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## Multimethod Assessment of Interpersonal Dysfunction using the Rorschach and the MMPI-2-RF

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Multimethod Assessment of Interpersonal Dysfunction using the Rorschach and the  
MMPI-2-RF

By

Ryan Daniels, M.A., M.S.

Clinical Psychology

Florida Institute of Technology

A doctoral research project submitted to Florida Institute of Technology

in partial fulfillment of the requirements for the degree of

Doctor of Psychology in Clinical Psychology

Melbourne, FL

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We the undersigned committee hereby recommends that the attached document be accepted as fulfilling in part the requirements for the degree of Doctor of Psychology in Clinical Psychology

Multimethod Assessment of Interpersonal Dysfunction using the Rorschach and the MMPI-2-RF

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## ABSTRACT

Multimethod Assessment of Interpersonal Dysfunction  
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By

Ryan Daniels, M.A., M.S.

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Well established and widely used personality measures such as the Minnesota Multiphasic Personality Inventory-2-Restructured Form (MMPI-2-RF) and Rorschach contain several scales or indices related to interpersonal dysfunction, but from very different methodologies. Using a multimethod assessment framework, the current study examined four primary areas of interpersonal dysfunction assessed by these measures in a sample of 65 adult outpatient clients who underwent services at a Community Psychological Services center. The four areas examined were hostility and aggression; isolation and avoidance; passivity and dependency; and insecurity and ineffectiveness. First, the study postulated that MMPI-2-RF and Rorschach variables within an interpersonal domain would correlate at a higher rate of positive correlation with each other than with variables of a different interpersonal domain. Results provided moderate support for this hypothesis within the Isolation/Avoidance domain, mild support within the Hostility/Aggression domain, minimal support within the Insecurity/Ineffectiveness domain, and no support within the Passivity/Dependency domain. Incremental validity was then assessed in terms of adding interpersonal MMPI-2-RF variables to the Rorschach, and vice versa. Hierarchical regression analyses results indicated that the

MMPI-2-RF provides moderate increment in predicting to an Interpersonal Relations outcome measure when added to the Rorschach for the domains of Isolation/Avoidance ( $\Delta R^2 = .13$ ) and Insecurity/Ineffectiveness ( $\Delta R^2 = .12$ ). The Rorschach provides strong incremental change when added to the MMPI-2-RF in the domain of Hostility/Aggression ( $\Delta R^2 = .21$ ). Weak support was found for incremental validity in the domain of Passivity/Dependency in either direction. However, binary logistic regression results provided additional support for the MMPI-2-RF's incremental contribution to the Rorschach in the Isolation/Avoidance and Passivity/Dependency domains. The implications of these findings are discussed.

Keywords: Interpersonal, MMPI-2-RF, Rorschach, Incremental validity

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## Introduction

“All men are in need of help and depend on one another. Human solidarity is the necessary condition for the unfolding of any one individual.”

- Erich Fromm

There is widespread agreement among psychologists that the interpersonal webs we weave are essential to our well-being and psychological functioning. But, why is it, then, that we hurt one another, rupture important ties, or overburden others with our own needs? If our well-being is so closely connected to that of others, why is it seemingly so easy to forget the other in favor of the self? Psychology since its inception has studied relationship dynamics, yet these questions linger.

Perhaps it is the various forms of miscommunication, both with others and within oneself, that allows one to forget how essential human solidarity is to our survival. As Fritz Heider (1958) put it, “generally, a person reacts to what he thinks the other person is perceiving, feeling, and thinking, in addition to what the other person may be doing; the presumed events inside the other person’s skin usually enter as essential features of the relation.” (p.1). In other words, we react to what we *think* is happening within the other individual. Assumptions are made, and various forms of friction build between self and other.

Relationships between the self and other, the bonds we make, the people we choose to surround ourselves with, are integral in determining who we are. This area of personality functioning is impossible to ignore: the world around us dictates that we

interact with other people, and this interaction can cause elation or pain. If relationships become dysfunctional, either by our own choices or by adverse experiences with others, the effects can be extensive. The current research intended to focus on the interpersonal domain, to better measure and understand those who may have found themselves struggling with this essential area of human functioning.

Two types of measures have become prominent in the assessment of personality, each of which contains several indices of interpersonal dysfunction. The first type consists of self-report measures, such as the MMPI-2-RF, in which respondents answer a series of true-false questions concerning their personality and functioning. The MMPI-2-RF includes a set of interpersonal scales that are correlated with real-life indicators of interpersonal dysfunction (Friedman, Bolinskey, Levak, & Nichols, 2015). These scales include Family Problems, Interpersonal Passivity, Social Avoidance, Shyness, and Disaffiliativeness. Despite the designation of these as “interpersonal scales,” the MMPI-2-RF also contains some additional scales that incorporate aspects of interpersonal dysfunction. The second type of measure consists of implicit measures of personality in which respondents project their traits and dispositions onto a set of narratives or abstract images. The Rorschach Inkblot Test, the most well-established of these methods, contains several indices that assess interpersonal dynamics and characteristics, such as social ineptness, dependency, and isolation. An interpersonal cluster of variables is established, and there are additional variables related indirectly to the interpersonal realm.

The combination of these two methods would fall under the realm of “multimethod assessment.” Multimethod assessment is the combination of two or more types of

assessment measures such as self-report and performance-based techniques. Prior research has established that using multiple methods to assess personality yields more clinically useful data, as a whole, than using a single method alone. However, it has also been established that simple, linear relationships between two measures that involve different methodologies (e.g., anxiety measures on the MMPI and anxiety measures on the Rorschach) should not be expected (Archer & Krishnamurthy, 1993a, 1993b; Krishnamurthy, Archer & House, 1996). The implication is that the combined use of different assessment methods provides incremental data that elaborates and refines the test-based description of personality and functioning. The purpose of this study was to determine the degree to which incremental validity can be established between MMPI-2-RF and the Rorschach indices of interpersonal dysfunction. It also examined correlations between related interpersonal domains of the measures in order to aid in future interpretation of the tests in interpersonal assessment.

## **Review of Literature**

### **Interpersonal Psychology**

One of psychology's primary roles is to study individuals from both intrapersonal and interpersonal perspectives. Interpersonal relations have long been an integral part of every psychological theory and model. Interpersonal psychology posits that the human need for connection and affiliation with others is primary. Problems arise when these connections are disturbed (Lipsitz & Markowitz, 2016).

Several major theories of interpersonal development emphasize the interaction between characteristics of the self and external social influences. For example, Henry Stack Sullivan (1953) posited that all humans are "inextricably tied to their environment" (p. 185). His interpersonal theory posits that one's social environment fulfills basic needs throughout one's lifetime, and dysfunction arises as a result of a disruption of these needs. Starting in childhood with parental figures, one gleans from the environment what to expect from others, and this learning evolves over the course of development. The central interpersonal need shifts from dependent attachment to a caregiver to the seeking of friends in childhood, and eventually to the desire for romantic intimacy in adolescence and adulthood. The ultimate goal of life in Sullivan's theory is to achieve mature love, in which there is a mutual sharing and collaboration between individuals. Both parties are able to look upon past positive relationships and draw from them, and empathetically consider the perspective of the other person.

John Bowlby's attachment theory states that adult needs for connection with others emerge from, and largely parallel, early infant needs for attachment (Ainsworth, 1969; Bowlby, 1969). The role of the caretaker, usually the mother, is primary here, and shapes how the child proceeds to perceive others in adulthood. Still other theorists, such as William James, propose that sociability, inclusive of a range of instincts and motivations acquired from birth, is innate (Lipsitz & Markowitz, 2016). In other words, James' theory posits that we, as humans, have innate social inclinations upon birth that are materialized by interactions in the environment. An individual's personality, then, is best conceptualized as the social product of interactions with significant others (Millon, Grossman, Millon, Meagher, & Ramnath, 2004).

Even when we are alone, we are constantly replaying past interactions and attempting to decide what will happen in future ones. It is in the context of our relationships, beginning from a very young age, that personality develops. Our personalities are shaped by the way others treat us and the way we respond. Normal development occurs as we internalize interactions that make us feel happy, healthy and strong and disavow those that may conflict with our sense of self. This protects us from internal and external conflict and helps us navigate the complexities of interpersonal interactions (Sullivan, 1953; Millon et al., 2004; Lipsitz & Markowitz, 2016).

In the field of interpersonal psychology, interpersonal characteristics are often evaluated on a continuum, typically ranging from a positive and adaptive end (e.g., friendly) to a negative or maladaptive one (e.g., hostile). A further advance is represented in circumplex models. The interpersonal circumplex is a two-dimensional representation

of an interpersonal domain in which relevant variables are organized theoretically in a circle (Gurtman, 2009). For example, Wiggins (1979) developed an interpersonal circumplex model defined by two fundamental intersecting axes, dominance (i.e., dominant vs. submissive) and warmth (i.e., warm vs. cold-hearted), from which a set of interpersonal variables are arranged in a circular presentation. Each point within the interpersonal circumplex reflects a weighted combination of dominance and warmth. Variables in adjacent points are positively correlated whereas those in opposite points are inversely correlated. Wiggins' scheme contains eight basic scales, or octants, that are internally consistent, and they are shown empirically to correlate in magnitudes proportional to their proximity on the circle. With this approach, an individual's primary interpersonal disposition can be identified from placement of his or her interpersonal traits within an octant.

Even within the normal range of interpersonal characteristics, there are a number of features that may obstruct effective interpersonal relationships. While not necessarily pathological in nature, these features invade normal interaction intermittently throughout our lives and may cause strife and separation within our relationships. Two of these "normal" ineffective features are envy and vindictiveness. Envy may be best described as a ubiquitous human phenomenon in which individuals begrudge another's good fortune, possessions or attributes because they feel that these things should be their own. Envy has long been considered a destructive characteristic that can cause harm to ourselves and those close to us. A large-scale longitudinal study conducted by Mujcic and Oswald (2018) concluded that envy is a powerful predictor of worse mental health and well-being



in the future. Vindictiveness can be defined as a common human experience in which one has an inclination towards inflicting harm in return for perceived injury or insult. A regression analysis conducted by Ruggi, Gilli, Stuckless, and Oasi (2012) revealed that empathy and emotional stability are inversely related to feelings of vindictiveness, while anger is a significant predictor of propensity toward vindictiveness. Overall, these studies show that even these relatively common human experiences can harm our mental health and interpersonal relationships.

