alone, 58% for the Rorschach alone, and 74% for the Rorschach and MMPI together. Differences between psychologists and advanced graduate students were not statistically significant showing that both psychological instrument were very efficient for psychological assessment and diagnosis since it has been argued that If projective results are in agreement with other results, such as interview and other test results, then the projective results will tend to make psychologists more confident in their judgments, even if the projective indexes are not valid for this task.

Furthermore, Hiller, Bornsten, Rosenthal and Berry (1999) carried out a meta-analysis comparing criterion-related validity evidence for the Rorschach and the MMPI. The unweighted mean validity coefficients (rs) were .30 for MMPI and .29 for Rorschach, and they were not reliably different *(p* = .76 under fixed-effects model, *p* = .89 under random-effects model). The result revealed that MMPI had larger validity coefficients than the Rorschach for studies using psychiatric diagnoses and self-report measures as criterion variables, whereas the Rorschach had larger validity coefficients than the MMPI for studies using objective criterion variables. This is an indicator that the Rorschach test is very effective and vital in psychological assessment and diagnosis.

Consequently, Hughes, Gacono and Owen (2007) examined the current status of Rorschach assessment and its implications for school psychologists. The school psychologists were provided with information on the Rorschach Inkblot Method (RIM), the types of information that the test provides, and guidelines for evaluation. Also, the criticisms against the use of the RIM for psychological assessment were addressed. After the test was administered, coded and interpreted within guidelines provided by Exner's Comprehensive System, the result

revealed very unique and important information concerning the emotional and social functioning of children and adolescents that helps in developing individualized educational programming including behaviour intervention plans. In conclusion, the result indicated that the Rorschach Inkblot Method (RIM) provided important information for understanding the emotional, social, and cognitive functioning of children and adolescents.

In 2008, Asari, et al., showed that common or frequent perceptions were associated with the left anterior frontal cortex and the visual cortex in the occipital lobes, while unique perceptions were associated with the right temporal pole. Given the links between the right temporal pole and limbic structures, these findings suggested that unique perceptions were associated with emotional reactions, perhaps particularly of an autobiographical nature. The findings provided some neuroimaging foundation for the clinical belief that unusual perceptions reflect instances when personal reactions or personal conflicts override the ability to perceive experiences in a conventional manner.

Asari, et al., (2010a) discovered that people who gave more unique perceptions had an enlarged amygdala and cingulate gyrus, both of which are part of the limbic system. Enlarged areas of the brain suggest that they are being used more frequently, so the findings again suggested that personal, emotional reactions contributed to unique perceptions. Finally, Asari, et al., (2010b) attempted to integrate results from the two earlier studies. They used functional connectivity analysis of fMRI data to determine the role of the amygdala in generating unique perceptions. The amygdala generated a positive, excitatory link between the right temporopolar region previously mentioned and the left anterior prefrontal cortex. Thus, people with an active amygdala had a link between that temporal pole and the anterior prefrontal cortex. This suggested that personal, autobiographically relevant emotional reactions helped generate the thoughts or ideas about what was in the inkblot that was

classified as a unique perception. At the same time that the amygdala was doing this, it was generating negative inhibitory connections from the right temporopolar region to the occipital regions. As such, personal and autobiographically relevant emotional reactions helped to simultaneously inhibit general visual processing. That is, it impaired the general perception of the environment. Thus, amygdala activation impaired the typical perception of the external environment that is processed in the occipital lobes, while it facilitated the perception of personalized, unique images in the inkblots.

The result revealed how personally relevant, unusual representations take precedence over standard visual imagery. In essence, the personally relevant, unique perceptions force themselves into an inkblot representation, rather than allowing the person to take in the actual visual cues that are present in the inkblot stimuli. Together, these studies provided important data for understanding the response process foundation for Rorschach assessment of perceptual conventionality and idiosyncrasy.

De Carolis and Ferracuti (2005) conducted a study with a sample of healthy volunteers (n = 47) and investigated the correlation between the Italian version of the Eysenck Personality Questionnaire (Eysenck Personality Inventory, EPI) and some selected Rorschach variables defined according to the Exner Comprehensive System. The results showed that the *Extroversion* Scale of the EPI corresponds with the calculated difference between the Human Movement responses and the Weighted Sum of the Colour response (M-WSumC, $r = -.42$, $p < .01$), the Weighted Sum of Color responses (*WSumC*, $r = .40$, $p < .01$) as a single variable, and the Sum of Shading responses (*SumShd*, $r = .29$, $p < .05$), but had no relationship with the Human Movement responses. None of the hypothesized Rorschach variables showed a significant correlation with the Neuroticism scale of the EPI. Furthermore, the Psychoticism scale of the EPI was negatively correlated with the Rorschach index *Zsum* (r -.33, $p < .05$). Finally, the comparison between the subgroups defined by the Erlebnistypus categories

showed that Rorschach Extratensive subjects scored higher on the Extroversion scale of the EPI than Introversive (Mann-Whitney U = 30.5, $p < .01$) or Ambient subjects (Mann-Whitney U = 76, $p < .01$). These results indicate that Rorschach's concept of Erlebnistypus as a holistic dimension and Eysenck's construct of Extroversion-Introversion are sufficiently homogeneous for psychometric assessment.

Diener, Hilsenroth, Shaffer and Sexton (2011), examined the relationship between Rorschach Ego Impairment Index (EII) and psychiatric severity. The inter-rater reliability analyses revealed that coding of effect sizes and moderator variables was completed with good to excellent reliability. The result of the study indicated that higher EII scores, were associated with greater psychiatric severity, with an overall weighted effect size of r =0.29, p=0.000002) 95% confidence interval = 0.17-0.40) supporting the EIIs validity as a measure of psychological impairment. Finally, the Rorschach Ego Impairment Index (EII) showed validity in testing psychiatric severity across a range of normative, out-patient, residential and inpatient samples. Conclusively, the study indicated that EII appears to be most valid and efficient in capturing psychiatric severity as measured by the ratings of social competency or estimated ego impairment.

Mario, et al., (2014) also carried out a study to demonstrate the validity of the Rorschach Perceptual Thinking Index (PTI) in the assessment of reality testing in patients with psychosis. The relationship between the PTI criteria and the Positive and Negative Syndrome Scale scores in 98 psychotic patients was examined. 34 were tested during the acute episode and 64 were chronically treated and stable. The PANNS positive score resulted significantly higher in acute period than in chronic group but no significant difference was observed in the PTI score. However, the PTI positively correlated with PANSS total score. The result of the study indicated that Rorschach Perceptual Thinking Index (PTI) is a valid instrument in assessment of impairment in reality testing despite the patient’s current psychiatric

presentation. The presence of conceptual disorganization, delusions, lack of judgment and insight strengthened the evidence that Rorschach perceptual Thinking Index is an effective assessment tool for psychotic disorders.

Su, et al., (2015), looked at the cross-cultural generalizability of Rorschach Performance Assessment Scale (R-PAS) for assessing the severity of disturbance in Taiwan using 90 adults who varied in their clinical status. Fifteen were non-patients, 37 were outpatients with various diagnosis, 11 were in long-term day-treatment because they had more severe illnesses, and 27 were inpatients. Protocols were administered using R-PAS guidelines, but all protocols were independently coded by two different groups using either the R-PAS manual or Compressive System criteria. The criterion variables were scales from the Positive and Negative Syndrome Scale, the Magical Ideation Scale, which is a measure of unusual beliefs and unusual experiences, a global clinical rating of severity, and a severity index based on the diagnosis or diagnoses assigned to patients. The variable of distorted form quality coded using the R-PAS form quality tables had an average correlation with these criteria of .48, while the corresponding variable based on the Comprehensive System form quality tables had an average correlation of .39. In regression analysis, the R-PAS tables had incremental validity over the Comprehensive System tables for all criteria, but the reverse was never true. Thus, the R-PAS Form Quality tables worked better and provided valid information for coding perceptual accuracy in Taiwan that could not be obtained from the Comprehensive System Form Quality tables.

