12-2018

# Can Attachment Style and Temperament Predict Personality Organization?

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**Can Attachment Style and Temperament Predict Personality Organization?**

A Thesis Presented for the
Master of Arts
Degree
The University of Tennessee, Knoxville

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December 2018

**Abstract**

Otto Kernberg (1967) developed a psychoanalytic theory of personality organization in which he posited that all individuals operate on one of three levels of personality organization: neurotic, borderline, or psychotic. His theory was developmental in nature and based on the idea that our earliest experiences establish unconscious interpersonal patterns that persist throughout life.

The current study examined whether attachment style (anxious or avoidant) and factors of temperament (negative affect, effortful control) would predict personality organization. In particular, we examined identity diffusion and use of primitive defenses as markers of personality functioning. Results revealed that anxious attachment, negative affect, and effortful control significantly predicted identity diffusion and use of primitive defenses. The clinical implications for these findings as well as potential future research directions are discussed.

**Table of Contents**

**Chapter I: Introduction**

The concept of every human having a unique personality came about early in the history of psychology and has remained a central focus of many psychological theories since. William Alanson White wrote that personality, "… incorporates the totality of the reactive possibilities of the individual at the psychological level" (1936). Theories of personality tend to explore how biological and environmental influences establish patterns of relating that persist throughout life (Bouchard, 1994). These patterns of relating become interpersonal styles that shape expectations for future relationships (Bowlby, 1973; Slatcher & Vazire, 2009).

In addition to theories of personality, theories of attachment and temperament have also attempted to explain how and why interpersonal and behavioral patterns form. This study seeks to explore the connections among attachment theory, temperament style, and Otto Kernberg's (1967, 1984) theory of personality organization. Specifically, this study aims to determine whether an individual's attachment style and temperament predict their personality organization.

**Personality Organization**

In 1967, Austrian psychoanalyst Otto F. Kernberg wrote a paper detailing what he called "borderline personality organization" (Kernberg, 1967). In this paper, he wrote, "There exists an important group of psychopathological constellations which have in common a rather specific and remarkably stable form of pathological ego structure … These patients must be considered to occupy a borderline area between neurosis and psychosis" (Kernberg, 1967, p. 641). Over the next several decades, Kernberg expanded this concept into a theory of personality organization. He posited that individuals have a personality *type* as well as a *level* of personality organization. He labeled the levels as neurotic, borderline, and psychotic (Kernberg, 1967, 1984; Kernberg & Caligor, 2005). While it may resemble Borderline Personality *Disorder*, Kernberg used the term

"borderline" as a way to talk about the area between neurotic and psychotic levels of personality organization, rather than the disorder itself (DSM-5; American Psychiatric Association, 2013).

When Kernberg referred to personality *types,* he was referring to the characteristic style of one's personality. For example, someone could have an obsessive personality *type* and be operating at the neurotic *level* of personality organization. Alternatively, one could have a histrionic personality type operating at the borderline level of functioning. Kernberg felt that a comprehensive diagnosis was crucial in considering treatment options as both personality type and level of organization have implications for the optimal course of treatment (Kernberg, 1984).

Kernberg's model is structural. Like Freud, he believed that the human psyche is comprised of psychological structures that make meaning out of our experiences. Our developmental experiences influence how these structures are formed. The structures, in turn, determine how we process subsequent events. Kernberg contends that an individual's level of personality organization is defined by three characteristics: relative presence or absence of identity stability, accuracy of reality testing, and the type of primary defense mechanisms (Kernberg, 1984; Kernberg & Caligor, 2005).

Many of Kernberg's early ideas about identity were influenced by his contemporaries. Marie Jahoda's (1950) work on personality influenced much later writing on identity, including Kernberg's. She maintained that a healthy personality is one in which the person masters his or her environment, maintains a unity of presentation, and perceives both the world and him/herself accurately (Jahoda, 1950). Erik Erikson relied on this definition when in the 1950s, he examined the ways in which an unhealthy personality may develop. In particular, he, like Kernberg, suggested that that a diffuse identity is the result of a failure to integrate early identifications (Erikson, 1956).