### **Interpersonal Psychopathology**

Interpersonal psychopathology is created and maintained by disadvantageous and maladaptive patterns of social interaction and communication that are internalized as part of one's self concept (Sullivan, 1953). This conceptualization can be broken down into two key interlinked concepts. First, it places the "blame" for dysfunction not within the individual, but considers it a product of the environment. These individuals are not faulty but have been told so repeatedly during interactions in childhood and adulthood. Thus, a sense of faultiness has become engrained into their personality. The second component is the idea of "self-concept," which does not develop in a vacuum. The notion that one becomes strong, confident, weak or insecure based purely on one's viewpoint is deeply flawed, as our self-concept is constantly being reinforced by the people around us. The pathological individual, already holding a fragile self-concept, perpetuates this out into the world, and is reinforced thusly. Therefore, interpersonal psychology does not take away value from people but instead empowers them to change the way they act with their environment and alter the reinforcements they receive. This is easier said than done,

however, and people can become so entrenched in the way they *believe* to be perceived by the world that they become perpetually disturbed in forms such as becoming isolated, dependent, insecure, passive, or hostile. Many of these interpersonal disturbances intersect to produce a unique form of intense personality disturbance within the individual in the context of his or her interpersonal world (Sullivan, 1953).

For Sullivan, the opposite side of mature love is interpersonal loneliness, which he considered the most intense negative consequence of the human experience. All personality dysfunction arises from this loneliness, which itself arises from the internalization of past negative interpersonal experiences (Sullivan, 1953). Some may argue that intense interpersonal loneliness can be avoided through attempting to live life more independently. While this may seem to fit within many Western ideals, Sullivan argues this type of living is impossible and only leads to further pathology (Sullivan, 1953).

Sullivan further describes pathology as a fundamental misattribution of the interaction between oneself and another. He used the term “parataxic distortions” to describe individuals’ proclivity to distort their perceptions of others (Yalom, 1995). These distortions occur when individuals operate under their preconceived notions rather than reality. These preconceived notions are often based on previous life experiences, which become projected onto the unsuspecting other. They are also based on the specific characteristics of the individual. Thus, a person who already struggles with low self-esteem will perceive even neutral statements as degrading. Furthermore, those who struggle to find strength inwardly may attribute strong traits to others, building them up

in a fantastical distortion. This may occur through mechanisms such as selective attention or projection. The ultimate tragedy of these type of distortions is that they inevitably create in these individuals certain maladaptive personality characteristics, such as defensiveness, that allow others to act negatively toward them *in reality*, thus confirming their deeply held negative beliefs about their relationships with other people. The individual anticipates the relationship will go in a certain direction, and then behaves in a way that makes that direction more likely. This “self-fulfilling prophecy” is at the heart of most interpersonal dysfunction, pumping negative confirmatory beliefs into the head of the person and perpetuating his or her struggle to maintain healthy, functional relationships (Sullivan, 1953; Yalom, 1995).

Research studies have shown interpersonal dysfunction to be a key indicator of individual differences in personality and well-being. For example, interpersonal problems are found to be correlated with negative affect (i.e., distress) and relationship dysfunction. Furthermore, general interpersonal sensitivities have been associated in various studies with characteristics such as irritability and rigid expectations of others (Hopwood & Good, 2017). These findings reflect the broad impact of problematic interpersonal traits and behaviors in overall functioning.

***Isolation.*** Perhaps the most solemn form of interpersonal dysfunction is interpersonal isolation, which is a state of disengagement from interpersonal contact. Isolation can be a result of a depressive disorder, but also, perhaps more tragically, a characteristic remoteness that keeps one from seeking contact with others. It may be the result of a self-fulfilling prophecy in which expectations of negative consequences from

the environment lead to a negative self-presentation to the world, thus perpetuating a cycle of avoidance and isolation. A neurotic *need* for isolation may underlie this pattern in some interpersonally isolated individuals. In essence, they disregard their innate need for intimacy entirely, for fear of the pain they may endure (Barnett, 1978).

While interpersonal isolation is a key component of many psychological disorders, the trait of isolation, or a complete disinterest in the interpersonal realm, may be most comparable to the schizoid personality. As stated previously, we cannot avoid the fact that humans exist in a social world. The interpersonally isolated individual nonetheless strives for detachment, which may present as refusal to acknowledge the presence of others, appearing constantly lost in thought or constantly resisting intrusions to privacy (Millon et al., 2004). Because of this, he or she may appear insensitive or cold to others. His or her social disinterest may present as harshness, though likely it is indifference which separates the isolated individual from the other. The indifference may stem from a failed capacity to attach to others, and thus remaining isolated seems like the only option (Millon et al., 2004).

Interpersonal isolation likely stems from a lack of attachment experience in early life. As the infant fails to receive reinforcement from primary caretakers for social behaviors, such as smiles, he or she retreats from them and thus fails to form normal attachments. This may lead the caregiver to reciprocally offer less reinforcement, and the parent-child relationship turns distant, cold, and emotionless. Perhaps rationality is favored over displays of emotion, or no emotion is displayed at all (Benjamin, 1996). This failure of attachment continues throughout childhood and adolescence as the

interpersonally isolated individual fails to make friends or maintain social bonds.

Repeated exposure to rejection may lead some children to establish and engage in solitary activities, as their attempts to become social have been rebuked since infancy. Thus, this pattern is perpetuated, and continues into adulthood, where interpersonally isolated individuals find no joy in the interpersonal realm and instead turn inward at every opportunity, as that is all they know (Ainsworth, 1969; Bowlby, 1969).

*Dependency.* On the other side of the spectrum of interpersonal dysfunction is interpersonal dependency, which is a need to rely extensively on others for nurturance, protection, support, and guidance (Bornstein, 2011). Dependent individuals doubt themselves and lose self-confidence as their own autonomy gets overtaken by that of another (Hirschfield, Klerman, Gouch, Barrett, Korchin, & Chodoff, 1977). They become over-reliant on another individual, who is perceived to be stronger or more capable than themselves, to make decisions. They remain helpless in their indecisiveness and therefore cling to others. While they may appear overtly as generous and thoughtful, they are in actuality forfeiting elements of their personal autonomy and self-development in favor of the other (Millon et al., 2004). They do this in order to fulfill their large need for acceptance and approval, and their behaviors are used to elicit responses from others that meet these needs. Interpersonally dependent individuals use their helpless submissiveness to obtain their own lacking need for strength, care and affection. This submissiveness may exacerbate to depressive self-sacrifice when faced with the potential loss of the protector, as they fall into the role of the inferior in order to reinforce feelings of strength and competence (and ultimately superiority) from their chosen other. This may be

conveyed through posture or tone of voice. More explicitly, it may be conveyed via pleading for help, or appearing more childlike to their “protector” in order to project a sense of innocence (Leary, 1957).

The development of the dependent pattern begins in infancy with the de-emphasis of autonomy in favor of dependence on the caretaker. Overprotection by the caretaker is primary here, as the child is denied the space to make mistakes and learn from them. Over-control by the caretaker leads to the conclusion that submissiveness is the only pathway to love. These individuals learn that the world is a distrustful place and that only through the protection of a strong other can they survive. The natural trust instilled in childhood by supportive parents is over-exaggerated to the point that the young infant does not develop a natural sense of curiosity about the world, instead fearing the ramifications of being away from the safe protector (Erikson, 1959). Because experienced needs are filled immediately, the infant fails to develop a sense of autonomy beyond that of the safe environment created by his or her caretakers. This leads to delays in development, and, without the need to challenge or rebel, a lack of identification with the self (Millon et al., 2004). In adulthood, the individual may remember having a very loving and supportive childhood and not draw any connection to his or her current dependence. What is missed by the interpersonally dependent individual is that the nurturance and protection received in childhood consisted of attempts to control, termed by Benjamin (1996) as “relentless nurturance” (p. 275). Any effort to become autonomous had been punished or discouraged, and thus any effort to gain independence was associated with shame and guilt. The individual grows up experiencing this need to

be submissive as normal, having internalized the feelings of guilt as a perpetual inadequacy that can only be remedied by the strong and independent other (Benjamin, 1996). Interpersonal dependency has been found empirically to predict behaviors such as suggestibility and help-seeking behaviors and have negative effects on friendships and romantic relationships; it also has negative implications for illness risk and adjustment to aging (Bornstein, 2011).

***Insecurity.*** Boyce and Parker (1989) define interpersonal insecurity as excessive awareness and sensitivity to the behavior and feelings of others towards oneself. This sensitivity leads the interpersonally insecure individual to be on constant alert, always vigilant to signs of criticism or rejection. Because the future is inevitably unknowable, such hypersensitivity causes interpersonally insecure individuals great anxiety, and can paralyze them with fear, as they constantly consider the intentions and behaviors of other people (Vail, 1999). Hypersensitivity to what others are thinking often causes one to lose confidence in oneself. This type of self-fulfilling prophecy differs from that of the interpersonally isolated individual in that the awkwardness presented to the world is *real*, as opposed to the imagined or assumed terror that causes an individual to isolate. Social awkwardness and lack of confidence stem from the hypersensitivity to other's reactions, which is assumed to be directed at the insecure individual (Vail, 1999). Interpersonal insecurity is found to be associated with negative working models of the self and other, suggesting a link to attachment insecurity (Otani, Suzuki, Matsumoto, Shibuya, Sadahiro, & Enokido, 2014).

Vail (1999) discussed the distinction between interpersonal security and insecurity in order to illuminate the precarious nature of the interpersonally insecure individual. If security is a state of well-being and safety, then insecurity is a state of constant fear and anxiety. If security is a state of feeling confident in the ability to achieve one's goals, then insecurity is a state of hopelessness in which any thought of advancement in life comes secondary to thoughts of immediate survival within the interpersonal environment. With these characteristics comes an ever-present state of powerlessness in which realizing one's goals feels impossible, as interpersonally insecure individuals feel forever vulnerable to the dangers of the world around them. Thus, *uncertainty* becomes the key word, as interpersonally insecure individuals' hypersensitivity to those around them, coupled with the instability of the world around them, fuse to create a frightening world in which nothing can be considered further than their own immediate survival (Vail, 1999). Interpersonally insecure individuals tend to engage in relationship-damaging behaviors that provoke the very rejection they dread, often leading to relationship dissolution (Lemay & Dudley, 2011).

***Passivity.*** Being passive in interpersonal relationships is not necessarily a negative quality as it includes characteristics of being accommodating and open. However, passivity can become a problem behavior when one assumes an unassertive and submissive personality style to the detriment of personal well-being. For example, one may become overly accommodating, offering to go out of one's way to provide favors while ignoring one's own needs (Friedman et al., 2015). Among other negative consequences, being overly passive may lead to "self-doubt, perfectionism, and



pessimism in men” and “social awkwardness and submissiveness in women” (Friedman et al., 2015, p. 582).

