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# Factor Structure of the Assessment of Qualitative and Structural Dimensions of Object Representations (AOR) Scale

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Factor Structure of the Assessment of Qualitative and Structural Dimensions of Object  
Representations (AOR) Scale

by

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Thesis

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## Abstract

Early childhood interactions with parents form parental representations (PR) that have been empirically associated with psychopathology. The Assessment of Qualitative and Structural Dimensions of Object Representations scale (AOR; Blatt et al., 1992) is one measure of PR that benefits from measuring implicit processes and minimizing self-presentation; however, little research has examined its factor structure. The present study used archival data from four previous studies containing clinical and nonclinical samples totaling 722 participants. Individuals were divided into two groups: the first was analyzed using an exploratory factor analysis (EFA), and the second underwent a confirmatory factor analysis (CFA) of the EFA model. Results of both the EFA and CFA suggested that a three-factor solution was best, which were labeled Agency, Communion, and Punitive based on previous research. The implications of these findings are explored within the framework of psychodynamic theory, particularly with regard to object splitting and the presence of a punitive superego.

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## **Chapter One: Introduction and Background**

Many of the current methods for assessing psychopathology rely on overt behaviors or a client's description of his/her cognitive processes, which can create problems in accuracy of responses (Kolar, Funder, & Colvin, 1996; Oltmanns, Turkheimer, & Strauss, 1998; Westen, 1997) and potentially ignore the realm of the unconscious influences on psychopathology. While traditionally rooted in object relations theory, parental representations provide a compelling way to examine psychopathology. This is because internal representations of others often act in a manner that is out of conscious awareness, such that real-world relationships are affected by these representations and may set the stage for a greater likelihood of psychopathology (Huprich & Greenberg, 2003). Several measures exist for assessing the quality and nature of these parental representations, with one promising instrument being the Assessment of Qualitative and Structural Dimensions of Object Representations (AOR; Blatt, Chevron, Quinlan, Schaffer, & Wein, 1992), a system for scoring narratives about parental figures. Unfortunately, little psychometric information exists regarding the measure, and the two factor analyses that have been conducted use questionable statistical methods (Blatt et al., 1992; Heck & Pincus, 2001; Quinlan, Blatt, Chevron, & Wein, 1992). This is an important point, as proper identification of the latent factors of the AOR may help to validate the measure and provide a better understanding of the latent constructs being evaluated. Thus, it is crucial that the underlying structure of the AOR be examined to aid in interpretation of results and to compare the underlying constructs with existing theory about parental representations. This paper will briefly outline the theoretical underpinnings of object relations, provide compelling evidence for the association

between parental representations and psychopathology, and highlight the need for mathematically appropriate factor analytic techniques to better understand the AOR.

### **Theoretical Underpinnings of Object Relations**

Object relations is a school of thought within the psychoanalytic theoretical orientation that focuses primarily on the interactions between objects both external and internal to the person (Greenberg & Mitchell, 1983). The term “object” is used to refer to a person or thing existing in time and space that meets a particular need in a person or evokes a particular emotional reaction. However, it is usually the case that “objects” refer to specific people. Most often, object relations are of interest because they underscore an individual’s affective experiences, expectations, and wishes of others and related ideas about self. For example, people who expect others to be highly aggressive and punishing may be untrusting of new individuals and appear cold and aloof, garnering the negative response that was anticipated. However, objects are not always individuals, as in the case of the teddy bear that has taken on anthropomorphic qualities and has become a “transitional object,” or link between the “inner world [and] the world of outer reality,” for the child (Mitchell & Black, 1995, p. 195) which provides an important role in self-soothing and affective regulation.

Object relations theory differs from earlier psychoanalytic theories by emphasizing the idea that people are born with an innate, object-seeking orientation, as opposed to more classical conceptualizations that suggest people are drive-seeking (Fairbairn, 1952; Greenberg & Mitchell, 1983; Winnicott, 1953). This means that even as young babies, humans desire to relate to other humans, both to have their needs met and to experience personally meaningful social interaction. It is within these early childhood experiences that

the internal representations of objects form and will continue to guide an individual through the rest of life.

The concept of object relations largely stems from the work of Melanie Klein, who discovered that children's conceptualizations of their parents were often harsher than the parents actually were in real life (Klein, 1932). Klein hypothesized that this disparity between parents' observable behaviors and the children's representation of these individuals was evidence that internalized, unconscious objects form in childhood for all individuals. As the child develops, these internalized objects are altered by the external interpersonal relationships in which he/she engages (Klein, 1935). According to Klein (1946, 1952), such interactions lead to one of two psychic positions: the paranoid-schizoid and the depressive. The paranoid-schizoid position refers to individuals who see others as partial objects, meaning that the person does not recognize others as whole beings with both positive and negative attributes, but rather as split into two separate persons, one good and one bad. This allows the child to keep aggressive, envious, and hostile feelings separate from loving and pleasuring feelings, thus protecting the good object from fantasies of destruction and possible annihilation. The depressive position consists of object representations that are more fully integrated, containing both the good and bad aspects of others and feelings toward others (Klein, 1935). These positions are "constellation[s] of object relationships, [both] external and internal" (Fonagy & Target, 2003, p. 119) and are generally considered developmental in nature, with the depressive position following the paranoid-schizoid.

It should be noted, however, that Klein does not use the term "depressive" to represent a pathological state, but to characterize a period of later development in which the child is initially mourning the loss of the idealized, gratifying object in addition to processing



feelings of guilt associated with aggression toward the object whom the child now realizes is the person he/she both loved and hated. Ideally, this culminates in the ability of the child to tolerate contrasting feelings for and experiences of objects, allowing for mature love, empathy, and appreciation for the complexity of self and others. Klein states that fluctuation between these two positions occurs ceaselessly throughout the lifespan (Klein, 1928, 1945), hence her decision to use the term “positions” instead of “stages,” although she highlights that mature individuals are likely to reside more frequently in the depressive position.

The role of parents in object relational development and their influence on psychopathology were discussed more explicitly by the often-labeled “British school” of object relations (Fonagy & Target, 2003). For example, Balint (1968) proffered that children first see objects as undifferentiated, meaning that they cannot distinguish between self and other, and thus cannot recognize that others have their own independent thoughts, feelings, and motivations. If a child undergoes a traumatic experience before he/she is able to distinguish self and other, he/she will come to develop a sense that something is wrong inside of him/her and will search for a solution in the external world, potentially leading to significant neurotic conflict and/or personality pathology. As discussed in Fonagy and Target (2003), Fairbairn theorized that “insufficient intimacy with the primary object” (p. 139), such as from a parent, causes the self to be split into several ego-object (self-other) systems. These various self-other representations can conflict with one another, leading an individual to develop incompatible perceptions of others that form the basis of psychopathology. Specifically, if a child’s parent does not provide gratification to him, the child “integrates his relations with him on a suffering, masochistic basis. Fairbairn felt the child attempts to protect what is gratifying and control what is not gratifying in the

relationship with the parent by establishing compensatory internal object relations” (Greenberg & Mitchell, 1983, p. 173). This self-defeating characteristic is present in all levels of severity of psychopathology, stemming from the more neurotic (e.g. choosing sadistic romantic partners) to the schizophrenic (e.g., terrors from childhood manifesting in adult delusions/hallucinations).

Winnicott (1953) explored healthy development, stating that parents must provide an organization and structure to a young child’s physical experiences, as well as respond to the child in a manner that appears as if they serve the will of the child without forcing him/her to see the parents as independent objects (Winnicott, 1956). Children eventually come to develop a sense of self when they begin to differentiate themselves from parents, a process that can only happen if the mother is “good enough” (Winnicott, 1956, 1962). This means that while the parent is not perfect, he/she provides a holding environment that protects the child from distressing anxiety and tolerates the child’s splitting (Winnicott, 1963). If children are unable to discover their sense of selves on their own, they risk forming a false self (Winnicott, 1965), which can lead to pathology. Winnicott viewed psychopathology as a product of an environment that inhibits the functioning of the true self, particularly with regard to parental figures who do not provide proper care (Greenberg & Mitchell, 1983). The needs that go unfulfilled by the parental figure inhibit the ability of the individual to develop more fully, essentially stunting him/her intrapsychically. Thus, according to Winnicott, patients engage in regression as a way to “search for missing relational experiences” (Greenberg & Mitchell, 1983, p. 200-201) and that therapy should provide these experiences and meet early, unfulfilled needs as a way to diminish psychopathology.

Outside of the object relational school, the importance of parents for normal psychic development has also been discussed in attachment theory, which grew out of object relations. Bowlby (1958) felt that children are born with a natural, biological predisposition for interpersonal interaction that leads to the formation of attachments with parents. These predispositions lead to particular behaviors in children, such as crying, that cause physiological and behavioral responses in parents that lead them to provide care (Bowlby, 1969). Thus, the attachment system operates independently of other drives or needs, such as a desire for food or physical gratification. This is evident in Harlow's research in which rhesus monkeys preferred a terrycloth surrogate mother to a wireframe one that offered food (Harlow, 1958) and in the fact that children form attachments with abusive caretakers (Bowlby, 1956). Stated differently, children experience a negative physiological sensation that is reduced via caregiving behaviors from parents; thus, "the goal of the child is not the object, e.g. the mother. The goal that regulates the system is initially a physical state, the maintenance of a desired degree of proximity to her" (Fonagy & Target, 2003, p. 233). This desire for closeness to the primary caregiver is an "inborn affective-regulation device" (Mikulincer, Shaver, & Pereg, 2003, p. 78) that eventually paves the way for a sense of attachment security in children for whom caregivers are present. Normal development can only occur when the child perceives the parent as being readily available as a secure base (Ainsworth, 1963), allowing him/her to explore his/her world, further enabling the development of internal working models (Bowlby, 1973) that encompass cognitions, affective experiences, behaviors, beliefs, and memories about the self and others (Mercer, 2006).

Internal working models are defined as a “set of conscious and unconscious rules for the organization of information relevant to attachment and for obtaining or limiting access to ...information regarding attachment-related experiences, feelings, and ideations” (Main, et al., 1985, p. 67). These internal working models serve as the templates for how one feels about self and others (Ainsworth, 1982) and persist even into adulthood, as evidenced by one’s sense of self-worth or expectations about others’ goodwill (Bowlby, 1973). If parents are not physically available or are emotionally unattuned, children form internal working models in the form of insecure-avoidant or insecure anxious-resistant attachment patterns. A child with the former pattern will explore the world confidently in the absence of his/her primary caregiver and ignore the caregiver when he/she returns because of the perception that the parent is unavailable (Ainsworth, 1982). Inversely, a child with an anxious-resistant pattern is dependent on his/her caregiver and unwilling to leave the caregiver’s side, because he/she views the parent as inconsistently available. Interestingly, Blatt and colleagues explicitly state that “internal working models in attachment theory are analogous to self- and object representation in psychoanalysis... Both attachment research and psychoanalytic theory regard representations of the affective-relationship between self and caring others as essential psychological structures” (Blatt, Stayner, Auerbach, & Behrends, 1996, p. 85). The overlapping aspects of internal representations of external relationships have also been noted elsewhere (Holmes & Bateman, 2002; Person, Gabbard, & Cooper, 2005). Fonagy (1999) further highlights how both psychoanalysts and attachment theorists have been often unknowingly utilizing each other’s concepts for years, providing parallels and concrete examples dating back to Anna Freud’s work. Thus, while these theories harbor some key

differences, both lend support to the notion that parents form the basis of psychic models for understanding the world, which take on the form of self and other representations.

While the aforementioned theories provide insight into how the accumulation of experience with caregivers may lead to mental representations, these approaches have not explicitly described the process by which such representations specifically develop. The theory of mentalization describes this process more explicitly, using a convergence of psychodynamic and attachment approaches to provide further insight into the importance of parent-child interactions for object relational development (Fonagy, 1991). Mentalization refers to the “capacity to understand interpersonal behavior in terms of mental states” (Fonagy, Gergely, & Target, 2008, p. 792), and stems from the parent’s ability to understand the inner world of the child and reflect it back to him/her (Fonagy, Gergely, Jurist, & Target, 2002). By incorporating this interpersonal aspect with self-reflection of both cognitive and affective experiences, the child eventually comes to differentiate the inner and outer worlds, gain insight into his/her inner world, and conjecture about other people’s experiences independent of his/her own perspective. Also known as reflective functioning, mentalization involves both an unconscious and conscious understanding of thoughts and feelings, and thus, encompasses other psychological constructs like empathy (Allen, 2003), agency and rationalization (Searle, 2001), emotional intelligence (Mayer & Salvoney, 1997), and insight (Applbaum, 1973).

This ability for reflective functioning also seems directly related to quality of attachment, as mentalization has been examined in adults reflecting on their childhood experiences (Fonagy et al., 1991; Fonagy, Steele, & Steele, 1991; Fonagy, Target, Steele, & Steele, 1998), and also within the context of a parent’s perception of the here-and-now,

evolving relationship with his/her own child (Slade, 2005). For example, children with a secure attachment style are better at mentalization than children with other forms of attachment (de Rosnay & Harris, 2002; Fonagy, Redfern, & Charman, 1997). Grienberger, Kelly, and Slade (2005) found that the association between maternal reflective functioning and child attachment was mediated by the level of disruption in the affective communication between mothers and children. Parental reflective functioning further appears to be an important ingredient in the intergenerational transmission of attachment (Slade, Grienberger, Bernach, Levy, & Locker, 2005).

Additionally, a parent's ability to mentalize can predict child attachment style (Oppenheim & Koren-Karie, 2002), security of attachment at 12 months (Meins et al., 2001), the capacity of the child to mentalize at 45 months of age (Meins et al., 2002), and stream-of-consciousness performance at 55 months (Meins et al., 2003). In addition to parental mentalization, a child's ability to gain reflective functioning also seems related to having opportunities for social interaction and exposure to language (Main, 2000; Hill, Fonagy, Safier, & Sargent, 2003; Pyers, 2003). Thus, early experiences with parents seem to affect not only interpersonal attachment and object relations, but also the capacity to mentalize.

