



## Indicators of depression and self-efficacy in the PPAT drawings of normative adults



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### ABSTRACT

The present study sought to examine whether individuals with elevated levels of introjective depression, anaclitic depression, and self-efficacy, artistically express themselves differently. Sixty young adults, between the ages of 20 and 30, were asked to draw a person picking an apple from a tree (PPAT) and respond to the Depressive Experiences Questionnaire (DEQ). The drawings were analyzed and rated according to the FEATS. Participants were divided into three groups, based on their higher personality traits on the DEQ. Individuals with elevated levels of self-efficacy showed high levels of problem-solving in their PPAT. Also, individuals with elevated levels of introjective depression received low scores on the FEATS scale that could implicate depression. The study offers that the PPAT, in conjunction with the FEATS manual, can be used to reliably distinguish between individuals with high degree of specific features of depression through using the DEQ.

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### Introduction

In the past three decades, personality stands in the center of depression research as an important vulnerability factor (Zuroff, Mongrain, & Santor, 2004). Personality development has been found to include factors such as interpersonal relatedness, self-identity, self-definition, and interactions within one's environment (Besser & Priel, 2011). Extreme emphasis and preoccupation with such factors, expressed through critical thinking, is believed to prompt types of depression (Besser & Priel, 2011).

Depression continues to be increasingly conceptualized multidimensionally, leading to marked differences in reported subjective experiences (Reis & Grenyer, 2002). Introjective and anaclitic depression are two common types of depression that not only affect an individual's level of functioning, but also aspects of the personality.

#### *Introjective depression*

According to Blatt (1974), introjective depression is characterized by harsh, constant, and maladaptive self-scrutiny. Attempting to manage chronic self-worth, guilt, and self-blame through the compulsive striving for achievement of often unrealistic goals can result in failure by not being able to live up to expectations and standards (Blatt, 2004).

Individuals with high levels of introjective depression can suffer from a fragile self-esteem and tend to focus on the achievement of lofty goals to ward off underlying feelings of unworthiness and incompetence (Mongrain & Leather, 2006). Introjective personality configuration can be associated with parental rejection and restrictiveness, referring to concerns about the loss of acceptance and approval (Marshall, Zuroff, McBride, & Bagby, 2008). Individuals preoccupied with issues of self-definition and self-worth can be vulnerable to experiences of failure and tend to react to these experiences with feelings of incompetence, worthlessness, and guilt. Individuals can often isolate themselves, and their relationships tend to be fraught with ambivalence and conflict. Individuals with high levels of introjective depression are vulnerable to distortions that over-emphasize the critical, judgmental attitudes that significant people have toward them. Since they value their autonomy, they are usually reluctant to seek help (Blatt, 2004).

#### *Anaclitic depression*

Anaclitic personality is characterized by externally focused interpersonal concerns, intense neediness, fears of rejection, and a dysphoric tone stemming from feeling unloved, unwanted, neglected, and abandoned (Blatt, 2004). The individual tends to express a childlike dependency, has a minimal capacity for frustration, and may desire to be fed, sheltered, comforted, and soothed in a direct and immediate fashion (Blatt, 2004). Individuals with anaclitic traits may experience these characteristics and reactions due to feeling that they are unable to cope with stress (Blatt, 2004).

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Individuals with high levels of anaclitic depression can suffer from attachment insecurities and desperately need interpersonal support to ward off acute feelings of weakness, loneliness, and abandonment (Mongrain & Leather, 2006). The intense desire for closeness and a marked dependency on others are often accompanied by difficulty expressing anger for fear of losing the love and support that others might provide. Disruptions in interpersonal relationships often result in exaggerated attempts to maintain those relationships (Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982; Blatt, 1974).

Both introjective and anaclitic states are considered to be vulnerabilities within depression. Personality traits, such as self-efficacy, have been found to decrease the presence of depressive symptoms and can restore the individual's desired level of functioning (Maciejewski, Prigerson, & Mazure, 2000).