Interpersonally passive individuals limit their own agency by giving up control over their circumstances. They accept that they in fact have no control, and thus become bystanders of their own lives, unwilling or unable to take a firm position or enforce their own independence (Biceaga, 2013). Any unforeseen negative circumstance, such as illness, is seen as insurmountable. Thus the interpersonally passive individual becomes internally paralyzed with depressive feelings or apathy. Self-demeaning resignation is the key component of this interpersonally pathological trait. Interpersonally passive individuals resign themselves to failure before the first step is even taken, or do not set goals at all. These habits become engrained until they engulf them entirely, and they unintentionally give up all agency as they retreat to a life of inactivity (Biceaga, 2013; Friedman et al., 2015). The passive interpersonal style is empirically found to be inversely correlated with active coping and seeking social support (Furnham & Rawles, 1994). Interpersonally passivity is also often, but not invariably, associated with dependency (Bornstein, Riggs, Hill, & Calabrese, 1996).

An alternative expression of interpersonal passivity is seen in the passive-aggressive pattern, more recently denoted as negativistic, which features in several theories of personality disorders. For example, in Millon et al.’s (2004) theoretical exposition, the passive-aggressive personality pattern is marked by active ambivalence, pessimism, and discontent. Interpersonally, this is manifested in vacillation between loyalty to the other and sabotage. Diagnostically, negativistic personality disorders are

marked by features such as sullen and argumentative behaviors, complaints of being misunderstood and unappreciated by others, and alternation between hostile defiance and contrition (Millon et al., 2004).

**Hostility.** As a personality trait, hostility is described as a set of negative attitudes, beliefs, and appraisals of others' motives and intents, leading to efforts to preemptively harm others (Ruiz, Smith, & Rhodewalt, 2001). The domain of hostility overlaps with related domains of anger and aggression in what is identified as the AHA (anger-hostility-aggression) syndrome. However, the cognitive pattern of mistrust, cynicism, resentment, and devaluation of others is emphasized in hostility (Sanz, Garcia-Vera, & Magan, 2010). Hostility has social implications in that it is inversely correlated with social support; research evidence shows that hostile individuals have low levels of social support and display high levels of interpersonal conflict (Gallo & Smith, 1999). Interpersonal correlates of trait hostility include heightened physiological reactivity, conflict, and stress in interpersonal situations. Hostility has also been identified as a risk factor for physical illness and premature mortality (Ruiz, Smith, & Rhodewalt, 2001).

There have been various psychological theories used to describe the components of interpersonal hostility. The behavioral model proposes that one resorts to punishing others because it gives him or her some type of reinforcement, or in order to receive a desired behavior in return: "A person criticizes, ridicules, blames, or physically attacks another in order to suppress unwanted behavior" (Skinner, 1971, p. 64). This theory focuses exclusively on overt behavior and does not attempt to delve deeper into the inner workings of the hostile individual (Skinner, 1971). Psychoanalytic theory has focused on

our innate aggressive impulses to explain hostility. Aggressive impulses are said to appear in infancy, when a child must navigate an internal world and overcome the overwhelming force of constitutional aggression (Mitchell & Black, 2016). Humanistic and existentialist psychologies posit a theory of interpersonal hostility in which the individual creates a world through his or her personal lens, and seeing into the world of another is essentially impossible. Hostility arises in terms of the strong feelings and events experienced within group interactions (Yalom, 1995).

Regardless of theoretical orientation, interpersonal hostility can manifest itself in many ways. While most commonly thought of as active, hostile aggressive acts, hostility can be much more subtle in its presentation. An unexpressed version of hostility can become rooted within us and begin to slip out in many indirect ways (Yalom, 1995). This more “passive” form of aggression is characterized by indirect hostility aimed covertly at another, as opposed to active confrontation. The passive aggressive individual does not necessarily hold less hostility as a personality trait but expresses it in a less overt way and may thus maintain freedom from some of the consequences of more overt hostile behavior (Yalom, 1995).

***Avoidance.*** The most prominent feature of the interpersonally avoidant individual is a perpetual unease surrounding the idea of relating with other people. Each new interpersonal encounter can cause the interpersonally avoidant person to become immediately aware of his or her past experiences of inadequacy and rejection. These individuals may be hesitant to communicate with others and are prone to misread the communications directed toward them by others. Similar to interpersonally insecure

individuals, they are in a perpetual state of hypervigilance around others, scared that their social awkwardness will be exposed. Therefore, most of the interpersonally avoidant individual's effort is directed toward hiding from social interaction (Millon et al., 2004).

Interpersonally avoidant individuals have an intense need to hide their perceived flaws. They may over-control their emotions and become fidgety and/or stiff in their movements, adding to the (perceived) negative judgement of others. Any potential interaction is a potential negative judgement, and thus interpersonally avoidant individuals are neither overly compliant nor overly assertive. Finding no other recourse, they withdraw from society, away from the watchful eyes of other people. Interpersonally avoidant individuals operate under the assumption that "distance guarantees safety, but trust invites pain" (Millon et al., 2004, p. 204). The irony of this line of thought is that this distance only serves to perpetuate their problems. The distance kept from others severely limits the amount of positive experiences they can accumulate that may increase their self-worth, leaving only rumination of past negative interactions on which to contemplate. The few interactions they are able to engage in may be with those who are liable to exploit their lack of confidence, thus further confirming the avoidant individual's perception that people are not to be trusted (Millon et al., 2004).

The interpersonal development of the avoidant individual is best described by Benjamin (1996) in her Structural Analysis of Social Behavior (SASB) model. This model states that while avoidant individuals begin with normal, healthy attachment leading to a longing for genuine intimacy, their early caretakers create an environment in which the image one projects to society is of the utmost importance, so much so that any

little mistake or embarrassment is viewed as a stain upon the family name. This is seen as the beginning of the avoidant individual's hypersensitivity to the possibility of criticism or embarrassment, which continues into adulthood and creates a generalized fear of the evaluation of unknown others. This hypersensitivity to embarrassment, from an early age, also causes the individual to retreat further, thus perpetuating the need to attempt to be independent and avoid social interaction altogether (Benjamin, 1996).

In order to remain protected at all times, interpersonally avoidant people begin to hide things about themselves that could be viewed as imperfect. Since perfection is impossible, this inevitably leads to an awkward and undetermined self-image. Benjamin (1996) postulates that this real (from early caretakers) or imagined (from everyone else) fear of judgement contributes to a feeling of a "defective" self. This sense of self is not only regretted with a sense of self-loathing, but leads to a continuous struggle to win over caregivers who have instilled within avoidant individuals that familial loyalty is their only way to ever achieve love and happiness in their relationships with others. The belief is maintained that family members are the only ones who tolerate your defectiveness, and thus allegiance to the family is the only possible escape from feelings of inadequacy and the only place where safety can be felt (Benjamin, 1996). It follows that this type of abuse from family members is not uncommon among the interpersonally avoidant person. Furthermore, clinical reports indicate that early childhood trauma, such as extreme physical or sexual abuse, or neglect, can also produce this lifelong pattern of interpersonal avoidance and fear (La Greca & Stone, 1993).

*Other Dysfunctional Interpersonal Features.* While the interpersonal characteristics reviewed earlier have been examined in more depth and will be represented in this study, there are a number of additional features that can cause dysfunction in interpersonal relationships. For instance, narcissistic and paranoid characteristics interfere with effective interpersonal functioning, albeit in different ways.

As discussed previously, mature interpersonal relationships require mutual sharing and communication. The narcissistic individual, however, does not understand this interplay. Communication is one sided, and the narcissist demonstrates an unfounded self-confidence in order to constantly attempt to demonstrate superiority over the other. Usually described as egotistical and boastful, narcissistic individuals believe they should be exempt from the rules that govern interpersonal communication because what they have to say is far superior and more important than what others say and do (Millon et al. , 2004). They lack the empathy to understand when they are elevating themselves at the expense of someone else, and lack the awareness to care whether others are feeling uncomfortable. Interpersonally narcissistic individuals are incapable of self-criticism and find it easy to dismiss the criticism of others as false or poor advice (Kiesler, 1996). Their egotism allows them to believe and function in a relatively self-sufficient way as they create their own societal rules, while their entitlement allows them to maintain it by viewing other perspectives as inferior. This breaking of societal rules may be to make themselves feel more important, reinforce their uniqueness, or avoid feeling defeated (Gunderson & Ronningstam, 1990).

It is not surprising, then, that the familial relationships of the interpersonally narcissistic individual are also often severely damaged or skewed. Family members, like most others, are seen as peripheral objects to the narcissistic individual's pursuits, and are used thusly. Benjamin (1999) holds that these characteristics develop from a parental decree that the young narcissistic individual remain perfect. As a result, caretakers adorn the child and cater to his or her every need, often at the expense of their own, and the child fails to learn that others are separate beings with separate identities. Any mistake the child makes is also treated as a large blemish; therefore, remaining perfect becomes the ultimate goal. The impossibility of this is what contributes to the narcissistic individual's deep feelings of emptiness and inadequacy. As a toddler, the child is not allowed to experience failure, instead continuing to see the world as a playground for which his or her own pleasure and pain is primary. An insensitivity to others, combined with continued familial praise, leads to an inconsiderate egocentricity that continues to develop into adolescence and eventually adulthood (Benjamin, 1999; Millon et al., 2004).

Paranoia can be one of the most deeply debilitating aspects of interpersonal functioning as it not only causes avoidance, insecurity, and isolation, but also leaves individuals in a constant state of fear that others seek to harm them. While paranoid individuals harbor intense feelings of insecurity about themselves, what distinguishes this interpersonal dysfunction from other types is the externalization of blame onto others (Sullivan, 1956); their basic view is that it is not their fault that they feel this way as they are being purposefully persecuted. They lack the capacity to trust others and, in turn, are left viewing others in terms of their potential for harm, that is, their capacity to

manipulate and cheat to get their way. It is this “survival of the fittest” mindset that allows paranoid persons to dismiss any interpersonal relationship as foreboding and not worth their effort. Because they see dependence and attachment as weakness, paranoid individuals are likely to seek to secure their autonomy by becoming completely “independent,” seeing self-sufficiency and control as the only way to avoid harm (Millon et al., 2004).

The development of the interpersonally paranoid individual is characterized by punishment and degradation. Parents tend to be cold and demeaning, punishment is delivered in such a way that the child feels that it is completely justified, and these feelings are then internalized. A lack of emotional connection leads the infant to learn to treat emotionality as weakness, while a hostile, dominant tone teaches him or her that one must achieve autonomy and power to be worthy of love (Benjamin, 1996). The result is an adult who is alert to social power structures and only feels comfortable when in the presence of those considered “lower” than them or someone whom can be controlled. Resentment becomes more and more prominent as the individual grows into adolescence and eventually creates a self-image that places power and control over any type of affection (Benjamin, 1996; Millon et al., 2004).