These specific mental representations of parents are often conveniently labeled as "parental representations" by object relations theorists and are paramount for healthy development; specifically, the level of complexity and quality of parental representations appear to be associated with increased functioning and decreased psychopathology. They also help form templates for which all later object relations are judged. Parental representations lead to ideas and expectations children have about the way in which important people will respond to them and how they will characteristically think, feel, and

behave toward others. While subsequent object representations can adapt throughout the lifespan, changing in response to the environment, parental representations are firmly rooted in the early lessons learned about how to interact with others, particularly with regard to loving relationships. Specifically, Fraley (2007) demonstrates that childhood environments that only gradually change may lead to adjustments in representations, whereas unstable environments actually form multiple representations of the same experience that remain stable and are activated later in life in different contexts. Thus, examining the content of parental representations can help to understand the source of maladaptive interpersonal patterns and the origin of psychopathology.

### **Empirical Studies of Object Relations**

While parental representations have implications for a variety of disorders, their relationship with depressive symptomatology is the most well documented (Milne & Lancaster, 2001; Parker & Hadzi-Pavlovic, 1992; Plantes, Prusoff, Brennan, & Parker, 1988; Whisman & Kwon, 1992). Abraham (1924) first recognized that depression differed from Freud's anal-stage neuroses (1908), highlighting that depressed individuals are more orally-fixated and highly ambivalent, as individuals are "unable to retain a relationship with the object" they most desire (Blatt, 1974, p. 110), giving rise to the oral stage later attributed to Freud (Fisher & Greenberg, 1996). Fisher and Greenberg (1996) highlight the state of the empirical literature prior to 1977, stating that research suggested that "the orally oriented are inclined to be depressed and to feel pessimistic about getting what they want" (p. 76). Thus, early psychodynamic research was already highlighting the fact that depressed individuals were likely struggling with conflicts related to the oral stage, which is associated with a lack of integration and internalization of parental representations. Review papers of previous

research by Blatt and Homann (1992), as well as Burbach and Borduin (1986), suggest that when evaluating their parents, adult depressed individuals retrospectively recalled their caregivers as “having provided low maternal and paternal support, utilized negative-punitive child-rearing strategies, restricted nurturance, and communicated negative evaluations” compared to nondepressed controls (Fisher & Greenberg, 1996, p. 30).

More contemporary research has sought to investigate the predictive power of parental representations with regard to depression. For instance, Milne and Lancaster (2001) found symptoms of depression in adolescent females were predicted in part by parental representations as measured by the Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979), a self-report measure of parents’ attitudes and behaviors during the respondent’s childhood. While it could be argued that self-report measures do not assess the unconscious processes associated with internalized representations, their use is very prevalent in the literature, both in terms of parental representations and object relations. Huprich and Greenberg (2003) discuss this issue further, providing support for a convergence between self-report and performance-based (projective) measures of object representations. Plantes and colleagues (1988) found that adult outpatients rated by their psychiatrists as being depressed were more likely to have been the product of poor parental bonding, also measured via the PBI. More recently, Mayes and Leckman (2007) determined that postpartum mood fluctuations experienced by both men and women were significantly predicted by the perceptions of the maternal care they received as children. A study by Richman and Flaherty (1987) assessed students entering medical school at the start of their first semester and at 7-month follow-up using the PBI to determine if parental representations at time 1 predicted depression at time 2. Results suggested that perceived parental



overprotection from both parents and paternal coldness predicted depressive symptoms at follow-up, suggesting that parental representations recorded at one point in time can significantly predict the presence of depressed mood at a later point in nonclinical populations. One pilot study (Fischer-Kern et al., 2008) examined reflective functioning, or the capacity to appreciate the distinction of thoughts, feelings, and desires between self and others, using the Adult Attachment Interview (AAI, George, Kaplan, & Main, 1984, 1985, 1996) and found that inpatients with depression had a lower capacity to mentalize than patients with BPD or healthy controls. This suggests that recollections of the parent-child relationship may contain less differentiated self-other representations for patients suffering from depression, given that mentalization is the hallmark of mature representation development.

Some research also seems to suggest that parental representations appear to be stable phenomena, particularly with regard to individuals with depression (Brewin, Andrews, & Gotlib, 1993). While it could be argued that descriptions of parents may actually be more pessimistic during periods of depression, research suggests that even after depressive symptoms subside, parental representations remain stable (Lizardi & Klein, 2005). Lizardi and Klein measured parental representations using the PBI at 30-, 60-, and 90-month follow-ups and found no significant change in PBI scores across these three time points, despite a significant reduction in depressive symptoms. Additionally, when depressed patients, nondepressed patients, and healthy control individuals were assessed longitudinally over 20-years, the level of stability for parental representations, as measured by the PBI, was similar for all three groups (Wilhelm, Niven, Parker, & Hadzi-Pavlovic, 2005). Specifically, there

were no significant differences in the linear trends of scores for both perceived paternal and maternal care and overprotection.

Interestingly, a large body of literature also exists that seems to suggest that parental representations may change as symptoms subside, and thus, do not remain stable after effective treatment. As Blatt and colleagues posit, the development of a corrective relationship between therapist and patient should help in the amendment of self and object representations, creating a “process through which impaired interpersonal schemas are relinquished, reworked, and transformed into more adaptive cognitive-affective representations of self and others” (Blatt, Auerbach, & Aryan, 1998, p. 70; Blatt, Wild, & Ritzler, 1975). Indeed, several studies have found that parental and object representations are meaningfully associated with therapeutic process and outcome (Ackerman, Hilsenroth, Clemence, Weatherill, & Fowler, 2000; Blatt & Auerbach, 2001; Blatt, Auerbach, & Aryan, 1998; Blatt, Stayner, Auerbach, & Behrends, 1996; Blatt, Wiseman, Prince-Gibson, & Gatt, 1991). Using the Social Cognition and Object Relations Scale (SCORS; Westen et al., 1990), Porcerelli and colleagues (2006) found that the four dimensions of interpersonal representations (Complexity, Affect-tone, Investment, and Causality) were statistically and clinically valid measures of therapeutic change. Specifically, these dimensions were significantly correlated with ratings of interpersonal behavior, and all but Affect-tone were positively associated with complex (healthier) defense mechanisms, such as identification, as measured by TAT. Two studies that examined disturbed young adults undergoing inpatient treatment found that representations of mother, father, therapist, and self at discharge from treatment had greater incorporation and integration of incongruent attributes when compared to admission (Blatt & Auerbach, 2001; Blatt, Auerbach, & Aryan, 1998). Furthermore,

research with severely disturbed adolescents demonstrated that in addition to increased integration of good and bad aspects of objects, improvements in clinical functioning seem to relate to an increase in the conceptual level of parental narratives (Blatt et al., 1991). Similarly, Toth and colleagues (2008) examined the reflective functioning of depressed mothers undergoing child-parent psychotherapy using the AAI, both at baseline and at 1-year follow-up. When compared to a depressed waitlist control and nondepressed control group, only the depressed treatment group experienced a significance increase in reflective functioning. Thus, while parental representations may remain stable in depressed individuals, they could improve in complexity after undergoing psychotherapeutic intervention. However, it should be noted that the aforementioned studies supporting the stability of parental representations primarily utilized self-report measures, whereas articles reporting improvements after psychotherapy assessed representations via performance-based measures. Thus, these conflicting results may stem from methodological and/or operationalization disparities among parental representations researchers.

Regarding parental representations as a way to understand the clinical features of psychopathology, Bornstein and O'Neill (1992) determined that psychiatric inpatients, 38% of whom were diagnosed with dysthymia or major depression, had greater ambivalence and more negative content about parents than normal controls using the AOR. Additionally, the parental representations' conceptual level for patients was lower, suggesting that psychopathology likely relates to an individual's inability to see others as separate, whole objects. Fonagy and colleagues (1996) examined state of mind with respect to attachment in a group of nonpsychotic inpatients, which is similar to parental representations, as it measures characteristics of parental narratives in terms of "coherence, passivity of thought....,

idealization or derogation of caregivers, involved-involving anger toward the parent” and so forth (Fonagy et al., 1996, p. 24). The results demonstrated that the psychiatric group had significantly lower scores on a scale measuring loving relationships with parents and higher scores on scales measuring feelings of rejection and neglect by parents and experiencing role reversal in the parent-child relationship. Interestingly, in terms of specific diagnoses, idealization of parents was positively associated with the presence of an eating disorder and negatively associated with depression. Parental representations have also been used as a way to differentiate Depressive Personality Disorder and Dysthymia, essentially disentangling depressive symptoms relating to state versus trait characteristics (Huprich, Porcerelli, Binienda, Karana, & Kamoo, 2007). Using the AOR and Westen’s SCORS measure of object relations (1993, 1995), Huprich et al. (2007) found that Depressive Personality Disorder was positively related to representations of a punitive mother and negatively associated with representations of a benevolent father, as well as poor anger management in interpersonal relationships. Additionally, the developmental level of parental representations seemed to differentiate the two disorders, such that less complex representations were more associated with Dysthymia. This means that individuals with Dysthymia were less likely to describe parents as separate entities with their own internal states than individuals with Depressive Personality Disorder, instead characterizing parents as partial objects.

In addition to depression, parental representations have also been correlated with or predictive of psychosis (Janssen et al., 2005), borderline personality disorder (Fonagy et al., 1996; Goodman & Manierre, 2008; Patrick et al., 1994), suicidality (Klomek et al., 2007), internalizing/relational behavior problems in girls and externalizing/overt problems in boys (Besser & Blatt, 2007; Moretti, Holland, & McKay, 2001), dependency and self-criticism

(Mongrain, 1998), domestic violence (Stover, Van Horn, & Lieberman, 2006), adoption (Deeg, 2002), and drug use in adolescents (Torresani, Favaretto, & Zimmerman, 2000).

While all of these topics could benefit from further examination, they collectively suggest that parental representations are fundamentally related to psychopathology, behavioral problems, and coping strategies. It may be useful for clinicians even outside the psychodynamic theoretical orientation to assess parental representations as a way to predict the manifestation of later pathology. Although none of the aforementioned studies examined moderation or mediation effects, future research could examine the specific relationships between symptomatology and parental representations as a way to determine risk and protective factors for psychopathology. Such insight may aid in formulating better treatment plans and working hypotheses, even for therapists using more directive approaches.

### **Measures of Parental Representations**

While over a dozen measures exist for examining object relations (Huprich & Greenberg, 2003), just a few specifically assess parental representations. Four measures emerge as the most frequently used instruments for assessing parental representations: the Parental Bonding Instrument (PBI), the Inventory of Parent and Peer Attachment (IPPA), the Adult Attachment Interview (AAI), and the Assessment of Qualitative and Structural Dimensions of Object Representations (AOR). The Parental Bonding Instrument (PBI) assesses adults' perceptions of childhood experiences within the dimensions of parental care and parental protection (Parker, Tupling, & Brown, 1979) and has been utilized mostly in examining the relationship of parental representations to depression (Plantes, Prusoff, Brennan, & Parker, 1988). The measure consists of 25 items in which participants rate the attitudes and behaviors their parents exhibited during childhood on 4-point Likert scales,

ranging from *Very Like* to *Very Unlike*. The Care scale consists of 12 items and the Overprotection scale contains 13 items. Psychometric data presented by the authors suggest a test-retest reliability score of .76 and inter-rater reliability of .85 for the Care subscale, and a test-retest score of .63 and inter-rater reliability of .69 for the Overprotection scale (Parker et al., 1979).

The Inventory of Parent and Peer Attachment (IPPA) is a 25-item questionnaire rooted in attachment theory that measures trust, positive communication, and feelings of alienation toward parental figures (Armsden & Greenberg, 1987). The test-retest reliability for the measure was reported by the measure's creators as .86, with an internal consistency at  $\alpha = .87$ . While the measure is widely published in the literature, its primary purpose is for assessing attachment with parental figures; in fact, most articles reporting its psychometrics outline its use specifically for attachment research (Gullone & Robinson, 2005; Liang, Hou, & Tian, 2006). However, it should be noted that the concepts of parental attachment and parental representation share several characteristics regarding parent-child interactions and their lasting effects.

Both the PBI and IPPA involve rating childhood experience on Likert scales, which may help establish reliability but could also diminish validity, given that all variables assessed are at the conscious level and are subject to retrieval accessibility and retrospective bias. Furthermore, these measures gather information via direct questioning and do not address implicit processes. As outlined by McClelland (1980), implicit measures can detect behavioral trends over time, whereas measures of self-attribution highlight the responses/behaviors to specific situations. McClelland and colleagues (1989) further elaborate, stating that implicit motives are tied with early, preverbal experiences, whereas

self-attributed motives “develop later, after concepts of the self, others, and what is valuable have been acquired” (McClelland, Koestner, & Weinberger, 1989). Thus, self-report measures, such as the PBI and IPPA, could be assessing more acute perspectives than underlying representations stemming from childhood that operate out of conscious awareness.

In addition, the nature of an individual’s pathology may inhibit his/her ability to self-evaluate, especially in the case of personality disorders (Oltmanns, Turkheimer, & Strauss, 1998; Westen, 1997). Comparisons between self-report and reports from a knowledgeable informant regarding both normal personality (Funder et al., 1995; McCrae & Costa, 1987) and disordered personality (Clifton, Turkheimer, & Oltmanns, 2004, 2005; Klonsky, Oltmanns, & Turkheimer, 2002) have yielded low to moderate correlations, suggesting a disparity between reporting techniques. Comparisons of performance-based measures and self-reports suggest that even when results are congruent, their correlations with each other are modest (Bornstein, 2002). Furthermore, aggregated scores from several informants more closely matched observed behavior than scores produced by self-report (Kolar, Funder, & Colvin, 1996), suggesting that not only does the source of data affect responses, but this discrepancy may be resultant of inaccurate observations on the part of the individual. Such differences have been noted outside of the realm of personality disorders as well; for example, 20% of participants in a study by Yigletu and colleagues (2004) yielded conflicting information about suicidal ideation in self and clinician reports. Likewise, when comparing self-reported obsessive-compulsive disorder symptoms in children and adolescents with clinician-report measures, the latter more effectively identified those individuals who had been previously diagnosed using structured interviews (Stewart, Ceranoglu, O’Hanley, &

Geller, 2005). Thus, it is evident that clinicians “can provide reliable and valid data when their observations are quantified using psychometrically sound instruments” (Russ, Heim, & Westen, 2003, p. 533), highlighting the need for measurement tools in diagnostics.