Meyer and Eblin (2015), assessed 72 patients at a maximum-security psychiatric inpatient facility in the U.S. These inmates were hospitalized either because they were deemed not guilty by reason of insanity or because they were deemed incompetent to stand trial because they were too psychotic. The patients were largely diagnosed with schizophrenia or schizoaffective disorder. Ratings about each patient were obtained from their treating

psychiatrist and primary clinician on the Positive and Negative Syndrome Scale (Kay, Fiszbein, & Opfer, 1987) following a treatment team meeting during which the patient was discussed. The ratings addressed cognitive disorganization, which encompassed conceptual disorganization or an inability to maintain focused attention; they further addressed positive symptoms of schizophrenia, which included delusions, hallucinations, grandiosity, and unusual thought content; and finally, they addressed a composite measure formed from both factors. The proportion of Rorschach responses classified as having distorted form quality was strongly correlated with the disorganized factor (r = .55), moderately with the positive factor (r = .30), and strongly with the composite (r = .42). In contrast, the proportion of Rorschach responses classified as having conventional form quality had strong negative correlations with each of these criteria (disorganized, r = -.44; positive, r = -.42; composite, r = -.47). Thus, there was good evidence for the validity of the new form quality tables.

Ferracuti and De Carolis (2005) researche Rorschach's Erlebnistypus and tolerance of experimental tonic pain (Cold Water Pressor Test). Each subject was administered the Rorschach, the Eysenck Personality Inventory, the Cold Water Pressor Test, a non-graduated Visual Analogue Scale, and the Italian version of the McGill pain questionnaire. At retest the experimental induction of pain was measured again. The retested subjects who scored higher on the EPI Extraversion scale tolerated pain longer and did not modify their performance at retest. Also, the concepts of Extroversion defined by the Rorschach test and by the Extraversion scale of the Eysenck Personality Inventory shared some psycho-physiological features of higher tolerance to pain.

Kishimoto, et al., (2016), carried out a study to compare the Rorschach profiles of young adults with Schizophrenia and those with Autism Spectrum Disorder. Rorschach test was administered on 20 patients diagnosed with schizophrenia and 20 diagnosed autism spectrum disorder. Both groups were matched for age, sex and intelligence quotient. The result

revealed a significant difference in 6 response variables on the Rorschach Comprehensive System. Those with schizophrenia had significantly higher scores on D score, adjusted D score, and developmental quality code reflector ordinary response and form quality minus than those with autism spectrum disorder. In contrast, those with schizophrenia had significantly lower scores on the active and developmental quality code reflecting synthesized response subscales than those with autism spectrum disorder. The result implies that schizophrenia is likely to have more stress, tolerance, stronger perception distortions and simpler and poorer recognition than those with autism spectrum disorder. This suggests that the Rorschach test might be a useful tool for differentiating between schizophrenia and autism spectrum disorder.

Opaas, Ellen, Wentzel-Larsen and Varvin (2016), examined the relationship between pre-treatment Rorschach factors to symptoms, quality of life and Real-life functioning in a 3-year follow-up of 51 traumatized refugee patients. Participants were recruited during the years 2006 to 2009 at specialist mental health outpatient services with public funding. The inclusion criteria were adult patients (age 18 - 65) with refugee background and mental health disorder at least partly related to traumatic experiences of war, persecution, and flight. A formal PTSD diagnosis was not required. Present and severe psychosis or drug problems were exclusion criteria. Seventy-two refugee patients were evaluated as eligible, 75.0% (n D 54) consented to take part in the study, and 70.8% (n D 51) met the further requirement of a minimum of seven responses to the RIM. Mean age was 39.4 (SD D 8.0), 66.7% were married, and 82.4% had children. They came from 15 different countries in Asia, Eastern Europe, and Africa (56.9% from the Middle East). Their mean stay in Norway was 11.2 years (SD D 6.3), most had Norwegian citizenship, mean education in their country of origin was 9.7 years (SD D 4.4), and few had completed any further education in Norway. The result of the study revealed that impaired Reality Testing was related to more mental health symptoms

and poorer QOL. Furthermore, individuals with adequate Reality Testing improved in posttraumatic stress symptoms the first year and retained their improvement. Individuals with impaired Reality Testing deteriorated the first year and improved only slightly over the next 2 years. These results implied that traumatized refugee patients with impaired Reality Testing might need specific treatment approaches. The reality testing impairment revealed by the Rorschach Inkblot Method, mainly perceptual in quality, might not be easily detected by diagnostic interviews and self-report. This study provides an empirical evidence of the utility of Rorschach in psychological assessment and diagnoses.

Dilmore (2016), explored the use of the Rorschach with eight individuals diagnosed with mild to moderate fluent or non-fluent types of aphasia to consider the extent to which the Rorschach captured aspects of language impairment not otherwise probed by traditional neuro-linguistic measures. A ninth participant, with Wernicke's aphasia, produced non-scorable responses and was therefore left out of all analyses. The aim of the study was to found out if Rorschach will be understood as a projective psychological instrument by individuals living with language impairment to recognize, retrieve and coherently express words that reflected their thoughts. At the same time, this study sought to explore how the ambiguous nature of Rorschach inkblots could be leveraged together with traditional neuropsychological and linguistic measures, to provide insight into the relationship between perception, thought, psychological process and language - a multi-method assessment approach to describe the complex phenomena surrounding aphasia.

The study revealed that individuals with reduced language function were able to provide responses to inkblots presented in a Rorschach assessment that were sufficient in number and quality to allow scoring and interpretation. Spearman's rank-order correlation coefficients were calculated for WAB-R AQ score, CLQT Language Functions Domain Scores, the

Rorschach cognitive processing simplicity, complexity scores and, the thought and perception EII and severe cognitive scores. Correlations among neurolinguistic and Rorschach cognitive processing and thought and perception variables indicate a clear and intuitive relationship between these different measures. This study discovered that the Rorschach can be administered to a population of individuals with mild to moderate fluent or non-fluent aphasia to generate scoreable results, with named objects comparable to those in norms derived from a neurotypical population.

Kimura, et al., (2013), carried a study to compare bipolar and unipolar depression on Rorschach testing using the Comprehensive System. They found that bipolar depression group had significantly higher scores or positive findings in five variables of the Rorschach test, ie, WSum6, DR2 > 0, (CF + C) > FC + 2, Pure C > 1, and Populars > 7, as assessed using the Comprehensive System. The Rorschach test might be useful for diagnosis of unipolar depression and false unipolar depression, ie, unrecognized bipolar depression, which is a salient issue in modern psychiatry.

Hartmann, Wang, Berg and Sæther (2003), assessed clinically depressed (CD; n = 16), previously depressed (PD; n = 19) and never depressed (ND; n = 18) individuals on 13 theoretically selected Rorschach variables and on the Beck Depression Inventory. The group assignment was made according to the criteria of the Diagnostic and Statistical Manual of Mental Disorders (4th ed.; American Psychiatric Association, 1994). They tested 2 contradictory models for depressive vulnerability, Beck's and Miranda and Persons's in a planned comparison design with focused contrasts. The CDs significantly contrasted the combined group of NDs and the PDs in a pathological direction on 8 of the 13 Rorschach variables and on the BDI. However, the combined group of CDs and PDs also significantly contrasted the NDs in a pathological direction on 3 of these Rorschach variables and on the BDI. In addition, logistic regression analyses indicated that Rorschach indexes significantly

improved the prediction of major depression above and beyond that achieved by the BDI. They found that the Rorschach method was able to identify (a) cognitive and aggressive disturbances that are present in individuals who are actively depressed but not in individuals who have been depressed in the past or never been depressed and (b) affective and coping disturbances that are present in depressed individuals and to some degree in PD individuals but not in individuals who have not experienced depression.

Sun (2012) studied two groups of subjects, including depressive group and control group 30 people, both psychological test and questionnaires to test the scorer reliability, empirical validity diagnostic accuracy of the depression index and coping deficit index and incremental validity. The scorer reliability examines mainly through Kappa coefficient; empirical validity examines mainly through the Pearson correlation between the DEPl, CDI and SDS. and the t-test between depression group and control group; incremental validity examine mainly through Binary Logistic Regression Analyses. The results of this study showed that (1) The Kappa coefficient of Rorschach depression index and coping deficit index is acceptable (above 0.7). The Kappa coefficient of DEPI is 0.845 and CDI is 0.906. (2) The Pearson correlation between the DEPl, CDI and SDS is 0.400 and 0.312.and is significant level; t-test results between depression group and normal group showed that DEPI and CDI in depression group were significantly higher than the normal group; (3) When DEPI was used to the diagnostic criteria, diagnostic accuracy was 40% when CDI was used to the diagnostic criteria, diagnostic accuracy was 56.7% (4) CDI can bring some incremental validity, and increase the diagnostic accuracy of DEPI.