### **Assessment of Interpersonal Dysfunction**

#### ***Performance-Based Personality Assessment***

Performance-based personality assessments require the test taker to respond to ambiguous stimuli and attribute meaning to them, which can be interpreted in a multitude



of ways. This type of attribution is similar to the way individuals interpret ambiguous information every day, including as they navigate their interpersonal world. For example, attempting to infer the motives of a peer can lead us to attribute various thoughts, feelings and behaviors onto that peer, often without much thought to its basis in reality (Bornstein, 2016). The main distinction of performance-based measures is their implicit nature, which refers to the respondents' lack of conscious control over his or her responses and the information revealed through these responses. Overall, the approach produces a behavioral sample from which to draw inferences about real-world functioning. It allows for an interpretation based on *process* and *dynamics*, in addition to the fixed trait characteristics of the individual (Krishnamurthy, Archer & Groth-Marnat, 2011).

***Rorschach.*** The Rorschach Inkblot Test, developed by Hermann Rorschach in 1921, remains one of the most widely used and popular assessment tools of modern clinical practice. It is a performance-based test consisting of a standardized series of 10 ambiguous inkblots. The test taker is merely asked to report what the stimulus might be from his or her perspective. One of Rorschach's goals was to embed a recognizable structure into the inkblots so as to provide standardized conditions from which interpretations could be derived. This was accomplished through categorizing various features of the inkblots such as form, color, shading, and symmetrical features. The test allows for an immense number of unique responses to the stimuli while providing a standardized way to assess individual differences with the use of norms (Krishnamurthy & Meyer, 2016). The popularity of the Rorschach is, in part, due to its ability to obtain personality information that cannot be obtained through other methods (McGrath, 2008).

There are currently two established systems used for scoring the Rorschach. The first is the Comprehensive System (CS). Developed by John E. Exner, Jr. in 1974, it provided a unified approach for using the Rorschach through integration of empirically supported indices from previous systems. However, after Exner's death in 2006, there was a need to develop a means for continued development and evolution of the system. Thus, Meyer, Viglione, Mihura, Erard, and Erdberg (2011) developed the Rorschach Performance Assessment System (R-PAS) to advance the research on Rorschach variables. This system uses a modified test administration procedure in order to reduce variation in response frequency. It also maintained a focus on variables that demonstrated the most empirical support (Mihura, Meyer, Dumitrascu, & Bombel, 2013). Similar to the CS, the R-PAS emphasizes the connection between behaviors coded in the inkblot task and parallel real-life behaviors. It also provides a shift to the use of international norms, which corrects for some of the over-pathologizing arising from using the CS norms. Most CS variables continue to be represented in the R-PAS while some have been eliminated and some new indices have been added (Meyer et al., 2011; Mihura et al., 2013).

There are a number of Rorschach variables of particular interest to the current study, which are therefore described here in greater detail. These interpersonal variables of interest are derived from both the CS and the R-PAS. In relation to hostility and aggression, the Mutuality of Autonomy- Pathology (*MAP*) scale reflects pathological and maladaptive internal representations of the interactions between self and others. Poor Human Representation (*PHR*) refers to maladaptive interpersonal histories marked by humiliation, rejection or failure. Those scoring high on the Aggression variables,

including Aggression Content, Aggression Past and Aggression Potential (*AG*; *AgC*; *AgPast*; *AgPot*), view relationships as having conflictual or combative elements to them. The White Space (*S*) variable indicates the presence of anger and oppositionality. Lastly, the Hypervigilance Index (*HVI*) indicates a view of others as a source of threat. High scorers are guarded in relationships and suspicious of others' attempts to get close to them (Aronow, Rezinikoff & Moreland, 1994).

A number of Rorschach variables are indicative of an avoidant or isolative personality style. The Isolation Index, for example, suggests feelings of isolation. A low Shading-Texture Sum Total ( $Sum T = 0$ ) indicates one who is remote and undemonstrative toward others. Human Content refers to the degree of interest one has in other people, thus low scores would indicate a lack of interest in others. Lastly, a low Affective Ratio (*Afr*) is, in part, reflective of a proclivity to avoid or bypass emotional material or attachment to others (Choca et al., 2018; Aronow et al., 1994).

The Rorschach also contains variables indicative of a passive or dependent personality style. Oral Dependency Language (*ODL*), and a response record containing more passive movement responses than active movement responses ( $p > a$ ), are direct indicators of dependency and passivity in relationships, respectively. A high Shading-Texture Sum Total ( $Sum T > 2$ ) is indicative of a strong need for closeness, often a characteristic of interpersonal dependency. The Food (*Fd*) variable is also indicative of passive-dependent features when elevated (Choca et al., 2018; Aronow et al., 1994).

In relation to interpersonal insecurity or ineffectiveness, Shading-Diffuse Sum Total ( $Sum Y$ ) is a measure of situational anxiety as well as feelings of helplessness and

immobilization, when elevated. Shading-Dimension Sum Total (*Sum V*) indicates negative self-appraisal arising from ruminative self-inspection, often a characteristic of interpersonal insecurity. Personalizations (*PER*), while directly a measure of defensive authoritarianism in relationships, indirectly suggests insecurity. Lastly, the Coping Deficit Index (*CDI*) in part is reflective of social ineptitude, ineffectiveness and immaturity (Choca et al., 2018; Aronow et al., 1994).

### ***Self-Report Personality Assessment***

Self-report personality assessments require the test-taker to attribute various thoughts, emotions and behaviors to him or herself. They typically take the form of a questionnaire, wherein respondents are asked whether a number of descriptive statements are true of them. They may also be asked to rate the degree to which these statements are true or false. The answering of these items typically involves a level of introspection and retrospective memory search to determine whether the item content is characteristic of that individual and his or her experiences. Self-report tests can assess a single characteristic or a wide array of traits and dynamics, including interpersonal ones (Bornstein, 2016). One of the most popular of these types of tests is the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989), and its restructured form, the MMPI-2-RF (MMPI-2-RF; Ben-Porath & Tellegen, 2008).

***MMPI-2-RF.*** The Minnesota Multiphasic Personality Inventory-2 Restructured Form (Ben-Porath & Tellegen, 2008) was developed as a substantially restructured version of the MMPI-2. The test centers on the Restructured Clinical (*RC*)

scales, but also introduces many additional scales that are arranged in a hierarchical structure. The test contains 338 items derived from the MMPI-2's 567 item pool. Beyond the nine Restructured Clinical scales, these tests contains 9 Validity scales, 3 Higher-Order scales, 23 Specific Problem scales, 2 Interest scales, and revised versions of the Personality Psychopathology-Five (*PSY-5-r*) scales. In contrast to the MMPI-2 norms, which were provided separately by gender, the MMPI-2-RF utilizes non-gendered norms. It is offered as an alternative to, as opposed to a replacement for, or update to, the MMPI-2 (Friedman et al., 2015).

The MMPI-2-RF normative sample consists of 1,138 women (mean age = 40.4, SD = 15.3) and 1,138 men (mean age = 41.7, SD = 15.3) derived exclusively from the MMPI-2 sample. Because of the test authors' desire to create non-gendered norms, the larger re-standardization female sample of the MMPI-2 was reduced to equate it with the male sample, yielding a total normative sample of N = 2,276. The validity and reliability evidence described in the MMPI-2-RF technical manual indicate that this is a stable and valid instrument for the measurement of personality and psychopathology (Ben-Porath & Tellegen, 2011; Friedman et al., 2015).

Of relevance to the current study are five Interpersonal scales developed for the MMPI-2-RF. They are located in the bottom tier of the three-tiered hierarchical structure of the MMPI-2-RF and are part of the 25 lower order scales representing narrow-band measures, which complement the Restructured Clinical scales (Ayearst, Sellbom, Trobst, & Bagby, 2013). Four of these five scales (excluding Family Problems) are of particular interest to this study. The Interpersonal Passivity (*IPP*) scale, comprised of 10 items,

focuses on submissive behaviors such as “failure to stand up for oneself, not having strong opinions, and not liking to be in charge” (Ayearst et al., 2013, p. 187). High scores are indicative of a submissive, behaviorally over-controlled individual. The Social Avoidance (*SAV*) scale also consists of 10 items, and focuses on a dislike or avoidance of social situations. High scores describe introverted individuals who have difficulty forming close relationships. The Shyness (*SHY*) scale consists of 7 items describing different aspects of social anxiety. High scores reflect being embarrassed easily and having general feelings of unease around others. Generally, if *SAV* is elevated but *SHY* is not, this describes a general dislike of social stimulation or being placed in social situations rather than social anxiety. Lastly, the Disaffiliativeness (*DSF*) scale consists of 6 items and describes a more specific dislike of other people and being around them. High scores are typical for an individual who likes or prefers to be alone (Ayearst et al., 2013).

There are a number of other MMPI-2-RF scales of interest when considering the totality of an individual’s interpersonal functioning. Interpersonal hostility can be inferred from high scores on a number of these scales. Cynicism (*RC3*), for example, consists of 15 items reflecting a highly negative view of human nature. Other people are viewed as generally only looking out for themselves, and are not to be trusted. High scores suggest the individual is distrustful of the motivations of other people (Ayearst et al., 2013). Antisocial Behavior (*RC4*) contains 22 items and provides “an unconfounded assessment of an individual’s antisocial tendencies” (Ayearst et al., 2013, p. 56). High scorers are likely to have a history of antisocial behavior and poor interpersonal

relationships. They may fail to conform to societal norms and appear argumentative and critical of others (Friedman et al., 2015). Ideas of Persecution (*RC6*) consists of 17 items representing a self-referential belief that others pose a threat. High scorers are suspicious of others and their motives. They see malicious intent in others, which often causes them problems in their interpersonal relationships (Friedman et al., 2015). The Anger Proneness (*ANP*) scale, containing 7 items, focuses on the expression of anger and impatience with others. Elevated scores are associated with temper tantrums and resentment as well as poor coping abilities when under stress, including interpersonal stress (Friedman et al., 2015). The Aggression (*AGG*) scale contains 9 items reflecting physically aggressive behavior. High scores are seen in individuals who report being physically aggressive or violent (Friedman et al., 2015). The Aggressiveness-Revised (*AGGR-r*) scale contains 18 items referring to aggressively assertive behavior (Ben-Porath & Tellegen, 2011). High scores reflect aggressive and domineering behavior (Friedman et al., 2015).

