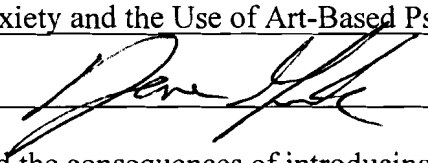
AN ABSTRACT OF THE THESIS OF

Brande R. Buss for the Master of Science

in Art Therapy presented on November 21, 2000

Title: Assessment Anxiety and the Use of Art-Based Psychological Assessments

Abstract approved: 

This study investigated the consequences of introducing art into a psychological assessment on a participant's level of anxiety. Participants were 85 individuals from a Mid-Western Kansas college and the surrounding community. Participants were given one of three assessments [Draw-A-Person (DAP), Test Anxiety Scale (TAS), Minnesota Multi-Phasic Inventory-2 (MMPI-2)] with a pretest/posttest questionnaire to measure levels of mood, anxiety, and depression. Results indicate that individuals given the DAP have significantly higher changes in their anxiety levels and a significant change in the mood compared to individuals given the TAS or the MMPI-2. No gender differences were found.

ASSESSMENT ANXIETY AND THE USE OF ART-BASED PSYCHOLOGICAL ASSESSMENTS

A Thesis

Presented to

the Division of Psychology and Special Education

EMPORIA STATE UNIVERSITY

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

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by

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December 2000

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ACKNOWLEDGEMENTS

I would like to thank David Gussak for participating and taking on the challenge of the thesis committee chair and advisor. I would also like to express my gratitude to Dr. Kenneth Weaver and Dr. Loren Tompkins for participating on the committee and for their help and encouragement.

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CHAPTER I

INTRODUCTION

In the course of studying art therapy and the techniques and tools of the profession, several psychological assessments have been discussed, including art-based assessments and tools. While investigating these art-based assessments and the use of artistic tools (ie..colored pencils, drawing pencils, etc.), little information was obtained about possible problems with their use, such as: lack of skill with the artistic tools, loathing of artistic tools, and possible fear of artistic tools. The fear of artistic tools is the present research study's focus.

Several research studies (e.g., Onwuegbuzie, 1995) have evaluated various aspects of test anxiety. These aspects range from differences between gender variations to bio-chemical body changes. However, no research on the use of art-based testing, art therapy and test anxiety, or fear of the unknown and has been located.

Since a majority of the public has had little contact with artistic tools since elementary school, some individuals who are introduced to them during art-based assessments may become fearful or anxious during the process. This chapter investigates and discusses the problem, gives the purpose of the research study, its significance to the field of art therapy, and reviews the relevant literature.

Statement of Problem

Art therapists use many art-based tools when evaluating individuals with various psychological, environmental, emotional, and/or social problems. Compared to projective assessments such as the Thematic Apperception Test, where individuals are shown a series of pictures and asked to create a story (Groth-Marnat, 1997) or personality

inventories like the Minnesota Multi-Phasic Personality Inventory (MMPI/MMPI-2) or standardized questionnaire (Groth-Marnat, 1997), art-based tests like the Draw-A-Person (DAP) use artistic tools (colored pencils), procedures, and supplies (paints, clays, etc.). A client's sudden introduction to art-related devices may cause anxiety, which could thus skew the results of the psychological evaluation. Incorrect psychological evaluations can corrupt diagnosis, procedures, and treatment. Besides the client's discomfort, which can cause poor relations between the client and the therapist, incorrect diagnoses could cause damage to the therapeutic process. Such information and the research process may strengthen this art therapist's ability in the field.

Statement of Purpose

The purpose of this thesis is to ascertain whether art-based testing is related to anxiety. To answer this, a quasi-experimental research study was conducted. The quasi-experimental approach introduced the treatment (art-based assessments) to determine if anxiety levels rose. The hypothesis stated that the introduction of art in a psychological assessment would cause more anxiety in participants than assessments that did not utilize art tools, supplies, and techniques.

Literature Review

The DAP procedure and anxiety were investigated to uncover any possible past information related to this research study. Test anxiety was chosen because its relevance to psychological assessments and how it closely relates to academic tests. Fear of the unknown was investigated because artistic tools may be relatively unknown to many people. The idea of chemical reactions in the human body was studied because of its close ties to fear of the unknown and how people react physiologically to situations.