Izydorczyk and Gąska (2015), carried out a research and used Rorschach test in the clinical diagnosis of personality disorders. The study population comprised individuals with a medical diagnosis of neurotic personality organization as well as patients with more severely disorganized personality structure. The research participants had never undergone a

psychological evaluation for personality disorders (for instance, they had never taken the Rorschach test), and therefore it seemed rather difficult to verify the accuracy of the medical diagnoses which they had received, concerning the level of personality destabilization. Eighty Polish individuals participated in the research. The study population comprised 38 males (47.50%) and 42 females (52.50%). The mean age of women was 30.40 (SD = 7.67). The men's mean age was 35.10 (SD = 8.73). The examined females were somewhat younger than the male subjects. Methods: Rorschach test, clinical interview. Analysis of the data obtained as a result of this research allowed the researchers to distinguish two significantly different clusters in the group of 80 examined individuals. They found that despite the fact that the examined individuals displayed symptoms of different medical diagnoses (F40 and F60), the subjects comprising cluster 1 exhibited a higher level of personality structure.

Kaser-Boyd (2006) carried out research on Paranoid personality disorder (PPD). The assessment of individuals with PPD has yielded important information about this inner world, which allows clinicians to understand and interact better with such individuals. The study provided vital information on how Rorschach can elucidate the cognitive processing style of the person with PPD and provide meaningful information about the individual's interpersonal relatedness and other personality features.

Mark, Hilsenroth, Eudell-Simmons, DeFife and Jocelyn (2007), investigated the reliability, validity, and diagnostic efficiency of the Rorschach comprehensive system on Perceptual-Thinking Index (PTI) in relation to the accurate identification of psychotic disorder patients (PTD). Seventy-eight patients who met DSM-IV criteria for a PTD or Axis II disorder [PTD = 33; borderline personality disorder (BPD) = 23; cluster A personality disorders (CA) = 9; cluster C personality disorders (CC) = 13] and 40 non-patients were compared on the PTI. The results of this study revealed that the PTI can be reliably scored and is internally consistent. In addition, the PTI can be used to effectively differentiate PTD patients from a

non-patient sample as well as from personality disorder patients characterized by moderate to, at times, severe perceptual thought disorder. This study increased the diagnostic utility of the Rorschach for assessing thought disorder.

Dzamonja-Ignjatovic, Smith, Jocic and Milanovic, (2013), evaluated indexes derived from the Rorschach Comprehensive System (CS) and the Rorschach Performance Assessment System (R–PAS) that are used for the assessment of psychotic functioning in schizophrenia. They compared the Perceptual Thinking Index (PTI) and the Ego Impairment Index (EII–2) with their revised versions: Thought and Perception Composite (TP–Comp) and EII–3. They evaluated their predictive validity for differentiating schizophrenic from non-schizophrenic patients in a Serbian sample. The sample consisted of 211 (109 men and 102 women, 18–50 years old) inpatients in Serbia who were divided into 2 groups: schizophrenic (100) and nonschizophrenic (111). Test administration, coding, and form quality classification followed comprehensive system guidelines. Logistic regression analysis indicated that the new indexes TP–Comp and EII–3 have slightly better predictive power than their counterparts, PTI and EII–2, in the identification of schizophrenia, and that TP–Comp performed better than other indexes, although all 4 indexes were successful in differentiating these groups. The results supported the use of TP–Comp in the diagnosis of schizophrenia and generally provided evidence for the utility of the Rorschach in evaluating psychosis and for its use in a cross-national context.

Sana, JureBon, Smith, (2013), investigated the validity of the Rorschach Perceptual Thinking Index (PTI) to detect psychotic perceptual and thought disturbance in a sample of Slovene psychiatric inpatients. Using a sample of 275 adult psychiatric inpatients of both sexes, they examined the differences between patients with psychosis (PP) and patients with no psychotic features (NP) from various diagnostic groups on the global PTI and its subcomponent variables. PPs obtained significantly higher PTI scores, indicating more disturbed perception

and more thinking disturbance, than NPs. No differences were found for diagnostic differences within the PP and NP groups. The results are in accordance with previous studies of the PTI as a valid cross-cultural index of perceptual and thinking disturbance.

Rezaee, Mokhber, Sepahvandi, Soleimani and Azami (2014), Carried out a research has been done to assess the power of the Depression Index (DEPI) of Rorschach in diagnosing the major depressive disorder. Subjects and Methods: In the descriptive cross-sectional study 74 individuals (37 normal, 37depressed) were chosen as samples by using the available sampling method. Then, Beck Depression Questionnaire (BDI-II), as discerning instrument and the Rorschach test using the Exner instruction were administered. Results: The results showed that the depression index have an acceptable sensitivity (0.81) and specificity (0.93) and it can significantly discriminate people who suffer from major depression from normal people (P<.0001). The results confirm that the Rorschach and specially DEPI can be trusted for diagnosing the major depressive disorder.

Hartmann, Halvorsen and Wang (2012), carried out a research with Forty-six individuals with different histories of major depressive episodes (MDEs) who completed the Rorschach and the Dysfunctional Attitude Scale at 2 assessment points (T1, T2) over a 9-year follow-up. At T1, history of MDE and the Rorschach variable MOR (associated with negative self-image) emerged as significant predictors of the number of MDEs over the follow-up. At T2, Rorschach markers of depressive vulnerability and scars were identified (i.e., WSum6, related to illogical thinking; X+%, related to conventional perception and social adjustment; X–%, linked to erroneous judgments; MQ–, associated with impaired social relations and MOR). Test-retest analyses displayed significant temporal stability in Rorschach variables, with r ranging from .34 to .67 and in the DAS, r = .42. They found that MDE as a recurrent and serious disorder, number of MDEs as a risk factor for future depressions, and Rorschach variables as markers of depressive vulnerability and scars.

Stenius, Lindfors, Antikainen, Wahlström, Sares-Jäske, and Knekt (2018) examined the strength of associations between the EII-2 and its subcomponents with measures of psychological suitability for psychotherapy, personality functioning, and interpersonal problems. A total of 315 outpatients with mood or anxiety disorders were assessed with the Rorschach Comprehensive System (RCS), comprising the EII-2, the Suitability for Psychotherapy Scale (SPS), the Inventory of Interpersonal Problems (IIP-64), and the Quality of Object Relations Scale (QORS), as part of a pre-treatment evaluation. The relatively weak associations found in the study between the EII-2 and the other measures were mostly in the hypothesized direction and often modified by personality pathology. The study revealed that Rorschach Ego Impairment Index-2 (EII-2) has shown considerable validity as a measure of personality disturbance.

Normative Data for Depression Index (DEPI), Paranoid Index (HVI) and Psychotic Index (PTI) Subscale of Rorschach Test

The comprehensive System of the Rorschach by Exner (2003) provided and extensive normative data for interpretation of Rorschach test. Within the Rorschach comprehensive system, Depression is assessed through depression index (DEPI), Paranoid is assessed through Hypervigilance index (HVI) while psychosis is assessed through Perceptual thinking index. These indices (DEPI, HVI and PTI) are assessed through systematic summing of various variable and constellation. The scores of these values and constellation are used to assess whether an individual meet the requirement for different diagnosis. The normative values for the DEPI, HVI and PTI are as follows:

DEPI

According to Rorschach Comprehensive System (Exner, 2003), the DEPI ≥ 5 is interpreted to mean depressive symptom. The DEPI is derived from the following variables:

FV+ VF+ V > 0 OR (FD >2)

(Col-Shd Blends > 0) OR (S > 2)

(3r+(2)/R > .44 and Fr + rF = 0) OR (3r+(2)/R < .33)

(Afr< .46) OR (Blends < 4)

SumShading> FM + m) OR (SumC'> 2)

(MOR > 2) OR (2x AB+ Art+ AY>3)

Cop < C2) OR ([Bt + 2 x Cl + Ge + Ls + 2x Na]/ R >. 24)

*[FV = Form Vista, VF = Vista Form, FD = Form Dimension), (Col- Shd Blends = Collective shading Blends, S = White Space), (r = Reflection, R = Responses, Fr = Form reflection, rF = Reflection Form), (Afr = Affective Ratio), (FM = Animal Movement, m = inanimate movement), C' = Achromatic colour), (MOR = Morbid Content, AB = Abstract, Art = Art, AY = Anthropology), (COP = Cooperative movement response, Bt = Botany, Cl = cloud, Ge = Geography, Ls = Landscape, Na = Nature)].