Kernberg expanded Erikson's ideas, suggesting that identity diffusion results from chronic frustrations in childhood, leading to an overreliance on primitive defense mechanisms such as projective identification and splitting (Kernberg, 1967). He contends that an integrated identity results when an individual successfully differentiates self from other. He argues that excessive frustration early in life prevents the differentiation of self from other. When this happens, the infant must regress to developmentally earlier methods of managing anxiety that can grant them gratification (e.g., merger with the mother and the early experience of feeding). Thomas Ogden elaborates this claim further, noting that infants can successfully navigate self/other differentiation when their caregiver provides "dosed frustration" in such a way that the infant does not become overwhelmed, but is still challenged (1986).

If the infant experiences significant and/or prolonged frustration, he/she will fail to develop more mature defenses against anxiety, instead continuing to utilize the primitive defenses of early childhood. Examples of primitive defense mechanisms include denial (i.e. refusal to accept aspects of reality), splitting (i.e. black and white thinking), projective identification, idealization/devaluation, and omnipotence (Kernberg, 1967). Kernberg viewed these two characteristics - the use of primitive defense mechanisms and identity diffusion - as inseparable: Because primitive defenses do not require self/other differentiation, diffuse identity and chronic frustration trap the child in a cycle of reliance on primitive defenses, which in turn prevent a stable identity from developing (Kernberg, 1967).

The third characteristic of Kernberg's theory of personality organization is the accuracy of reality testing. Kernberg defines reality testing as, "…the capacity to differentiate self from nonself, intrapsychic from external origins of perceptions and stimuli, and the capacity to evaluate realistically one's own affect, behavior, and thought content in terms of ordinary social

norms" (i.e., the capacity to distinguish what is real from what is imagined; Kernberg, 1984, p. 18). Kernberg adds that someone is considered to have intact reality testing when there is an absence of hallucinations and delusions, no, "…grossly inappropriate or bizarre affect, thought content, or behavior," and some ability to emphathize with others (Kernberg, 1984, p. 18).

Kernberg believed that each of the three levels of personality organization have distinct patterns of identity integration, reality testing, and defenses. He viewed neurotic personality organization at the healthier end of the continuum and psychotic personality organization at the more pathological. Each level of organization is defined by the degree of identity diffusion/integration, the ability to test reality, and the quality of psychological defenses. (Kernberg, 1967, 1984)

**Neurotic personality organization.** Those who are at the neurotic level of personality organization have a well-defined sense of self and, as a result, full, complex relationships with others. They tend to use more mature defense mechanisms such as sublimation, intellectualization, and rationalization. Their capacity for reality testing is stable and intact, with an ability to discern what is real from what is not. Individuals organized at the neurotic level often have a strong sense of direction in life and are generally able to form realistic goals and aspirations. These individuals may have struggles/conflicts in the areas of love and work, but are otherwise well-adapted socially (Acklin, 1994; Kernberg, 1984)

**Borderline personality organization.** While neurotic level people have integrated identities, those at the borderline level of personality organization have a fragmented sense of self. They often vacilliate between maintaining boundaries between themselves and others and struggling to differentiate self from other. They tend to identify aspects of themselves in others to the point where they become unsure where their personality ends and others' begins. Their

fragmented sense of self often leads them to attribute their own conflicts or impulses to others. For instance, if an individual organized at the borderline level believes that he or she did something "bad," he/she may project this experience forward and backward in time, viewing themselves not as a person who did something bad, but as a "bad" person. As a result, individuals organized at the borderline level have difficulty synthesizing and integrating positive and negative aspects of themselves and others into a coherent sense of self. (Kernberg, 1967, 1984).

Those organized at the borderline level utilize primitive defense mechanisms, with a particular emphasis on the mechanism of splitting. Splitting is the idea that an individual will perceive things in black and white terms of "all good" or "all bad," with no awareness of the ambiguities of life. This defense tends to cause them great difficulty in creating and maintaining close interpersonal relationships because their understanding of others can shift rapidly based on their most recent experience. In this way, splitting leads to difficulties managing emotions and, in turn, contributes to chaotic and unstable relationships. While splitting is the hallmark defense of the borderline level of personality organization, those with borderline level functioning will utilize other defenses as well, such as projection and projective identification (Kernberg, 1967).

Reality testing for individuals at the borderline level of organization is largely intact. Most of the time they are able to accurately distinguish self from other, internal from external. However, there are times when individuals in the borderline range can have their ability to test reality fail, leading to brief psychotic episodes (Kernberg, 1967). These experiences tend to correspond to the way in which borderline organized individuals shift attributions suddenly. If someone goes from being viewed in a wholly positive light to a wholly negative light (splitting), not only does that person's current actions become suspect, but all their previous actions become

suspect as well. Because of this, paranoia is a common experience for those functioning at the borderline level of personality organization. (Kernberg, 1971, 1975, 1984; Kernberg & Caligor, 2005).