### Self-efficacy

Self-efficacy is conceptualized as beliefs regarding one's capabilities for a particular task or endeavor (Schmidt & DeShon, 2010). Self-efficacy theory examines the confidence that people have in their ability to make a behavioral change, the efforts they are willing to expend to achieve a specific outcome, and the hope that the behavior will lead to the expected outcome (Bandura, 2008). One's belief in his or her ability to successfully achieve a change on a target behavior predicts the likelihood that the person will successfully achieve this change (Van Zundert, Ferguson, Shiffman, & Engels, 2010).

Feelings of self-efficacy have their origins in experiences of success and failure that arise through attempts to master actual tasks. Vicarious experiences derived from the actions of significant others as models for the self and verbal persuasions, such as appraisals, can encourage the formation of self-efficacy beliefs or deflate them (Williams & Williams, 2010). It was found that self-efficacy beliefs contribute to accomplishments both motivationally and through support of motivational thinking (Capara et al., 2008).

Since introjective and anaclitic states have been regarded as nearly universal experiences in normal situations, the current study focused on the general population (Malchiodi, 2003). Research and statistics from industrial countries have shown that the stage when young adults are starting to acquire mature responsibilities and financial independence has moved to the third decade of their lives (Arnett, 2000; Shulman & Ben-Artzi, 2003). Thus, it can be assumed that young adults between the ages of 20–30 are susceptible to experiences related to introjective and anaclitic factors, as well as self-efficacy. This is the target population for the present study.

### Art therapy and assessments

Images are forms of nonverbal communication, and therapists are often curious whether it is possible to interpret the artwork of their clients. The creation of the artistic production involves expression of the style approach of the artist (Handler, 1996). To a large extent, art therapists are concerned with understanding the meaning of client-created artworks and much research has been currently being conducted in the area of art-based assessments (Betts, 2006).

Assessment and diagnosis have become cornerstones of counseling and mental health services in the last few decades. Besides interviews, obtaining personal histories, and observations, practitioners often employ projective personality assessment techniques. These assessments look at drawings through the structural quality, use of materials, client-generated narratives, rather than specific items, elements, or omission inherent to evaluating projective drawing tests (Malchiodi, 2003). The purpose of the formal assessment is to provide descriptive and evaluative data to aid in planning

treatment and evaluating whether one process is better than another (Kapitan, 2010).

Using a single-picture assessment and a rating system, art therapists conduct both basic and applied art therapy research and clinical studies. According to Hammer (1980), the drawing page serves as a canvas upon which the subject may sketch a glimpse of his or her inner world, traits, attitudes, behavioral characteristics, personality strengths, and weaknesses. Recent studies point to the potential for artwork to be an accurate measure of anxiety, personality type, and anger (Deaver, 2002).

Assessments are used in different settings to plan intervention, treatment, and to evaluate results (Gantt, 2004). Many art therapists believe that art-based assessments provide essential tools in the process of determining a client's level of functioning, strengths and weaknesses (Betts, 2006). Art therapy assessments can help therapists address treatment objectives, gain a deeper understanding of the presenting problems, and analyze the progress of the client throughout the course of therapy (Betts, 2006).

Throughout history, the tree has continued to be one of the most central and consistently used symbols within art therapy assessments. This universal metaphor depicting human development is used to help create projections of the self, and has also been found to include cultural and religious aspects of the self (Morris, 1995; Hammer, 1980). Although validity and reliability of drawing instruments have not been proven in extensive research, recent studies have explored the symbolic use of color and size within the drawings of children and young adults on familiar topics, such as a person or a tree (Picard & Lebaz, 2010).

A study conducted by Picard and Lebaz (2010) examined whether tree drawings of children and young adults vary in color and size. It was found that the drawing size varied based on the type of tree that the participants were asked to draw. For example, participants who identified their tree as happy had an increased size over those who identified their tree as sad. Color usage, however, was not found to be significant within this study (Picard & Lebaz, 2010).