Consequently, it may be advantageous to study parental representations using an implicit measure that is scored by a clinician, not the individual him/herself.

One such measure that benefits from being coded by a trained clinician/researcher is the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984, 1985, 1996), a semistructured interview consisting of 20 questions, plus follow-up probes, that takes approximately one hour to administer. In addition to specific questions about parental experiences during childhood, current relationships with parents, relationships with the participant’s children (real or imagined), and wishes for his/her child(ren) in the future, the interview asks for a general description of relationships with parents during the individual’s childhood (Hesse, 2008). Thus, participants are given an opportunity to generate an open-ended narrative about each parent individually. Participants are also asked to produce five adjectives to describe the relationship with each parent, after which they are probed to provide childhood memories that demonstrate each adjective. The interviews are fully transcribed and scored on “scales estimating a speaker’s probable experiences with each parent during childhood” (Hesse, 2008, p. 564) and “scales delineating a speaker’s state of mind with respect to attachment” (p. 564). This latter construct represents the narrative fluidity and reflective functioning of the participant and appears to highlight the parental representations of participants, which are subsequently categorized into one of five categories. These include three organized types: secure, dismissing, and preoccupied, and two disorganized types: unresolved/disorganized and cannot classify (Hesse, 1996, 2008;



Hesse & Main, 2000). This classification system appears to have both acceptable interrater reliability,  $\kappa = .66$ , and test-retest reliability,  $\kappa = .63$  (Bakermans-Kranenburg & van IJzendoorn, 1993). Test-retest reliability has also been reported for Israeli adults ( $\kappa = .77-.89$ ; Sagi et al., 1994) and presented as percentages without a test statistic (Benoit & Parker, 1994). Discriminant validity has also been demonstrated using a variety of comparative variables (Bakermans-Kranenburg & van IJzendoorn, 1993; Rosenstein & Horowitz, 1993; Waters, et al., 1993).

Despite “meet[ing] stringent psychometric criteria, not only in terms of reliability but also in terms of discriminant and predictive validity” (van IJzendoorn & Bakermans-Kranenburg, 1996), the AAI can be problematic for research. First, the measure requires a considerable amount of time to utilize, as each participant necessitates one hour of administration and at least four hours of scoring, plus the time needed to transcribe the interview verbatim (De Haas, Bakermans-Kranenburg, & van IJzendoorn, 1994). Additionally, only extensively trained scorers can code AAI responses reliably and accurately, requiring researchers to seek professional training, such as workshops (Roisman, Fraley, & Belsky, 2007), and to gain mastery before collecting data. This limits the practicality for many research endeavors, particularly those involving several interviewers/scorers and utilizing statistics that require large samples. Finally, the results of the only study (as of this writing) to examine the latent structure of the AAI using taxometric analysis concluded that the constructs of secure and dismissing states of mind are likely better represented as a single dimensional scale than as two distinct categories (Roisman, Fraley, & Belsky, 2007). Further, the study suggested that the categorical distinction made on the AAI between coherent narratives of positive and negative childhood experiences,

known as inferred life experiences, did not manifest statistically for secure adults, as this was likely one continuous variable. Thus, the AAI's method of determining which orthogonal state of mind category represents a given individual may create an artificial distinction that might not fully capture the complexities of individuals' parental representations.

The remaining measure of those most commonly utilized, known as the Assessment of Qualitative and Structural Dimensions of Object Representations scale (AOR; Blatt et al., 1992), provides an alternative solution to the aforementioned issues. For example, the AOR can be administered in only five minutes and scored in approximately fifteen minutes and involves rating responses dimensionally in terms of both developmental level and personality characteristics.

### **The Assessment of Qualitative and Structural Dimensions of Object Representations (AOR).**

Long before the AOR's inception, Blatt proffered that developmental theory and psychoanalytic principles could be intertwined to help understand object relations, particularly with respect to the work of Piaget (Blatt, 1974). Piaget explored the cognitive process of developing object and person permanence, in which a child comes to recognize that an object/individual still exists when not physically present (Piaget, 1937). These representations of objects in the child become more sophisticated as he/she develops, reorganizing and increasing in generality through the processes of assimilation and accommodation (Piaget, 1937, 1945). Each of the stages of Piagetian development corresponds with increases in the sophistication of these schemata. For example, as individuals begin the sensorimotor stage of development, they have minimal permanence of objects and view events as a compilation of singular events without a complete

representation or ability to recall from memory (Piaget, 1945). As children begin to engage in symbolic play and imitate those around them in more complex ways, they are relying more on internal representations and memory than just purely on the external world. Once children develop language, which provides a structure for representations, they are able to go from simple comparisons of two objects to developing schema for entire chains of information. At the concrete operational stage, children shift from an egocentric orientation to seeing representations in the context of social and moral systems. Eventually, the child comes to see objects as being stable even when the object or its context changes. They also view themselves as separate objects and thus develop the ability to differentiate their point of view from those of other people. This closely mirrors the concept of object relations from a psychodynamic standpoint, as a child comes to see him/herself as separate from other people and capable of independent thought. As such, Blatt used the names of Piaget's developmental stages to categorize the process an individual undergoes as he/she comes to differentiate self and other representations (Blatt, 1974). This conceptualization of the developmental process of object relations was carried into the creation of the AOR and is reflected both in its theoretical underpinnings and the vernacular used in the measure (Blatt et al., 1992).

The AOR (Blatt et al., 1992) is a 15-item measure designed to determine the content and developmental level of parental representations. Respondents write a qualitative description of each parent, which are independently scored by the researcher or clinician. The first twelve items reflect the personality characteristics of the individual and include the following features: affectionate, ambitious, malevolent-benevolent, cold-warm, degree of constructive involvement, intellectual, judgmental, negative-positive ideal, nurturant,

punitive, successful, and weak-strong. Each characteristic is scored on a Likert scale from 1-7 by a researcher trained in both the AOR and underlying psychoanalytic/developmental psychological theory, with a larger number representing a higher degree of each characteristic. It should be noted that the anchors used for each item differ (e.g., for *affectionate*, scores range from *little affection* to *much affection*, whereas scores for *ambitious* range from *relatively non-ambitious* to *strongly ambitious*). Additionally, a score of 9 can be given if a particular item is not applicable or cannot be determined from the content given by the participant, which is later converted to a 4 when calculating subscale totals.

The next two items assess written features of the parental description: degree of ambivalence toward parent and verbal fluency of the writer. Ambivalence is rated on a Likert-scale from 1 (*no ambivalence*) to 5 (*extreme ambivalence*). Verbal fluency is assessed by estimating word count by determining the number of lines of text written by the participant, which are then rated on a scale from 1 to 7 (1 = *one to four lines*, 2 = *five to seven lines*, 3 = *eight to ten lines*, 4 = *eleven to thirteen lines*, 5 = *fourteen to sixteen lines*, 6 = *seventeen to nineteen lines*, 7 = *more than 19 lines*).

The last item measures conceptual level of the writer and is rated 1 to 9, with odd number anchors representing each subsequent stage of parental representation development (1 = *Sensorimotor-Preoperational*, 3 = *Concrete-Perceptual*, 5 = *External Iconic*, 7 = *Internal Iconic*, 9 = *Conceptual Representation*) These stages stem from theory regarding the progression of parental representation development and Piagetian theory (Blatt, 1974). A narrative at the sensorimotor-preoperational stage directly refers to the writer's feelings regarding his/her parent without suggestion that parents are separate persons with their own

unique feelings. Concrete-perceptual content often involves physical descriptions of parents and an ability to recognize parents as independent from the specific context, but still do not contain evidence of parental figures having independent thoughts and feelings. External iconic stage responses include the activities of parents that do not directly gratify the responder, and internal iconic scores are given when the descriptions include not only a parent's attributes but also what he/she thinks and feels. Last, a score of 9 is reserved for content that incorporates many of the previous levels.

After creating the items to be used in the AOR, the authors of the measure conducted a principal components analysis (PCA) with varimax rotation on the 12 qualitative scales and the ratings of ambivalence and length to “present evidence supporting the reliability and validity” of the measure (Quinlan et al., 1992, p. 341). Conceptual Level was not entered into the analysis, as it represents the developmental stage of the participant, and the authors concluded prior to conducting the factor analysis that it should be examined alone. The sample consisted of two groups: 121 undergraduate students (83 female and 38 male) from two universities in close proximity to the authors and 92 undergraduate students (51 female and 41 male) from a southwestern university, who were part of a larger study. No further demographic information was provided.

The resultant four factor solution accounted for 71% of the variance. The factors were labeled as follows: benevolent, punitive, ambitious, and length of description. The benevolent factor was the largest both in item number and in variance, accounting for 34% of the total variance and consisting of the following descriptors: affectionate, malevolent-benevolent, cold-warm, degree of constructive involvement, negative-positive ideal, nurturant, successful, and weak-strong. Punitive, which accounted for 14% of the total

variance, was composed of judgmental, punitive, and the degree of ambivalence. At 13% of the total variance, the ambitious factor consisted of just two descriptors: ambitious and intellectual. Last, length of description, a 1-item factor, consisted solely of the rater's estimation of the narrative length and accounted for 8% of the variance. In an effort to determine the stability of these scores, the two samples were reanalyzed separately and the results compared using Tucker's coefficient of congruence, yielding similar results, with coefficients ranging from 0.74 to 0.96 for the four factors.

Blatt and colleagues (1992) used these results to construct the three subscales of the AOR, labeled Benevolent, Ambitious, and Punitive. Subscale scores consist of the mean of the item scores that compose each subscale and are thus calculated by summing the items and dividing by the number of items in that subscale. Higher scores on each of these subscales represent greater intensity of the given feature. The length of description was not considered a subscale of the measure, and instead provides information regarding participants' verbal fluency. The authors report interrater reliabilities using Pearson correlations for the twelve personality description items as ranging between .45 (affectionate) and .92 (cold-warm) with an average of .75 (Blatt et al., 1992; Quinlan et al., 1992). Interrater agreement for the subscales was also calculated (Benevolent  $r = .92$ , Punitive  $r = .77$ , Ambitious  $r = .82$ , Length  $r = .88$ , Conceptual Level  $r = .88$ ), as well as intrascale homogeneity using Cronbach's Alpha (Benevolent  $\alpha = .91$ , Punitive  $\alpha = .56$ , Ambitious  $\alpha = .55$ ). Analyses have not been conducted to determine temporal stability or convergent/discriminant validity as of this writing.

## **Subsequent Factor Analysis of the AOR**

The original factor analysis conducted by the authors of the AOR was not without limitations, as later highlighted by Heck and Pincus (2001). For example, the authors did not include the conceptual level scale in the factor analysis, which is the core element of the AOR coding system for assessing the developmental quality of descriptions. In addition, the length of parental descriptions, a purely descriptive variable, was included in the analyses and thus inappropriately considered part of the latent construct. Blatt and colleagues did not provide any rationale for its inclusion in either the paper or the AOR manual (Blatt et al., 1992; Quinlan et al., 1992). Finally, the previous authors combined both the maternal and paternal ratings in their analyses, presumably to generate a large enough sample size. In order to better assess the factor structure of the AOR, Heck and Pincus (2001) collected data on 137 male and 142 female undergraduate university students and performed two principal component analyses with varimax rotation: one for each parent description. Given that both analyses generated identical results, maternal and paternal scores were pooled and analyzed together. The authors determined that a three-factor solution accounting for 67.2% of the variance in mothers and 68.7% of the variance in fathers was best. The first two factors were labeled *agency* and *communion* based upon an inspection of the item content loading onto the factors. Communion consisted of the following items: malevolent–benevolent, cold–warm, nurturant, negative–positive ideal, degree of constructive involvement, affection, punitiveness, and judgmentalness. Agency was composed of the items measuring success, ambition, weak–strong, and intellectual level. The last factor contained conceptual level and ambivalence and provided information about the structural characteristics of parental representations.

The labels for the first two factors of the model were not arbitrarily chosen; they represent two main constructs in interpersonal personality theory (Abele & Wojciszke, 2007). According to Wiggins (1991), “agency” refers to the process of differentiating oneself from others. Individuals scoring high on this factor will attempt to gain power and dominance in an attempt to further their differentiation and protect what they have already accomplished. The construct of “communion” is collectivistic in nature, representing the sense of being part of a larger body, be it societal or spiritual. Feelings of communion include “intimacy, union, and solidarity with that larger entity” (Wiggins, 1991, p. 89). Thus, Heck and Pincus (2001) posit that the AOR conceptualized in this manner allows researchers to examine individuals’ feelings towards those around them and to determine if they feel part of something larger or strive to be individualistic.

### **Limitations in Research on Factor Structure of the AOR**

One problem with both factor analytic studies outlined above (Heck & Pincus, 2001; Quinlan et al., 1992) is that the authors used PCA for their statistical analyses. PCA assumes that there is perfect reliability on the diagonal of the correlation matrix of items and sets communalities at one. By doing so, the communality is composed of both common and unique variance, causing error to enter the model. Furthermore, PCA does not assume that latent variables exist, thus making it less than ideal for grouping variables based upon the assumptions that underlying constructs exist. A more appropriate technique would be principal axis factoring (PAF). Although PCA and PAF can produce similar results in ideal circumstances (Thompson, 1992), the two are known to differ when fewer than 20 variables are being analyzed, as is the case with the AOR (see Guadagnoli & Velicer, 1988; Stevens, 1992).