HVI

When HVI is positive it is interpreted the presence of paranoid symptoms and it is driven from the following variables. First, FT + TF + T = 0 must be positive and the 4 out of the variables listed below (Exner, 2003).

FT + TF + T = 0 (must be positive)

Zf> 12

Zd> + 3.5

S > 3

H + (H) + Hd + (Hd) > 6

(H) + (A) + (Hd) + (Ad) > 3

H + A: Hd + Ad < 4:1

Cg > 3

*[(FT = Form Texture, TF = Texture Form, T = Texture), (Zf = Z frequency, Zd = Processing Efficiency, S = White Space), (H = Human Response, (H) = Whole human Fictional or Mythological response, Hd = Human Detail response (Hd) Human Detail Fictional or Mythological response, A = Animal, (Ad) = Animal detail fictional or mythological response, Cg = Cloth)].

According to Rorschach comprehensive System (Exner, 2003), the PTI ≥ 4 is interpreted to mean psychotic symptom. The PTI is derived from the follow:

XA% < .70 and WDA% < .75

X -% > .29

LVL 2 > 2 and FAB 2 > 0

R < 17 and WSUM6 > 12 OR R > 16 and WSUM6 > 16

M- > 1 OR X-% > .40

*[(XA% = Form Appropriate Extended, WDA% = Form Appropriate, X-% = Distorted Form, LVL = Lambda level, FAB 2 = Fabulized Combination degree 2), (WSUM6 = weighted sum of chromatic colour), (M- minus responses)].

SUMMARY OF REVIEWED LITERATURE

The literature reviewed in the present study covered a wide range of important works which enhanced the understanding of theoretical assumptions concerning development and applicability of Rorschach test in assessing depressive, paranoid personality and psychotic symptoms. Within this review, various conceptual understanding of depressive, Paranoid personality and psychotic symptoms were examined.

Evidently, there was a conceptual difference in the characteristic of various psychological condition (Beck, 1996; Triebwasser, Chemerinski, Rousso & Siever, 2013; Minton,

Perepezko & Pontone; 2016), these differences were further strengthened by the theoretical explanations (psychoanalytic, humanistic and sociocultural theories). The highlights of the theories are their connection with the underlying assumptions of Rorschach administration, scoring and interpretation. Similarly, the theory points to the importance of projective techniques in assessment and diagnostic purposes.

Giving these explanations from theoretical assumptions, some empirical studies which were reviewed also show the validity of Rorschach test in clinical diagnosis and continuum of various psychological symptoms among non-clinical samples (Derobertis & Bland, 2017; Heidarizadeh, 2015; Kuwabara, & Smith, 2012).

Furthermore, various researchers reported various form of internal consistency (test-retest) and validity for the Rorschach test (Hughes, Gacono & Owen, 2007). Exner (2003) provided the normative data for interpretation of scores in the Rorschach test. Following these reviews, it was observed that this comprehensive system of Rorschach has not been tested within Nigeria context. Thus, some hypotheses were formed to help in assessing the utility of this test in the Nigerian context.

Hypotheses

(1) There will be statistically significant difference between Rorschach scores of clinical and non-clinical samples for depressive, paranoid personality and psychotic symptoms (Discriminate Validity).

(2) There will be a significant positive correlation (Concurrent validity) between participant's scores in the Rorschach test (depression, paranoid personality and psychosis) and their scores in SCL 90 subscales in (depression, Paranoid personality and psychoticism) for clinical and non-clinical samples respectively.

(3) The non-similar subscale of Rorschach test will significantly diverge when inter-correlated for clinical and non-clinical samples (Divergent validity).

(4) Clinical patients with various diagnoses will score significantly higher in the various Rorschach subscales of their diagnoses (Predictive validity).

(5) The will be significant test-retest reliability for the non-clinical samples after one-month interval (Test-retest reliability)

CHAPTER THREE: METHOD

This chapter is divided into the following sub-sections: participants, instruments, procedure, design and statistics.

Participants

One hundred (100) adults participated in the study. They comprised of 50 clinical sample and 50 non-clinical samples. The clinical samples were selected from two state owned psychiatric hospitals in Enugu and Anambra (Enugu State University Teaching Hospital Parklane Enugu and Neuropsychiatry Hospital Nawfia). The non-clinical samples were randomly selected from Madonna University Okija and Caritas University Amoji-Nike using systematic sampling technique whereby every third person that came to students' affairs department for one issue or the other was asked if they will voluntarily participate in the study.

The overall participants ages ranged from 20 to 40 years (M = 30.01, SD = 2.41). Specifically, the age of the clinical samples ranged from 22 to 40 (M = 28.41, SD = 4.0) and for the non-clinical samples, their ages ranged from 20 to 30 (M = 24. 03, SD = 2.01). In all, they were 31 males and 19 females for clinical samples. Their educational qualifications were; 10 with first school leaving certificate, 23 undergraduates and 17 graduates. The non-clinical samples were all undergraduates and their gender distributions were 23 male and 27 female.

Inclusion criteria

The inclusion criteria for the clinical sample include the following: the clients have been diagnosed with depressive, paranoid personality and psychotic disorder of the selected hospital; are being treated with pharmacotherapy and consented to participate in the study. The inclusion criteria for the non-clinical sample are as follows: the individuals who have

been interviewed (pre-test interview) and reported to have no history of mental illness or have never been treated for psychiatric symptoms.

Instruments

Two instruments were to be employed in the study and they are Rorschach inkblot test (Rorschach, 1921) and Symptom Checklist 90 (Derogatis, Lipman & Covi, 1977).

Rorschach Inkblot Test

Rorschach inkblot test was originally developed by Rorschach (1921) as a projective test to assess different psychological condition (thought disorder for e.g. schizophrenia, an emotional disorder for e.g. depression and a personality disorder for e.g. paranoid disorder). The test contains 10 cards of 8.5" x 11" inches. They are divided into five black and white and five coloured. The respondent's response comes in two stages, free association and inquiry which are further scored according to Location/developmental quality, Determinants, Form quality, Contents, Popular responses, Organization activity (Z Score) and Special score. It takes an average of 45minutes to administer the test for non-clinical population and an hour or more for the clinical population. It is an individually administered test and the present study adopted the comprehensive system of administration, scoring and interpretation by Exner (2003). According to Exner (2003), the cards generates the following information or the eight clusters and they as follows: Ideation, Affect Features, Cognitive Mediation, Information Processing, Interpersonal Perception, Self-Perception, Capacity for Controls and Stress Tolerance Situation-Related (See chapter two for better description). Rorschach also has norm scores for both clinical and non-clinical samples for various clusters. For the symptoms assessed in this study, the DEPI $\geq$ 5 is interpreted as a depressive symptom, HVI $\geq$ 5 is interpreted as a paranoid symptom and PTI $\geq$ 4 interpreted as a Psychotic Symptom.

The administration, scoring and interpretation have been validated and used in the western culture for instance, Di Nuovo and Castellano (2016) found a test-retest reliability of .83

when the test was administered to clinical and non-clinical sample. Similarly, the same authors found a concurrent validity of .50 when correlated with the Personality Assessment Index (PAI). Sultan, Andronik of, Reveillere, and Lemmel (2007), conducted a pilot study with 5 non-clinical sample to assess the average time and test-retest reliability of the Rorschach test over 2 weeks, the result shows a reliability of .80.

The Symptom Checklist 90 R (SCL-90-R)

This instrument was developed by Derogatis, Lipman and Covi (1977). It contains 90 items with 10 subscales which measure Psychoticism, depression, Paranoid ideation, Somatization, Obsessive-compulsive, Interpersonal sensitivity, Anxiety, Hostility and Phobic anxiety. However, only three subscales were used in the present study and they include psychoticism, depression and paranoid ideation. The questionnaire is in 5-point Likert format 0 – 4. Whereby 0 = Not At All, 1 = A Little Bit, 2 = Moderately, 3 = Quite A Bit and 4 = Extremely and higher scores were interpreted as higher psychological symptoms. The items are scored in one direction.