### Person picking an apple from a tree (PPAT)

One attempt to establish empirical support for drawing techniques has come from Gantt and Tabone (1998), who have utilized the standardized drawing instrument, *person picking an apple from a tree* (PPAT). The PPAT is often used to assess various types of diagnoses and provide a method for deciphering the non-symbolic aspects of art, as well as its ability to differentiate between patients and non-patients (Horovitz & Eksten, 2009; Malchiodi, 2003). By holding the content constant, it is possible to study the effects of a variety of demographic and psychological characteristics on the way people draw (Malchiodi, 2003). Gantt and Tabone (1998) believe that pictures created by patients can reflect the symptoms experienced at the time of the drawing.

The PPAT is a single-drawing art therapy assessment task that is scored using the formal elements art therapy scale (FEATS) (Gantt & Tabone, 1998). Gantt and Tabone (1998) developed the FEATS to correlate specific clusters of formal elements with mental health symptoms and with Axis I disorders as described in the *diagnostic and statistical manual of mental disorders-IV-TR* (American Psychiatric Association, 2000; Bucciarelli, 2011). The FEATS is a set of 14 scales based on global, formal attributions: prominence of color, color fit, implied energy, space, integration, logic, realism, problem-solving, developmental level, details of objects and environment, line quality, person, rotation, and perseveration (Gantt, 2004; Gantt & Tabone, 1998). Each drawing is rated on each of the 14 scales, and is assigned a value from 0 to 5 for each scale. Half of values (such as .5, 1.5, 2.5) may be used in scoring.

**Table 1**

Summary of inter-correlations, means, and standard deviations for scores on the DEQ and FEATS scales.

Measure	Introjective depression	Anaclitic depression	Self-efficacy	Energy	Problem-solving
Introjective depression	1.00				
Anaclitic depression	.03	1.00			
Self-efficacy	-.03	.27*	1.00		
Energy	-.43	-.21	-.02	1.00	
Problem-solving	-.05	.11	.32**	.21	1.00
M	-.63	-.58	-.12	3.78	3.12
SD	.75	.78	.71	.94	1.32

\*  $p < .05$ .\*\*  $p < .01$ .

Validity and reliability studies have demonstrated the FEATS to be a reliable instrument that measures variables (formal art elements), equated with the DSM-IV-TR (Gantt & Tabone, 1998; Gantt, 2004). The FEATS was designed to score PPAT drawings, and can also be adapted for rating other types of artwork. The FEATS quantifies how the formal elements are drawn and placed on the picture plane (Bucciarelli, 2011). The scoring method for the FEATS was developed based on clinical observations and through assessment instruments available at the time (Horovitz & Eksten, 2009). Formal aspects are able to claim universality and thus offer the best basis for constructing meaningful rating scales for art (Kapitan, 2010).

Using the PPAT in conjunction with the FEATS rendered statistical data that there are indicators within the quality of the lines, the size of the renderings, the presence or absence of colors and so forth, which could be correlated with symptoms of mental illness (Rockwell & Dunham, 2006). According to Gantt and Tabone (1998), the DSM symptoms of major depression have been associated with 7 FEATS scales: prominence of color, color fit, implied energy, space, realism, details of objects and environment, and person. This study will utilize the PPAT, in conjunction with the FEATS, to help determine factors of depression within young adults.

## Methods

### Participants

The sample population was comprised of 60 normative students (41 women and 19 men) between 20 and 30 years of age ( $M = 25.4$ ,  $SD = 2.25$ ), all of whom were enrolled in undergraduate or graduate studies in one private university and three public colleges in the New York Metropolitan area. Forty-nine subjects (81.7%) defined themselves as White, Caucasian, Anglo, European Americans; not Hispanic. Five subjects (8.3%) defined themselves as Asian/Asian American, including Chinese, Japanese and others. Four subjects (6.7%) defined themselves as mixed; parents are from different groups. One subject defined herself as Hispanic/Latino, including Mexican American, Central Americans and others, while 1 subject defined herself as American Indian/Native American. Each participant was assigned to 1 session, which lasted 1 h; the total number of sessions was 3.