In addition, Quinlan et al. (1992), as well as Heck and Pincus (2001), determined the appropriate number of factors by using the scree test (Cattell, 1966) and the Kaiser-Guttman rule in which factors with eigenvalues greater than 1.0 are included in the model (Kaiser, 1960). An additional method that better determines the number of factors to retain is parallel analysis (Horn, 1965). In this method, a dataset of random values within the parameters of the measure is calculated and plotted alongside the actual data. The last factor for which the collected data's eigenvalue exceeds the random data's eigenvalue represents the point at which additional factors are no longer accounting for more variance than chance. This method is generally considered the most accurate way to determine the appropriate number of factors (Hayton, Allen, & Scarpello, 2004; Zwick & Velicer, 1986). Thus, to date, no factor analytic study of the AOR has incorporated this PAF guideline when interpreting the number of factors to retain.

The final issue with the previous factor analyses of the AOR is that the authors used varimax rotation to aid in interpretability of results. A noted concern with varimax rotation is that it is an orthogonal method, assuming that factors are uncorrelated with one another. While this may make practical sense, in practice two subscales of most psychological constructs are rarely unrelated (Fabrigar et al., 1999; Sass & Schmitt, 2010). Thus, an oblique rotation method, such as geomin, would be more appropriate for analyzing the underlying components of parental representations within the AOR.

### **Purpose of Current Study and Hypotheses**

The previous studies suggest that the construct of parental representations contains subcomponents that may potentially provide further insight into its latent structure. For example, the agency and communion subscales (Heck & Pincus, 2001) are similar to the idea

of self and other representations; scoring the measure using these as subscales could differentiate these two aspects of an individual's object relations. As outlined by Kernberg and colleagues, self and other representations are bound together by affect such that content about others also is related to aspects of the self and vice-versa (Kernberg et al., 2008; Yeomans, Clarkin, & Kernberg, 2002). These representations stem from childhood experiences in which individuals have internalized how they understood both themselves and the other people with whom they interacted. Thus, individuals form internal dyads of self-other that stem from specific contexts, such that activation of any representation (self or other) in a dyad will activate the other as well. In the case of some forms of psychopathology (e.g., Borderline Personality Disorder), when one of these structures becomes activated, the individual may identify with the self-representation and project the other-representation onto another person, or inversely, he/she may identify with the other-representation and project the self-representation (Kernberg, 1984). As such, examining parental representations within a framework such as agency and communion may provide a more complete picture of the interplay between aspects of the individual and his/her caregiver and how this has been internalized into a given parental representation. Thus, reformulating the subscales of the AOR to appreciate this collectivistic aspect may actually improve the existing measure in terms of its validity and utility.

Even with this in mind, the aforementioned issues with the previously conducted analyses necessitate the use of an exploratory measure prior to conducting confirmatory techniques. Furthermore, both analyses were conducted solely with undergraduate students and thus represent only a nonclinical subsection of the population. The current study benefits from utilizing both clinical and nonclinical samples, extending the generalizability of results

to individuals who likely have less complex parental representations. Last, the previous analyses were conducted on relatively small samples for factor analytic statistics. As Tabachnick and Fidell (2001) suggest, “It is comforting to have at least 300 cases for factor analysis” (p. 588), which is considerably larger than the samples used in the previous factor analyses. The current study benefits from a sample large enough to accommodate two factor analyses and still remain within this rule of thumb guideline for each. With this in mind, the current study will use an exploratory factor analysis (EFA) to examine the factor structure in one sample, followed by the use of confirmatory factor analysis (CFA) in a second sample to more accurately determine what constructs underlie the AOR. It is possible that results of the present study could provide researchers with better ways to group items into subscales to aid in understanding parental representations or, at the very least, confirm the extant item sets as the most psychometrically sound. Despite a strong body of literature with regard to the interpersonal concepts of agency and communion, it is unclear if the factor structure of the AOR measure is best understood in the framework outlined by Heck and Pincus (2001). However, due to the methodological strengths of the analysis conducted by Heck and Pincus (2001) as compared to Blatt and colleagues (1992), it is hypothesized that the current study will yield a similar three-factor solution.

## Chapter Two: Methods

### Participants & Procedures

The recommended number of participants for factor analytic techniques varies widely between authors, with numbers ranging from 5 participants per variable (Bryant & Yarnold, 1995) to 20 (Hair, Anderson, Tatham, & Black, 1995). MacCallum, Widaman, Zhang, and Hong (1999) suggest that any rule of thumb is not valid for determining sample size when conducting factor analyses. They provide specific calculations for determining the minimum number of participants based upon several factors, such as communalities.

Given the lengthy process of scoring the AOR, the current study merged existing data from four previous sources in order to create a sample of 722 individuals, which yielded roughly 52 individuals per 14 variables assessed in this study. While all samples were of convenience, these data provided parental representations from college students, primary care outpatients, and individuals gathered via online recruitment methods, likely offering a wider distribution of functioning than samples of just outpatient psychotherapy participants often used in previous parental representation studies. Only narratives about mothers were utilized in this study, given that one of the samples did not collect paternal data, and many participants from an inner city outpatient clinic did not have a paternal figure on which to report. As stated, the total sample consisted of 722 participants, with 565 females and 157 males. Roughly half of individuals were Caucasian (53.73%), 38.13% African American, 2.85% Asian, 1.49% Hispanic, 0.27% Middle Eastern, and 2.44% Other. The ages of participants ranged from 18 to 67 ( $M = 29.42$ ,  $SD = 11.02$ ).

Of this total sample, 195 individuals represented an undergraduate sample that was recruited from introductory psychology labs at a midsized, southeastern Michigan public

university. Graduate research assistants entered classrooms at the beginning of class, provided a brief explanation of the questionnaire, and passed out packets containing both the consent form and measures, one of which was the AOR. Participants were instructed to read and sign the consent form, complete the measures, and return the completed packet to their lab instructor. Using the names from the consent forms, lab instructors were provided a list of their students who participated in the study in order to award extra credit. One inclusionary criterion was utilized: participants had to be at least 18 years old. Data from participants below this cutoff age were not utilized. Additionally, participants who did not successfully complete the AOR for both parents had been removed from the dataset by the original researchers. The individuals included in the current analyses were 195 participants, 55.9% of whom were female ( $n = 109$ ), ranging in age from 18 to 53 ( $M = 22.05$ ,  $SD = 6.34$ ). Individuals were 66.8% Caucasian, 20.6% African American, 2.8% Asian, 2.3% Hispanic, and 7.5% Other. In order to assess interrater reliability, intraclass correlations (ICC) were computed by the original researchers and reported as ranging from .50 to .97, with all values indicating excellent reliability except for Conceptual Level. The median ICC value was .88.

Samples two and three were recruited at separate times for different studies from a primary care clinic in southeast Michigan that mainly served African American females (see Porcerelli, Bornstein, Markova, & Huprich, 2009; Porcerelli, Huprich, Binienda, & Karana, 2006). Thus, the researchers recruited participants from only this particular demographic group. A master's level research assistant approached patients prior to their appointments at the clinic one afternoon per week for four weeks. Each participant was given a description of the study, signed a consent form, and completed the questionnaire packet in a location away from the general waiting area. Upon successful completion of the survey, participants

received a \$15 gift card to a local department store. The two samples each consisted of 112 individuals, with mean ages of 34.89 ( $SD = 9.61$ ) and 34.48 ( $SD = 11.63$ ). For one of the samples, interrater reliability was calculated using Pearson's  $r$ , and ranged from .81 to .93 for the descriptors and was .92 for Conceptual Level. ICC was utilized for the other sample, yielding scores ranging from .72 to .88 for the descriptors and .83 for Conceptual Level. These coefficients ranged from good to excellent, according to the guidelines for ICC provided by Shrout and Fleiss (1979).

The fourth sample completed an electronic version of the AOR as well as measures assessing parental voice representations. Participants consisted of undergraduates at a small private university in Southeast Michigan, graduate students from American Psychological Association (APA) accredited doctoral programs, and individuals who were informed about the survey via several internet survey research websites (e.g., Hanover College's Psychology Research on the Internet). Individuals who volunteered to complete the study accessed the online survey at its location on a secure server using a provided link. Participants were required to read and digitally accept an informed consent form, as well as confirm they were at least 18 years of age. After completing the measures, participants had the option of entering a drawing for one of two \$100 gift cards to a local department store or receiving extra credit (if from a participating university), but not both. The sample consisted of 303 individuals, 22.4% of whom were male ( $n = 68$ ) and 76.6% female ( $n = 232$ ). Participants' age ranged from 18 to 67 ( $M = 30.81$ ,  $SD = 11.17$ ), with 31.4% indicating they were married ( $n = 95$ ), 50.8% single ( $n = 154$ ), 11.2% having a domestic partner ( $n = 34$ ), 5% divorced ( $n = 15$ ), and 1.7% indicated as "other" ( $n = 5$ ). The ethnic makeup of the sample was as follows: 83.5% Caucasian ( $n = 253$ ), 5.6% African American ( $n = 17$ ), 5% Asian or Pacific

Islander ( $n = 15$ ), 2% Hispanic ( $n = 6$ ), 0.7% American Indian, Middle Eastern, or Other ( $n = 2$  for each group), and 2% indicated they were biracial ( $n = 6$ ). Interrater reliability was determined using ICC and yielded values ranging from .74 to .90 for the descriptors and .85 for Conceptual Level.

## **Design**

The four previously collected datasets compiled for this analysis all followed a cross sectional design for data acquisition. For the purposes of this study, this was a suitable data gathering method, as it allowed researchers to obtain an adequately large sample of individuals who had completed the measure at a single point in time. In order to increase the statistical power of analyses and generalizability of results, the four archival samples were aggregated. The resulting sample was subdivided into two groups, hereafter labeled the validation and cross-validation samples. To form the validation and cross-validation samples, participants were numbered and split into even and odd groups. The demographic characteristics of these two groups were compared to ensure that they did not differ statistically. Specifically, mean differences in age were evaluated using a *t*-test and differences in gender and ethnicity distributions were examined with the chi square test statistic. Additional *t*-tests were conducted to determine if each AOR item mean score differed between the validation and cross-validation group, and adjustments were made accordingly.

## **Analyses**

Factor analyses were conducted using Mplus© 5.1 (Muthén & Muthén, 2008). An initial exploratory factor analysis (EFA) using geomin rotation was performed on the validation sample ( $n = 361$ ) to examine the factor structure of the data without the restriction

of an *a priori* model. Considering the resulting factors were presumed to be oblique, the geomin rotation method, which is the default for Mplus© 5.1, was appropriate. Given that responses on the AOR are scored on a 7-point Likert scale, it was assumed that items were continuous variables (Flora & Curran, 2004; Joreskog & Moustaki, 2001), enabling model parameters to be estimated with the maximum likelihood method.

When determining the number of factors to retain, previous researchers have suggested that several methodological approaches and theoretical rationale should be used in the decision-making process (Fabrigar et. al, 1999; Henson & Roberts, 2006; Thompson & Daniel, 1996). Factor inclusion was determined using the following techniques: the scree test (Cattell, 1966), which involves an examination of the scree plot, the Kaiser-Guttman rule, in which factors with eigenvalues greater than 1 are included in the model (Kaiser, 1960), and parallel analysis, for which each factor's eigenvalue is compared with those obtained from a random data matrix (Horn, 1965). It was decided before data analysis that if these guidelines yielded several solutions that appeared statistically valid, theoretically grounded reasoning would be used to determine which model to examine.

Once sufficient results had been achieved with the EFA, a confirmatory factor analysis (CFA) was conducted on the cross-validation sample. The fit of the CFA model to the cross-validation data was determined using the root mean square error of approximation (*RMSEA*; Steiger, 1990; Steiger & Lind, 1980) and the comparative fit index (*CFI*; Bentler, 1990). For the *RMSEA*, a cutoff of .06 is generally used to determine good model fit, with a lower score representing greater model fit (Hu & Bentler, 1999). However, *RMSEA* values of .08 to .10 are considered “mediocre” by some authors and are acceptable (MacCallum et al., 1996). It should be noted that Chen, Curran, Bollen, Kirby, and Paxton (2008) suggest



that little empirical support exists for any universal cutoff score; thus, results of the CFA would have been examined even if the RMSEA fell within the mediocre range. Regarding the CFI, scores greater than .95 are generally considered acceptable for continuous variables (Hu & Bentler, 1999; Yu, 2002). In order to address any missing data, the CFA used the full information maximum likelihood (FIML) method, which allowed Mplus to estimate the missing values. Essentially, FIML finds patterns of missing data and estimates the variances and covariances for these patterns (Robins, Fraley, & Krueger, 2007). Since factor analyses require only the variance-covariance matrix and not the actual raw data for computation, FIML can estimate missing information better than methods designed to impute item responses. However, it should be noted that scores for the AOR are generated by the researchers; thus, missing data were minimal in the sample.

## Chapter Three: Results

### Group Comparisons

As stated earlier, the four databases utilized in this study were merged and subsequently split into the validation and cross-validation samples. Unfortunately, the demographic data for the two outpatient samples were stored in a separate file than the AOR responses, with no identification numbers, and in a different order of participants, making demographic comparisons for this subset of data impossible. However, the remaining 498 participants were compared, and no statistically significant differences existed between the two groups for age,  $t(495) = -.04, p = .99$ , gender,  $\chi^2(1) = .52, p = .47$ , and ethnicity,  $\chi^2(7) = 3.99, p = .78$ . Thus, the two subsamples did not differ in terms of their demographic distributions.