Several studies have reported the reliability and validity of the SCL 90 within and outside Nigeria for instance in Nigeria, Erinoso (1996) reported significant coefficients of concurrent validity between Retirement Stress Inventory, and SCL-90 Scales which ranged from .26 for Scale F (Hostility) to .47 for Scale J (Neuroticism). The one-week interval test-retest reliability coefficients ranged from .78 for Hostility to .90 for Phobic Anxiety. Furthermore, to ascertain the internal consistency of the scale in Nigeria (Eastern Nigeria specifically). Anazonwu, Obi-Nwosu and Ifedigbo (2013), reported a Cronbach Alpha Reliability Coefficients for (SCL-90): Somatization = .88, Obsessive Compulsive = .85, Interpersonal Sensitivity = .76, Depression = .83, Anxiety = .88, Hostility = .65, Phobic Anxiety = .85, Paranoid Ideation = .77, Psychoticism = .83, and Neuroticism = .77.

In other countries, Derogatis et al. (1977), reported Cronbach alpha coefficients which ranged from .77 for psychoticism to .90 for depression. The one-week interval test-retest reliability coefficients ranged from .78 for hostility to .90 for phobic anxiety when these subscales were correlated with measures of psychoticism, depression and paranoid. Ardakani, et al., (2016) reported correlation coefficient of the relationships between three common subscales of the GHQ-28 and SCL-90-R, they were significantly positive as follows; somatisation (r=0.671, $P<0.01$), Anxiety (r=0.728, $P<0.01$), and Depression (r=0.660, $P<0.01$).

Procedure

The researcher approached the management of the hospital with a letter of identification from the Department of Psychology, Faculty of the Social Sciences, Nnamdi Azikiwe University, Awka. Ethical clearance to carry out a study in the hospitals was issued by the ethical and research committe. The researcher engaged two clinical psychologists who were trained on the administration and scoring of the instruments. This was done to control experimental bias to assist in the study. Prospective participants were then approached, and after due information regarding the study was discussed with the patients and their caregivers, those who consented to participate were then enlisted and given the consent form to sign. Participants were informed that the study and treatment were about the status of their health and were assured of confidentiality. They were also informed of their right to withdraw at any time.

Design and Statistics

The study adopted correlational, and between subject designs. Three statistical analyses procedures were utilized in data analysis: They are Paired Sample t-test for hypothesis one, Pearson Product-Moment Correlation Coefficient for analysis of hypotheses two, three and five and Multiple Analysis of Variance (MANOVA) for hypothesis four. All the data analyses were managed with Statistical Package for Social Sciences (SPSS) version 23.

CHAPTER FOUR: RESULTS

In this chapter, the results of the statistical analyses of the data obtained in the study for testing the hypotheses were presented. Whereby Tables 1 and 2 contained the results that tested hypothesis 1; Tables 3 and 4 were for hypotheses 2 and 3; and Tables 5 and 6 were for hypothesis 4.

Table 1: Mean, standard deviation and standard error of the scores of clinical and non-clinical samples on Rorschach inkblot projective test for depressive, paranoid and psychotic symptoms.

S/N		Mean	N	Std. Deviation	Std. Error Mean
1	CDR	4.48	50	1.05	.15
2	NDR	3.24	50	.77	.11
3	CPR	3.44	50	1.77	.25
4	NPR	2.08	50	1.72	.24
5	CPYR	2.20	50	1.96	.28
6	NPYR	.74	50	.96	.14

*NB Clinical depression Rorschach (CDR), Non-clinical depression (NDR), Clinical paranoid Rorschach (CPR), Non-clinical paranoid Rorschach (NPR), Clinical psychosis Rorschach (CPYR) and Non-clinical psychosis Rorschach (NPYR)

The result in table 1 showed that for Depression t (1, 49) = 6.04, $p < .001$; Paranoid t (1, 49) = 3.78, $p < .001$; Psychosis t (1, 49) = 4.60, $p < .001$.

The descriptive table (see Table 1) showed that the average scores for the clinical samples were higher across depression (M = 4.48, SD = 1.05) paranoid (M = 3.44, SD = 1.78) and psychosis (M = 2.20, SD = 2.00) than average scores for non-clinical samples depression (M = 3.24, SD = .77) paranoid (M = 2.08, SD = 1.72 Psychosis (M = .74, .96).

Table 2: Paired samples Test for paired differences between clinical and non-clinical samples on Rorschach inkblot projective test for depression, paranoid and psychotic symptoms.

		Mean	Std. Deviation	Std. Error Mean	lower	upper	t	df	Sig. (2.tailed)
Pair 1	CDR - NDR	1.24	1.45	.21	.83	1.65	6.04	49	.00
Pair 2	CPR - NPR	1.36	2.55	.36	.64	2.08	3.78	49	.00
Pair 3	CPYR - NPYR	1.46	2.24	.32	.82	2.10	4.60	49	.00

Table 3: The Pearson r correlation coefficients for concurrent validity between overall scores in Rorschach test and symptom checklist for depression, paranoid and psychosis subscales for clinical samples

		1	2	3	4	5	6
1.	Clinical Depression Rorschach	1					
2.	Clinical Paranoid Rorschach	-.57**	1				
3.	Clinical Psychosis Rorschach	-.33	.22	1			
4.	Depression SCL clinical	.71**	-.75**	-.62**	1		
5	Paranoid SCL clinical	-.53**	.85**	.19	-.65**	1	
6.	Psychosis SCL clinical	-.21	-.05	.86**	-.39**	-.12	1

**$p < .001$,

Table 4: The Pearson r correlation coefficients for concurrent validity between overall scores in Rorschach test and symptom checklist for depression, paranoid and psychosis subscales for non clinical samples

		1	2	3	4	5	6
1	Nonclinical Depression Rorschach	1					
2	Nonclinical Paranoid Rorschach	.09	1				
3	Nonclinical psychosis Rorschach	-.39**	.15	1			
4	Depression nonclinical SCL	.55**	-.03	.33*	1		
5	Paranoid nonclinical SCL	-.03	44**	.08	.01	1	
6	Psychosis nonclinical SCL	.13	.07	.42**	.18	.32*	1

**$p < .001$, *$P < .05$

The results in the Table 3 and 4 tested the second hypothesis. The correlation coefficient for the clinical samples between Rorschach depression score and SCL 90 depression score was $r = .71$, $p < .001$; between Rorschach paranoid score and SCL 90 paranoid score, $r = .85$, $p < .001$; between Rorschach psychosis score and SCL 90 Psychosis score $r = .86$, $p < .001$. Similarly, for non-clinical samples the result of the correlation coefficients were between Rorschach depression score and SCL 90 depression score was $R = .55$, $P < .001$; between Rorschach paranoid score and SCL 90 paranoid score, $r = .44$, $p < .001$; between Rorschach psychosis score and SCL 90 Psychosis score $r = .42$, $p < .001$.

Table 3 and 4 also provide the result that tested the third hypothesis. The result showed that the correlation coefficient for the clinical sample between Rorschach depression and Rorschach paranoid $r = -.57$, $p < .001$. Between Rorschach depression and Rorschach

psychosis r = - .33, p < .01. Between Rorschach paranoid and Rorschach psychosis r = .22, p > .05.

While for the non-clinical sample the scores for Rorschach depression and Rorschach paranoid r = .09, p > .05. Rorschach depression and Rorschach psychosis r = - .39, p <.05. Rorschach paranoid and Rorschach psychosis r = .15, p > .05.