### Procedure

The participants were notified orally about the research purpose, anonymity, voluntary participation, and the right to withdraw from participation at any time during the study. They were able to ask questions and to be referred by the investigator to the university/college clinic, if negative emotions arose. Each participant received the study packet and was assigned with a number, which was attached to each of the packet components. The participants were asked to “draw a person picking an apple from a tree,” and

to complete the Depressive Experiences Questionnaire (DEQ) upon finishing the drawing. The DEQ is a 66-item self-report measure that assesses introjective and anaclitic dimensions of depression (Blatt et al., 1979). Responses are on a 7-point Likert-scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The items in the DEQ are divided into three orthogonal factors, which appear in both male and female subjects: introjective, anaclitic, and self-efficacy (Blatt et al., 1979). No time limit was given to the tasks, and the paper was handed over in such a way that each participant was able to decide whether to orient it horizontally or vertically.

Materials included an informed consent form, demographic questionnaire, the PPAT, and the DEQ. According to the formal instructions of the PPAT, each participant received a pen, a 12" × 18" white drawing paper, and a packet of 12 colors (red, orange, blue, turquoise, green, dark green, hot pink, magenta, purple, brown, yellow, and black) of <sup>®</sup>Mr. Sketch felt-tip scented markers to complete the drawing assessment.

### Analyses

The statistic computing was made using the *Statistical Package for the Social Sciences* software (SPSS) (SPSS, 2011). The DEQ results were computed based on Blatt and D’Afflitti’s (1979) scoring system program for the SPSS. The researcher scored the 60 PPAT drawings using the FEATS rating manual (Gantt & Tabone, 1998). Ten drawings were randomly given to another experienced art therapist, and were scored using the FEATS. An inter-rater reliability between the two raters was computed ( $r = 0.8$ ). Correlations were found between personality traits (introjective, anaclitic, and self-efficacy), the FEATS scales associated with major depression (prominence of color, color fit, energy, space, realism, details and person), and the FEATS problem-solving scale.

## Results

Table 1 presents means, standard deviations, inter-correlations among personality traits (introjective, anaclitic, and self-efficacy), the FEATS scales associated with major depression (prominence of color, color fit, energy, space, realism, details, and person), and the FEATS problem-solving scale. Self-efficacy was significantly correlated with the problem-solving scale ( $r = .32$ ,  $p < .01$ ), i.e., subjects who received a high score on the self-efficacy factor received a high score on the problem-solving scale, and subjects who received a low score on the self-efficacy factor received a low score on the problem-solving scale.

Negative correlations, not significant, were found between the two types of depression and few scales associated with major depression. For example, introjective depression was negatively correlated with implied energy scale ( $r = -.43$ ); subjects who received a high score on the introjective depression factor received a low score on the implied energy scale, and subjects who received

a low score on the introjective depression factor received a high score on the implied energy scale.

Although there was a correlation within the scales of self-efficacy and problem-solving, as well as introjective depression and implied energy, no correlation was found with the remaining scales of the FEATS.

## Discussion

The main purpose of this study was to investigate the artistic differences between the PPAT drawings, utilizing the FEATS scales, based on indicators of depression: introjective depression, anaclitic depression, and self-efficacy. Gantt and Tabone (1998) have shown that the FEATS scales were logically derived from the core symptoms of a particular disorder and can suggest symptoms of major depression within a drawing through the use of fewer details, minimal colors, and/or less space. Overall, the results of this study provide valuable evidence for the differentiation entailed by these depressive variables. The results of this study suggest that individuals with elevated levels of self-efficacy show elevated levels of problem-solving in their drawings of a PPAT.

Self-efficacy tends to be conceptualized as a context-specific assessment to one's competence to perform a specific task. Capara et al. (2008) found that students whose sense of efficacy was raised, set higher aspirations for themselves, showed greater strategic flexibility in the search for solutions, achieved higher intellectual performances, and were more accurate in evaluating their performance than were students of equal cognitive ability who were led to believe they lacked such capability.