        **Psychotic personality organization.** Those at the psychotic level of organization have a difficult time maintaining boundaries between themselves and others and may confuse the origin of their thoughts. Psychotically organized individuals utilize the most primitive defense mechanisms, including denial and projective identification. Projective identification differs from mere projection. When a person utilizes projective identification, they not only attribute their own beliefs onto others, but behave in such a way as to encourage that person conform to that belief (Kernberg, 1987).  Individuals at the psychotic level of personality organization are often unable to tell what is real and what is not. Poor reality testing causes them to have great difficulty with perspective-taking. They confuse their own thoughts for the voices of others (hallucinations) and may hold stongly to mistaken beliefs, even when presented with disconfirmatory evidence (delusions). Their hallucinations and/or delusions cause them to arrive at inaccurate conclusions about how others perceive them and what their motives are (Kernberg, 1984; Kernberg & Caligor, 2005).

       Kernberg stated, "… the presence or absence of identity diffusion differentiates borderline from nonborderline character pathology... The presence or absence of reality testing differentiates borderline personality organization from psychotic" (Kernberg, 1984, p. 43). Psychotic personality organization is thought to emerge from an extremely chaotic childhood environment in which the caregiver is almost completely absent or highly unresponsive (Bradley & Westen, 2005). When a caregiver is absent or unresponsive, an infant is likely to experience reality as overwhelming and unmanageable, creating unmanageable anxiety. In response, they

may utilize primitive defenses mechanisms in order to fulfill their unmet needs in fantasy. These defenses, in turn, become habitual ways of managing anxiety, which may lead to borderline or psychotic personality organization. While Kernberg stresses the importance of early developmental events, other theories emerged around the same time as Kernberg's writings that similarly stress early development (Bretherton, 1992).

**Attachment**

Like  Kernberg, other psychologists have emphasized the central impact of early childhood experiences and the early caregiving environment on subsequent functioning. Perhaps the most notable of these is attachment theory (Atkinson & Goldberg, 2004). The origins of attachment theory can be traced to Melanie Klein and her theory of child development (Bretherton, 1992). Unlike later attachment theorists who focused on environmental factors, Klein emphasized constitutional factors in her theory (Klein, 1957). It was not until John Bowlby began writing about the importance of maternal care on infant mental health that a true theory of attachment emerged (1951). Bowlby differed from Klein in that he eschewed traditional Freudian psychoanalytic drive theory and its emphasis on biology and instincts. Instead, Bowlby believed that the early caregiving environment was paramount (Bowlby, 1940). He wrote, "What is believed to be essential for mental health is that the infant and young child should experience a warm, intimate, and continuous relationship with his mother (or permanent mother-substitute) in which both finds satisfaction and enjoyment. Given this relationship, the emotions of anxiety and guilt, which in excess characterize mental ill-health, will develop in a moderate and organized way" (1951, p. 11). Over the next thirty years, Bowlby worked closely with Mary Ainsworth to develop and refine a theory of attachment that was based primarily on early childhood experience (M. S. Ainsworth & Bowlby, 1991).

Around the same time that Bowlby was working on his theory, Mary Ainsworth began developing a research procedure for categorizing attachment through the observation of infants, dubbed the "Strange Situation" (Ainsworth & Bell, 1970). She and her colleagues found that infants generally fell into one of three attachment styles: anxious/ambivalent, avoidant, or secure (Ainsworth & Bell, 1970; Ainsworth, Blehar, Waters, & Wall, 1978). Relationships are experienced differently by individuals with different attachment styles – those who have secure attachment styles tend to have less tumultuous relationships while those with insecure (anxious or avoidant) styles tend to have more chaotic and less fulfilling relationships (Feeney & Noller, 1990). Attachment styles persist into adulthood, shaping intimate relationships throughout life (Bartholomew & Horowitz, 1991; Hazan & Shaver, 1987; Main, 1991).

