THE ASSESSMENT OF DEPRESSION USING PROJECTIVE DRAWINGS AND THE PERSONALITY ASSESSMENT INVENTORY

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THE ASSESSMENT OF DEPRESSION USING PROJECTIVE DRAWINGS AND THE PERSONALITY ASSESSMENT INVENTORY

A Thesis

Presented for the

Master of Arts

Degree

Austin Peay State University

Shannon Grant-Beuscher

June 1999

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This thesis is dedicated to my husband

Darren Michael Alan Beuscher

To the Graduate Council:

I am submitting herewith a thesis written by Shannon Grant-Beuscher entitled "The Assessment of Depression Using Projective Drawings and the Personality Assessment Inventory." I have examined the final copy of this thesis for form and content and recommended that it be accepted in partial fulfillment of the requirements for the Master of Arts, with a major in Psychology.

Janice R. Martin

Janice Martin, Ph.D., Major Professor

We have read this thesis
and recommend its acceptance:

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Dean of The Graduate School

Acknowledgments

I would like to express my appreciation and gratitude to Dr. Janice Martin for her time, interest and valuable guidance throughout the past two years. I would also like to thank Dr. Frederick Grieve for his advice and encouragement and Dr. LuAnnette Butler for her suggestions and assistance during the entire study.

I would like to extend a special thanks to my family: Larry and Jean Grant, whose encouragement and support over the years gave me the confidence to pursue my Master's degree.

Additionally, I would like to express my gratitude to my husband, Darren for his patience, love, and understanding over the past two years. His support has been invaluable to me.

Abstract

Many studies have focused on various methods to assess major depression in clients. Both subjective and objective measures have been used to evaluate depressive symptoms. The purpose of this study was to determine if there is a relationship between the depression scales on the Personality Assessment Inventory (PAI) and the proposed depression indicators on the House-Tree-Person-Person (HTPP) Drawings. Participants consisted of 74 students at a liberal arts college. They were asked to complete the PAI and the HTPP drawings. They were also asked to complete a set of questions about their drawings used to assist in determining emotional issues for the participant. A correlational analysis was conducted to determine the existence of a significant relationship between the two assessments. Results indicated there was no significant relationship between the PAI and the HTPP drawings in the assessment of depression. Implications of these findings include the suggestion that the drawings may not be an appropriate measure of depression.

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Chapter I

Introduction

Depressive disorders are some of the most common mood disorders diagnosed in the United States population (Blazer, Kessler, McGonagle, & Swartz, 1994). Depressive disorders are characterized by frequent episodes of intense hopelessness and lowered self-esteem. Major Depression can be described by the diagnostic criteria of the DSM-IV (American Psychiatric Association, 1994). Using this definition, depression is defined as either a depressed mood or the loss of pleasure in nearly all activities. It must also include at least four additional symptoms drawn from a list that includes changes in appetite or weight; changes in sleep and psychomotor activity; decreased energy; feelings of worthlessness or guilt; difficulty thinking; concentrating, or making decisions; or recurrent thoughts of death or suicidal ideation, plans, or attempts. A recent study estimated that the lifetime prevalence of depression may be as high as 17% (Blazer et al, 1994). Moreover, evidence suggests the prevalence of depression is increasing (Lewinsohn, Rohde, Seeley, & Fischer, 1993). The factors underlying this rise in depression are not readily apparent, and researchers are collecting data that might shed light on this unanticipated trend. Researchers are studying gender influences since the reported prevalence of depression is about twice as high in women as it is in men (Nolen-Hoeksema & Girgus, 1994).

Given the rate of depression, it is important that quality methods be used in the assessment of depression. There are several techniques currently used to identify depression in a client ranging from the clinical interview to the use of subjective and objective personality measures.