Finally, test administration was discussed because of its relevance to any exam (whether academic or psychological) in relation to how the administrator presents his/herself, which can affect the examinee.

DAP and anxiety. Several studies were located concerning the DAP and anxiety, but all of them dealt with the DAP testing for anxiety. No research investigated whether the DAP could cause anxiety. Handler (1984) discussed the problems of the DAP and anxiety testing by stating that "interpretations on the basis of artistic ability rather than on the basis of Psychopathology or anxiety-related variables" (p. 82). In other words, interpreters of the DAP were placing too much meaning on artistic ability and not on anxiety related variables. Johnson (1971) found opposite results stating that the DAP was a good assessment to recognize anxiety. Johnson found no evidence of any problems with too much emphasis on ability.

Test anxiety. If an individual can become anxious over an academic test, then the idea of anxiety about an assessment (which is much like an academic test) is possible. Miles (1980) stated that the use of tests in therapy must be explained fully to individuals because many adults fear tests. Test anxiety was divided into three sub topics: academic tests, psychological tests/assessments, and gender issues.

Test anxiety is defined as "intense dread, apprehension // nagging worry or an instance of this" (Cayne, 1993, p. 232) when confronted with a test or exam. Academic test anxiety is relevant to this research study because of the amount of information that can be located and how it relates to psychological assessment anxiety. Hickey (1980) stated that his research suggested that the cognitive and psychological components of test anxiety are interrelated and that test anxiety may be caused by a psychological reaction to

the situation and not the specific type of test (academic/psychological). If individuals have academic test anxiety, they could also experience psychological assessment anxiety.

Birenbaum (1994) studied the effects of study habits on test anxiety. All of Birenbaum's studies identified what he felt were the two types of individuals who suffer from test anxiety: "those who lack test-taking skills and those who lack study skills" (p. 293). In general, Birenbaum believed that if students were taught the proper test taking and study skills, their test anxiety symptoms would be alleviated. This is relevant to psychological assessments because of the idea of pre-test knowledge. If individuals know more about the test, they will feel more knowledgeable and are less likely to become anxious. Wine (1979) suggested that when an exam was expected, concern about evaluations from others generally increased. This research also suggested that if people are introduced to the idea of a psychological assessment before the process, they can become more comfortable with the idea, and then their levels of anxiety could possibly be reduced. If individuals are given a psychological exam without receiving any information regarding it, they may develop fear of the unknown. Because people may become worried about what information the psychological exam will produce or what exactly will happen during the procedure, they may become anxious and cause the results to be flawed.

Individuals who feel anxious about tests may also have anxiety about a psychological assessment. Currently there is no literature on art-based assessments causing anxiety or even art therapy and test anxiety. Handler and Reyher (1964) studied the DAP and wrote that drawing the human figure was anxiety producing. Though he focused on the DAP testing for anxiety he did discuss the idea that drawing could make a

person anxious. Leary (1984) developed one idea that supported the idea of psychological settings causing anxiety. He stated, "social anxiety may be defined as anxiety resulting from the prospect or presence of interpersonal evaluation real or imagined in social settings" (abstract). These two ideas together relate to fear of the unknown because art can cause anxiety itself, but when it is related to evaluation (and art is the unknown to many individuals) together, the two ideas can cause anxiety. This relates to fear of the unknown and not knowing what to expect during the art-based assessment.

Another consideration of test anxiety is whether men and women differ. For example, Onwuegbuzie (1995) reported that women tend to report higher levels of anxiety than men, but all of his research focused on academics and anxiety. Sims, Dana, and Bolton (1983) found that in relation to drawing assessments used to test for anxiety, the correlation for anxiety was higher for girls than for boys. Contrary to these findings, two separate researchers, Prytula and Hiland (1975) and Verinis (1974) found that there were no differences between genders. If there is a difference between men and women in response to psychological assessments, then different ways to alleviate or compensate for that stress must be explored.