Table 5: Mean, standard error and confidence interval

				95% confidence Interval	
Dependent variable	Diagnosis	Mean	Std. error	Lower bound	Upper bound
CDR	Depression/paranoid	3.70	.25	3.21	4.19
	Depression	5.47	.19	5.09	5.85
	Paranoid/schizophrenia	3.80	.35	3.10	4.50
	Schizophrenia	4.17	.18	3.80	4.53
CPR	Depression/paranoid	5.50	.31	4.87	6.13
	Depression	1.77	.24	1.28	2.25
	Paranoid/schizophrenia	5.40	.44	4.51	6.29
	schizophrenia	3.33	.23	2.87	3.80
CPYR	Depression/paranoid	1.10	.27	.55	1.65
	Depression	.41	.21	-.01	.85
	Paranoid/schizophrenia	2.60	.39	1.82	3.38
	schizophrenia	4.39	.20	.20	4.80

Table 6: Multiple analysis of variance (MANOVA) testing whether the clinical samples with various diagnoses will score significantly higher in the similar subscales of the Rorschach test.

Source	Dependent variable	Type III Sum of squares	*Df*	Mean square	*F*	Partial Eta squared
Corrected model	CDR	26.85	3	8.95	14.90	.49
	CPR	109.56	3	36.52	37.53	.71
	CPYR	153.51	3	51.17	68.23	.82
Intercept	CDR	708.74	1	708.74	1179.71	.96
	CPR	617.64	1	617.64	634.77	.93
	CPYR	174.38	1	174.38	232.54	.85
Diagnosis Type	CDR	26.85	3	8.95**	14.89	.49
	CPR	109.56	3	36.52**	37.53	.71
	CPYR	153.51	3	51.17**	68.23	.82
Error	CDR	27.64	46	.60		
	CPR	44.76	46	.97		
	CPYR	34.50	46	.75		
Total	CDR	1058.0	50			
	CPR	746.00	50			
	CPYR	430.00	50			
Corrected total	CDR	54.48	49			
	CPR	154.32	49			
	CPYR	188.00	49			

**$P < .001$

The result in Tables 5 and 6 showed that the clinical samples in the study scored significantly higher in the Rorschach subscales similar to their diagnosis F (3, 49) = 14.90, P<.001. Those diagnosed with depression scored significantly higher in Rorschach depression test (M = 5.41) when compared with mean score for sample with other diagnoses depression/paranoid (M = 3.70), paranoid /schizophrenia (M = 3.80) and schizophrenia (M = 4.17). Similarly, for paranoid F (3,49) = 37.53, p <.001 the mean scores for depression/paranoid and paranoid/schizophrenia were significantly higher (M = 5.50 and 5.40) when compared with other diagnoses depression (M =1.77) and schizophrenia (M = 3.33). Also, for psychosis F (3, 49) = 68.23, $P < .001$. The mean score for schizophrenia was significantly higher (mean = 4.39) when compared with other diagnoses depression/ paranoid (M = 1.10), depression (M = .41) paranoid/schizophrenia (M = 2.60 Table 6) see appendix D show the Bonferroni post hoc comparisons of these mean scores.

Hypothesis 5 was confirmed. The test-retest coefficient of the non-clinical samples after one-month interval showed the reliability coefficient of $r = .72$, $p < .001$.

Summary of the Results

1. The result of hypothesis one showed that there was a significant difference between the scores of clinical and non-clinical samples (discriminant validity).

2. The result of hypothesis two showed that there was a significant correlation between the scores of Rorschach subscale and the scores of SCL 90 similar subscale (concurrent validity)

3. The third hypothesis showed a divergent outcome when non-similar subscale of Rorschach was inter-correlated (divergent validity).

4. The result of the fourth hypothesis showed that the clinical samples scored significantly higher in the Rorschach subscales similar to their diagnoses (Predictive validity).

5. The result of the hypothesis five showed that there was significant test-retest reliability for the non-clinical sample after one-month interval (reliability coefficient).

CHAPTER FIVE: DISCUSSION AND CONCLUSION

Discussion

The present study assessed the validity of the comprehensive system of Rorschach inkblot test for psychological assessment of psychological symptoms (depression, paranoid and psychosis). It employed some relevant psychometric parameters for asserting the validity of psychological measures such as discriminate validity, concurrent validity, divergent validity and predictive validity. It also utilized test-retest reliability to provide evidence for consistency of the Rorschach inkblot test in assessing psychological symptoms.

The result of the analysis confirmed the first hypothesis that Rorschach test discriminated the scores of the clinical from that of the non-clinical samples. In other words, clinical samples scored significantly higher than non-clinical samples in the Rorschach criteria for the diagnosis of depression, paranoid personality and psychotic symptoms respectively.

This finding is in line with the previous studies (Di Nuova & Castellano, 2016; Hughes, Gacono & Owen, 2007; Smith, Hilsenroth & Exner, 2001) which utilized Rorschach inkblot test and found that it discriminated between clinical and non-clinical conditions when various diagnostic indices were considered for adults and children respectively. Similarly, the present finding agreed with the work of Opaas, Ellen, Wentzel-Larsen & Varvin (2016) who used Rorschach inkblot test for assessment and identified that impaired reality testing (Psychosis) was related to more mental health symptoms and poorer quality of life.

Specifically, the finding is consistent with the psychoanalytic model of Freud which postulated that psychological symptoms have a psychogenic origin and the symptoms could be alleviated through psychotherapy. That is to say that what causes psychological symptoms are basically unconscious and must be made conscious to alleviate the condition of the

symptomatic person. Rorschach inkblot test possesses the capability of activating the assessed to project the underlying motive that causes the present symptoms.

Rorschach test also aligned with the principles of humanistic theory whereby the clients assessed were the centre of the assessment process and were allowed to freely project their inner unexplained self to the test stimuli which are then systematically code and used for diagnosis.

The second hypothesis which stated that there will be statistically significant difference between Rorschach scores of clinical and non-clinical samples for depressive, paranoid personality and psychotic symptoms was confirmed. These implied that the Rorschach inkblot test has concurrent validity since it correlated significantly with the existing objective test (SCL 90) common in Nigeria among clinicians for assessing these psychological symptoms. The finding was supported by the submissions of Groth-Marnat, (2009); Weiner (2003); Meyer et al (2001) that Rorschach inkblot test can be concurrently used alongside with other tests to ensure accuracy and for more appropriate clinical decision. It is also consistent with the previous studies by De Carolis and Ferracuti, (2005); Ferracuti and De Carolis, (2005) who found that Rorschach and Eysenck Personality Questionnaire are sufficiently homogeneous for psychometric assessment whereby the concept of extraversion and psychoticism defined by Rorschach test and Eysenck personality inventory showed significant correlation. Theoretically, this result can be aligned with the socio-cultural factors that may influence the test performance but it was noted that test performance of both Rorschach and SCL 90 were not significantly altered. Thus, there was a significant correlation between the subscales.

The result of the third hypothesis showed that the inter-correlation coefficient between the Rorschach subscale in dimensions was negative. This is evidence of divergent validity of

Rorschach test. This finding is supported by the works of (De Carolis & Ferracuti, 2005; Di Nuova & Castellano, 2016; Ferracuti & De Carolis, 2005; Hughes, Gacono & Owen, 2007; Smith, Hilsenroth & Exner, 2001) which found that the Rorschach subscales negatively correlated with unrelated subscales or indices.

The result of the fourth hypothesis illustrated that Rorschach test was able to confirm the diagnoses of the various clinical patients. This evidenced that the test possesses a good predictive validity. This finding is supported by the previous studies Garfield, (2000); Kishimoto et al (2016) Stenius, Lindfors, Antikainen & Wahlström (2018) which showed that Rorschach test was used in assessment and diagnosis of depression, paranoid personality and psychotic symptoms.

The result of the fifth hypothesis confirmed that the reliability of the Rorschach test can be trusted. Hence the test-retest reliability of the non-clinical sample was significantly consistent. Other studies that that found Rorschach test to be reliable include (Drost, 2011; Groth-Marnat, 2009; Huck, 2007; Robinson, 2009 and Viglione & Taylor, 2003; Weiner & Greene, 2008). These studies supported the result in the present study.

The Implications of the Study

The present study has both theoretical and empirical implications. Theoretically, it added to the basic knowledge about the possibility of assessing the conscious and unconscious thoughts and the understanding of human behaviour as presented by the psychoanalytic theoretical assumptions. It also supported the humanistic assumptions that the client should be at the centre of assessment and treatment. It further supported the assumptions that the Rorschach test could serve as a diagnostic and therapeutic tool through the free association during the assessment. Therefore, it has added to the existing knowledge about the universality of psychological theories.