The Personality Assessment Inventory (PAI) (Morey, 1991) is a recently developed self-report measure of psychological functioning. The PAI is a questionnaire composed of 344 items arranged into 22 nonoverlapping scales. The PAI includes 4 validity scales, 11 scales to examine clinical symptoms, 5 scales concerning treatment issues and 2 scales assessing interpersonal traits (Deisinger, 1995). Although little research has been conducted on the PAI, overall findings support its reliability and validity. The standardization studies yield a test-retest reliability over a 4-week interval of the 11 full clinical scales of .86 (Morey, 1991). In addition, a number of correlational studies have been conducted to determine the convergent and discriminant validity of the PAI validity scales as measured against other commonly used measures of similar constructs. For example, the Negative Impression Measure (NIM) scale correlated significantly (r =.54) with the Minnesota Multiphasic Personality Inventory-2nd Edition (MMPI-2) (Hathaway & McKinley, 1989) Frequency (F) scale (Morey, 1991). However, no specific research was found that showed a correlation between depression measures on the MMPI-2 and the PAI.

Projective drawings have been used for over 100 years to describe and assess human behavior. Drawings are administered by having the participant draw pictures of a person of each gender, a house and a tree. They are scored by looking at the manner in which the pictures are drawn to indicate certain emotional issues. Despite overwhelming research which demonstrates low validity for such measures, they continue to be used in clinical settings (Motta, Little, & Tobin, 1993). No further research was found to suggest that drawings are valid and reliable.

Based on the assertion in a review of the literature that the PAI is a reliable and valid measure of personality, but the projective drawings are not, the current study will examine the relationship between the participants' scores on the PAI for depression and the emotional indicators scored for depression in their drawings.

Purpose of Current Study

The present study examined the relationship between self-reports of depression on the PAI and indicators of depression in projective drawings. The present study investigated whether people who score high on the depression scales on the PAI also have several indicators of depression in their projective drawings. Another important reason for the current study is to again confirm the reported reliability and validity of the two measures. Depression was measured by administering the PAI to the participants along with having them complete a set of drawings that include a person of each gender, a house, and a tree.

Hypotheses

H_1: Depression as measured by the PAI does not significantly correlate with the proposed indicators of depression on the projective drawings.

H_0: Depression as measured by the PAI does significantly correlate with the proposed indicators of depression on the projective drawings.

Operational Definitions

Depression. For the purpose of the current study, depression is defined by the DEP-C: Depression Cognitive, DEP-A: Depression Affective, and DEP-P: Depression Physiological scales of the PAI.

Proposed Indicators. For the purpose of the current study, the proposed indicators of depression from projective drawings will be defined by combining a list of indicators from Hutton (1994), Ogden (1986), and Naglieri, McNeish and Bardos (1991). These indicators predict emotional issues by the manner in which the person drew their pictures. A list of the indicators can be found in Appendix A.

Limitations of the Current Study

A limitation to the current study is that given the personal nature of the questions on the PAI, it is quite possible that some participants will not answer honestly. Using self-reports makes it easy for participants to lie on questions, although ensuring confidentiality makes it less likely to happen. The PAI has been to shown to have adequate reliability and validity. Also, using a normal population, high levels of depression would not be expected. Results might be more striking in a sample That included clinically depressed participants are included.

The Scope of the Current Study

The scope of the current study is to determine whether or not there is a relationship between the PAI and projective drawings. Answering this question will shed more light on the reliability and validity of the PAI and of the projective drawings. The information obtained in the current study could help clinicians in choosing appropriate methods for assessing personality, specifically depression.

Chapter II

Review of the Literature

Depression is one of the common disorders diagnosed in the population today. Women experience depression about twice as frequently as men. Given the prevalence of depression it is important that quality methods be used in assessing and treating depression (Blazer, Kessler, McGonagle, & Swartz, 1994). Depression is measured by criteria found in the DSM-IV such as change in appetite, sleep habits and general feeling of sadness (American Psychiatric Association, 1994).

Current literature on the topic of the Personality Assessment Inventory (PAI) is limited, yet most support Morey's (1991) assertion of adequate reliability and validity. There are also several studies which examine the inadequate validity of projective drawings (Groth-Marnat & Roberts, 1998; Norford & Barakat, 1990). The drawings have been shown to be used in a clinical setting on a regular basis while the PAI is gaining in popularity (Neale & Rosal, 1993; White, 1996).