In addition to the SAV, SHY and DSF interpersonal scales, the MMPI-2-RF also contains another scale relating to interpersonal Isolation/Avoidance. The Introversion/Low Positive Emotionality-Revised (*INTR-r*) scale contains 20 items and reflects a lack of positive emotional experiences, as well as an avoidance of social interaction. High scores are predictive of socially awkward individuals who have little confidence in their social skills (Friedman et al., 2015). In addition to the interpersonal scale of IPP, two additional scales could be related to Passivity/Dependency when the obtained score is low. One, the AGGR-r scale described earlier, is associated with a lack

of assertiveness in individuals with low scores (Friedman et al., 2015). Another scale, Hypomanic Activation (*RC9*) contains 28 items reflecting racing thoughts, increased energy and expanded mood. Individuals who score low on this scale report low levels of energy and a lack of engagement with the environment (Friedman et al., 2015).

Three MMPI-2-RF scales contribute to the assessment of interpersonal insecurity and ineffectiveness. The Self-Doubt (*SFD*) scale contains 4 items and reflects a lack of self-confidence and feelings of uselessness. Elevated scores are seen in individuals who report feeling inferior to others (Friedman et al., 2015). The Inefficacy (*NFC*) scale contains 9 items and reflects a belief that one is indecisive and inefficacious. High scores reflect passivity, an inability to make independent decisions, and a tendency to give up easily (Friedman et al., 2015). Lastly, the Helplessness/Hopelessness (*HLP*) scale contains 5 items and reflects a belief that goals cannot be reached or problems cannot be solved. High scores are associated with feelings of depression, hopelessness, and pessimism about the future. Extreme elevations reflect feeling powerless to affect change in one's life (Friedman et al., 2015).

### **Multimethod Assessment**

There is a substantial amount of literature to suggest that assessment using multiple methods will yield richer, more clinically useful data than assessment data relying exclusively on one method (Archer & Krishnamurthy, 1993a, 1993b; Krishnamurthy, Archer, & House, 1996; Bornstein, 2016; Krishnamurthy & Meyer, 2016; Erard, Nichols, & Friedman, 2018). From a psychometric standpoint, using multimethod assessment helps minimize reliability and validity limitations inherent in



each test, as these tend to vary across modality (Bornstein, 2010). From a clinical assessment viewpoint, integrating test data from different modalities and exploring where they align and differ offers new insights into an individual's personality and functioning (Bornstein, 2016). For example, aspects over which a person has limited insight or control, such as unconscious conflicts or defense mechanisms, can be brought into focus using performance-based measures, whereas self-report measures fill in the personal, self-identified aspects of personality. These data points can then be integrated to develop a comprehensive description of the patient in question (Bornstein, 2016).

The assessment literature indicates that people are often not as insightful or accurate in their self-descriptions as they presume they are (Meyer, 1997). Performance-based methods of assessment provide a means to bypass the test-taker's capacity for accurate self-depiction. Moreover, multiple method assessment may be particularly useful for situations in which the individual has incentive to be deceptive in his or her description of personal attributes. This may occur when undesirable traits are assessed or when the individual feels a favorable self-presentation is needed, such as in forensic contexts (Widiger, Lynam, Miler, & Oltmanns, 2012). Using multiple methods allows the most salient dimensions of personality, such as interpersonal functioning, to be assessed more fully (Bornstein, 2016). However, while multimethod assessment data can lead to a more complete clinical picture, it can also lead to confusion if misinterpreted (Krishnamurthy & Meyer, 2016). The most prevalent of these misinterpretations occurs when one assumes that variables on one testing method (e.g., anxiety/depression on the MMPI-2) will converge in straightforward ways with variables using a second method

(e.g., anxiety/depression on the Rorschach). In fact, variables that are assumed to measure similar personality domains on different assessment methods are relatively unrelated to each other (Archer & Krishnamurthy, 1993a, 1993b; Krishnamurthy, Archer, & House, 1996). A central reason for this low association is method variance. A more complex, integrated perspective is therefore necessary to allow for adequate interpretation of multimethod data (Erard et al., 2018).

The current research literature suggests that conjoined use of multiple methods can improve clinical interpretive accuracy when assessing personality by means of incremental validity. *Incremental validity* is defined as the degree to which a measure improves the explanation or prediction of a domain of interest relative to one or more other measures (Haynes & Lench, 2003). In the context of multimethod personality assessment, incremental validity refers to additions in valid information about personality characteristics and psychological functioning that can be obtained from the use of the different methods (Krishnamurthy et al., 1996; Krishnamurthy & Meyer, 2016). In other words, the confusion that once existed concerning the lack of agreement between methods of assessment has transformed into a complex understanding and awareness of the benefits of having multiple data points, even if they appear conflicting. Seemingly contradictory data points are now understood to actually reflect an important source of variance, which can help provide a more accurate clinical picture (Krishnamurthy & Meyer, 2016). This synthesis of information across data points allows for a multifaceted understanding beyond what would be possible using a single source of information. Thus, the additional information provided by each additional data point demonstrates

incremental validity and provides another key piece to the puzzle of understanding the entirety of the person's personality (Krishnamurthy & Meyer, 2016). Overall, competent multimethod assessment utilizes the strengths of each respective method while adjusting for their limitations, and prevents arriving at skewed or faulty conclusions (Bornstein, 2015; Meyer, Finn, Eyde, Kay et al., 2001). Therefore, if two measures, such as the Rorschach and MMPI-2-RF, are associated with the same criterion variable but not associated with each other, then, logically and statistically, they must provide incremental validity when jointly predicting that criterion variable (Mihura, 2012).

***MMPI/Rorschach Inter-Relationships.*** The study of multimethod assessment has most notably centered on the self-report MMPI-2 and the performance-based Rorschach Inkblot Test. Because this body of research has not extended to the relatively recently developed MMPI-2-RF (Ben-Porath & Tellegen, 2008), the literature reviewed here will focus mainly on the MMPI-2. Self-report and performance-based personality tests typically show modest-to-negligible correlations with each other when comparing scores that purportedly measure similar domains (Archer & Krishnamurthy, 1993a, 1993b; Krishnamurthy, Archer & House, 1996; Meyer, 2002). However, it is important to note that they yield different types of information. For example, self-report instruments typically yield information derived from introspective reports of behavior, while performance-based instruments yield an unscripted, spontaneous behavioral sample. Using a combination of both measures can extend and deepen the quality of information obtained from the assessment. Specifically, multimethod assessment using the MMPI-2

and the Rorschach helps the assessor understand the discrepancy between what people *say* and what they *do* (Erard et al., 2018).

Research findings have demonstrated that combining the Rorschach and the MMPI directly yields little convergent validity. A series of studies conducted by Archer and Krishnamurthy (1993a, 1993b) and Krishnamurthy, Archer and House (1996) indicated a lack of convergent validity between the measures in adolescent and adult samples. Among studies using adolescent clinical samples, Archer and Krishnamurthy (1993a) examined intercorrelations between scores from 50 Rorschach variables and the 13 basic MMPI scales in a sample of 157 adolescents receiving inpatient or outpatient treatment. Some Rorschach variables of particular interest to the interpersonal realm included Sum T, Sum V, COP, and the CDI. Results showed very modest, or nonsignificant relationships between the MMPI and Rorschach indices. Only 6% of intercorrelations for boys, and 10% for girls, reached statistical significance, and these significant correlations only slightly exceeded chance level. Archer and Krishnamurthy (1993a) also reviewed data from six prior published studies of adolescents that included examination of MMPI and Rorschach correspondence, which similarly indicated minimal associations. They concluded that the relationship between MMPI and Rorschach variables is limited, and of low magnitude effect sizes, in adolescent samples. Krishnamurthy, Archer, and House (1996) also found little evidence of convergent validity between the adolescent version of the MMPI (i.e., MMPI-A) and the Rorschach in a new clinical sample of 152 adolescents. Their study involved a comprehensive examination of 28 MMPI-A scales and 43 Rorschach variables selected to correspond to

13 specific domains: anxiety, depression, somatic concern, obsessiveness, defensiveness, bizarre thinking, self-image, hypervigilance, coping ability, interpersonal comfort, disturbed conduct, poor impulse control, and treatment readiness/response. The specific MMPI-A scales relating to interpersonal comfort included Scale 0 (*Si*), subscales *Si1*, *Si2*, and *Si3*, Adolescent-Social Discomfort (*A-sod*), and Adolescent-Conduct Problems (*A-con*). Rorschach variables selected for this domain included Sum T, Isolation Index, Whole Human Content (*H*) Cooperative Movement (*COP*), Whole Human, Fictional or Mythological Content (*(H)*), Depression Index (*DEPI*), Hypervigilance Index (*HVI*), and Affective Ratio (*Afr*). Results indicated that only 8 (3.4%) of the 237 correlations computed reached statistical significance for the total sample, related to the domain areas of depression, self-image, hypervigilance, and interpersonal discomfort. The specific variables related to interpersonal discomfort that were significantly correlated were the MMPI-A Alienation (*A-aln*) scale with the Rorschach (*H*) variable ( $r = .20, p < .01$ ). Similar low associations were found for subsamples with high versus low Rorschach response frequency (*R*) and for a subsample with concordant response styles across the two measures. The results of this investigation suggested that MMPI-A and Rorschach variables generally assumed to measure the same or similar personality domains bear minimal interrelationships.

A similar conclusion concerning weak or minimal interrelationship between MMPI and Rorschach variables was drawn by Archer and Krishnamurthy (1993b) from reviewing results of 37 published studies involving adult samples (total N = 2,688). Among these studies, measures related to interpersonal functioning included the MMPI

Social Isolation (*Si*) score with the Rorschach's Isolation Index (Simon, 1989), and MMPI Welsh's A and Taylor's A scales with Rorschach Shading and Texture scores (Waller, 1960). Results indicated nonsignificant relationships for these two sets of examined comparisons. At the larger level, Archer and Krishnamurthy (1993b) found that 51% of the reviewed studies reported nonsignificant MMPI-Rorschach associations and another 22% reported weak relationships involving small effect sizes. Thus, 73% of the studies showed minimal or no significant correlation between MMPI and Rorschach variables measuring similar domains.

Archer and Krishnamurthy (1993b) recognized that several of the studies they reviewed involved a relatively unfocused selection of MMPI and Rorschach variables for comparison. They discussed the possibility of incremental validity obtained from the combined use of the MMPI and Rorschach, using rigorous research methodology, in predicting to carefully selected and theoretically relevant criteria. Krishnamurthy et al. (1996) proposed that test results found on each respective measure should not be conceptualized as discrepant, but rather as independent information concerning personality and psychopathology that can be combined to get a more complete picture of the individual's functioning. The authors suggested the possibility that the conjoined use of the instruments would produce incremental validity, an issue warranting further empirical study.