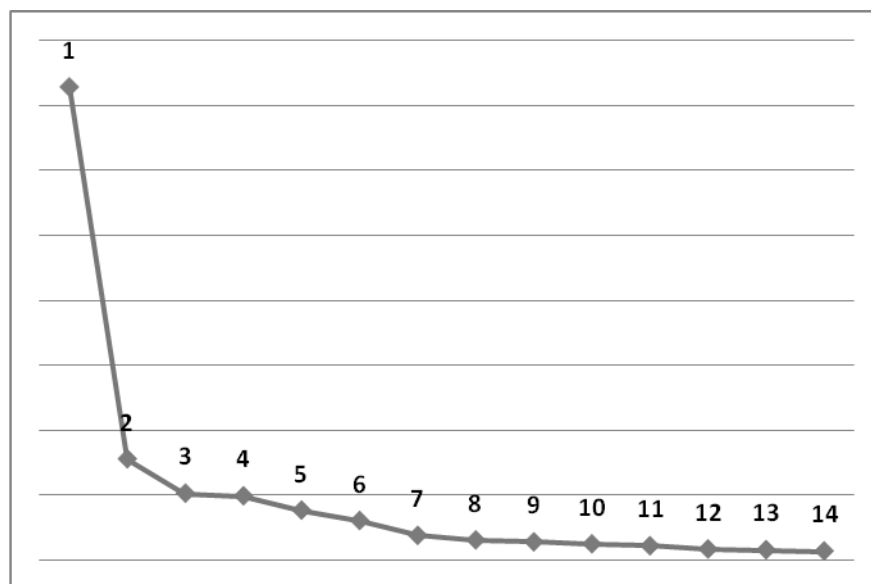
All of the participants in the validation and cross-validation groups, 361 persons in each, were compared on the 14 AOR scales, and no statistically significant differences were found. Specifically, the groups did not meaningfully differ for affection,  $t(720) = .37, p = .71$ , ambitious,  $t(720) = 1.74, p = .08$ , malevolent-benevolent,  $t(720) = .41, p = .68$ , cold-warm,  $t(720) = .47, p = .64$ , constructive involvement,  $t(720) = .38, p = .71$ , intellectual,  $t(720) = .168, p = .09$ , judgmental,  $t(720) = .69, p = .49$ , negative-positive ideal,  $t(720) = .70, p = .48$ , nurturant,  $t(720) = .76, p = .45$ , punitive,  $t(720) = .12, p = .91$ , successful,  $t(720) = .127, p = .21$ , weak-strong,  $t(720) = .119, p = .24$ , ambivalence,  $t(720) = .158, p = .12$ , and conceptual level,  $t(720) = .16, p = .87$ .

### Validation Exploratory Factor Analysis (EFA)

As discussed above, the EFA on the validation sample was conducted using Mplus© 5.1 (Muthén & Muthén, 2008), and the number of factors retained was determined using

several methods. Regarding the Kaiser-Guttman rule (Kaiser, 1960), the eigenvalues for the resultant data suggested a three-factor solution, given that only the values for the first three factors were above one. For the scree test (Cattell, 1966), a graph of the eigenvalues for every factor (scree plot) was examined to determine the point at which the data “elbowed” or flattened out. Although this process is largely subjective, the scree plot (see Figure 1) appeared to suggest that the third factor represented the “break point” of the graph, warranting the retention of a three factor solution. For the parallel analysis (Horn, 1965), the comparison data matrix was created using syntax code for SPSS 17.0 (SPSS, 2008). These data consisted of 1,000 datasets of random responses containing the same number of variables and “participants” as the validation sample and served as the level of chance responding. The eigenvalues from this simulated analysis were compared with the EFA results to determine the point at which the latter fell below the former and thus were below chance. Results of the parallel analysis suggested that a two factor solution was best.

*Figure 1: Scree Plot of the Eigenvalues for the Validation EFA*



Given the discrepancy between the parallel analysis and other factor retention methods, the CFI and RMSEA fit indices were examined as well. Results of the two-factor EFA yielded a CFI of .94 and an RMSEA of .10, whereas the three-factor generated a CFI of .97 and an RMSEA of .07. Thus, the three-factor solution provided better fit with the data and fell within the appropriate cutoffs for these indices (Raykov, 1998; Yu, 2002). Last, the results of the previous factor analytic studies of the AOR were examined to help theoretically determine which solution should be used. Given that Heck and Pincus (2001) reported three factors and Blatt and colleagues (1992) found four factors, a three-factor model for the current study made more theoretical sense than two. Aggregating these results, a three-factor solution was chosen as the most appropriate model of the validation sample data.

The resulting three-factor EFA with geomin rotation accounted for 70.39% of the variance. In order to determine onto which factor each item loaded, the standard errors of the factor loadings were used to examine fit by determining significance using the  $z$ -statistic. The two-tailed Bonferonni critical value was calculated at  $\alpha = .05$  by accounting for the number of factors and items to adjust for alpha inflation (Cudeck & O'Dell, 1994), yielding a critical  $z$ -statistic of 3.20. Thus, all estimated/standard error values for the item loadings that exceeded 3.20 loaded significantly on that factor, irrespective of the loading value itself. This is superior to the previous convention of using cutoffs (Cudeck & O'Dell, 1994). One variable of the AOR loaded significantly on two factors: the Weak-Strong descriptor. An additional critical  $z$ -statistic was computed using an  $\alpha$  of .01 to aid in determining onto which factor the item best loaded, yielding a value of 3.63. The estimated/standard error values for the two factors were still statistically significant ( $ps < .01$ ), suggesting that Weak-Strong

should be remain in both factors. Last, Conceptual Level did not significantly load on any of the factors and thus was not included in subsequent analyses.

The first factor accounted for 51.99% of the variance and consisted of the following items: Malevolent-Benevolent, Cold-Warm, Nurturant, Negative Positive Ideal, Degree of Constructive Involvement, Affectionate, and Weak-Strong. With the exception of Weak-Strong, all of these items composed Heck and Pincus' (2001) Communion subscale, with the omission of the inverse of Punitive and Judgmental. Thus, this factor was labeled Communion, as it captured the interpersonal, collectivistic aspect described by Heck and Pincus. The second factor, which consisted of 11.09% of the variance, was composed of Success, Ambitious, Weak-Strong, and Intellectual. This matches perfectly with Heck and Pincus' (2001) Agency subscale and was labeled as such for the current study. The last factor contained Punitive, Judgmental, and Ambivalence and accounted for 7.31% of the variance. Quinlan and colleagues' (1992) original PCA contained a Punitive factor consisting of the same three items; thus, the third factor of the current EFA was labeled Punitive. For the rotated factor loadings and item significance, see Table 1.

Table 1

*Factor Structure of the EFA*

|                                    | Communion  | Agency     | Punitive   |
|------------------------------------|------------|------------|------------|
| Malevolent-Benevolent              | <b>.87</b> | .06        | .00        |
| Cold-Warm                          | <b>.89</b> | -.03       | -.05       |
| Nurturant                          | <b>.93</b> | .00        | .00        |
| Negative Positive Ideal            | <b>.80</b> | .19        | -.02       |
| Degree of Constructive Involvement | <b>.86</b> | .08        | .01        |
| Affectionate                       | <b>.87</b> | -.06       | -.01       |
| Punitive                           | .00        | -.01       | <b>.93</b> |
| Judgmental                         | -.18       | .01        | <b>.61</b> |
| Success                            | .02        | <b>.78</b> | -.27       |
| Ambitious                          | -.06       | <b>.77</b> | -.23       |
| Weak-strong                        | <b>.44</b> | <b>.57</b> | .02        |
| Intellectual                       | .01        | <b>.47</b> | -.09       |
| Conceptual Level                   | .07        | .12        | .07        |
| Ambivalence                        | -.09       | -.14       | <b>.32</b> |

*Bold loadings represent  $p < .05$ .*

**Cross-Validation Confirmatory Factor Analysis (CFA)**

Three CFAs were conducted on the cross-validation sample to determine the model that most accurately reflected the data. The first CFA consisted of the factor structure determined using the aforementioned EFA containing Agency, Communion, and Punitive (see Figure 2). The factors were allowed to correlate with one another, as they represent subcomponents of the single, unified construct of parental representations. The results suggested good fit using the CFI (.95) and mediocre fit using the RMSEA (.10).

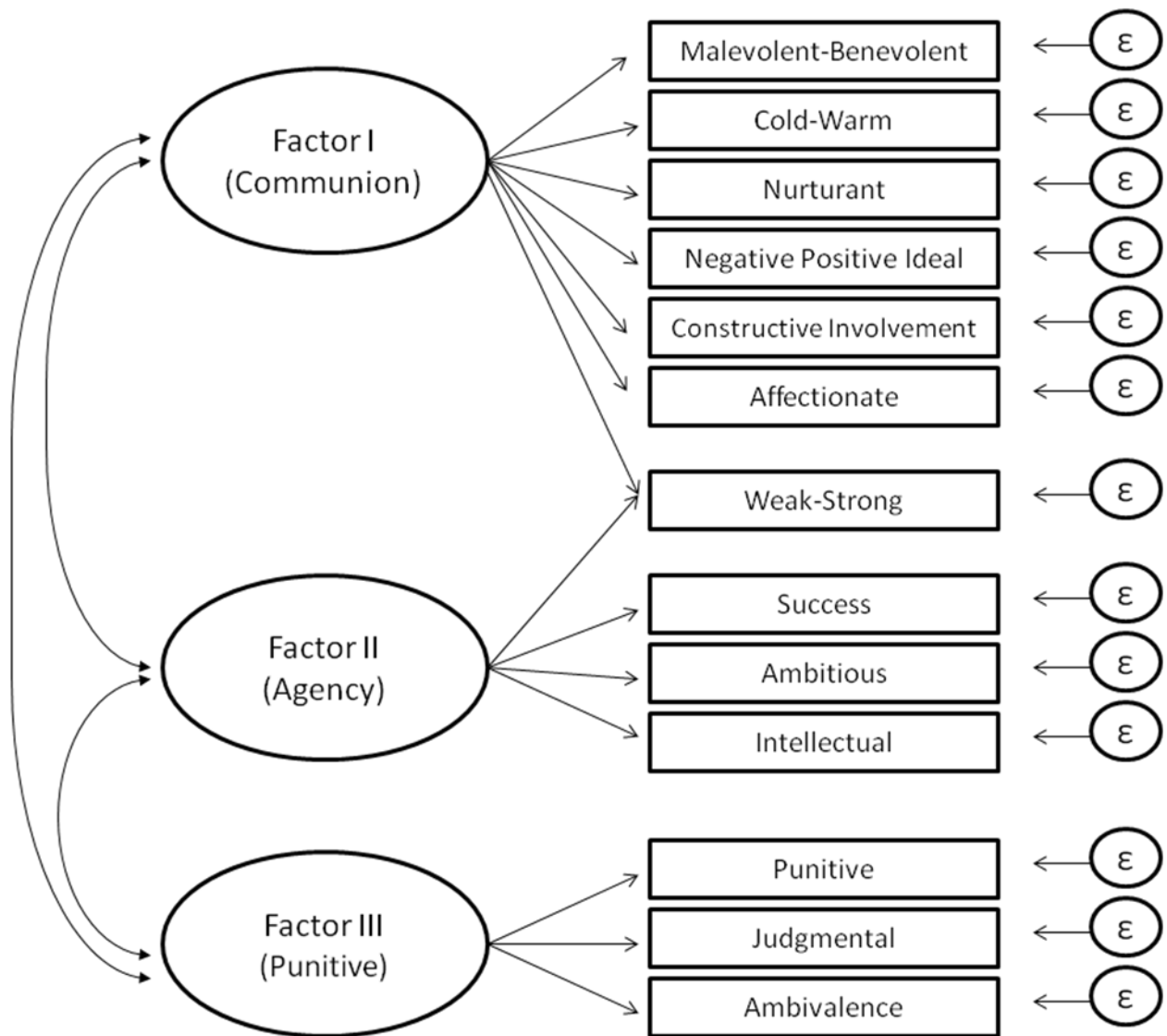


Figure 2. CFA model of the EFA factor structure.

In order to compare the current model with the previous literature, a second CFA using Heck and Pincus's subscales (2001) was performed, yielding a CFI of .90 and an RMSEA of .12. Last, the subscales proposed by Blatt, Quinlan, and colleagues (1992) were intended to be modeled; however, the Length variable was not provided in some of the datasets included in this study, given that the Heck and Pincus scoring system did not utilize narrative length. Thus, a three-factor CFA containing the Benevolent, Punitive, and Ambitious subscales was conducted, yielding low model fit (CFI = .86, RMSEA = .15). However, given that this model does not accurately reflect the results obtained by Quinlan and colleagues (1992), the interpretability of the CFA is questionable. Regardless, the CFA using Agency, Communion, and Punitive subscales not only achieved the highest fit of the three, but also obtained adequate fit indices to suggest that the model accurately reflected the data.



## Chapter Four: Discussion

This study explored the latent factor structure of the AOR (Blatt et al., 1992), a commonly used measure of parental representations, to help aid in improved subscale development. The results suggested that three subscales may be appropriate and have been tentatively labeled Agency, Communion, and Punitive based on previous research (Heck & Pincus, 2001; Quinlan et al., 1992). Interestingly, while Heck and Pincus' (2001) study was an attempt to correct methodological problems in the original analyses conducted by the authors of the measure (Quinlan et al., 1992), the findings of this study seem to form an explanatory “bridge” between the two. The most obvious of this is the manifestation of what appears to be a punitive aspect to maternal representations found in the original AOR subscales (Quinlan et al., 1992) and not present in Heck and Pincus (2001). This consisted of maternal narratives that were characterized by judgmental, punitive, and ambivalent responses. In Heck and Pincus' model, the judgmental and punitive descriptors were subsumed into the Communion factor, albeit with a negative loading. Thus, narratives high in judgmental and punitive themes represented the opposite of benevolent, warm, and nurturing thematic content. However, the current study suggests that representations of punitive maternal objects may function independently of maternal representations of positively idealized objects. Two possible explanations for this finding will be presented below.