Objective Assessment (Self Report Measures)

Some of the most widely used objective personality measures include Hathaway and McKinley's (1989) Minnesota Multiphasic Personality Inventory-2 (MMPI-2), the Beck Depression Inventory (BDI) (Beck, Steer, & Brown, 1986), and the recently published Personality Assessment Inventory (PAI) (Morey, 1991). Similar to the other two tests mentioned, the PAI is a new generation multiscale inventory that is widely used in clinical settings (Rogers, Ustad, & Salekin, 1998).

In 1994, research was conducted to explore the reliability and validity of the PAI. Participants, adults with and without psychiatric and non psychiatric diagnoses, responded

to the PAI twice, with a 28 day interval between testing. Participants included 151 non-clinical participants, 30 participants suffering from alcoholism , and 30 participants diagnosed as schizophrenic. A retest coefficient of 0.70 was obtained suggesting a less than optimal stability for the PAI. Researchers also claimed that the purported PAI factor structure was unable to be replicated for the standardization clinical sample, and a confirmatory factor analysis using the normative correctional data revealed poor fit indices, which raised further concerns about construct validity (Boyle & Lennon, 1994).

In 1995, L. C. Morey responded to Boyle and Lennon's study by pointing out there are numerous alternative interpretations of their data. He pointed out several methodological problems which include confounding of age and clinical status in their study, their inclusion of invalid PAI profiles, and the use of an unusual sample for their study.

Further research has been done which supports the reliability and validity of the PAI. Deisinger (1995) conducted a factor structure analysis on all 22 scales of the PAI. She also looked at the 11 clinical scales using 183 adults in the Chicago area. Approximately 33% of the subjects were recruited from a medium-sized urban university, with a student population composed mainly of full-time employed and returning adult students. Thirty percent of the sample came from a medium-sized urban university with a traditional student body. The remainder of the subjects (37%) were solicited through contact with various volunteer organizations and social groups in the community. Fourteen participants were excluded for not completing the questionnaire and one failed to meet the normative age. The final sample consisted of 168 participants ranging in age from 18 to 76 years. This study found the PAI's underlying factor structure to be stable.

Another study of the psychometric features of the PAI and its applications in clinical practice compared the MMPI-2 to the PAI and found the PAI to be superior in several aspects. White (1996) suggests that the PAI is better than the MMPI-2 at predicting Diagnostic and Statistic Manual of Mental Disorders-4th Edition (DSM-IV; APA, 1994) diagnoses and identifying certain forensic groups. He also suggests that this new instrument can offer extensive and sensible clinical information. In 1997, Wang et al. also found that the PAI was useful in assessing problematic behaviors. Their study explored evidence of malingering, suicidal ideation and aggression using male inmates. When compared to other psychometric measures, the PAI was highly correlated to measures of malingering, suicide ideation, and aggression, therefore they concluded that it was useful in the assessment of troublesome behaviors.

The convergent validity of the PAI was explored using a sample of 80 emergency referrals in a metropolitan correctional facility. The PAI was compared to three other measures: the Schedule of Affective Disorders and Schizophrenia (SADS; Rogers, 1995), the Structured Interview of Reported Symptoms (SIRS; Rogers, 1995), and The Suicide Probability Scale (SPS; Cull & Gill, 1982). Comparisons of all three were found to yield significant positive results to include the validity in screening for feigned profiles, establishing clinical correlates of common disorders and evaluating the potential for suicidal ideation (Rogers et al., 1998).

Overall, the research indicates that the PAI has adequate validity and reliability in assessing psychological functioning. The PAI has also been shown to have adequate convergent validity with other proven assessment tools. Although little published research is currently available, psychometric information found in the test manual suggests that this

instrument is an acceptable device for assessing psychological functioning in the adult population (Morey, 1991).

Projective Drawings

Subjective measures such as the House-Tree-Person-Person (HTPP) are also used to assess depression. Despite the overwhelming research that suggests validity and reliability of subjective measures of depression are low, these measures have consistently been rated among the 10 most frequently used assessment instruments for psychological functioning (Groth-Marnat & Roberts, 1998).