Fear of the unknown. Several aspects were discovered that related to 'fear of the unknown'. This is relevant because fear of the unknown means strong, unpleasant emotional or attitude response to experiences that have never been encountered before. For example, if people have never had an art class or has not experienced any form of art (during an assessment where they were asked to draw or color), they may become anxious or nervous because of the lack of knowledge or experience with art. Three

important categories were utilized for this research study: fear of success (FOS), fear of failure (FOF), and fear of new experiences.

Several research studies discussed FOS. FOS can be related to succeeding and not knowing where to go from there, and fear of the attention that will arise if the person succeeds at the task. Some individuals may fear accomplishing their goals because they may fear creating new ones or starting over with new goals. Some individuals may fear the attention they will receive if they succeed at something, so they avoid the success. Piedmont's (1995) research discussed issues surrounding fear of failure and test anxiety vs. fear of success. His results concluded that test anxiety related not only to FOS, but it "appears to be correlated with one's aspiration levels" (p. 147). Piedmont felt that test anxiety was caused by fear of succeeding at something and would fail to try because they were frightened of succeeding which was caused by their lack of knowledge about where to go (a continuation from that point on). Paludi (1981), who researched FOS, stated that both FOS and FOF in competitive situations are perceived different by men and women. Meaning that women reported higher levels of anxiety in the same situations that men reported lower levels. Ward (1976) also found similar differences between men and women, stating, "women experience anxiety in competitive situations and learn to fear success because of its inconsequent with the traditional feminine role" (p. 1055). So this idea suggests that women are frightened of success because it contradicts the feminine role in society. This idea of 'women fearing success' relates because of the notion that women are scared of doing well on a psychological assessment, which may make them appear less than feminine to the researchers. Ward discussed the idea that women may feel that if they do too well on a psychological exam they will appear too manly, which

may harm their reputation. They became fearful of this during the assessment and anxiety develops. This fear may then cause anxiety during the assessment, thus skewing the results. Though several articles were located on the idea of women fearing success on psychological assessments because of appearing too manly, little to none were located that were written since the 1970s.

Fear of failure is a concern in both academic and athletic areas, for instance many individuals fear failing in front of their peers. This fear will cause them to not try something academically or physically. This relates highly to fear of new experiences or the unknown. Piedmont (1995) discussed the possibility that FOF can not only cause an individual to fail to try something, but can also cause high levels of anxiety in that person. If people are afraid to try something new, it can cause anxiety in the person when they are faced with the moment when they try it. Altogether, people can be scared of trying something new because of the results, so they fail to try new experiences.

Landis and Mettler (1964) stated that fear is a very strong passion, which can become so pervasive and powerful it causes a breakdown of intellectual and rational reason. This breakdown could cause a person to react differently during the assessment. In this paper, FOF coincides with fear of the unknown because individuals may fear what may occur after they fail at something. The unknown could be peer reaction, consequences, or fear of trying again. Morton (1979) stated, "fears are developed through learning from individual and social experiences" (p. 197). So if a person has failed a test before, or has taken a personality assessment and did not agree with the results, they could develop fear of assessments. So FOF, compounded by the introduction of a new element (art), and could increase levels of anxiety.

Many individuals have speculated about fear of the unknown. When individuals are faced with something new, such as an art therapy assessment, they can become fearful of the outcome and develop assessment anxiety (which in this paper is anxiety over some form of psychological exam or interview). This study questions whether fear of the unknown related to art can become anxiety, which can cause individuals to react differently during the assessment. This reaction to the procedure could skew the results of the assessment. No research was found concerning non-students and test anxiety or psychological tests (assessments) and anxiety. This reaction (anxiety) may not only be a psychological as well as physiological.

Chemical reactions in the body. Anxiety may cause chemical changes in the human body which alter our reactions. TSP (Total Serum Proteins) levels and adrenaline are important because the effects of anxiety, and exactly what bodily processes could possibly cause anxiety, have not been determined. TSP are proteins that are produced by the adrenal gland. There are individuals who believe that anxiety is caused by biochemical changes in the body (TSP and adrenaline levels) or that they are related to other personality disorders, such as depression or anxiety.