**Secure attachment.** Ainsworth described securely attached infants as able to explore their surroundings freely when their caregiver is present. They will become distressed when the caregiver is absent, but are generally able to soothe themselves after a brief time. They will be happy when their caregiver returns and able to interact and engage with strangers willingly when the caregiver is present. (M. D. S. Ainsworth, 1979; Main & Cassidy, 1988). Adults who have a secure attachment style tend to describe close relationships in positive terms. They are able to trust their partners and find others to be generally friendly and happy. Securely attached individuals are able to accept their partners faults and not become preoccupied with shortcomings. When adult relationships are comprised of two securely attached individuals, the relationship tends to be longlasting and fulfilling. (Feeney & Noller, 1990; Pistole, 1989; Simpson, 1990; Simpson, Collins, & Salvatore, 2011).

**Anxious attachment.** According to Ainsworth, children with anxious attachment styles tend to be hesitant to explore their surroundings and wary of strangers, even when their caregiver

is present. In addition, they become extremely distressed when separated from their caregiver. (Ainsworth, 1979; Ainsworth et al., 1978). Adults who have an anxious attachment style tend to view love in an obsessive way and tend to seek constant reassurance and validation. They tend to experience romantic relationships as tumultuous, accompanied by strong emotional highs and lows. They are prone to feeling strong attraction and in turn, intense jealousy. (Feeney & Noller, 1990)

**Avoidant attachment.** Some infants have unusually mild reactions to both their caregiver's presence and absence. Ainsworth dubbed this pattern "avoidant attachment." She found that children with an avoidant attachment style seldom explore their surroundings, with or without a caregiver present. Infants with avoidant attachment tend to treat strangers and caregivers in similar ways and often display limited emotional expression. (Ainsworth, 1979; Ainsworth et al., 1978). Adults with avoidant attachment styles tend to be fearful of intimate relationships. Similar to anxious attachment, individuals with an avoidant attachment style tend to experience strong emotional highs and lows when they are in a relationship and have similarly intense feelings of jealousy. Those with avoidant attachment tend to have low expectations regarding interpersonal relationships and are often fearful of being vulnerable to others. (Feeney & Noller, 1990).

**Attachment style and psychopathology.** Previous research on attachment finds that borderline personality disorder (BPD) is closely linked to insecure (anxious or avoidant) attachment styles (see Levy, 2005 for review). While there is a difference between BPD and borderline personality organization, it is also true that those who exhibit symptoms of BPD are very likely to fall within the borderline level of personality organization (Kernberg, 1975). Research also finds that, across cultures, those with more insecure attachment are more likely to

show higher scores on each of the subscales of borderline personality organization - identity

diffusion, primitive defenses and reality testing (Igarashi et al., 2009).

**Temperament**

Attachment theory emphasizes the impact of early caregiving experiences and the role

that environmental factors play in how we develop interpersonal styles of relating. Attachment

theory does not dismiss the role genetics play in the development of our personality but

considers it secondary to the impact of early childhood experiences. Conversely, temperament

theory emphasizes the role that genetics and biology play in the forging of our personality

(Allport, 1937; Rothbart, Ahadi, & Evans, 2000). While attachment style emerges from early

experiences, temperament begins to form prior to our first experiences (Rothbart, 2004).

The first mention of temperament is found in the works of the ancient Greeks. Both

Hippocrates and Galen wrote that emotions, moods, and behaviors could be affected by different

temperaments (Maher & Maher, 1994). Galen suggested four different types of temperament:

sanguine, choleric, melancholic, and phlegmatic. These were based on the presence of different

levels of the four humours (Clark, 2005). Present day theories of temperament have a similar

biological basis, but differ in that they are based on modern understandings of biology and

psychology.

In 1977, Stella Chess and Alexander Thomas published results from the New York

Longitudinal Study. They followed children from different cultural and economic backgrounds

for ten years and collected observations based on nine criteria: sensory threshold, activity level,

intensity, rhythmicity, adaptability, mood, approach/withdrawal, persistence, and distractability

(Thomas & Chess, 1977). They identified three different patterns of temperament observed in

infants: easy, difficult, and slow-to-warm (Thomas & Chess, 1977). Further research found

overlap among the nine characteristics such that not all infants could be classified into one of the three patterns (Carey & McDevitt, 1978). Because of this, modern research on temperament tends to focus on the *dimensions* of temperament that children have: surgency/extraversion, negative affect, and effortful control (Rothbart, 2007; Rothbart, Ahadi, Hershey, & Fisher, 2001; Rothbart & Hwang, 2005). Research suggests that there may also be a fourth dimension called orienting sensitivity (Rothbart, 2007; Rothbart et al., 2000, 2001; Rothbart & Hwang, 2005).