The HTPP is administered by instructing the participant to draw each item on separate sheets of paper. The order in which the pictures are drawn is important, while both sexes must be drawn to constitute the person-person section of the test. They can then be scored by noting the presence of emotional indicators. An example of an emotional indicator of depression/anxiety is the use of heavy shading. These emotional indicators have been defined by several researchers over the years. The scoring system for the current study is a combination of proposed indicators by Hutton (1994), Ogden (1986), and Naglieri et al.(1991).

Research shows that the HTPP fails to be a valid instrument in the assessment of various indicators. Norford and Barakat (1990) used Human Figure Drawing (HFD) to differentiate between aggressive and nonaggressive behavior in 4-5 year olds. Thirty-two children in a 4- and 5 year-old preschool class at a children's center were selected as participants for the study. A teacher familiar with all of the children made ratings of each participant on the Child Behavior Checklist (CBCL). Based on the aggressive subscale of the CBCL, the children were assigned to a group of either aggressive or nonaggressive. A

single examiner administered the HFD to each group. The drawings were evaluated by the two authors, yet the data used was only the scores from the first rater. Based on their evaluations, it was found that the HFD was not a valid instrument in assessing aggressive behavior in this age group. They suggest that a reason for the HFD being an inadequate measure for this age group is the lack of cognitive maturity and visual-motor coordination in children this age.

Groth-Marnat and Roberts (1998) recently conducted a study to assess the concurrent validity of HFD and House-Tree-Person (HTP) drawings as measures of self-esteem. They compared the proposed indicators of self-esteem in the drawings to two self-report measures of self-esteem, the Coopersmith Self-Esteem Inventory (CSEI) and the Tennessee Self Concept Scale (TSCS). Participants included 40 undergraduate psychology students (9 male, 31 female) aged 18 to 47. Potential participants were screened to insure that they had not suffered from any neurological disorder or taken any medications that would affect their drawing ability. Each participant was administered the HTPP, the CSEI, and the TSCS. Three raters were used to score the drawings. According to their findings, no relationship was found between the formal measures of self-esteem and indicators selected. No research was found that specifically addressed depression and drawings.

In 1993, Motta et al. reviewed data-based studies on human figure drawings and concluded that there is little empirical support for their validity to assess personality, behavior, emotional or intellectual functioning. They explain some reasons for the continued use of HTPP as being ease of administration and anecdotal reports of predictive accuracy. They suggest that HFD is one of the only tools used in the battery of

assessments by a psychologist despite the lack of empirical support for their validity and therefore, should be discontinued.

However, one study did indicate a high correlation between the Wechsler Adult Intelligence Scale-Revised (WAIS-R) Full Scale and Performance IQs and the HTPP scoring system for assessing cognitive abilities but were underestimates of WAIS-R IQs. IQ scores of 101 undergraduates were compared to J.N. Buck's scoring system. Only the first person drawing was compared, although the results suggested that adding the second person, the house, and the tree did not enhance validity (Abell, Heiberger, & Johnson, 1994).

The strengths and weakness of projective drawing techniques were evaluated by Neale and Rosal in 1993. They reviewed 17 empirical studies that covered four types of projective drawings techniques. They found the HTPP to be a reliable measure of learning disabilities and predictor of the performance of learning-related behaviors. They also found the HTPP to be free of cultural biases. Also, the Kinetic Family Drawing (KFD) had solid test-retest reliability and concurrent validity whereas the Kinetic School Drawing (KSD) was found to have strong concurrent validity when correlated with achievement measures. Overall, they claim that the drawings can offer insight into the problems of children who are often unable or otherwise unwilling to verbalize their needs or concerns.

Summary

The purpose of this study was to determine if a relationship exists between the PAI and the HTPP drawings in the assessment of depression. The depression scales on the PAI were compared to the proposed indicators of depression on the HTPP drawings.

Although no significant relationship was expected to be found, this study was conducted due to the continued use of human figure drawings in a clinical setting.