Building on the findings from Archer and Krishnamurthy (1993a, 1993b) and Krishnamurthy, Archer, and House (1996), a number of studies began to further examine the relationship between the MMPI-2 and the Rorschach. Meyer (1997) suggested that

disagreement between the instruments arose from three factors: the methods used to tap into different levels of personality, the general complex organization of individual personality, and the considerable method variance that exists due to the different response styles of the measures. Using a primary sample of 362 hospital patients completing both an MMPI-2 and Rorschach, his results supported Archer and Krishnamurthy's original hypothesis, with convergent validity coefficients having an average magnitude of .03. It is of particular note to the current study that the convergent validity coefficient for interpersonal wariness was even lower at .02. The Interpersonal Wariness domain consisted of the Rorschach HVI variable as well as a range of MMPI-2 scales including Scale 6 Paranoia (*Pa*), Cynicism (*CYN*), Social Discomfort (*SOD*), and the Inability to Disclose subscale of the Negative Treatment Indicators scale (*TRT2*; Ben-Porath & Sherwood, 1993). Overall, results indicated that while the MMPI-2 and Rorschach measure similar domains, each method provides unique information as neither method captures the entire scope of a broad domain (Meyer, 1997).

The use of two tests that measure similar interpersonal domains may be necessary to get a complete and nuanced understanding of interpersonal functioning. Bornstein and Hopwood (2017) described an empirically grounded, clinically useful approach to evidence-based assessment of interpersonal dependency. In addition to patient-centered clinical considerations addressed in their proposal, they discussed the importance of understanding the strengths and limitations of different measures and methods, selecting appropriate measures, and implementing a framework for integration of data from the different sources. The authors suggested that this type of evidence-based assessment

approach can serve as a model for assessment of other personality characteristics such as narcissism and aggression. They posited that the modest correlations found in several studies comparing self-report with performance-based tests represented evidence supporting the discriminant validity of both measures (Bornstein, 2009; McGrath, 2008). Furthermore, they stated that when two tests that measure parallel domains using different methodologies are used, each test has the potential to add incremental validity to the test battery. Thus, the use of two tests that employ contrasting methods to measure interpersonal domains, such as dependency or aggression, may be useful in order to gain a complete and nuanced understanding of the intensity and expression of a respondent's interpersonal personality characteristics (Bornstein & Hopwood, 2017).

Studies of Rorschach and MMPI incremental validity have begun to accrue in recent years. A meta-analysis conducted by Meyer (2000) used data from six adult samples (total  $N = 187$ ) in which the Rorschach Prognostic Rating Scale (*RPRS*) and MMPI Ego Strength (*Es*) scale were used as predictors of response to psychotherapy. His results indicated incremental validity of the *RPRS* over the *Es* scale in predicting treatment outcome ( $r = .40$  vs.  $r = .02$ ). Meyer (2000) concluded that the Rorschach *RPRS* index makes a unique contribution to the prediction of clinically relevant outcomes. A more recent study conducted by Mihura and Graceffo (2014) determined that Rorschach variables provide incremental validity over self-report instruments in assessing psychosis, predicting suicide behaviors, and developing prognoses for treatment, while self-report instruments such as the MMPI provide incremental validity



over Rorschach results in helping the assessor determine aspects of the test taker's feelings and worries (Mihura & Graceffo, 2014).

Dao, Prevatt, and Horne (2008) examined incremental validity using the MMPI-2 and Rorschach in assessing certain content areas, including interpersonal sensitivity, in psychotic and nonpsychotic inpatients. Their study examined MMPI-2 Paranoia (*Pa*), Schizophrenia (*Sc*) and Bizarre Content (*BIZ*) scale and the Rorschach Perceptual-Thinking Index (*PTI*); the latter index has been identified as an effective tool for assessing psychosis (Exner, 2000). Dao et al. hypothesized that Rorschach data would contribute significantly over the MMPI-2 in predicting primary psychotic disorder (PPD) patients, and that the MMPI-2 would similarly contribute significantly over the Rorschach in predicting PPD patients. Results indicated that MMPI-2 variables, as well as the Rorschach PTI, were able to distinguish patients diagnosed with a PPD from those that were diagnosed with a primary mood disorder (PMD). However, the authors found that while adding the MMPI-2 scales to the Rorschach PTI resulted in a 1% decrease in overall classification rate (OCC), adding the PTI to the MMPI-2 scales yielded an increase of 14% in OCC. The authors attributed this to the Rorschach's PTI accounting for additional variance due to a less limited response style. This study exemplifies that incremental validity should be evaluated in a bi-directional manner as the order and direction of adding one set of variables to another may yield different results (Dao et al., 2008).

Within the realm of self-report assessment of interpersonal dysfunction, it may be expected that narcissistic individuals may not self-describe themselves as narcissistic,

withdrawn individuals would not self-report being avoidant, or that reported high levels of dependency may not predict pathological levels of dependent personality. It becomes evident, then, that these domains must be measured in ways that go beyond self-report data, which can be tainted by limited patient insight and interviewer bias (Bornstein, 2015). Blais, Hilsenroth, Castlebury, Fowler, and Baity (2001) conducted a test of incremental validity in predicting personality disorders, using a sample of 57 treatment-seeking outpatient adults. Interpersonal factors in the study included antisocial, histrionic and narcissistic personality characteristics. MMPI-2 variables included Cluster B Personality Disorder (PD) scales: Antisocial Personality Disorder (*ANPD*), Borderline Personality Disorder (*BPD*), Histrionic Personality Disorder (*HPD*), and Narcissistic Personality Disorder (*NPD*), which were originally developed by Morey, Waugh, and Blashfield (1985) to assess Diagnostic and Statistical Manual, 3<sup>rd</sup> edition (DSM-III) personality disorders. Rorschach variables included Sum T, PER, Morbid (*MOR*) AG and Ag-C for ANPD, ODL and Mutuality of Autonomy (*MOA*) for BPD, Sum of Color Responses (*FC+CF+C*), T, and the ODL scale for HPD, Reflections (*r*) variable and Lerner Defense Scale (*LDS*; Lerner, 1991) of Idealization (*IDEAL*) for NPD. Hierarchical regression analyses showed that both the MMPI-2 and Rorschach data added incrementally in the prediction of Diagnostic and Statistical Manual, 4<sup>th</sup> edition (DSM-IV) borderline and narcissistic PD total criteria scores. The findings were less clear for the incremental value of Rorschach and MMPI-2 data in predicting the total number of DSM-IV histrionic PD criteria, which were best predicted by Rorschach data, and antisocial PD criteria, which were best predicted by MMPI-2 data (Blais et al., 2001).

It is evident that incremental validity is a complex concept and that simply adding scores from one method to another may not necessarily yield richer results. Additional studies and statistical processes are necessary to make this determination. However, Krishnamurthy and Meyer (2016) note that more disturbance on the MMPI may point to a “cry for help,” while more disturbance on the Rorschach may describe more underlying difficulties outside of the person’s awareness. Thus, one can see how using a combination of both methods can potentially expand and refine the data concerning the individual’s unique personality and response style, providing a more complete clinical picture and aiding in treatment and diagnosis (Krishnamurthy & Meyer, 2016).

In practice, the goal of using multimethod assessment is to integrate these findings and make sense of the accumulated scores as accurate, but different, indicators of personality. This is accomplished with an appreciation for how domains are assessed and the appropriateness of inferences that can be made from them. The strengths of using multimethod assessment are numerous, including covering different aspects of the domain being measured, allowing the measurement of domains assessed at different levels of awareness, and integrating findings reflecting different aspects of psychological motivations and conflicts. Potential limitations of multimethod assessment include its time-consuming and expensive nature. Thus, multimethod assessment is best utilized in difficult situations involving complex problems (Erard et al., 2018). Nonetheless, the synthesis of using different methods of assessment, and the reconciliation of discrepant data points, allows the assessor to gain an understanding that exceeds the information obtained from using a single source of data (Krishnamurthy & Meyer, 2016).

### **Rationale and Hypotheses**

Interpersonal functioning has implications for psychological well-being as well as psychological disorder. Personality develops in the context of interpersonal relationships, and this has been reflected in the psychology literature. While different theorists and researchers may have different emphases, each consider the interpersonal realm to be integral to the development of personal identity and social adaptation. Interpersonal functioning, then, is a key element in determining whether individuals are able to establish self-efficacy and maintain healthy relationships. Dysfunction within the interpersonal realm can cause a multitude of problems and is the result of a combination of factors. Maladaptive interactions with others often become internalized views of self-concept, which then are reinforced by the environment, causing future interactions to become dysfunctional. This self-fulfilling prophecy can become cemented, fixated upon, and can influence personality in distinct and counterproductive ways. Thus, the assessment of interpersonal dysfunction is essential for altering these maladaptive patterns and helping individuals regain control over their self-concepts and world views.

The psychological assessment of personality and psychopathology has various complexities. Some individuals are able to respond usefully to self-report instruments to illuminate their dysfunction while others are better able to express it through performance-based methods. The literature indicates that utilizing multiple test methods, such as self-report instruments and performance-based instruments, can provide incremental information in this endeavor. With regards to interpersonal functioning, personality assessment provides both an idiographic portrayal of the individual's

interpersonal struggles as well as a nomothetic perspective regarding the degree of divergence from the population norm. The current study aimed to determine whether combined use of the MMPI-2-RF and Rorschach could provide incremental validity in the assessment of interpersonal dysfunction.

In recent decades, the psychological assessment literature has given increasing attention to the importance of multimethod personality assessment in providing a complete, accurate picture of a client's personality. It has been established that incremental validity can be increased through the use of multiple assessment methods, in either a unidirectional or bi-directional manner. The focus of many of these studies has been inter-relationships between MMPI and Rorschach scores in the assessment of various domains, including behavioral, cognitive, and affective features as well as self-esteem and self-image. While the interpersonal domain has been included as a component of these studies, it has not been examined in as much depth as indicated by the previously described importance of the interpersonal realm. Furthermore, the MMPI-2-RF has a limited research base to date, including on interpersonal variables and dysfunction. Thus far, no peer-reviewed empirical study has focused on the inter-relationship between the Rorschach, using either Comprehensive System or R-PAS variables, and the newer restructured version of the MMPI, the MMPI-2-RF. The current study investigated multimethod assessment using the MMPI-2-RF and Rorschach in a comprehensive examination of the interpersonal domain. The study attempted to draw from and expand upon the previous literature on the combined use of these two broadband methods of assessment, with a specific focus on interpersonal variables. Specifically, four domains of

interpersonal functioning were examined: Hostility/Aggression, Isolation/Avoidance, Passivity/Dependency, and Insecurity/Ineffectiveness. The variables chosen for inspection in these four domains are listed in the table below.