Empirically, the study showed that Rorschach test is valid and reliable and therefore could be added to the test batteries which are used in assessing psychological conditions in Nigeria. The sparsely of literature and experts in this area of assessment could imply that special workshop and training are needed among clinicians so that they can benefit from this very important technique of psychological assessment. A course which will also benefit the clients because both the educated and uneducated adults, children and adolescent can easily respond to the stimuli presented during the assessment.

Recommendations

The general recommendations based on the findings of the present study are:

1. Rorschach test as presented in the comprehensive system should be added as part of test batteries for assessing various psychological conditions.
2. Professional bodies can consider sponsoring co-operate research to establish a national norm for Rorschach test among Nigerian samples.
3. Professionals are encouraged to receive more training on administration, scoring and interpretation of the Rorschach test.
4. Clinical psychologists should consider the combination of projective and objectives tests in their assessment procedure to enhance the diagnostic outcome, make a better treatment plan and evade relapse on the part of the clients.

Limitations of the Study

Although the present study found the Rorschach test to be valid among Nigerian sample from two selected psychiatry hospitals and one institution of higher learning. The interpretation and generalization of the findings must be done with some caution because of the following limitations.

Firstly, only three out of six indices or dimensions covered by Rorschach were explored in this study. However, the three covered showed good validity but that is not to say that all other dimensions will emerge same without systematic study. Thus, the interpretation of the present study findings was limited to depression, paranoid personality and psychotic sub-dimensions.

Secondly, the present study did not consider establishing a norm for Nigerian samples and comparing it with the standard norm according to Exner's manual. This is because of a relatively small sample in this study compared with the very large sample used in Exner's work. However, the scores obtained in the present study both for clinical and non-clinical sample did not significantly differ from the standard scores in the manual.

Thirdly, the correlation between the SCL 90 and Rorschach scale though significant in the present study has been criticized by some previous studies (Wood, Nezworski, Lilienfeld & Garb, 2011) who frowned at the methodological differences in the scoring and objectivity of the Rorschach test but such comparison may not be necessary. Rather the use of incremental validity which assesses whether the two methods predict better another construct that they should predict. However, the work of De Carolis and Ferracuti (2005) adopted a similar step used in the present study to assess the validity of the Rorschach test. Also, predictive validity used in the present study is similar with incremental validity.

Fourthly, the present study did not use the inter-rater reliability to assess the participants this would have added to the objectivity of the test in the hand of the others. However, test-retest reliability method utilized in the present study showed that Rorschach test for assessing depressive, paranoid personality and psychotic symptoms is consistent.

Suggestion for Further Studies

1. The future studies that are interested in the usefulness of Rorschach test among Nigerian samples can explore the other dimensions of the test not taken care of in this

study such as Coping Deficit Index (CDI), Suicide Constellation (S-CON) and Obsessive Style Index (OBS).

2. Also, the future study may try to see the possibility of embarking on a more nationwide assessment of Rorschach test. This will involve more trained Rorschach assessors and more funding so as to establish a norm for Nigerian samples.

3. Future studies may as well use the inter-rater reliability which will assess the objectivity of Rorschach test in the hand of experts.

Conclusion

Psychological Science strives because of its capacity to assess psychological well-being, diagnose psychopathology and recommend psychotherapy when necessary. Rorschach inkblot test is one of the assessment tools that have been used to accomplish this important goal. Rorschach inkblot test though regarded as one of the best projective tests has received a high number of criticisms across the globe. One of the most popular critical works that refuted the validity of the test in assessing psychological symptoms is the work of (Wood, Nezworski, Lilienfeld & Garb, 2011). However, series of revisions of the comprehensive system of Rorschach (1974, 1978, 1986, 1991, 1993, 1994, 1995a, 1995b, 2000, 2001, 2003) by Exner integrated and synergized different dynamic views about administration, scoring and interpretation of Rorschach inkblot test from the previous models. Additionally, a standard computer scoring model (Rorschach Interpretation Assistance Program: Version 5.0.3, RIAP5) was subsequently developed by Exner (2003) to achieve this end.

Studies have reported increasing validity and reliability of Rorschach test (Garfield, 2000; Robinson, 2009; Drost, 2011; Kishimoto et al., 2016; Opaas, Ellen, Wentzel-Larsen & Varvin, 2016; Stenius, Lindfors, Antikainen & Wahlström 2018).

Considering the rich information obtained from the Rorschach assessment in other parts of the world and its limited utility in Nigeria largely because of little or no evidence of validity and reliability; this study assessed its validity and reliability. This effort is made to facilitate the use and its inclusion in the test batteries among clinical psychologists in Nigeria. This study confirmed the validity of the Rorschach test for the three psychological symptoms investigated. Given the dynamics of the administration, scoring and interpretation the study suggested that psychologists involved in the clinical assessment needed more training on the use of Rorschach test. Also, more research needs to be conducted with a larger population to establish a norm for Nigerian samples and assess the validity of the other indices of the test beyond the scope of the study.

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Appendix A

Rorschach Inkblot Test Protocol

Card I	Free Association	Inquiry	Score	Observation
				
Card II	**Free Association**	**Inquiry**	**Score**	**Observation**
				
Card III	**Free Association**	**Inquiry**	**Score**	**Observation**
				
Card IV	**Free Association**	**Inquiry**	**Score**	**Observation**
				
Card V	**Free Association**	**Inquiry**	**Score**	**Observation**
				

Card VI	Free Association	Inquiry	Score	Observation
				

Card VII	Free Association	Inquiry	Score	Observation
				

Card VIII	Free Association	Inquiry	Score	Observation
				

Card IX	Free Association	Inquiry	Score	Observation
				

Card X	Free Association	Inquiry	Score	Observation
				

Appendix B

AGE-------- SEX--------- DATE----------

Symptom Checklist 90 – Subscales

Below is the list of problems and complaints that people sometimes have. Please read each one carefully. After you have done so, select one of the numbered descriptors that best describes. HOW MUCH THAT THE PROBLEM HAS BOTHERED OR DISTRESSED YOU DURING THE PAST WEEK, INCLUDING TODAY. Tick the number in the space to the right of the problem and do not skip any items. Use the following key to guide how you respond:

Tick 0 if your answer is NOT AT ALL
Tick 1 if your answer is A LITTLE BIT
Tick 2 if your answer is MODERATELY
Tick 3 if your answer is QUITE A BIT
Tick 4 if your answer is EXTREMELY

Please enter only one.
FOR THE PAST WEEK, HOW MUCH WERE YOU BOTHERED BY:

	NO.		Not At All	A Little Bit	Moderately	Quite A Bit	Extremely
ADE	1.	Feeling no interest in things	0	1	2	3	4
	2.	Worrying too much about things					
	3.	Feeling hopeless about the future					
	4.	Feelings of worthlessness					
	5.	Feeling low in energy or slowed down					
	6.	Thoughts of ending your life					
	7.	Feeling everything is an effort					
	8.	Feeling blue					
	9.	Feeling lonely					
	10,	Crying easily					
	11.	Feeling of being trapped or caught					
	12.	Loss of sexual interest or pleasure					
	13.	Blaming yourself for things					
BPA	14.	Others not giving you proper credit for your achievements					
	15.	Feeling that most people cannot be trusted					
	16.	Feeling that you are watched or talked about by others					
	17.	Feeling others are to blame for most of your troubles					
	18.	Feeling that people will take advantage of you if you let them					
	19.	Having ideas or beliefs that others do not share					
CPS	20.	Hearing words that others do not hear					
	21.	The idea that someone else can control your thoughts					
	22.	Other people being aware of your private thoughts					
	23.	Having thoughts about sex that bother you a lot					
	24.	The idea that you should be punished for your sins					
	25.	Having thoughts that are not your own					
	26.	Feeling lonely even when you are with people					
	27.	The idea that something serious is wrong with your body					
	28.	The idea that something is wrong with your mind					
	29.	Never feeling close to another person					

APPENDIX C

CONSENT FORM

I …….....… agree to be interviewed and participate in this study. I understand that my details will be kept anonymous and all information will be kept confidential. At any point and in any part in this study, I have the right to withdraw.

I also understand that the information collected in this interview will be destroyed after completion and submission of this piece of research.

Signed: ……..

Dated: …….