The negative correlations between the two types of depression and the scales associated with major depression were not statistically significant; it is possible that the relatively low scores on the depression factors derive from the subjects being non-patients. We can assume that the population of normal young adults, who are enrolled in academic programs, would receive low scores on the depressive factors, and higher scores on the self-efficacy factor. The following section depicts the artwork of 5 participants enrolled in this study, and how their drawings were rated using the FEATS scales associated with depression.

Fig. 1 was drawn by an individual who received a high score on the self-efficacy factor and a high score on the problem-solving scale (5 out of 5). The person in the drawing is able to use a means of support, such as stairs, in order to reach the goal of retrieving the apple. The hand of the person is depicted as touching the apple, without any notable difficulty or strain. Rockwell and Dunham (2006) suggest that drawings made by non-clients tend to depict a person with well-proportioned body parts, such as hands with fingers, and clothing detail, which is noted in this drawing.

Fig. 2 was drawn by an individual who received a low score on the self-efficacy factor and a low score on the problem-solving scale (1.5 out of 5). The drawing depicts a person who is standing with the arms behind the back, which may suggest unwillingness to deal with the situation (Handler, 1996). The person in the drawing appears to be gazing and leaning toward the side, and there is no apparent ground-line. According to Courtney and Gray (2011), an orientation of the figure to the ground line may suggest security and stability; thus, lack of ground line, in addition to the orientation of the figure away from the tree, can be related to insecurity and low self-esteem. The figure and the tree seem disconnected and isolated; with an absent environment. According to Julliard, Intilli, Ryan, Vollmann, and Seshardi (2002), these characteristics may express stress and depression. Furthermore, the large empty space in the drawing can be related to one's desire to distance oneself from his/her own experiences, in a form of avoidance (Rousseau



Fig. 1. Drawing by an individual with high score on the self-efficacy factor and a high score on the problem-solving scale.

& Heusch, 2000). This depiction within the drawing suggests that the goal is difficult for the individual to achieve. Even though there is a depiction of apples on the ground next to the person and on the tree, the person is not drawn in the process of reaching for them.

Fig. 3 was drawn by an individual who received a high score on the introjective factor, and low scores on two FEATS scales: prominence of color (1.5) and details (1.0). The lack of vibrant colors and the use of dark colors (i.e., black and brown) may express depressed mood (Gantt & Tabone, 1998). Minimal detail and depiction of the environment may suggest the individual's focus on striving toward the goal, without any interest in the individual's environment. The person is depicted as trying to reach toward the apple, however without physically touching it. The apple is shown on the very



Fig. 2. Drawing by an individual with low score on the self-efficacy factor and a low score on the problem-solving scale.



**Fig. 3.** Drawing by an individual with a high score on the introjective factor and low scores on the prominence of color scale and details scale.

top of the paper, and can be seen as extended beyond the borders of the paper, similarly to the tree. Moreover, the arm has a very non-proportional length, which can be seen as an excessive effort to reach for the apple; it is suggested that long arms can reflect over-ambition and striving for success (Handler, 1996). Thus, the person in the drawing may be presented as incompetent in regard to achieving a goal, and may express introjective depression. These high goals may be related to high degree of self-criticism seen within introjective depression. Lastly, the person and the tree in the drawing are placed on the paper base, and are chopped off at the base. According to Lopez and Carolan (2001), compensatory defenses may be illustrated in “paper-based/chopped” drawings, which may be seen as indicating feelings of insecurity and low self-esteem.

Fig. 4 was drawn by an individual who received a high score on the anaclitic factor and low scores within 3 of the FEATS scales: prominence of color (1.5), realism (1.0), and person (2.0). The person in the drawing is depicted as unrealistic, as evidenced by color usage and posture. Unrealistic depictions, such as the arms drawn as extending from the neck, can indicate younger artistic development/latency-age children (Bucciarelli, 2011). These characteristics could also express depressive symptoms; “if a human figure is severely distorted or fragmented, we assume that the artist has a distorted or fragmented sense of self” (Gantt & Tabone, 1998, p. 41). High levels of anaclitic depression are related to high degree of dependency and neediness (Blatt, 2004); it is possible that the addition of a house to the drawing expresses relatedness and personal attachments to other persons. Furthermore, the ladder can represent dependency in another object, which can assist in reaching for the apple, instead of using oneself.