Table 1  
*Hypothesized Relationships Between Conceptually Similar Rorschach and MMPI-2-RF Variables*

Interpersonal Domain	Rorschach Variables	MMPI-2-RF Scales
Hostility/Aggression	<i>MAP; PHR; AG; HVI; S; AgC; AgPast; AgPot</i>	<i>RC3; RC4; RC6; ANP; AGG; AGGR-r</i>
Isolation/Avoidance	<i>Isol. Index; Low SumT; Low Human Cont.; Low Afr</i>	<i>SAV; SHY; INTR-r; DSF</i>
Passivity/Dependency	<i>ODL; High SumT; p; Food</i>	<i>IPP; Low AGGR-r; Low RC9</i>
Insecurity/Ineffectiveness	<i>Sum Y; Sum V; CDI; PER</i>	<i>SFD; NFC; HLP</i>

Note: All variables and scales denote elevated scores unless otherwise indicated.

The following hypotheses were offered for this study:

1. It was hypothesized that the rate of positive correlations between the MMPI-2-RF and Rorschach within each of the four interpersonal domains included in Table 1 would be higher than across each interpersonal domain. This was accomplished using Pearson correlation coefficients.
2. It was also hypothesized that combined use of the MMPI-2-RF and the Rorschach would provide incremental validity in the assessment of interpersonal

dysfunction. This was accomplished using a hierarchical multiple regression to determine the incremental change in predicting to an Interpersonal Relations outcome measure when MMPI-2-RF variables and indices are added to Rorschach variables and indices, as well as the incremental change when Rorschach variables and indices are added to MMPI-2-RF variables and indices.

## Methods

### Participants

The initial sample for this study consisted of 100 adults (n= 50 men, n = 50 women) who had received outpatient psychotherapy between 2013-2019 at a university-affiliated community psychological services outpatient clinic. The sample consisted predominantly of Caucasian clients, reflecting the demographics of the area, but also included other ethnicities in smaller numbers.

Participants included in the initial sample were ages 19 to 74 with a mean age of 40.51 (SD = 14.72) and were 87.0% White (n = 87), 7.0% Hispanic (n = 7), 5.0% Asian (n = 5), and 1.0% African American (n = 1). The highest level of education that was most frequently obtained was a High School Diploma (n = 32; 32.0%), followed by a Two-Year Degree (n = 27; 27.0%), a Four-Year Degree (n = 18; 18.0%), having Some College Education (n = 10; 10.0%), less than a high school education (n = 9; 9.0%), and, least frequently, a Graduate Degree (n = 4; 4.0%). In terms of marital status, 61.0% participants were Single (n = 61), 16.0% were Divorced (n = 16), 13.0% were Married (n = 13), 6.0% were Widowed (n = 6), and 4.0% were Separated (n = 4). The mean number of biological and/or adopted children for the initial sample was 0.73 (SD = 1.8; median = 1.5; mode = 1.0; range = 0-4).

Inclusion criteria consisted of having completed testing and produced valid results on the MMPI-2 and Rorschach. Valid results for the Rorschach consisted of greater than or equal to 14 responses to the 10 inkblot cards. Valid results for the MMPI-2-RF



consisted of the following criteria drawn from the test manual: Item omissions < 18, VRIN-r and TRIN-r T scores < 80, L-r scale T score < 80, K-r scale T score < 70, and F-r, Fb-r, and Fp-r T scores < 120. Application of these criteria ensured that both the Rorschach (Exner, 1993) and the MMPI-2-RF test profiles were not invalidated by insufficient responding. Additionally, on the MMPI-2-RF, a valid profile ensures that the profile is not invalidated by inconsistent or biased responding, favorable self-presentation, excessive defensiveness, or unrealistic over-reporting of symptoms (Ben-Porath & Tellegen, 2008). Additional inclusion criteria for the Rorschach consisted of having completed Structural Summaries that included requisite R-PAS variables in addition to CS variables. In the absence of this, participant's responses to inkblot cards needed to be available in order to score these necessary additional variables.

Upon applying inclusion criteria, all 100 participants in the initial sample produced a Rorschach record containing at least 14 responses. However, due to unavailability of participant's responses to inkblot cards for scoring of additional R-PAS variables, 18 participants were removed. Upon applying inclusion criteria related to the MMPI-2-RF, an additional 17 participants were removed (n = 15 due to F-r > 120, 2 due to TRIN-r > 80).

The final sample for the study consisted of 65 adults (n = 28 men, n = 37 women). These participants were ages 19 to 74 with a mean age of 39.74 (SD = 14.09) and were 90.8% White (n = 59), 4.6% Hispanic (n = 3), 3.1% Asian (n = 2), and 1.5% African American (n = 1). The highest level of education that was most frequently obtained was a High School Diploma (n = 21; 32.3%), followed by a Two-Year Degree (n = 15; 23.1%),

a Four-Year Degree (n = 12; 18.5%), having Some College Education (n = 10; 15.4%), less than a high school education (n = 4; 6.1%), and, least frequently, a Graduate Degree (n = 3; 4.6%).

In terms of marital status, 64.6% participants were Single (n = 42), 12.3% were Married (n = 8), 12.3% were Divorced (n = 8), 6.2% were Separated (n = 4), and 4.5% were Widowed (n = 3). The mean number of biological and/or adopted children for the sample was 0.57 (SD = 1.0; median = 0; mode = 0; range = 0-4). Table 2 provides further information related to participants' discharge diagnoses. Due to some participants being diagnosed with multiple conditions, the table represents all diagnosed conditions (primary, secondary, tertiary; N = 125) as opposed to each participant's diagnoses.

(cont.)

Table 2

*Discharge Diagnoses for the Sample*

Diagnosis	N	%
Dysthymia	22	17.6
Substance Use Disorder	19	15.2
General Anxiety Disorder	14	11.2
Post-Traumatic Stress Disorder	10	8.0
Avoidant Personality Disorder	7	5.6
Major Depressive Disorder	7	5.6
Panic Disorder	5	4.0
Bipolar I Disorder	5	4.0
Borderline Personality Disorder	5	4.0
Attention Deficit Hyperactivity Disorder	3	2.4
Autism Spectrum Disorder	5	4.0
Intermittent Explosive Disorder	2	1.6
Antisocial Personality Disorder	2	1.6
Adjustment Disorder	2	1.6
Social Anxiety Disorder	2	1.6
Schizoaffective Disorder	2	1.6
Obsessive Compulsive Disorder	2	1.6
Schizophrenia	2	1.6
Dependent Personality Disorder	1	.8
Somatoform Disorder	1	.8
Avoidant Personality Disorder	1	.8
Bipolar II Disorder	1	.8
Other Specified Personality Disorder	1	.8
Intellectual Disability	1	.8
Mild Intellectual Disability	1	.8
Delusional Disorder	1	.8
Intellectual Development Disorder	1	.8
<b>Total</b>	<b>125</b>	<b>100</b>

Note: All substance-related diagnostic categories fall under the heading "Substance Use Disorder"

To summarize the major characteristics of the sample from the preceding description and table, the typical participant in the final sample was single, white, middle-aged and had received a high school diploma. The majority of participants did not have biological or adopted children. Over three-fourths of the sample was dually diagnosed at the time of discharge from treatment, and roughly a quarter of the sample had received an additional tertiary diagnoses. The most common diagnoses related to depressive and anxiety disorders, often accompanied by a substance use diagnosis. Personality Disorders were most likely to be added as tertiary diagnoses.

### **Measures**

The central measures of this study were the Rorschach Inkblot Test, including both CS and R-PAS variables, and the MMPI-2-RF, with a focus on variables and indices measuring interpersonal dysfunction from each instrument.

#### *MMPI-2-RF*

The MMPI-2-RF technical manual provides strong evidence for the psychometric properties of the measure based on data from the MMPI-2 normative sample as well as treatment samples including an outpatient community mental health sample, a psychiatric inpatient sample from a general community hospital, and male inpatients at a Veteran Administration's hospital (Tellegen & Ben Porath, 2008). The test-retest reliability coefficients for the Validity Scale ranged from .40 for *TRIN-r* to .84 for *K-r*. The Standard Error of Measurements (SEMs) for the Validity Scales ranged from 8 for *TRIN-r* to 4 for *K-r*, *F-r* and *Fp-r*. The scales for the Hostility/Aggression cluster described in Table 1 demonstrated strong test-retest reliability and SEMs, ranging from .64/6 for *RC6*

to .84/4 for *AGGR-r*. The scales included in the Isolation/Avoidance cluster also demonstrated strong test-retest reliability and SEMs, ranging from .60/6 for *DSF* to .88/4 for *SHY*. The Passivity/Dependence cluster demonstrated similarly strong test-retest reliability and SEMs, ranging from .65/6 for *HLP* to .84/4 for *NFC*. Lastly, the Insecurity cluster demonstrated strongest test-retest reliability and SEMs, ranging from .67/6 for *BRF* to .88/4 for *SHY*. Overall, these values demonstrate adequate to strong support for the stability of MMPI-2-RF scores (Tellegen & Ben-Porath, 2008).

As the internal consistency coefficients for the outpatient community mental health reference sample best fit this study, the values for that group are reported here. The internal consistency (alpha) coefficients for the Validity scales ranged from .24 for *VRIN-r* (women) to .85 for *F-r* (both men and women). The Alpha coefficients for the scales included in the Hostility/Aggression cluster ranged from .57 for *DSF* (men) to .81 for *RC3* (men). For the Isolation/Avoidance cluster, they ranged from .48 for *BRF* (men) to .85 for *SAV* (women) as well as .85 for *INTR-r* (men). The Passivity/Dependency cluster demonstrated the strongest internal consistency, ranging from .74 for *IPP* (both men and women) to .82 for *SFD* (men). The Insecurity cluster also demonstrated adequate internal consistency values, ranging from .48 for *BRF* (men) to .83 for *NEGE-r* (men). Overall, the majority of these scales fall within the acceptable range for internal consistency (Tellegen & Ben Porath, 2008).

Evidence for the external validity of the MMPI-2-RF was derived from a variety of clinical settings such as out-patient community mental health, community hospitals, Veteran's Affairs hospitals, as well as medical, forensic, and nonclinical settings. This

demonstrates the convergent and discriminant validity of the test scores, as well as the domain validity of the relevant scales. The test's technical manual describes empirical correlates that provide the basis for meaningful interpretation. Overall, the psychometric findings on the reliability and validity of the MMPI-2-RF demonstrate the ability of the test to assess responses and measure personality characteristics and dysfunction, including interpersonal dysfunction which is the focus of this study (Tellegen & Ben Porath, 2008).