Since the PAI is a fairly new instrument, it is advantageous to conduct a new study comparing PAI results to another personality assessment method. Since projective drawings are used frequently, it may help clinicians in the selection of new measures.

This study compared the scores on the PAI's depression scales to the number of proposed depression indicators found in the drawings to see if a relationship existed. It was expected, given the overwhelming research, that there would not be a relationship between the two instruments.

Chapter III

Method

Participants

Seventy-four participants were recruited from psychology courses at a mid-size southern liberal arts university. The participants voluntarily participated in this study and students may have received extra credit for participation at the discretion of their professors. No other incentives were offered. There were no specific exclusion criteria.

Measures

Two personality assessment methods were used in this study, the PAI and the HTPP drawings. The drawings test was administered by handing out four sheets of blank 8 ½ by 11 white bond paper. The participants were given instructions about each drawing and then asked a set of questions about each drawing. The drawings were scored by a graduate student trained in interpretation of drawings. A scoring sheet based on extensive literature review was used that consisted of 1043 proposed indicators from multiple authors and scoring systems. The scoring sheet was developed by combining a list of proposed indicators from Hutton (1994), Ogden (1986), and Naglieri et al. (1991). A list of the indicators of depression can be found in Appendix A. The participants' drawings were scored by marking whether or not a certain indicator was present as defined by the author who proposed it.

The PAI is a 344-item questionnaire subdivided into 22 non-overlapping scales. These scales include 11 clinical scales used to measure symptoms of common clinical constructs such as depression, anxiety and aggression. It also contains four validity scales to check for inconsistent or random response patterns, malingering, or exaggerated

positive self-representation (Deisinger, Cassisi, & Whitaker, 1996). The PAI has been found to have internal consistency reliability as well as good test-retest reliability. It has also been found to be a valid measure of different clinical constructs (Morey, 1991).

Developed by Leslie C. Morey, The Personality Assessment Inventory was introduced in 1991. The PAI is a self-report questionnaire consisting of 344 items. The PAI was developed for use in clinical settings for the age range of 18 through adulthood. Instructions for completing the PAI is included in the question booklet. The test is answered on a four point Likert scale, with the anchors Totally False, Slightly True, Mainly True, and Very True. The necessary reading level is that of a fourth grader. The standardization sample consisted of 1,000 adults. The standardization sample was selected to match the 1995 U.S. census projections on the basis of gender, race and age (Morey, 1996).

The PAI T-scores have a mean of 50 and standard deviation of 10. Roughly 84% of the nonclinical respondents had T-scores below 60 while 98% had scores below 70. Thus any score above 70 suggests a pronounced deviation from typical responses from participants in the standardization sample.

The form of the PAI used was hand-scored by the primary investigator. The level of depression in the participant according to the PAI was measured by three subscales: DEP-C, DEP-A, and DEP-P. These subscales assess depression in the cognitive, affective, and physiological areas.

The DEP-A (affective) assesses for reported feelings of sadness or depression. The DEP-P (physiological) assesses for reported biological signs of depression such as

fatigue or change in appetite. Last, DEP-C (cognitive) assesses for reported thought processes about one's self worth or environment.

Procedure

Archival data was used for this study. The database consisted of multiple measures of personality. Data used for the current study were the participant's PAI scores on all three measures of depression along with the number of depression indicators present in their drawings. A correlational analysis was used to determine the relationship between the two personality measures.

Participants (N=74; females=51; males=23) were administered the Personality Assessment Inventory (PAI), an instrument designed to measure different clinical constructs including depression. They were also given the House-Tree-Person-Person (HTPP) personality measure to assess for emotional indicators of depression.

Chapter IV

Results

A correlational analysis was conducted to determine the existence of any relationship between the Personality Assessment Inventory and the House-Tree-Person-Person. Correlations are used to determine the direction and strength of a relationship between two variables.