Fig. 5 was drawn by an individual who received low scores on both the introjective and anaclitic factors and high scores on 6 of the FEATS scales: prominence of color (5.0), space (4.5), energy (5.0), realism (4.5), details (4.5), and person (5.0). The person in the



**Fig. 4.** Drawing by an individual with a high score on the introjective factor and low scores on the prominence of color scale and details scale.

drawing reaches for the apple with both hands; the person and the tree appear to be complete. In addition to the person in the drawing who can be seen as reflecting the artist's self, the complete developed tree, including branches and leaves, may show an elevated level of self-esteem and self-image. The drawing shows a base line of grass and a full environment, which can be related to high degree of well-being. The drawing also contains also a skateboard leaning on the tree, which can be seen as an example of the artist's creativity. According to Bucciarelli (2011), high degree of creativity displayed in non-client drawings supports the assertion that creativity is a sign of mental wellness. This drawing occupies more than 75% in relation to the whole piece of paper, supporting the notion that non-depressed patients use significantly more space than depressed patients (Gantt & Tabone, 1998).

The above participants in this study provide an example of how the PPAT, in correlation with the FEATS, can help assess and identify indicators of depression. As part of an intake process, the PPAT could be a useful tool for distinguishing between constructs such as self-criticism and self-efficacy within depression. Art therapists view the creation of art as a nonthreatening, non-intrusive means of self-expression. The PPAT may relieve some of the stress and anxiety which participants often experience in



**Fig. 5.** Drawing by an individual with a low score on both the introjective and anaclitic factors and high scores on the prominence of color scale, space scale, energy scale, realism scale, details scale and person scale.

situations such as psychological intake sessions and evaluation interviews.

## Conclusion

The current study provides a small but usable normative sample for future research. It employed sound research methodologies using two tools found to be valid and reliable instruments. As such, the findings should be valuable for practitioners interested in the use of art assessments, in combination with written assessments.

There are some limitations to the present study that should be considered in interpreting and generalizing the findings. First, the small sample size limits the power of the analyses, as well as the sample comprising mainly of White/Caucasian American participants. Replications of this study using a larger sample of participants, with more varied demographic characteristics, would allow an examination of potential effects not detected in the current analyses.

Second, the study population included students who are enrolled in an academic program and not within a psychiatric population. It can be assumed that conducting the same study with a population of participants who have been diagnosed with a depressive would allow a more subtle distinction between anaclitic and introjective personalities and disorders. This could provide more accurate analyses of the PPAT, based on the different groups (Besser & Priel, 2010). Participants included mainly basic demographic characteristics, and did not refer to mental health issues, mood, and/or previous artistic experience, which could be useful in future studies.

Third, Gantt and Tabone (1998) consider mood and previous artistic experience, at time of the assessment, to be relevant while analyzing an assessment. Art therapists view artwork as being reflective of mood and can demonstrate the progress of the individual. Without sufficient information on the individuals engaging in the art therapy assessment during this study, one can argue that information gathered from the assessment can be taken out of context, such as reasons why a person was drawn with their hands behind their back (Betts, 2006).

Further research may strengthen this study by including comments and interpretations of participants on their artwork, along with information regarding their artistic experience and mental health issues. Furthermore, researchers may explore the relationship between elevated scores on dependency and drawing of support mechanisms to the person who is reaching for the apple (e.g., a ladder, a rock). Extensive research regarding artistic expression of differential personality structures may hold additional information for practitioners in order to develop specific assessment tools that can aid in the treatment planning of individuals in a variety of settings.

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## Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.aip.2013.04.003>.

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