For further questions please contact, Agu, Resurrecta Maria of the Department of Psychology, Nnamdi Azikiwe University, Awka.

Table 6: Appendix D

Bonferroni Post hoc multiple comparison of type of diagnoses on score in rorschach subscale, mean difference, 95% confidence interval.

Dependent variable	(I) DiagnosisPy	(J) DiagnosisPy	(I-J)	Std. error	Sig.	Lower bound	Upper bound
CDR	Depression/ paranoid	Depression	-1.77*	.31	.00	-2.62	-.99
		Paranoid/schizophrenia	-.10	.42	1.00	-1.27	1.07
		Schizophrenia	-.47	.31	.80	-1.31	.38
	Depression	Depression/paranoid	1.77*	.31	.00	.919	2.62
		Paranoid/schizophrenia	1.67*	.39	.00	.58	2.75
		Schizophrenia	1.30*	.26	.00	.58	2.02
	Paranoid/schizophrenia	Depression/paranoid	.10	.42	1.00	-1.07	1.27
		Depression	-1.67*	.39	.00	-2.75	-.58
		Schizophrenia	-37	.39	1.00	-1.45	.71
	schizophrenia	Depression/paranoid	.47	.31	.80	-.38	1.30
		Depression	-1.30*	.26	.00	-2.03	-.58
		Paranoid /schizophrenia	.38	.39	1.00	-.71	1.44
CPR	Depression/paranoid	Depression	3.74*	.39	.00	2.65	4.81
		Paranoid/schizophrenia	.10	.54	1.00	-14	1.58
		Schizophrenia	2.17*	.39	.00	1.09	3.23
	Depression	Depression/paranoid	-3.74*	.39	.00	-4.82	-265
		Paranoid schizophrenia	-3.64*	.50	.00	-5.02	-2.25
		Schizophrenia	-1.57*	.33	.00	-2.49	-.64
	Paranoid/ schizophrenia	Depression/paranoid	-.10	.54	1.00	-1.59	1.38
		Depression	3.64*	.50	.00	2.25	5.01
		Schizophrenia	2.07*	.50	.00	.69	3.44
	schizophrenia	Depression/paranoid	-2.17*	.39	.00	-3.23	-1.09
		Depression	1.57*	.33	.00	.65	2.48
		Paranoid schizophrenia	-2.07*	.50	.00	-3.44	-.69
CPYR	Depression/paranoid	Depression	.69	.35	.32	-.26	1.63
		Paranoid schizophrenia	-1.50*	.47	.017	-2.81	-.19
		Schizophrenia	-3.29*	.34	00	-4.23	-2.34
	Depression	Depression/paranoid	-.69	.35	.31	-1.64	.26
		Paranoid/schizophrenia	-2.19*	.44	.00	-3.40	-.97
		schizophrenia	-.40*	.29	.00	-4.78	-3.16
	Paranoid/ schizophrenia	Depression/paranoid	1.50*	.47	.02	.19	2.80
		depression	2.19*	.44	.00	.97	3.40
		schizophrenia	-1.79*	.44	.01	-2.99	-.58
	schizophrenia	Depression/paranoid	3.29*	.43	.00	2.35	4.23
		Depression	3.98*	.29	.00	3.17	4.78
		Paranoid schizophrenia	1.79*	.44	.01	.58	2.99

Based on observation means

The error term is mean square (error) = .750

*The mean difference is significant at the .05 level.

Appendix E

ESUT TEACHING HOSPITAL PARKLANE

P. M. B. 1030 ENUGU
parklanehospitalen ugu@yahoo.com

DR. G.E. NJEZE, *BM, BCh (Nig.) FMCS, FWACS, FICS, FACS*
CHIEF MEDICAL DIRECTOR

DR. W. O. OKENWA, *MBBS, (NIG.) FWACS*
CHAIRMAN MEDICAL ADVISORY COMMITTEE

PROF. H. E. ONAH. *MB, BS, FMCOG, FWACS, MPA, M. PHARM*
CHAIRMAN
ESUT TEACHING HOSPITAL PARKLANE
MANAGEMENT BOARD

MR. ONODU I. N., *B.Sc. (Pol. Sc.) M.Sc Int. Relation*
Ag. DIRECTOR OF ADMINISTRATION

Our Ref: ESUTHP/C-MAC/RA/034/VOL.II/42 Date: 09/05/18

TO WHOM IT MAY CONCERN:

ETHICAL PERMISSION FOR RESEARCH

Permission is hereby given AGU ROSUKACCIA MARIA

to conduct the research on VALIDATION OF COMPREHENSIVE SYSTEM OF RORSCHACH INK BLOT TEST CLINICAL ADOLENS

in the ESUT Teaching Hospital, Parklane bearing in mind all the ethical implications.

9-5-18

DR. C. J. G. ORJIOKE
(Chief Consultant Physician &
Enugu State Chairman Ethical Committee)

Appendix F

ESUT TEACHING HOSPITAL PARKLANE ENUGU

Office of C-MAC

4/5/ 2018

The HOD/Unit Head /Matron i/c

Psychiatric

ESUT Teaching Hospital

Parklane - Enugu

Sir/Ma,

LETTER OF AUTHORITY FOR DATA COLLECTION

The bearer Mr Researcher has been given permission to collect data from the Unit /Department for an on-going research for which ethical clearance has been issued.

Please accord him/her the necessary assistance.

Thank you.

Onaga I. F. (Mrs.)
For: C-MAC

Appendix G

GOVERNMENT OF ANAMBRA STATE OF NIGERIA

STATE HOSPITALS MANAGEMENT BOARD

E-mail: nphosital.nawfia@yahoo.com

Neuro-Psychiatric Hospital
P.O. Box 135, Nawfia
Njikoka L.G.A.,
Anambra State

Our Ref: NPHN /Research/18003

Your Ref: .....

...2nd May,.2018.....

The Head of Department,
Department of Psychology,
Faculty of Social Sciences,
Nnamdi Azikiwe University,
Awka.

Dear Sir,

LETTER OF ACCEPTANCE: AGU RESURRECTA MARIA

The above named has been grated permission to carryout her Ph.D research in the hospital.

Kindly note that the student is not permitted to take photograph of the patients or do a video coverage throughout the duration of the research.

Accept the assurance of our highest regard.

Thank you.

STATE HOSPITALS MANAGEMENT BOARD NEUROPSYCHIATRIC HOSPITAL NAWFIA

Yours faithfully

2/5/2018

Dr. C.C. Onuorah FWACP (Psych)
Consultant-in-charge

Appendix H

MADONNA UNIVERSITY, NIGERIA

P.M.B. 05 Elele, Rivers State

Website: www.madonnauniversity.edu.ng

29th March, 2018

Dear Sr. Resurreta,

This is to inform you that the Vice Chancellor has graciously approved your request to conduct a research on the topic; **Validity of Comprehensive System of Rorschach Inkblot Test for Assessing Psychological Symptoms in Clinical and Non Clinical Populations in the University.**

You are therefore required to liaise with the Dean, Students Affairs Department for help and directions on the ethical guide for students participation towards credible and fruitful research.

Accept the Vice Chancellors high regards.

Dr. Ferdnand Obasi
for Vice Chancellor

Email: registrar@madonnauniversity.edu.ng; transcriptofficer@madonnauniversity.edu.ng
info@madonnauniversity.edu.ng

Appendix I

Caritas University

Centre of Excellence

P. M. B. 01784 ENUGU,
AMORJI-NIKE, EMENE,
ENUGU STATE
NIGERIA.
TEL: 080-63589115, 042-308921
Email: caritasuniv@yahoo.com.
Website: www.caritasuni.edu.ng

Our Ref:.....

Your Ref:.....

Date: 27th February, 2018

Dear Sr. Resurreta,

I am directed to inform you that the Vice Chancellor has approved your request to conduct research on the topic; **Validity of Comprehensive System of Rorschach Inkblot Test for Assessing Psychological Symptoms in Clinical and Non Clinical Population in the University.**

You are therefore required to liaise with the Dean, Students Affairs Department for assistance and directions on the ethical guide for students active participation towards credible and fruitful research.

Please accept the assurances of the Vice Chancellor's kind regards.

Dr. Clifford O. Nwonu
Dean of Students
for Vice Chancellor