"Results suggest that many adolescents with extreme TASC (Test Anxiety Scale for Children) scores experience anxiety disorders. High levels of self-reported fear, anxiety, depression, and hopelessness were also evident in these youngsters" (King, Mietz, Tinney, & Ollendick, 1995, p. 49). Individuals (especially students) who have chemical illnesses such as depression also have a higher chance of suffering from test anxiety because of the different chemical imbalances in their bodies. Hunsel et al. (1998) reported that "there are some indications that psychological stress may be accompanied

by changes in Total Serum Protein (TSP), serum concentrations of the electophoretically-seperated proteins and Acute Phase Proteins (APPs)" (p. 301). These serum concentrations could be caused by, or could cause, test anxiety. Hunsel et al. believed that either anxiety caused these levels to rise, or that this rise in TSP could in turn cause the symptoms of test anxiety. Maes et al. (1995) also investigated depression and TSP, and found that "hyperactivity may be involved in alterations of TSP" (p. 62) suggesting that hyperactivity and anxiousness are caused by changes in TSP levels. This hyperactivity, caused by changes in TSP levels, could be related to anxiety in individuals during assessments.

Does fear of the unknown cause different biochemical responses in the body that could create anxiety and/or an over abundance of adrenaline? These biochemical reactions in the body can do two different things to people: they can produce a rush of adrenaline, which can cause a natural high and then develop into excitement (which may be why we have 'dare devils'), or they can cause sweaty palms, rapid heart beat, and nervousness which develops into anxiety and fear. Munjack et al. (1990) discovered data that supported the notion that "symptoms associated with anxiety can be produced by the sympathetic adrenal medullae discharge of catecholaments" (p. 35), which is an adrenaline rush. So Munjack et al. believed that adrenaline rushes cause anxiety symptoms. A new experience may induce adrenaline which in turn causes anxiety levels to raise.

Test administration. Bauer (1977) stated that test performance could be improved through studying people versus computer administration, and verbal and physical appearance of the administrator during the assessment. These aspects are important

because the environment that the test/assessment is given in has a great affect on the individual participating including anxiety levels.

Some individuals suggest that there is a possibility of differences of the results of assessments given by people versus computers given assessments. Most of the literature found was concerned with academic testing not psychological testing/assessments. Vispoel's (1998) research "focused on the effects of administration mode" (p. 155), specifically computer-adaptive tests vs. self-adaptive tests. When referring to administrations mode, Visopel discussed how tests were administered to individuals, either by computer or by a person. Vispoel felt that the person and/ or machine administering the test could have a direct affect on test anxiety. He believed that since computers remain the same while people have the possibility to change their voices, mood, and even their stance, could directly affect participants. Some people also look at it with the view that computers can be cold and impersonal while people have the ability to be compassionate, which can affect results. Cambre and Cook (1984) felt that computer anxiety relates highly to test anxiety, and that there was a good correlation between the differences in the results of males and females.

Physical appearance also plays an important role during an assessment. No literature was located on examiner's appearance and its relation to a participant's anxiety level, but the idea behind this section deals with the way in which the administrator approaches the participants and/or the assessment. If the administrator approaches the process with a negative mood or their appearance is sloppy and unorganized, participants may be affected, which in turn affects their results. Kaplan (1983) stated that "if the symbiosis is insufficiently gratifying or if it is incompletely resolved, subsequent

psychological development will be hampered" (p. 79). This idea suggests that if a proper bond is not made, because of appearance or attitude, than the process of assessing and therapy will be altered or hampered.

Research Question

The following research question was addressed:

Is there a difference between the anxiety levels of men and women when taking an art-based assessment?

Hypotheses

The study investigated the following hypotheses:

Hypothesis 1: The introduction of art and/or artistic tools in a psychological assessment would cause an increase in anxiety levels, compared to assessments that do not utilize art tools or techniques.

Hypothesis 2: The introduction of art and/or artistic tools in a psychological assessment would cause an increase in levels of mood, compared to assessments that do not utilize art tools or techniques.

Hypothesis 3: The introduction of art and/or artistic tools in a psychological assessment would cause an increase in levels of depression, compared to assessments that do not utilize art tools or techniques.

CHAPTER II

METHOD

Participants

Target population. The target population, the ideal people for which this study utilized, was any individual (age, race, or social class) who would seek therapy or had been recommended to a therapist that utilized art-based assessments. A good sample would include a wide variety of ethnicities and ages from any/all countries (who can speak and read English). These people are considered the target population because they are the population who are most likely to be generalized to the actual individuals who take/receive these art-based assessments everyday.