**Surgency/Extraversion.** Rothbart and her colleagues classified the surgency/extraversion (SE) dimension of temperament in infants as one that captures positive anticipation, impulsivity, sensation seeking, and activity level (Rothbart, 2004; Rothbart et al., 2001). Previous research on adult temperament found that similar constructs comprise adult versions of extraversion (Eysenck & Eysenck, 1985; Tellegen, 1985). Rothbart and colleagues defined each of the constructs of SE in behavioral terms: Positive anticipation is defined as excitement for prospective pleasurable activities; impulsivity by the speed of response initiation; sensation seeking as level of inhibition when exposed to novel situations; and activity level as level of gross motor activity (Rothbart, 2007). Infants who score high on surgency/extraversion are more likely to smile and laugh and to engage with their surroundings (Rothbart & Hwang, 2005).

**Negative Affect.** The dimension of negative affect is comprised of subconstructs of fear, discomfort, sadness, and frustration/anger (Rothbart, 2004; Rothbart & Hwang, 2005). Fear is defined as anticipation of distress, discomfort as negative affect related to sensory stimulation, sadness as suffering, disappointment, or loss; and frustration/anger as disruption of ongoing tasks (Rothbart, 2007). Infants who exhibit high levels of negative affect tend to be shy and difficult to

calm when agitated. The degree to which negative affect affects an individual's functioning is moderated by the level of effortful control (Rothbart, 2007).

**Effortful Control.** Effortful control includes attention control, inhibitory control, perceptual sensitivity, and low-intensity pleasure (Rothbart, 2007). This dimension of temperament is defined as, "…the child's voluntary and willful regulation of attention and behavior" (Rothbart et al., 2000, p. 126) or as, "…the ability to withhold a dominant response in order to perform a nondominant response, to detect errors, and to engage in planning" (Rothbart, 2004, p. 495). Similarities can be seen between effortful control and the ability to delay gratification as well as the ability to regulate emotions. Children who score highly on effortful control show a higher capacity for empathy as well as lower levels of aggressiveness (Rothbart, 2004). Rothbart contends that effortful control has parallels with Fonagy's concept of mentalization, which he defines as "the imaginative mental activity that enables us to perceive and interpret human behavior in terms of intentional mental states (e.g., needs, desires, feelings, beliefs, and goals)" (Fonagy, Gergely, & Jurist, 2004; Fonagy & Luyten, 2009, p. 1357; Rothbart, 2007)

Previous research on temperament finds that individuals with better mentalization abilities (including effortful control) exhibit higher order personality organization (Fischer-Kern et al., 2010). In individuals with borderline personality disorder, high effortful control is linked to fewer pathological problems in functioning while low effortful control is linked to more problems in functioning (Hoermann, Clarkin, Hull, & Levy, 2005). In addition, higher negative affect and low effortful control have been linked to higher incidences of BPD in several studies (see Mena, Macfie, & Strimpfel, 2017 for review).

**Hypotheses**

      I hypothesize that attachment style and temperament will predict personality functioning as indicated by the presence/absence of primitive defenses and identity diffusion. Specifically, I predict that both anxious and avoidant attachment styles and the temperament dimension of negative affect will be significantly positively correlated with the use of primitive defenses and with identity diffusion. Furthermore, I predict that effortful control will be significantly negatively correlated with primitive defenses/identity diffusion.

**Chapter II: Methods**

**Participants**

Participants were recruited from a large public university in the southeastern United States. They participated in return for course credit in introductory psychology courses. In total, 321 participants were recruited for participation and 294 fully completed the measures required for this study. A power analysis indicated that Type I error rate (alpha) of 0.05, estimated small-moderate effect size of $|\rho| = 0.2$, and N=294 would have power $(1-\beta)$ of 0.97.

**Materials**

**The Inventory of Personality Organization – Revised (IPO-R).** The original Inventory of Personality Organization (IPO) was developed in 2001 in an attempt to measure the accuracy of reality testing, the use of primitive psychological defenses, and the presence of identity diffusion in a nonclinical sample using Kernberg's theory of personality organization as a guide (Lenzenweger, Clarkin, Kernberg, & Foelsch, 2001). These authors found that each of their 3 subscales was tied to, "…increased negative affect, aggressive dyscontrol, and dysphoria" (Lenzenweger et al., 2001, p. 577). They also found that the subscales were associated with lower levels of positive affect, which they contend is consistent with Kernberg's original theory of borderline personality organization.