One possibility relates to the fact that the degree of the ambivalence of the narrative loaded on the Punitive factor. As per the scoring system, parental descriptions rated high on ambivalence contain both good and bad aspects of the parent in the same narrative. As discussed by Klein (1946), individuals in the paranoid-schizoid position see others as part-

objects, splitting the positive and negative aspects of the individual in a nonintegrated way. Thus, a harsh, devalued mother can be the same individual who is simultaneously seen as benevolent and idealized. The separate Punitive and Communion scores may be a reflection of this bipolarity, as a narrative with low ambivalence that described a parent as malevolent, cold, low in constructive involvement, and unaffectionate would receive a low Communion score irrespective of the Punitive scale. Thus, scores on the Punitive scale may specifically highlight split maternal representations (via the ambivalence rating). As such, it may be more appropriate to conceptualize the Communion scale as being a (Positive/Negative) Idealization scale, in line with the negative-positive ideal descriptor loaded within the factor, and the Punitive scale as a Punitive-Ambivalence scale, in which responses contain both good and bad aspects in the same narrative. Thus, a low Punitive-Ambivalence score and a low or high Idealization (Communion) score may be suggestive of an individual who sees his/her mother solely as nonambivalently negative or positive. A person who is high on Punitive-Ambivalence, and either high or low on the Idealization (Communion), may be engaging in splitting, as both positive and negative aspects exist in the same narrative. However, given that punitive and judgmental descriptions exist on the same scale as ambivalence, it is unclear what the outcome would be for a narrative that yields a high punitive/judgmental score and low ambivalence; questions arise as to whether this would be enough to elevate the overall Punitive-Ambivalence score without the existence of ambivalence.

Thus, a second possible explanation for the current factor structure relates to responses reflecting the compromise formation of internal conflicts and associated fears (Brenner, 1982). Given that the Punitive factor captures ambivalent, judgmental, and

punitive narrative responses, it may be that the inclusion of both good and bad features of mother does not result from splitting, but rather because of the presence of a punitive superego. As described by Moore and Fine (1990), “Compromise formations occur because certain derivative manifestations of...wishes and fantasies encounter ego restrictions or superego prohibition” (p. 43). Thus, as individuals describe the negative aspects of their mother, the narratives shift to include positive aspects as a way to “provide some acceptable degree of expression for each of the competing interests” (Moore & Fine, 1990, p. 43). In other words, a shift from negative to positive descriptions of mother could be understood in terms of reparation attempts to assuage punishment from a punitive superego that has “caught them in the act.” However, it could be argued that an individual with a highly punitive superego may never be “allowed” to discharge aggressive drive energy in the form of hostility toward the mother on the written page and thus not appear ambivalent.

In spite of the aforementioned caveat, this provides support for why punitiveness and ambivalence loaded on a single factor: it is the punitive introjected maternal representation that leads to an ambivalent response. Thus, persons with negative Communion scores (e.g., seeing mother as cold, malevolent, and unaffectionate) and low Punitive scores would be individuals without responses indicative of a harsh superego. Individuals with high Punitive responses irrespective of Communion scores would suggest some level of superego activation. However, it should be noted that compromise formations can represent an individual’s identity, behaviors, fantasies, symptoms, and so on (Moore & Fine, 1990), and occur without the presence of an overly punitive superego. Thus, it could be argued that all responses, including the aforementioned explanation of splitting, are actually the product of compromise formations, especially given that Brenner (1982) describes defenses as

compromise formations themselves. Still, describing the presence of a punitive superego using the framework of compromise formation allows for easy explication of complex theoretical concepts. Future research could further clarify these differing explanations by using a categorical approach to examine distinct differences between individuals with low/high Punitive and Communion scores in a 2x2 fashion.

One related issue is the way in which narratives are scored on the ambivalence item. According to the AOR manual, ambivalence refers to “the degree to which opposite feelings about the person are expressed (i.e., love/hate; negative/positive; closeness/distance)” (Blatt et al., 1992, p. 13). Additionally, the manual states that “phrases such as ‘but’ and ‘although,’ as well as qualifiers may indicate the presence of ambivalence” (p. 13). Thus, the ambivalence variable does not differentiate between individuals engaging in obvious splitting from those who provide narratives that are integrated but still highlight both positive and negative aspects of mother as a whole and complex person. For example, using the logic of the manual, an individual who states, “My mother is very loving most of the time, but can be very hurtful when under significant stress” would be demonstrating opposite feelings (mother as very loving and very hurtful) and using the qualifier “but,” thus warranting a score of high ambivalence. However, this individual appears to recognize that his/her mother is loving *most of time* and that it is environmental stress that causes her to become hurtful, suggesting some level of mentalization. Consider the following narrative copied verbatim that was scored as having high ambivalence in this study:

A thoughtful, intelligent person, my mother probably didn't hit her stride until later on in her life. She seemed more likely to depend on her husband (my dad) and was less willing to voice her opinions and put herself out there. She may have been sweet and attentive as a mom early on, but I have difficulty remembering early years. At times, her profession as a therapist interfered in her relationships because sometimes she is emotionally removed and

overthinking or overanalyzing. I think she is seen as kind, caring, organized and giving by her friends, but people close to her can find her intrusive, longwinded, or dull. She is very caring about others and, at the same time overinvolved but unable to see this quality in herself. She is sometimes able to see her flaws, but doesn't appear interested in changing her behaviors. She loves people wholeheartedly, but is also very critical.

This narrative contains opposite descriptions of the individual's mother, such as "sweet and attentive... kind, caring, organized" and "emotionally removed... intrusive, longwinded, or dull." However, the individual appears to recognize this ambivalence, noting that distant others (e.g., friends) may see her positively, whereas individuals with whom she is close can recognize the negative aspects of the mother. Furthermore, this participant speculates about the internal states of her mother, such as in the phrase, "but unable to see this quality in herself," demonstrating a capacity for reflective functioning. Contrast this with another narrative reproduced verbatim that was also rated as highly ambivalent:

My mother would really get upset if you didn't do as she asked. My mother would get mad at you and not talk to you for awhile. My mother always had a fun time when we went on trips. My mother told you how things were and did heistate [sic] at all. My mother cares when you are hurt and like to help. My mother like to give to her family things that she never had. My mother is a tuff [sic] lady she never gets beat down she stands tall. My mother always had a open mind on somethings and other things she would say are not right. My mother always cry's [sic] when she is hurt and sometimes she hides it so that know [sic] one will know. My mother is a lady that I always would look up to and would let me know what I was doing wrong and to look at what I was doing. I miss my mom and wish that she could have been here longer so we could have somemore [sic] fun.

This narrative also contains opposite descriptions, such as noting that her mother would become upset and ignore her when she was noncompliant, while stating, "My mother cares when you are hurt and like to help." However, unlike the previous narrative, there appears to be a lack of integration or insight into the positive and negative aspects of the maternal representation. With these examples in mind, it is

clear that the instructions for the ambivalence rating on the AOR need to be adjusted to discriminate whole-object from part-object representations as a way to improve the measure. While it is possible that some researchers apply the variable in this manner, the instructions of the AOR manual (Blatt et al., 1992) do not specify that a lack of integration is needed and instead use the conceptual level variable as the determinant for level of reflective functioning. A possible solution to this problem will be presented below. It should be noted that no current research has examined the impact of intellectual level on AOR narratives, making it unclear if responses such as the one above reflect an intellectual deficit. However, 80.8% ( $n = 244$ ) of the online sample used in this study reported having at least an undergraduate degree and received a mean Conceptual Level score of 4.37 ( $SD = 1.96$ ), meaning that responses containing physical descriptions of mother without evidence of her having independent thoughts and feelings (Concrete-perceptual; scored as 3) fell within one standard deviation of the mean. Thus, it seems unlikely that responses indicating lower reflective functioning are solely capturing verbal and/or cognitive deficits.

In their rationale for further study of the AOR factor structure, Heck and Pincus (2001) critique Quinlan and colleagues' (1992) decision to omit the conceptual level from the factor analysis, stating that it is an important developmental component of the AOR that should be understood within the context of the other variables in the measure. However, results of the current study demonstrated that the conceptual level did not significantly load on any of the factors. One possibility is that the personality characteristics of the narrative were not meaningfully related to the developmental progression of the maternal representation, and thus conceptual level is measuring something independent of Agency,

Communion, and Punitive representations. However, because conceptual level did not account for enough variance to represent its own factor, a second possibility is that it did not meaningfully contribute additional information not already accounted for by the resulting scales. This would suggest that the developmental aspects highlighted in the conceptual level are already present elsewhere in the measure. Thus, future research is needed to explore the characteristics of conceptual level and to determine its utility in understanding parental representations.

With respect to the previously stated issue regarding ambivalence, a revision to the instructions for the ambivalence item could include this developmental aspect of the conceptual level as a way to differentiate narratives that are high in reflective functioning and ambivalence from responses low in reflective functioning and highly ambivalent. For example, researchers could be instructed to rate the level of ambivalent/conflicted feelings about the parental figure for which the individual does not seem to demonstrate awareness or integration of these incongruent aspects. Thus, individuals with high mentalization would not be “penalized” for providing a complete picture of their parent. Given that the factor analysis suggested that conceptual level does not meaningfully contribute to the model and could be removed, this revised ambivalent rating would not confound the results in terms of two items measuring the developmental level of parental representations.

### **Limitations**

Although this study appears to illuminate a new way of understanding the latent factor structure of the AOR, it is not without limitations. First, samples utilized were of convenience and thus are not representative of the populations included. For example, all outpatient participants were African American females, and the nonclinical samples were

primarily well-educated, Caucasian females, limiting the generalizability of the results. Specifically, nearly three-quarters of the online sample had obtained at least a college degree. Thus, caution should be used when applying the scales derived from this study outside of these limited demographic parameters. Future research could benefit from examining different population or more demographically representative samples.

Additionally, while this study was the first to apply factor analytic techniques to the AOR using both clinical and nonclinical samples, the limited number of clinical participants ( $n = 214$ ) prevented these groups from being examined using separate factor analytic techniques for comparison purposes. Thus, it is unclear if the factor structure of the measure would differ for these two populations and should be further investigated in future research. Another issue involves the aggregation of samples from various researchers without a measure of reliability between datasets. While each dataset utilized measures of interrater reliability to ensure accurate scoring, no comparisons were made between them. Thus, it is possible that one team of researchers scored narratives differently than another team, even if they were reliable within each of those groups. Another issue with regard to merging data is that some responses were handwritten and returned to a researcher nearby, whereas others were typed on a website in whatever location the participant accessed the survey. Thus, environmental biases may exist, as well as differences between handwritten and typed responses. Given that the demographic information differs widely between these samples, it is impossible to compare the groups to see if differences exist with regard to administration. Last, this study utilized only descriptions of mothers, given that many outpatients lacked paternal figures to describe and online data only inquired about maternal figures. Thus,



future research could analyze the latent factor structure of paternal narratives to determine if differences exist.

## **Conclusion**

Unlike many of the existing techniques for assessing psychopathology that rely on either self-report or behavioral observations (Westen, 1997), measures of parental representations examine unconscious processes that occur outside of awareness (McClelland et al., 1989) and appear to play a role in the manifestation of problematic symptoms (e.g., Bornstein & O'Neill, 1992). Although several measures of parental representations exist, the AOR (Blatt et al., 1992) stands alone as both a clinician-rated measure of implicit processes and a quick and easy research tool. Although the two previously conducted factor analyses in the literature raised issues regarding the latent factor structure of the measure and subscale construction (Heck & Pincus, 2001; Quinlan et al., 1992), the current study demonstrates that a three-factor solution makes the most theoretical and statistical sense. Specifically, these factors appear to highlight aspects of agency, communion, and punitiveness. In line with object relations theory, the AOR appears to capture aspects of both self and other within parental representations, as well as the activation of punitive introjects. Psychoanalytic theory has long discussed the crucial role that primary caregivers serve in mirroring a child's inner world back to them, aiding in the formation of self-representations (Kohut, 1971). Thus, parental representations are often considered to be inextricably bound to aspects of the self (Kernberg et al., 2008); one must know what is "me" in order to identify that which is "not me" (Mitchell & Black, 1996). Similarly, psychoanalytic literature beginning with Freud has noted that the superego stems from the introjections of parental representations (Mitchell & Black, 1996); thus, it is the internalization of caregivers that form one's moral

compass. As such, it is not surprising that a good measure of parental representations would capture all of these aspects, just as the AOR does. Although future research is necessary to fully understand and appreciate the measure, the current study suggests that the AOR may be useful as a measure of the unconscious components of parental figures.

## References

- Abele, A. E., & Wojciszke, B. (2007). Agency and communion from the perspective of self versus others. *Journal of Personality and Social Psychology, 93*(5), 751-763.
- Abraham, K. (1924). A short study of the development of the libido selected papers on psycho-analysis. In R.V. Frankiel (Ed.), *Essential papers on object loss* (pp. 418-501). London: Hogarth Press.
- Ackerman, S. J., Hilsenroth, M. J., Clemence, A. J., Weatherill, R., & Fowler, J. C. (2000). The effects of social cognition and object representation on psychotherapy continuation. *Bulletin of the Menninger Clinic, 64*(3), 386-408.
- Ainsworth, M. D. S. (1963). The development of infant-mother interaction among the Ganda. In B.M. Foss (Ed.), *Determinants of infant behavior, Vol. 2* (pp. 67-112). New York, NY: Wiley.
- Ainsworth, M. D. S. (1982). Attachment: Retrospect and prospect. In: C. M. Parkes & J. Stevenson-Hinde (Eds.), *The place of attachment in human behavior* (pp. 3-30). New York, NY: Basic Books.
- Allen, J. G. (2003). Mentalizing. *Bulletin of the Menninger Clinic, 67*, 91-112.
- Applebaum, S. A. (1973). Psychological-mindedness: word, concept and essence. *International Journal of Psychoanalysis, 54*, 35-46.
- Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence, 16*(5), 427-454.