Accessible population. The accessible population, the population that is readily available for the researcher, was a mix of college students taking a beginning psychology class and members of the general population. The research study consisted of 43 university students (22 males and 21 females) from a mid-western University and 42 members of the general population of a mid-western community (21 males and 21 females). Every participant was above the age of 18 because of age of consent issues dealing with minors. The accessible population was chosen because of the wide variety of ethnicities, educational backgrounds, and availability to this research study. These participants were suitable to this study because of the wide range of ages (school and community), ethnicities (the university has a large cultural exchange program), and education/social background that was found both in the university and the community. This wide range related highly to the people who are seen by art therapists on a daily basis.

Experimental Design

This research study was a quasi-experimental design that worked with an intact group of individuals. The independent variable of this study was gender. The dependent variables of this study were the difference of scores between the posttest and the pretest for anxiety, mood, and depression.

Instruments

The Draw-A-Person (DAP) is a 1949 revision of Florence Goodenough's Draw-A-Man test from the 1920s (Groth-Marnat, 1997). In the process of "administering Goodenough's Drawing-of-A-Man test for usual IQ purposes, it was discovered that careful study of the individual drawings often yielded rich clinical material not related to the intellectual level of the subject" (Machover, 1949, p. 20). Machover (1949) felt that the DAP gave the individuals the "opportunity to unburden their private fantasies, their anxieties, and their guilt upon the objectified and impersonal figures which they drew" (p. 20). The DAP required the individuals to create three drawings. Participants were first asked to draw a person of their choice; second, to draw a person of the opposite sex of the first drawing; and finally, to draw themselves. Each figure that was drawn should have been a whole figure and should not have been a stick figure. Normally the three drawings would be analyzed for several different things in their content including, but not limited to, facial expressions, lack of body parts/clothes, and even movement/position of the figures were assessed for meaning. For this research the DAP assessment, given to the experimental group, was used as an inducer of stress and was not analyzed or scored.

The alternative group was administered the Test Anxiety Scale (TAS), which was created by I.G. Sarason (1980), for the use in schools to discover if students had test

anxiety. It consists of 37 questions that deal with tests, bodily reactions to tests, and study habits. Examples are, "I sometimes feel my heart beating very fast during important exams" and "Before an important examination, I find my hands or arms trembling" (Sarason, 1980). For this research the TAS was used only as an inducer of stress and therefore was not scored.

The comparative group was given the Minnesota Multi-Phasic Inventory-2 (MMPI-2), which is a revision created in 1990 by Butcher and colleagues. Hathaway and McKinley created the original MMPI in 1943. Both the MMPI and the MMPI-2 are self-report inventories on the participant's personality. "Subjects are asked to indicate whether each statement is true or false as it applies to them" (Sue, Sue, & Sue, 2000, p. 77). Individuals were given a section of the MMPI-2 that was approximately the same in length as the DAP and the TAS. For this research the MMPI-2 section was used as an inducer of stress and was not analyzed or scored.

The pretest/post-test self report questionnaire was developed by the researcher to evaluate levels of mood, depression, and anxiety. The pretest provided a baseline of anxiety, mood, and depression by having the individuals report on a scale of one to ten, their results. Both the pretest and the posttest were given to all the groups and consisted of six questions pertaining to the moment in time when the participant was taking the questionnaires. For example, "I would rate my mood as [1 (calm), 5 (nervous), 10 (anxious)]" and "I would rate my level of anxiety as [1 (low), 5 (mildly anxious), 10 (high anxiety)]." Each question had 10 possible answers, which gives the participant a moderately wide possibility of choice (5 to small and more than 10 too many). The posttest was the same self-report questionnaire as the pretest except the questions were

arrange in a different order. This posttest showed any changes in the levels reported by the participants. The validity of this pretest/posttest was computed by asking 30 volunteers to complete the pretest. Then the information, from the 30 volunteers, was placed into SPSS and a validity comparison test was run. The results returned a standardized item alpha = .68.