In 2009, Smits, Vermote, Claes, & Vertommen sought to revise the IPO in order to create an abridged inventory that would allow for more straightforward interpretation (Smits et al., 2009). They found that the original dimensions of primitive psychological defenses and identity diffusion were highly correlated (r=.97) and concluded that the original three-factor solution could be collapsed into a two-factor model without loss of information (Smits et al., 2009). The authors based their approach on Kernberg's original claim that those without

disordered personality would be low on both primitive defense and identity diffusion dimensions while those with serious personality dysfunction would be at the high end of both dimensions (Kernberg, 1967, 1984). The IPO-R was administered online to each participant through the Qualtrics survey software. It was included as one of six measures that individuals were asked to take. The measure is 41-items with 30 items on the primitive defense/identity diffusion dimension and 11 items on the reality testing dimension.

**The Experiences in Close Relationships Scale – Revised (ECR-R).** Brennan, Clark, and Shaver (1998) originally developed the Experiences in Close Relationships Scale (ECR) to measure adult attachment styles. Using Item Response Theory (IRT), the ECR was revised in 2000 by selecting only items that had optimal psychometric properties. The end result is a 36-item measure with 18 items on each the anxious and avoidant subscales. The basis for the anxious and avoidant subscales is grounded in modern attachment theory –someone who scores low on both scales would be said to have a secure attachment style. Those scoring high on the avoidance scales would be described as individuals who fear intimacy and tend to seek independence while those high on the anxious scale often fear rejection and abandonment (Fraley, Waller, & Brennan, 2000). The ECR-R asks participants to rate how they *generally* experience relationships as opposed to how they are experiencing their current relationships. It uses a 7-point Likert scale that ranges from "Strongly Disagree" to "Strongly Agree." The ECR-R was administered online to each participant using the Qualtrics survey software. It was included as one of six measures that individuals were asked to take in their participation for the study.

**The Adult Temperament Questionnaire (ATQ).** The ATQ was developed by David Evans and Mary Rothbart as a way to assess aspects of temperament in an adult population

(Evans & Rothbart, 2007). The ATQ was adapted from an earlier measure titled the "Physiological Reactions Questionnaire" (Derryberry & Rothbart, 1988) and is based on the results of other recent works on temperament (Rothbart, 2004; Rothbart et al., 2000, 2001). The ATQ has both a standard form (177 items) and a short form (77 items) with both forms containing the same contsructs and sub-constructs. For the purposes of this study, the short form was utilized.

The general constructs (referred to as factor scales) on the ATQ are negative affect, extraversion/surgency, effortful control, and orienting sensitivity. The sub-constructs (referred to as scales) are fear, sadness, discomfort, frustration, sociability, positive affect, high intensity pleasure, attentional control, inhibitory control, activation control, neutral perceptual sensitivity, affective perceptual sensitivity, and associative sensitivity. Each question asks the participant how "true" a statement is of themselves from "extremely untrue" to "extremely true" (Evans & Rothbart, 2007). Similar to the IPO-R and ECR-R, the ATQ was given to participants as one of six measures using the Qualtrics survey software.

**Procedure**

Data for this study was collected over the course of four months from August 2017 to November 2017. The data used in this study was part of the online phase of data collection for a separate study that was looking at physical movement. After participants began the study, they were asked to read and electronically sign an informed consent that detailed information, risks, and benefits of the study (see Appendix). They then were asked to complete six measures, three of which are used in this study. Afterward, participants were asked to provide demographic information (age, gender, ethnicity, handedness, native language). Upon completion of

demographic information, participants were thanked for their participation and the survey was

ended.

**Chapter III: Results**

As was predicted by our hypothesis, the IPO-R scale for primitive defenses and identity diffusion (PD/ID) was significantly positively correlated with the ECR-R Anxious attachment style $r(292)=.434$, $p<.001$. Contrary to what was predicted, the correlation between the PD/ID scale and ECR-R Avoidant attachment style was nonsignificant. With regard to the temperament scales, PD/ID was significantly positively correlated with ATQ Negative Affect $r(292)=.347$, $p<.001$. In addition, PD/ID was significantly negatively correlated with ATQ Effortful Control $r(292)=-.361$, $p<.001$.