- Bakermans-Kranenburg, M. J., & Van IJzendoorn, M. H. (1993). A psychometric study of the Adult Attachment Interview: Reliability and discriminant validity. *Developmental Psychology, 29*(5), 870-879.
- Balint, M. (1968). *The basic fault*. London: Tavistock.
- Benoit, D., & Parker, K. C. H. (1994). Stability and transmission of attachment across three generations. *Child Development, 65*(5), 1444-1456.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238-246.
- Besser, A., & Blatt, S. J. (2007). Identity consolidation and internalizing and externalizing problem behaviors in early adolescence. *Psychoanalytic Psychology, 24*(1), 126-149.
- Blatt, S. J. (1974). Levels of object representation in anaclitic and introjective depression. *The Psychoanalytic Study of the Child, 29*(10), 7-157.
- Blatt, S. J., & Auerbach, J. S. (2001). Mental representation, severe psychopathology, and the therapeutic process. *Journal of the American Psychoanalytic Association, 49*(1), 113-159.
- Blatt, S. J., Auerbach, J. S., & Aryan, M. (1998). Representational structures and the therapeutic process. In R.F. Bornstein, & J.M. Masling (Eds.), *Empirical studies of the therapeutic hour: Empirical studies of psychoanalytic theories, Vol. 8*. (pp. 63-107). Washington, DC: American Psychological Association.
- Blatt, S. J., Chevron, E. S., Quinlan, D. M., Schaffer, C. E., & Wein, S. (1992). The assessment of qualitative and structural dimensions of object representations – Revised edition. Unpublished manuscript, Yale University at New Haven, CT.

- Blatt, S. J., & Homann, E. (1992). Parent-child interaction in the etiology of dependent and self-critical depression. *Clinical Psychology Review, 12*(1), 47-91.
- Blatt, S. J., Stayner, D. A., Auerbach, J. S., & Behrends, R. S. (1996). Change in object and self-representations in long-term, intensive, inpatient treatment of seriously disturbed adolescents and young adults. *Psychiatry: Interpersonal and Biological Processes, 59*(1), 82-107.
- Blatt, S. J., Wild, C. M., & Ritzler, B. A. (1975). Disturbances in object representation in schizophrenia. *Psychoanalysis and Contemporary Science, 4*, 235-288.
- Blatt, S. J., Wiseman, H., Prince-Gibson, E., & Gatt, C. (1991). Object representations and change in clinical functioning. *Psychotherapy: Theory, Research, Practice, Training, 28*(2), 273-283.
- Bornstein, R. F. (2002). Peer-review in neuropsychology: Can we increase effectiveness without sacrificing rigor? *Cortex: A Journal Devoted to the Study of the Nervous System and Behavior, 38*(3), 403-405.
- Bornstein, R. F., & O'Neill, R. M. (1992). Parental perceptions and psychopathology. *Journal of Nervous and Mental Disease, 180*(8), 475-483.
- Bowlby, J. (1956). The growth of independence in the young child. *Royal Society of Health Journal, 76*, 587-591.
- Bowlby, J. (1958). The nature of the child's tie to his mother. *International Journal of Psycho-Analysis, 39*, 350-373.
- Bowlby, J. (1969). *Attachment and loss: Vol. 1, Attachment*. New York, NY: Basic Books.
- Bowlby, J. (1973). *Attachment and loss: Vol 2, Separation: Anxiety, and Anger*. New York, NY: Basic Books.

- Brewin, C. R., Andrews, B., & Gotlib, I. H. (1993). Psychopathology and early experience: A reappraisal of retrospective reports. *Psychological Bulletin*, *113*(1), 82-98.
- Bryant, F. B., & Yarnold, P. R. (1995). Principal-components analysis and exploratory and confirmatory factor analysis. In L. G. Grimm & P. R. Yarnold (Eds.), *Reading and understanding multivariate statistics* (1st ed., pp. 99 –136). Washington, DC: American Psychological Association.
- Burbach, D. J., & Borduin, C. M. (1986). Parent-child relations and the etiology of depression: A review of methods and findings. *Clinical Psychology Review*, *6*(2), 133-153.
- Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, *1*(2), 245-276.
- Clifton, A., Turkheimer, E., & Oltmanns, T. F. (2004). Systematic dimensions of self and peer perspectives on pathological personality traits. *Personality and Individual Differences*, *36*, 1499–1514.
- Clifton, A., Turkheimer, E., & Oltmanns, T. F. (2005). Self- and peer perspectives on pathological personality traits and interpersonal problems. *Psychological Assessment*, *17*(2), 123-131.
- Deeg, C. (2002). Issues of psychoanalytic technique with adoptees. *Journal of Social Distress & the Homeless*, *11*(2), 193-205.
- de Haas, M. A., Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (1994). The Adult Attachment Interview and questionnaires for attachment style, temperament, and memories of parental behavior. *The Journal of Genetic Psychology: Research and Theory on Human Development*, *155*(4), 471-486.

- De Rosnay, M., & Harris, P. L. (2002). Individual differences in children's understanding of emotion: The roles of attachment and language. *Attachment & Human Development*, 4(1), 39-54.
- Fabrigar, L. R., Wegener, D. T., MacCallum, R.C., & Strahan, E. J. (1999). Evaluating the use of factor analysis in psychological research. *Psychological Methods*, 4, 272-299.
- Fairbairn, W.R.D. (1952). *An object-relations theory of the personality*. New York, NY: Basic Books.
- Fischer-Kern, M., Tmej, A., Kapusta, N. D., Naderer, A., Leithner-Dziubas, K., Löffler-Stastka, H., & Springer-Kremser, M. (2008). The capacity for mentalization in depressive patients: A pilot study. *Zeitschrift für Psychosomatische Medizin und Psychotherapie*, 54(4), 368-380.
- Fisher, S., & Greenberg, R. P. (1996). *Freud scientifically reappraised: Testing the theories and therapy*. New York, NY: John Wiley & Sons.
- Flora, D. B., & Curran, P. J. (2004). An empirical evaluation of alternative methods of estimation for confirmatory factor analysis with ordinal data. *Psychological Methods*, 9, 466-491.
- Fonagy, P. (1991). Thinking about thinking: Some clinical and theoretical considerations in the treatment of a borderline patient. *The International Journal of Psychoanalysis*, 72(4), 639-656.
- Fonagy, P. (1999). Points of contact and divergence between psychoanalytic and attachment theories: Is psychoanalytic theory truly different. *Psychoanalytic Inquiry*, 19, 448-480.
- Fonagy, P., Gergely, G., Jurist, E. L., & Target, M. (2002). *Affect regulation, mentalization, and the development of the self*. New York, NY: Other Press.

- Fonagy, P., Gergely, G., & Target, M. (2008). Psychoanalytic constructs and attachment theory and research. In J. Cassidy & P.R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2<sup>nd</sup> ed., pp. 783-810). New York, NY: Guilford Press.
- Fonagy, P., Leigh, T., Steele, M., Steele, H., Kennedy, R., Mattoon, G., ... Gerber, A. (1996). The relation of attachment status, psychiatric classification, and response to psychotherapy. *Journal of Consulting and Clinical Psychology, 64*(1), 22-31.
- Fonagy, P., Redfern, S., & Charman, T. (1997). The relationship between belief-desire reasoning and a projective measure of attachment security (SAT). *British Journal of Developmental Psychology, 15*(1), 51-61.
- Fonagy, P., Steele, H., & Steele, M. (1991). Maternal representations of attachment during pregnancy predict the organization of infant-mother attachment at one year of age. *Child Development, 62*(5), 891-905.
- Fonagy, P., Steele, M., Steele, H., Moran, G. S., & Higgitt, A. C. (1991). The capacity for understanding mental states: The reflective self in parent and child and its significance for security of attachment. *Infant Mental Health Journal, 12*(3), 201-218.
- Fonagy, P., & Target, M. (2003). *Psychoanalytic theories: Perspectives from developmental psychopathology*. New York, NY: Routledge.
- Fraley, R. C. (2007). A connectionist approach to the organization and continuity of working models of attachment. *Journal of Personality, 75*(6), 1157-1180.
- Freud, S. (1908). Character and anal eroticism. In J. Strachey (Ed.), *Standard edition of the complete works of Sigmund Freud* (Vol. 9, pp. 167-175). London: Hogarth Press.



- Funder, D. C., Kolar, D. C., & Blackman, M. C. (1995). Agreement among judges of personality: Interpersonal relations, similarity, and acquaintanceship. *Journal of Personality and Social Psychology*, 69(4), 656-672.
- George, C., Kaplan, N., & Main, M. (1984). *Adult Attachment Interview*. Unpublished manuscripts, University of California, Berkeley.
- George, C., Kaplan, N., & Main, M. (1985). *Adult Attachment Interview* (2<sup>nd</sup> ed.). Unpublished manuscripts, University of California, Berkeley.
- George, C., Kaplan, N., & Main, M. (1996). *Adult Attachment Interview* (3<sup>rd</sup> ed.). Unpublished manuscripts, University of California, Berkeley.
- Goodman, G., & Manierre, A. (2008). Representations of God uncovered in a spirituality group of borderline inpatients. *International Journal of Group Psychotherapy*, 58(1), 1-15.
- Greenberg, J. R., & Mitchell, S. A. (1983). *Object relations in psychoanalytic theory*. Cambridge, MA: Harvard University Press.
- Grienenberger, J., Kelly, K., & Slade, A. (2005). Maternal reflective functioning, mother-infant affective communication, and infant attachment: Exploring the link between mental states and observed caregiving behavior in the intergenerational transmission of attachment. *Attachment & Human Development*, 7(3), 299-311.
- Guadagnoli, E., & Velicer, W. F. (1988). Relation to sample size to the stability of component patterns. *Psychological Bulletin*, 103(2), 265-275.
- Gullone, E., & Robinson, K. (2005). The inventory of parent and peer attachment – revised (IPPA-R) for children: A psychometric investigation. *Clinical Psychology & Psychotherapy*, 12(1), 67-79.

- Hair, J. E., Anderson, R. E., Tatham, R. L., & Black W. C. (1998). *Multivariate data analysis*. (5th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Harlow, H. F. (1958). The nature of love. *American Psychologist*, *13*, 673-678.
- Heck, S. A., & Pincus, A. L. (2001). Agency and communion in the structure of parental representations. *Journal of Personality Assessment*, *76*(1), 180-184.
- Henson, R. K. & Roberts, J. K. (2006). Exploratory factor analysis reporting practices in published psychological research: Common errors and some comment on improved practice. *Educational and Psychological Measurement*, *66*(3), 393-416.
- Hesse, E. (1996). Discourse, memory, and the Adult Attachment Interview: A note with emphasis on the emerging cannot classify category. *Infant Mental Health Journal*, *17*(1), 4-11.
- Heese, E. (2008). The Adult Attachment Interview: Protocol, method of analysis, and empirical studies. In J. Cassidy & P.R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 552-598). New York, NY: Guilford Press.
- Hesse, E., & Main, M. (2000). Disorganized infant, child, and adult attachment: Collapse in behavioral and attentional strategies. *Journal of the American Psychoanalytic Association*, *48*(4), 1097-1127.
- Hill, J., Fonagy, P., Safier, E., & Sargent, J. (2003). The ecology of attachment in the family. *Family Process*, *42*(2), 205-221.
- Holmes, J., & Bateman, A. (2002). *Integration in psychotherapy: Models and methods*. New York, NY: Oxford University Press.
- Horn J. L. 1965. A rationale and a test for the number of factors in factor analysis. *Psychometrika*, *30*, 179-185

- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55.
- Huprich, S. K., & Greenberg, R. P. (2003). Advances in the assessment of object relations in the 1990s. *Clinical Psychology Review*, 23(5), 665-698.
- Huprich, S. K., Porcerelli, J. H., Binienda, J., Karana, D., & Kamoo, R. (2007). Parental representations, object relations and their relationship to Depressive Personality Disorder and Dysthymia. *Personality and Individual Differences*, 43(8), 2171-2181.
- Janssen, I., Krabbendam, L., Hanssen, M., Bak, M., Vollebergh, W., de Graaf, R., & van Os, J. (2005). Are apparent associations between parental representations and psychosis risk mediated by early trauma? *Acta Psychiatrica Scandinavica*, 112(5), 372-375.
- Joreskog, K. and Moustaki, I. (2001). Factor analysis for ordinal variables: A comparison of three approaches. *Multivariate Behavioural Research*, 36, 347-387.
- Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20, 141-151.
- Kernberg, O. F. (1984). *Severe personality disorders*. New Haven, CT: Yale University Press.
- Kernberg, O. F., Yeomans, F. E., Clarkin, J. F., & Levy, K. N. (2008). Transference focused psychotherapy: Overview and update. *The International Journal of Psychoanalysis*, 89(3), 601-620.
- Klein, M. (1928). Early stages of the Oedipus conflict. *Love, Guilt and Reparation: The Writings of Melanie Klein, Vol. 1* (pp. 186-198). London: Hogarth Press, 1975.
- Klein, M. (1932). *The psycho-analysis of children*. London: Hogarth Press.

- Klein, M. (1935). A contribution to the psychogenesis of manic-depressive states. *Love, Guilt and Reparation: The Writings of Melanie Klein, Vol. 1* (pp. 236-289). London: Hogarth Press, 1975.
- Klein, M. (1945). The Oedipus complex in the light of early anxieties. *Love, Guilt and Reparation: The Writings of Melanie Klein, Vol. 1* (pp. 370-419). London: Hogarth Press, 1975.
- Klein, M. (1946). Notes on some schizoid mechanisms. In M. Klein, P. Heimann, S. Isaacs, & J. Riviere (Eds.), *Developments in psychoanalysis* (pp. 292-320). London: Hogarth Press.
- Klein, M. (1952). The mutual influences in the development of ego and id. *Envy and Gratitude and other Works, 1946-1963*. New York, NY: Delacorte Press, 1975.
- Klomek, A. B., Zalsman, G., Apter, A., Meged, S., Har-Even, D., Diller, R., & Orbach, I. (2007). Self-object differentiation in suicidal adolescents. *Comprehensive Psychiatry*, 48(1), 8-13.
- Klonsky, E. D., Oltmanns, T. F., & Turkheimer, E. (2002). Informant-reports of personality disorder: Relation to self-reports and future research directions. *Clinical Psychology: Science and Practice*, 9(3), 300-311.
- Kohut, H. (1971). *The analysis of the self: A systematic approach to the psychoanalytic treatment of Narcissistic Personality Disorders*. New York, NY: International Universities Press.
- Kolar, D. W., Funder, D. C., & Colvin, C. R. (1996). Comparing the accuracy of personality judgments by the self and knowledgeable others. *Journal of Personality*, 64(2), 311-337.