Procedures

In preparation the researcher submitted a proposal to the Institutional Review Board (IRB) of a mid-western university where the research took place, for permission to conduct this study. In this proposal the researcher explained whom the participants were, how they were contacted, how the study was conducted, and the instruments that were used. If the IRB had any questions or concerns, the researcher would have started over with the application and make any changes or corrections the board suggested.

After getting permission from the IRB and thesis committee, the researcher then posted a sign up sheet for students and members of the community to volunteer. The sign up sheet was placed in a common/community area for students in the building where the psychology classes were held as well as around the community for other non-student participants to volunteer. The sign up sheet notified participants that the research would be conducted on a one-to-one basis at a time that is convenient to both the participant and the researcher. After collecting the sign up sheets, which were posted for about two weeks, the researcher then phoned each participant and scheduled an appointment. Assessments were given individually during the appointments. Appointments were held in a scheduled room in the university. Each appointment was held in the same room to keep the environment stable throughout the research study. During the appointments

each individual was first introduced to the examiner and asked to read and sign the consent form. Participants were given an informed consent document (Appendices C, D, F), which was written for their particular group. All three versions stated that they are allowed to withdraw at any point without consequences, that the university supported the study, and that their name would never be used or seen by anyone other than the researcher. The three versions varied slightly in one paragraph where it gave them a brief description of the assessment in which they were about to participate. Each participant was then given the opportunity to ask any questions about the procedure. If an individual did not wish to participate or decided not to sign the consent form, they were thanked and then dropped from the participation pool. Next, a structured demographic interview questionnaire was given to discover general information about the participant and if there was any possible history of test anxiety.

Participants were then given the pretest on anxiety, mood, and depression levels to determine a baseline for each. Then, depending on which group they were assigned to, they were given either the DAP (experimental group), TAS (alternative group), or MMPI-2 (comparative group).

In the experimental group (DAP) individuals were asked to draw three human figures according to the DAP protocol. These figures included the first figure, which was be of their choice; the second figure was to be of the opposite sex of the first figure; and the third figure was to be one of themselves. Colored pencils and paper were made available to participants. This activity took approximately thirty minutes.

Alternative group participants were asked to take the TAS, a pencil test about anxiety. The TAS is a self-report questionnaire about past history of anxiety. Pencils

were made available to the participants. This activity took approximately 30 minutes.

Control group individuals were given the MMPI-2, which is a fill-in answer test about their personality. This test is a basic psychological assessment. It took approximately 35 minutes to complete.

Next, the participants were asked to fill out the posttest anxiety level gauge. When finished with the posttest the participants had 15 minutes to ask any questions about the procedure and received an explanation about the study. At this time they could be given information dealing with the idea of anxiety and the assessment but were not told about the exact theory or research questions that were being studied to prevent individuals from telling other possible participants the details of the study. In total, the process took 45 minutes to 1 hour.

CHAPTER III

RESULTS

Separate 2 (Gender: Men/Women) x 3 (Assessment: Draw-A-Person [DAP], Test Anxiety Scale [TAS], or Minnesota Multi-Phasic Inventory [MMPI-2]) between subject analysis of variance were run on the anxiety, mood, and depression dependent variables. The dependent values were the post assessment – pre assessment differences

Research Question and Hypothesis 1

The results of the analysis of variance for anxiety are presented in Table 1. Gender was not significant, $F(1,79) = 2.68$, $p > .05$. Assessment was significant, $F(2,79) = 6.28$, $p < .01$. The Gender x Assessment interaction was not significant, $F(2,79) = .29$, $p > .05$.

The Tukey's Honestly Significantly Difference test was performed on the assessment main effect. The participants exposed to the DAP assessment ($M = .9$, $SD = 1.4$) had significantly higher anxiety levels in contrast to those exposed to TAS assessment ($M = .07$, $SD = 1.25$) and MMPI-2 assessment ($M = .004$, $SD = .76$). The latter two groups did not differ. Thus the answer to the Research Question "Is there a difference between the anxiety levels of men and women when taking an art-based assessment?" is no. In addition, Hypothesis 1, "The introduction of art and/or artistic tools in a psychological assessment would cause and increase in anxiety levels, compared to assessments that do not utilize art tools or techniques," was supported.