The hypotheses for this study were further tested using a multiple regression model with all predictors entered simultaenously. These results also confirmed our hypotheses. The regression model was found to be significant $(F (4,289) = 28.77, p < .001)$ and explains 28% of the variance $(r^2 = .285)$. Anxious attachment $(t(4,289) = 6.06, p < .001)$, negative affect $(t(4,289) = 3.12, p = .002)$, and effortful control $(t(4,289) = -4.42, p < .001)$ were all significant predictors, while avoidant attachment was not.

Exploratory analyses were designed to investigate whether there were significant higher order itneractions in the model (e.g. two-way interaction: effortful control x negative affect). No significant two-way, three-way, or four-way interaction effects were found among anxious attachment, avoidant attachment, effortful control, or negative affect.

**Chapter IV: Discussion**

Kernberg's developmental theory of personality organization was based on his clinical experience and intended to provide a way to discuss complex personality pathology (Kernberg, 1967). In his description of attachment theory, Bowlby (1951) states that styles of relating to others develop based on our experiences with caregivers in infancy and childhood. When caregivers are responsive and caring, it tends to foster a secure attachment style whereas an absent or negligent caregiver experience may foster an anxious or avoidant attachment style. On the other hand, temperament theory (Rothbart, 2004) attempts to account for the role that constitutional and biological factors play in the development of personality. Examples include the ability to regulate emotions (negative affect, effortful control) or degree of outgoingness (surgency/extraversion).The current study investigated whether attachment style and temperament could predict personality organization. Specifically, we sought to determine whether self-report measures of attachment and temperament could predict scores on measures of personality organization related to use of primitive defenses and identity integration.

Though several authors have written about Kernberg's theory of personality organization, there is little agreement on how, precisely, to measure personality organization. Kernberg and his colleagues attempted to develop a measure to capture personality organization (IPO; Lenzenweger et al., 2001; Smits et al., 2009), but little research has been done regarding whether the IPO or IPO-R successfully measure what was intended. The current study attempted to provide a better understanding of the IPO-R and its relation to self-report measures of attachment style and temperament.

As predicted, we found that those who are at lower levels of personality functioning (as indicated by elevated use of primitive defenses and the presence of a more diffuse identity on the

IPO-R) also reported an anxious attachment style. Individuals with anxious attachment style tend to feel insecure about intimacy and close relationships; they experience relationships with strong emotional peaks and valleys and frequently seek reassurance due to experienced jealousy. Given that research suggests individuals with more fully integrated identities are also more likely to feel more comfortable with intimate relationships (Kacerguis & Adams, 1980), the result we obtained would seem to make logical sense.

However, contrary to what we predicted, avoidant attachment style was not related to the use of primitive defenses or identity diffusion. This is surprising given the interpersonal sensitivity observed in those with avoidant attachment characteristics. Because those with interpersonal sensitivity tend to view others as threatening or unsafe and primitive defense mechanisms such as denial, projection, and splitting are often used to, "… cope with threatening external and internalized parental images" in children (Green, 1978, p. 77), we expected that avoidant individuals would report using more primitive defenses. Future research could explore this finding to more fully understand the relationship by examining individuals with avoidant attachment styles and assessing the types of defense mechanisms they utilize as well as how they perceive their sense of self.

Consistent with what we predicted, higher levels of negative affect and reduced effortful control were associated with increased use of primitive defenses and more diffuse identity. Results suggest that effortful control, or the ability to utilize and exert willpower, is limited in those with more fragmented identities. Research shows that the ability to exert willpower plays a key role in the ability to self-reflect (Fay-Stammbach, Hawes, & Meredith, 2014). Erikson theorized that the capacity for introspection (self-reflection) is an important element in the development of identity throughout childhood and adolescence (1968). This suggests that an

impaired ability to exert willpower, and in turn, to reflect on self-experiences may result in a more diffuse identity over time. Conversely, it is possible that a poorly integrated or under developed identity would also make it more difficult to self-regulate and/or introspect. However, this idea seems less likely given that research has been in agreement with temperament theory in that it has shown that the ability to exert willpower is developmentally stable over time (Miyake & Friedman, 2012).