- Liang, L., Hou, Z., & Tian, L. (2006). Adolescent attachment to father, mother and peers. *Chinese Mental Health Journal, 20*(10), 639-642.
- Lizardi, H., & Klein, D. N. (2005). Long-term stability of parental representations in depressed outpatients utilizing the parental bonding instrument. *Journal of Nervous and Mental Disease, 193*(3), 183-188.
- MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods, 4*, 84-99.
- Main, M. (2000). Attachment theory. In A.E. Kazdin (Ed.), *Encyclopedia of psychology, Vol. 1* (pp. 289-293). New York, NY: Oxford University Press.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood and adulthood: A move to the level of representation. In I. Bretherton, E. Waters (Eds.), *Growing points of attachment theory and research. Monographs of the society for research in child development, Vol. 50* (pp. 66-104). Chicago, IL: Chicago University Press.
- Mayer, J. D., & Salvoney, P. (1997). What is emotional intelligence? In P. Salvoney & D. J. Slitter (Eds.), *Emotional Development and Emotional Intelligence* (pp. 3-31). New York: Basic Books.
- Mayes, L. C., & Leckman, J. F. (2007). Parental representations and subclinical changes in postpartum mood. *Infant Mental Health Journal, 28*(3), 281-295.
- McClelland, D. C. (1980). Motive dispositions: The merits of operant and respondent measures. In L. Wheeler (Ed.), *Review of personality and social psychology* (Vol. 1, pp. 10-41). Beverly Hills, CA: Sage.
- McClelland, D. C., Koestner, R., & Weinberger, J. (1989). How do self-attributed and implicit motives differ? *Psychological Review, 96*(4), 690-702.

- McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, 52(91), 81-90.
- Meins, E., Fernyhough, C., Fradley, E., & Tuckey, M. (2001). Rethinking maternal sensitivity: Mothers' comments on infants' mental processes predict security of attachment at 12 months. *Journal of Child Psychology and Psychiatry*, 42(5), 637-648.
- Meins, E., Fernyhough, C., Wainwright, R., Clark-Carter, D., Gupta, M.D., Fradley, E., & Tuckey, M. (2003). Pathways to understanding mind: Construct validity and predictive validity of maternal mind-mindedness. *Child Development*, 74(4), 1194-1211.
- Meins, E., Fernyhough, C., Wainwright, R., Gupta, M. D., Fradley, E., & Tuckey, M. (2002). Maternal mind-mindedness and attachment security as predictors of theory of mind understanding. *Child Development*, 73(6), 1715-1726.
- Mercer, J. (2006). *Understanding Attachment: Parenting, child care, and emotional development*. Westport, CT: Praeger Publishers.
- Mikulincer, M., Shaver, P. R., & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation and Emotion*, 27(2), 77-102.
- Milne, L. C., & Lancaster, S. (2001). Predictors of depression in female adolescents. *Adolescence*, 36(142), 207-223.
- Mitchell, S. A., & Black, M. J. (1996). *Freud and beyond: A history of modern psychoanalytic thought*. New York, NY: Basic Books.
- Mongrain, M. (1998). Parental representations and support-seeking behaviors related to dependency and self-criticism. *Journal of Personality*, 66(2), 151-173.

- Moretti, M. M., Holland, R., & McKay, S. (2001). Self-other representations and relational and overt aggression in adolescent girls and boys. *Behavioral Sciences & the Law*, *19*(1), 109-126.
- Muthén, L. K., & Muthén, B. O. (2008). *Mplus user's guide*. Los Angeles, CA: Author.
- Norton, S. (1997). 'Sound' and the 'sense' of sound in the therapeutic relationship: A factor in the mechanism of projective identification. *British Journal of Psychotherapy*, *13*, 515-526.
- Oltmanns, T. F., Turkheimer, E., & Strauss, M. E. (1998). Peer assessment of personality traits and pathology in female college students. *Assessment*, *5*(1), 53-65.
- Oppenheim, D., & Koren-Karie, N. (2002). Mothers' insightfulness regarding their children's internal worlds: The capacity underlying secure child-mother relationships. *Infant Mental Health Journal*, *23*(6), 593-605.
- Parker, G., & Hadzi-Pavlovic, D. (1992). Parental representations of melancholic and non-melancholic depressives: Examining for specificity to depressive type and for evidence of additive effects. *Psychological Medicine: A Journal of Research in Psychiatry and the Allied Sciences*, *22*(3), 657-665.
- Parker, G., Tupling, H., & Brown, L. B. (1979). A parental bonding instrument. *British Journal of Medical Psychology*, *52*(1), 1-10.
- Patrick, M., Hobson, R. P., Castle, D., Howard, R., & Maughan, B. (1994). Personality disorder and the mental representation of early social experience. *Development and Psychopathology*, *6*(2), 375-388.

- Persons, E. S., Cooper, A. M., & Gabbard, G. O. (2005). *The American psychiatric publishing textbook of psychoanalysis*. Arlington, VA: American Psychiatric Publishing.
- Piaget, J. (1937). *The construction of reality in the child*. New York, NY: Basic Books, 1954.
- Piaget, J. (1945). *Play, dreams and imitation in childhood*. New York, NY: Norton, 1951.
- Plantes, M. M., Prusoff, B. A., Brennan, J., & Parker, G. (1988). Parental representations of depressed outpatients from a U.S.A. sample. *Journal of Affective Disorders*, 15(2), 149-155.
- Porcerelli, J. H., Bornstein, R. F., Markova, T., & Huprich, S. K. (2009). Physical health correlates of pathological and healthy dependency in urban women. *Journal of Nervous and Mental Disease*, 197(10), 761-765.
- Porcerelli, J. H., Huprich, S. K., Binienda, J., & Karana, D. (2006). Object representations and their relationship to psychopathology and physical health status in African-American women in primary care. *Journal of Nervous and Mental Disease*, 194(11), 838-844.
- Porcerelli, J. H., Shahar, G., Blatt, S. J., Ford, R. Q., Mezza, J. A., & Greenlee, L. M. (2006). Social cognition and object relations scale: Convergent validity and changes following intensive inpatient treatment. *Personality and Individual Differences*, 41(3), 407-417.
- Pyers, J. (2003). The expression of mental states in American Sign Language. In A. Baker, B. van den Bogaerde, & O. Crasborn (Eds.), *Cross-Linguistic perspectives on sign language research* (pp. 249-264). Hamburg: Signum Press.



- Quinlan, D. M., Blatt, S. J., Chevron, E. S., & Wein, S. J. (1992). The analysis of descriptions of parents: Identification of a more differentiated factor structure. *Journal of Personality Assessment*, *59*(2), 340-351.
- Raykov, T. (1998). A method for obtaining standard errors and confidence intervals of composite reliability for congeneric items. *Applied Psychological Measurement*, *22*, 369-374.
- Richman, J. A., & Flaherty, J. A. (1987). Adult psychosocial assets and depressive mood over time: Effects of internalized childhood attachments. *Journal of Nervous and Mental Disease*, *175*(12), 703-712.
- Robins, R. W., Fraley, R. C., & Krueger, R. F. (Eds.) (2007). *Handbook of research methods in personality psychology*. New York, NY: Guilford.
- Roisman, G. I., Fraley, R. C., & Belsky, J. (2007). A taxometric of the Adult Attachment Interview. *Developmental Psychology*, *43*(3), 675-686.
- Rosenstein, D. S. & Horowitz, H. A. (1996). Adolescent attachment and psychopathology. *Journal of Consulting & Clinical Psychology*, *64*(2), 244-253.
- Russ, E., Heim, A., & Westen, D. (2003). Parental bonding and personality pathology assessed by clinician report. *Journal of Personality Disorders*, *17*(6), 522-536.
- Sagi, A., van IJzendoorn, M. H., Scharf, M., Koren-Karie, N., Joels, T., & Mayseless, O. (1994). Stability and discriminant validity of the Adult Attachment Interview: A psychometric study in young Israeli adults. *Developmental Psychology*, *30*(5), 771-777.
- Sass, D. A., & Schmitt, T. A. (2010). A comparative investigation of rotation criteria within exploratory factor analysis. *Multivariate Behavioral Research*, *45*, 73-103.
- Searle, J. R. (2001). *Rationality in action*. Cambridge, MA: MIT Press.

- Shedler, J., & Westen, D. (2004). Dimensions of personality pathology: An alternative to the five-factor model. *The American Journal of Psychiatry*, *161*(10), 1743-1754.
- Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin*, *2*, 420-428.
- Slade, A. (2005). Parental reflective functioning: An introduction. *Attachment & Human Development*, *7*(3), 269-281.
- Slade, A., Grienenberger, J., Bernach, E., Levy, D., & Locker, A. (2005). Maternal reflective functioning, attachment, and the transmission gap: A preliminary study. *Attachment & Human Development*, *7*(3), 283-298.
- Steiger, J. H. (1990). Structural model evaluation and modification. *Multivariate Behavioral Research*, *25*, 214-212.
- Steiger, J. H., & Lind, J. C. (1980, May). *Statistically-based tests for the number of common factors*. Paper presented at the annual Spring Meeting of the Psychometric Society in Iowa City.
- Stevens, J. (1992). *Applied multivariate statistics for the social sciences, 2nd ed.* Hillsdale, NJ: Erlbaum Associates.
- Stewart, E. S., Ceranoglu, T. A., O'Hanley, T., & Geller, D. A. (2005). Performance of clinician versus self-report measures to identify obsessive-compulsive disorder in children and adolescents. *Journal of Child and Adolescent Psychopharmacology*, *15*(6), 956-963.
- Stover, C. S., Van Horn, P., & Lieberman, A. F. (2006). Parental representations in the play of preschool aged witnesses of marital violence. *Journal of Family Violence*, *21*(6), 417-424.

- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4<sup>th</sup> ed.). Needham Heights, MA: Allyn & Bacon.
- Thompson, B. (1992). A partial test distribution for cosines among factors across samples. In B. Thompson (Ed.), *Advances in social science methodology* (Vol. 2, pp. 81-97). Greenwich, CT: JAI Press.
- Thompson, B., & Daniel, L. G. (1996). Factor analytic evidence for the construct validity of scores: A historical overview and some guidelines. *Educational and Psychological Measurement, 56*, 197-208.
- Torresani, S., Favaretto, E., & Zimmermann, C. (2000). Parental representations in drug-dependent patients and their parents. *Comprehensive Psychiatry, 41*(2), 123-129.
- van IJzendoorn, M. H., & Bakermans-Kranenburg, M. J. (1996). Attachment representations in mothers, fathers, adolescents, and clinical groups: A meta-analytic search for normative data. *Journal of Consulting and Clinical Psychology, 64*(1), 8-21.
- Westen, D. (1993). The social cognition and object relations scale: Q-sort for projective stories. Unpublished manuscript, Harvard University Medical School at Cambridge, MA.
- Westen, D. (1995). SCORS-Q for projective stories: Addendum. Unpublished manuscript, Harvard University Medical School at Cambridge, MA.
- Westen, D. (1997). Divergences between clinical and research methods for assessing personality disorders: Implications for research and the evolution of axis II. *The American Journal of Psychiatry, 154*(7), 895-903.

- Westen, D., Lohr, N., Silk, K., Kerber, K., & Goodrich, S. (1990). Social cognition and object relations scale (SCORS): TAT manual. Unpublished manuscript. University of Michigan.
- Whisman, M. A., & Kwon, P. (1992). Parental representations, cognitive distortions, and mild depression. *Cognitive Therapy and Research, 16*(5), 557-568.
- Wiggins, J. S. (1991). Agency and communion as conceptual coordinates for the understanding and measurement of interpersonal behavior. In D. Cicchetti & W.M. Grove (Eds.), *Thinking clearly about psychology: Essays in honor of Paul E. Meehl; Vol. 2: Personality and psychopathology* (pp. 89-113). Minneapolis, MN: University of Minnesota Press.
- Wilhelm, K., Niven, H., Parker, G., & Hadzi-Pavlovic, D. (2005). The stability of the parental bonding instrument over a 20-year period. *Psychological Medicine: A Journal of Research in Psychiatry and the Allied Sciences, 35*(3), 387-393.
- Winnicott, D. W. (1953). Transitional objects and transitional phenomena. *International journal of psycho-analysis, 34*, 1-9.
- Winnicott, D. W. (1956). Mirror role of mother and family in child development. In D.W. Winnicott (Ed.), *Playing and reality* (pp. 111-118). London: Tavistock.
- Winnicott, D. W. (1962). Ego integration in child development. In D.W. Winnicott (Ed.), *The maturational processes and the facilitating environment* (pp. 56-63). London: Hogarth Press, 1965.
- Winnicott, D. W. (1963). Dependence in infant care, in child care, and in the psycho-analytic setting. In D.W. Winnicott (Ed.), *The maturational processes and the facilitating environment* (pp. 171-178). New York, NY: International Universities Press.

- Winnicott, D. W. (1965). Ego distortion in terms of true and false self. In D.W. Winnicott (Ed.), *The maturational process and the facilitating environment* (pp. 140-152). New York, NY: International Universities Press.
- Yeomans, F. E., Clarkin, J. F., & Kernberg, O. F. (2002). *A primer of transference-focused psychotherapy for the borderline patient*. Lanham, MD: Jason Aronson.
- Yigletu, H., Tucker, S., Harris, M., & Hatlevig, J. (2004). Assessing suicide ideation: Comparing self-report versus clinician report. *Journal of the American Psychiatric Nurses Association, 10*(1), 9-15.
- Yu, C.-Y. (2002). *Evaluation of model fit indices for latent variable models with categorical and continuous outcomes*. Unpublished dissertation. Retrieved February 8, 2010, from Mplus website <http://www.statmodel.com/download/Yudissertation.pdf>
- Zwick, W. R. & Velicer, W. F. (1986). Comparison of five rules for determining the number of components to retain. *Psychological Bulletin, 99*, 432-442.