Hypothesis 2

The results of the analysis of variance for anxiety are presented in Table 2. Gender was not significant, $F(1,79) = 1.65$, $p > .05$. Assessment was significant, $F(2,79)$

Table 1

Summary of Analysis of Variance for Anxiety

Source	df	SS	MS	F	Omega Squared
Gender	1	6.29	6.29	2.68	.11
Assessment	2	29.43	14.71	6.28*	.16
Gender x Assessment	2	1.33	.67	.29	
Error	79	185.00	2.34		

* $p < .01$

= 5.13, $p < .01$. The Gender x Assessment interaction was not significant, $F(2,79) = .59$, $p > .05$.

The Tukey's Honestly Significantly Difference test was performed on the assessment main effect.

The participants exposed to the DAP assessment ($M = .9$, $SD = 1.4$) had significantly higher anxiety levels in contrast to those exposed to TAS assessment ($M = .07$, $SD = 1.25$) and MMPI-2 assessment ($M = .004$, $SD = .76$). The latter two groups did not differ. Thus Hypothesis 2, "The introduction of art and/or artistic tools in a psychological assessment would cause an increase in levels of mood, compared to assessments that do not utilize art tools or techniques," was supported.

Hypothesis 3

The results of the analysis of variance for anxiety are presented in below. Gender was not significant, $F(1,79) = 1.76$, $p > .05$. Assessment was insignificant, $F(2,79) = .7$, $p > .05$. The Gender x Assessment interaction was not significant, $F(2,79) = .1$, $p > .05$. Thus Hypothesis 3, "The introduction of art and/or artistic tools in a psychological assessment would cause an increase in levels of depression, compared to assessments that do not utilize art tools or techniques," was not supported.

Table 2

Summary of Analysis of Variance for Mood

Source	df	SS	MS	F	Omega Squared
Gender	1	2.29	2.29	1.65	.11
Assessment	2	14.24	7.12	5.13*	.13
Gender x Assessment	2	1.64	.82	.59	
Error	79	109.67	1.39		

* $p < .01$

CHAPTER IV

DISCUSSION

The purpose of this study was to determine if the introduction of art in a psychological assessment would cause levels of anxiety to rise in participants as well as to determine if levels of depression and mood would change. Several students reported a previous history of test anxiety, but none had a significant number of instances and/or attacks. No one reported a diagnosis of test anxiety or general anxiety.

Research Question and Hypothesis 1

There was no significant difference between men and women for anxiety. Neither men nor women had higher levels of anxiety when taking any of the assessments provided in this study.

The information gathered had significant results that support the hypothesis. It is concluded that when art is introduced into a psychological assessment (art-based assessments), both men and women became more anxious.

Hypothesis 2

The information gathered had significant results that support the second hypothesis. When art was introduced into a psychological assessment (art-based assessments), both men and women had significantly increased levels of mood.

Hypothesis 3

The information gathered had insignificant results in relation to depression. It is concluded that when art is introduced into an assessment, neither males nor females had significant increases in their levels of depression.

One aspect of the study that could not be supported or rejected was the idea that a

history of art, or further art education past freshmen year in high school, would reduce the levels of anxiety when faced with an art-based assessment. This idea was researched but a lack of participants with art experience could not be located and utilized. Strengths of this study include the random placement of the participants, the wide variety of age, ethnicity, and year in school (if in school), as well as the actual procedure. An aspect of the study that worked great during this experiment was the scheduling of different appointments for the participants. The participants were more willing to volunteer when the appointments where made to fit their schedules. Internal validity was compensated for by the inclusion of extra participants in the pool in case anyone left, did not complete the assessment, had a history of anxiety/test anxiety, and/or were interrupted during the procedure. One aspect of the study that caused problems was a participant not showing for their appointments, showing late, or arriving early and disrupting the schedule of other participants. A second problem was the lack of individuals who had a history of art or art education. Results of this study offer ideas for future studies, which include a study that utilizes both artists and non-artists, and development of ideas on how to minimize the anxiety that is created with the introduction of art.