There are also clinical implications for the findings in this study. Kernberg's theory of personality organization was originally intended to assist in the diagnosis of personality disordered individuals. Berzonsky states that an integrated identity provides a, "… subjective sense of inner wholeness and serves as the interpretive context" to explore questions related to meaning or purpose (1992, p. 771). Because those with diffuse identity may lack this "interpretive context,", they may struggle to create and maintain meaningful relationships. With that in mind, it may be helpful to consider patients' attachment styles and temperament when issues of identity integration are present. For example, when we observe difficulties with self-regulation or sensitivity to rejection, attempting to fortify our patients' sense of self by strengthening ego defenses, integrating ideas from existential therapeutic approaches related to meaning making, or discussing how interpersonal relationships are experienced may allow patients to develop more fully integrated identities and in turn, lead more meaningful lives. To be clear, an experienced clinician is unlikely to use each of these therapeutic approaches concurrently, but instead would choose the ideal approach depending on each idiosyncratic clinical presentation.

**Limitations**

Like many studies conducted in a university setting, participants in this study were undergraduate students. Because Kernberg was primarily concerned with clinical populations, this research would ideally be conducted using both clinical and non-clinical samples to investigate observed differences.

There are also methodological limitations. All of the data collected for this study were collected utilizing self-report measures. Because attachment style, temperament, and personality organization are complex and difficult to observe, it may be a significant challenge to resolve this methodological shortcoming. One potential solution to this limitation would be to utilize measures that allow for clinicians to rate their patients. While this does not circumvent the issue of being communicative data (and subject to impressionistic responding) , it does serve to limit some aspects of self-report bias and would rely on "expert" ratings that may be more precise. Another potential solution to this methodological challenge would be to utilize projective assessment measures such as the Rorschach Inkblot Test or the Thematic Apperception Test (TAT). These tests are used for personality assessment (Rabin, 1981) and are designed to recognize an individual's unconscious views of themselves and others. It is important to note that these assessment instruments are not face-valid and are not self-report, therefore they circumvent some of the aforementioned limitations such as response bias/impression management. In addition to limiting bias, several cards on the TAT are designed to assess interpersonal themes and research shows the Rorschach can also be used to better understand how one views their relationships with others (Blatt, Tuber, & Auerbach, 1990).

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**Appendix**

**Informed Consent**

**INFORMED CONSENT STATEMENT**
**Complexity Study**

You have been invited to participate in this research study, conducted by Michael Finn and Connor Smith under the supervision of Dr. Michael R. Nash at the Department of Psychology at The University of Tennessee, Knoxville. The purpose of this study is to evaluate the complex ways in which personality, behavior, and emotion are correlated and different.

**INFORMATION ABOUT PARTICIPANTS' INVOLVEMENT IN THE STUDY**
Your participation would require approximately 30 minutes of your time in total. In this study, you will be asked to participate in an online survey that will last about 30 minutes. During this survey you will be asked to fill out six personality questionnaires.

*Follow-up in-person study.* Immediately after your participation today, you will have access to sign up for an in-person study on SONA which lasts approximately 30 minutes as well. You are not required to participate in this second in-person phase of the study in order to get credit for this online survey. You will be asked to give additional informed consent again at the in-person phase of the study. *You may refuse to participate at any time for any reason.*

**RISKS**
There are no risks above minimal risk in this study.

**BENEFITS**
You will not receive direct benefit from participating in this study, but your participation in this study will help to benefit the scientific community by providing information on the experience and expression of personality in psychology.

**CONFIDENTIALITY**
Information in the study records will be kept confidential. Data will be stored securely and will be made available only to persons conducting the study or yourself unless you specifically give permission in writing to do otherwise. No reference will be made in oral or written reports of the study will link participants to the study without expressed, additional permission.

**CONTACT INFORMATION**
If you have questions at any time about the study or the procedures, (or you experience adverse effects as a result of participating in this study), you may contact the researchers, Michael Finn at mfinn1@vols.utk.edu, Connor Smith at csmit347@vols.utk.edu, or their faculty adviser, Dr. Michael R. Nash, at mnash@utk.edu. If you have questions about your rights as a participant, contact the Office of Research Compliance Officer at (865) 974-3466.

**PARTICIPATION**
Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study

before data collection is completed your data will be returned to you or destroyed.

**CONSENT**
I have read the above information and I agree to participate in this study.

**YES**                              **NO**

**Vita**

Connor Smith was born in Ann Arbor, Michigan to Janet Smith and Barry Smith. He has one older brother, Graham. He attended Eastern Michigan University where he obtained his B.S. in secondary education (mathematics) and psychology. Upon graduating, he applied and was accepted to the University of Tennessee Knoxville Ph.D program in Clinical Psychology under the mentorship of Drs. Michael R. Nash and Timothy Hulsey. He continues to work toward his doctoral degree. After graduating, he plans to continue with his clinical work.