Three correlations were performed between the number of emotional indicators present in the drawings and the three measures of depression on the PAI which include DEP-A, DEP-C, and DEP-P. None of the correlations were found to be statistically significant (a) DEP-A and the HTPP emotional indicators ($r = .125$, $p = 0.288$); (b) DEP-C and the HTPP emotional indicators ($r = .091$, $p = 0.440$) and (c) DEP-P and the HTPP emotional indicators ($r = .031$, $p = 0.792$). The correlations are displayed in Table 1.

Table 1

Correlations Between Depression Subscales of the Personality Assessment Inventory and Emotional Indicators of Depression in the House-Tree-Person-Person Drawings

Subscale	DEP-A	DEP-C	DEP-P
		Participants (n=74)	
HTPP	.125	.091	.031

Chapter V

Discussion

Based on the current literature review the working hypothesis of the current study states that depression as measured by the PAI would not significantly correlate with the proposed indicators of depression on the projective drawings. Correlational analysis suggests that the two measures do not have a strong positive relationship. Several factors may contribute to the relationship between the two measures not being significant.

One reason for the lack of significance may be the use of a normal population. A population that consists of participants diagnosed with major depression may result in significance. Another reason may be due to the nature of the PAI, the self report questionnaire may not have been answered truthfully. Last, the scoring of the projective drawings is somewhat subjective, therefore, the use of one rater may affect the scores.

The results could also indicate that the drawings are in fact not a valid and reliable measure of depression. Given that the PAI has been shown to be a valid and reliable measure, the drawings may not be an appropriate measure of personality and emotional indicators. Implications of this study include the suggestion of not using the drawings as a measure of personality or developing a better scoring system for the drawings.

Further research on this topic should include a population of participants with Major Depression and the use of more than one rater in scoring the drawings. Also, future research may consider comparing the drawings to another measure of depression such as the Beck Depression Inventory. A last consideration should be comparing a different clinical construct such as anxiety or aggression.

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Appendices

Appendix A

List of depression indicators in drawings

1. Drawing low on page (Ogden, 1986)
2. Drawing on edge or bottom of page (Ogden, 1996, Naglieri, McNeish & Bardos, 1991)
3. Drawn in lower left hand of page (Ogden, 1986)
4. Very short, circular strokes (Ogden, 1986)
5. Unusually light pressure (Ogden, 1986, Hutton, 1994)
6. Unusually small or short (Ogden, 1986)
7. Lack of detail (Ogden, 1986)
8. Excessive or bizarre detail (Ogden, 1986)
9. Extreme bilateral symmetry (Ogden, 1986)
10. Nose emphasis (Ogden, 1986)
11. Nostril emphasized (Ogden, 1986)
12. Mouth emphasis (Ogden, 1986)
13. Single line mouth (Ogden, 1986)
14. Omitted hands (Naglieri, McNeish & Bardos, 1991)
15. Resistance to draw feet (Ogden, 1986)
16. V-shaped feet (Ogden, 1986)
17. Slanting stance (Ogden, 1996, Naglieri, McNeish & Bardos, 1991)

Appendix B

HTPP Post-Test Questions (Person #1, Person #2, Tree, House)

1. What is the gender of the person?
2. How old is the person?
3. What is the person thinking?
4. What is the person feeling?
5. What is the person doing?
6. What is the gender of the person?
7. How old is the person?
8. What is the person thinking?
9. What is the person feeling?
10. What is the person doing?
11. What kind of tree is this?
12. Where does the tree live?
13. What does this tree need?
14. What is the tree doing?
15. How old is the tree?
16. What is the tree thinking?
17. How does this tree feel?
18. What is the weather like around this house?
19. Whose house is this?
20. What is your favorite room in this house?
21. What is the weather like around this house?
22. What does this house need?
23. If this house could tell a story, what type of story would it tell?

Vita

Shannon Grant-Beuscher was born in Clarksville, Tennessee, on June 7, 1975. She attended elementary and junior high schools in Clarksville and graduated from Clarksville High School in May, 1993. The following August she entered Austin Peay State University in Clarksville, and in May, 1997 received the degree of Bachelor of Business Administration in Marketing. She entered the psychology graduate program at Austin Peay in August 1997. She will receive a Master of Arts degree in School Psychology in May, 2000.