Conclusion

In an overall summary of this research, three things were investigated (anxiety differences between three groups of people taking three different assessments, mood and depression levels amongst those individuals and difference in those results between genders). Three assessments where given (Draw-A-Person, Test Anxiety Scale, and the Minnesota Multi-Phasic Inventory-2) and a pretest/posttest (created by the author) was used to measured the possible differences amongst the groups. Participants were both

college students and members of the community. Assessments were given on an individual appointment basis to fit their schedules with a total of 85 participants volunteering. They consisted on a wide variety of ages, ethnicity's, and education/social status. Results supported the idea that individuals given an art-based assessment had higher changes in the anxiety and mood levels than individuals given the non art-based assessments. Suggestions for further research include a study that included artists vs. non-artists and research into ways to compensate for the raise in anxiety. One idea for compensation could include the idea of a pre-assessment discussion of art-based assessments or a pre-assessment introduction to art-based assessments (possibly an art-based activity).

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APPENDIX A
QUESTIONNAIRE OF DEMOGRAPHICS

Pseudonym:

Age:

Date of Birth:

Ethnicity:

African American Caucasian Asian

Native American Other

Year in School:

Freshmen Sophomore Junior Senior Graduate

Gender: Male Female

Major: Minor:

APPENDIX B
PRETEST/POSTTEST

Pseudonym:

At this moment in time:
I would rate my level of depression

1	2	3	4	5	6	7	8	9	10
low			mildly depressed					depressed	

It is related to
School this testing other

I would rate my level of anxiety as

1	2	3	4	5	6	7	8	9	10
low			mildly anxious					highly anxious	

It is related to
School this testing other

I would rate my mood as

1	2	3	4	5	6	7	8	9	10
calm				nervous				anxious	

It is related to
School this testing other

Pseudonym:

At this moment in time:
I would rate my level of anxiety as

1	2	3	4	5	6	7	8	9	10
low			mildly anxious					highly anxious	

It is related to
School this testing other

I would rate my level of depression

1	2	3	4	5	6	7	8	9	10
low			mildly depressed					depressed	

It is related to
School this testing other

I would rate my mood as

1	2	3	4	5	6	7	8	9	10
calm				nervous				anxious	

It is related to

School this testing other

APPENDIX C
CONSENT FORM DAP

The Department of Psychology and Special Education supports the practice of protection for human subjects participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time, and that if you do withdraw from the study, you will not be subjected to reprimand or any other form of reproach.

A pseudonym (fake name) of your choice is required in order to maintain your confidentiality. Your real name will not be used and outcomes will not be discussed with anyone else.

In this study, you will be asked to participate to the best of your ability. You will be asked to draw three separate pictures of people on 8 ½" by 11" paper. This study is to learn more about assessments in the field of art therapy. Upon completion of this exercise, questions may be asked about the research study.

I,_____(pseudonym), have read and understand the above information and agree to the terms and process as stated.

Thank you for your assistance

_____
(real name)

APPENDIX D
CONSENT FORM TAS

The Department of Psychology and Special Education supports the practice of protection for human subjects participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time, and that if you do withdraw from the study, you will not be subjected to reprimand or any other form of reproach.

A pseudonym (fake name) of your choice is required in order to maintain your confidentiality. Your real name will not be used and outcomes will not be discussed with anyone else.

In this study, you will be asked to participate to the best of your ability. You will be asked to take a test/questionnaire. This study is to learn more about assessments in the field of art therapy. Upon completion of this exercise, questions may be asked about the research study.

I,_____(pseudonym), have read and understand the above information and agree to the terms and process as stated.

Thank you for your assistance

_____
(real name)

APPENDIX E
CONSENT FORM MMPI-2

The Department of Psychology and Special Education supports the practice of protection for human subjects participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time, and that if you do withdraw from the study, you will not be subjected to reprimand or any other form of reproach.

A pseudonym (fake name) of your choice is required in order to maintain your confidentiality. Your real name will not be used and outcomes will not be discussed with anyone else.

In this study, you will be asked to participate to the best of your ability. You will be asked to take a personality test/questionnaire. This study is to learn more about assessments in the field of art therapy. Upon completion of this exercise, questions may be asked about the research study.

I,_____(pseudonym), have read and understand the above information and agree to the terms and process as stated.

Thank you for your assistance

_____
(Real name)

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Brande R. Buss

Signature of Author

December 14 00

Date

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Title of Thesis

Wany Cooper

Signature of Graduate Office Staff Member

12-15-00

Date Received