### *Rorschach*

Numerous peer-reviewed journal articles address the reliability and validity of the Rorschach. Atkinson (1986) used meta-analytic procedures to compare the relative validities of the MMPI and Rorschach. He found that the conceptual validation studies of the Rorschach were as successful as the conceptual validation studies of the MMPI (Atkinson, 1986). In addition, a meta-analysis completed by Parker, Hanson and Hunsley (1992) comparing the psychometric adequacy of the Rorschach and MMPI found average validity coefficients in the validation studies directed theoretically and empirically for the MMPI and Rorschach was not significantly different, and both were found to be adequate (.46 and .41, respectively). The tests showed stability and reliability values that were acceptable based on traditional psychometric standards (generally greater than .80). They concluded that their results "indicate that researchers are likely to find support for each of the tests if they know what they are looking for" (Parker, Hanson & Hunsley, 1992, p. 229). Moreover, the development of the CS system included reports of the reliability and validity of CS variables (Exner, 1974, 1986, 1993, 2003). Lastly, Krishnamurthy, Archer

and Groth-Marnat (2011) asserted that both the Rorschach CS and R-PAS systems are “empirically based systems that lend credibility to the test” (Krishnamurthy et al., 2011, p. 324).

#### *Outcome Questionnaire 45.2*

The Outcome Questionnaire–45.2 (OQ-45.2; Lambert, Gregersen, & Burlingame, 2004; Lambert, Lunnen, Umphress, Hansen, & Burlingame, 1994) is one of the most frequently used psychotherapy outcome measures in research and clinical settings (Hatfield & Ogles, 2004). The OQ–45.2 is purported as a three-factor structure assessing Symptom Distress, Interpersonal Relations, and Social Role performance. The test developers, as well as other researchers, have reported psychometric properties of the OQ–45.2. Test-retest reliability coefficients for the OQ–45.2 in a university sample were .78 for Symptom Distress, .80 for Interpersonal Relations, .82 for Social Role Performance, and .84 for Total score (Lambert et al., 1996). Internal consistency reliabilities were .92, .74, .70, and .93, respectively, in a university sample; in a clinical sample, they were .91, .74, .71, and .93, respectively (Lambert et al., 1996). These findings indicate strong reliability for the OQ–45.2 total score and Symptom Distress subscale, with moderate reliability for the Interpersonal Relations and Social Role subscales. Concurrent validity of the OQ–45.2 with other self-report measures is also reported as good (Lambert et al., 1996; Umphress, Lambert, Smart, Barlow, & Clouse, 1997). For the current study, the OQ45.2 Interpersonal Relations score was obtained from the final rating prior to discharge from treatment.

## Procedures

Data collection began after receiving approval from the Florida Institute of Technology Institutional Review Board (IRB), the clinic from which the data was collected, and the Doctoral Research Project committee. Participants' Rorschach and MMPI-2 scores were extracted from the clinic's electronic client records spanning approximately seven years. Rorschach variables and indices were obtained from structural summaries, including R-PAS variables, stored in the clinic's database. If the R-PAS variables had not been scored, they were scored using the test response records. To provide evidence of the accuracy of Rorschach scoring, inter-rater reliability was established using a subset of 25 Rorschach response records, which were independently scored blindly by the researcher and compared to results of the structural summaries provided through the clinic database. To establish inter-rater reliability for additional R-PAS variables scored by the researcher, an additional rater was utilized to independently and blindly score the subset of 25 response record for these five specific variables. Therefore, each protocol was independently scored by two raters, and intraclass correlations were used to establish inter-rater reliability. The selection of each Rorschach protocol was "semi-random" as protocols were selected randomly but with a preference for response records containing sufficient variable frequencies. This procedure ensured adequate representation of variables that are typically low in frequency, specifically *Food* and *AgPot*.

Because the participants had been tested with the MMPI-2, their MMPI-2 item responses were used to derive MMPI-2-RF scores, using a computerized scoring software



service provided by the University of Minnesota Press in collaboration with the Kent State University MMPI-2-RF research team. This approach is supported by research that has demonstrated MMPI-2-RF scores derived from the MMPI-2 are comparable to scores obtained from the MMPI-2-RF alone (Van der Heijden, Egger, & Derksen, 2010). All data were input into an SPSS database. Client identities were protected, in that personally identifying information was not included in the research database. Instead, participants were assigned ID numbers in place of names.

### **Data Analyses**

Preliminary analyses consisted of computing descriptive statistics (e.g., means, standard deviations, percentage data) to describe the sample, as well as means and standard deviations of MMPI-2-RF and Rorschach test scores. Central analyses consisted of computing Pearson Product Moment correlations to evaluate the magnitude and direction of interpersonal variables shown in Table 6. These were used to test the first hypothesis that variables within an interpersonal domain would be correlated positively at a higher rate than with variables across interpersonal domains. Hierarchical regression analyses were used to determine whether interpersonal variables from one measure provided incremental validity over those from the other, and the direction of the added predictive value. A binary logistic regression was conducted for the domains involving dichotomous high/low variables in the incremental validity evaluation.

### Results

Initial analyses consisted of the use of descriptive statistics (e.g., means, standard deviations, frequency data) to describe the sample, as well as means and standard deviations of MMPI-2-RF and Rorschach test scores. Table 3 presents means and standard deviations for the MMPI-2-RF interpersonal scales examined in this study.

Table 3

*Descriptive Statistics for MMPI-2-RF Interpersonal Variables*

Variable	M	SD
Cynicism ( <i>RC3</i> )	52.91	10.56
Antisocial Behavior ( <i>RC4</i> )	<b>58.66</b>	10.73
Ideas of Persecution ( <i>RC6</i> )	<b>58.92</b>	11.43
Hypomanic Activation ( <i>RC9</i> )	47.65	8.05
Helplessness/Hopelessness ( <i>HLP</i> )	<b>59.23</b>	14.44
Self-Doubt ( <i>SFD</i> )	<b>63.95</b>	11.90
Inefficacy ( <i>NFC</i> )	<b>61.57</b>	12.41
Anger Proneness ( <i>ANP</i> )	<b>55.89</b>	10.80
Aggression ( <i>AGG</i> )	50.94	9.21
Interpersonal Passivity ( <i>IPP</i> )	52.14	10.07
Social Avoidance ( <i>SAV</i> )	<b>60.11</b>	14.83
Shyness ( <i>SHY</i> )	54.45	11.07
Disaffiliativeness ( <i>DSF</i> )	<b>58.40</b>	14.89
Aggressiveness-R ( <i>AGGR-r</i> )	46.77	7.98
Introversion/Low Positive Emotionality-R ( <i>INTR-r</i> )	<b>62.86</b>	17.37

Note: Means in bold are at least one-half of a standard deviation above the normative mean of 50, i.e., at  $T \geq 55$ .

Nine scales had mean scores in the range of 55-64 T-score range, that is, a half standard deviation above the normative mean but under the  $T = 65$  level that denotes a clinical elevation. Among this set of scales, three corresponded to Hostility/Aggression, three to Isolation/Avoidance, and three to Insecurity/Ineffectiveness. None of the four

scales selected to represent Passive/Dependency had mean scores that were notably high or low.

Table 4 presents descriptive statistics on Rorschach interpersonal variables examined in the study. Specifically, this table displays means, standard deviations, minimum/maximum scores, and frequencies for the interpersonal Rorschach variables/indices.

Table 4

*Descriptive Statistics for Rorschach Interpersonal Variables/Indices*

Variable/Index	N	Min	Max	M	SD
MAP	28	0	4	.68	1.00
PHR	57	0	19	<b>4.31</b>	3.61
AG	26	0	6	.78	1.23
HVI	64	0	8	3.11	1.64
S	53	0	21	2.45	2.94
AgC	61	0	10	2.62	2.01
AgPot	16	0	9	.40	1.26
AgPast	23	0	3	.51	.77
Isolation Index	65	0	.88	.20	.17
Sum T	19	0	3	.51	.90
Human Content	62	0	24	6.29	3.99
Afr	65	.25	1	.52	.18
ODL	50	0	8	1.72	1.57
P	50	0	15	2.74	2.79
Food	5	0	1	.08	.27
SumY	38	0	8	1.35	1.78
SumV	22	0	3	.40	.63
CDI	64	0	5	2.58	1.27
PER	29	0	5	.91	1.27

Note: Means in bold are at least one standard deviation above the normative mean.

All Rorschach variables fell within one standard deviation from the adult non-patient normative sample mean, with one notable exception. The Poor Human

Representation (*PHR*) mean score was a full standard deviation above the normative mean. This variable reflects a poor interpersonal history as well as negative perceptions of, and interactions with others. The PHR mean suggests the sample contains several participants with poor relational histories and dynamics compared to the non-patient normative sample.

Before central analyses were undertaken, inter-rater reliability for the Rorschach interpersonal variables needed to be established. Intraclass correlation coefficients were computed to assess consistency and reproducibility of Rorschach coding done by different observers using the same response records. They were computed using “single measures” coefficients, which is an index for the reliability of the ratings for a typical, single rater. This accounts for a reliability measure independent of an interaction effect presence between the two raters. The coefficients presented here use a two-way random effects model in which both people effects and measure effects are random. Table 5 displays the intraclass correlation coefficients for the selected Rorschach variables.

(cont.)

Table 5

*Intraclass Correlation Coefficients (ICC) for Interpersonal Rorschach Variables*

Rorschach Variable	r	95% Confidence Interval	Reliability Estimate
MAP	.89	.77-.95	Good
ODL	.67	.38-.84	Moderate
PHR	.57	.20-.77	Moderate
AG	.77	.55-.89	Good
AgC	.95	.89-.98	Excellent
AgPast	.84	.68-.93	Good
AgPot	.81	.61-.91	Good
HVI	.79	.57-.90	Good
S	.96	.92-.98	Excellent
Isolation Index	.71	.44-.86	Moderate
SumT	.62	.31-.81	Moderate
Human Content	.75	.50-.88	Moderate
Afr	1	1.00-1.00	Excellent
P	.68	.40-.85	Moderate
Food	1	1.00-1.00	Excellent
SumY	.82	.63-.92	Good
SumV	.52	.17-.76	Moderate
CDI	.79	.58-.90	Good
PER	.83	.65-.92	Good

Note: Reliability estimates are derived from Koo & Li, 2016.

Reliability estimates for all interpersonal Rorschach variables fell within the “moderate” to “excellent” range. The strongest level of inter-rater reliability was for *AgC*, *S*, *Afr*, *Food*; except for the food variable, the other three variables occurred with substantial frequency within the sample. These data suggest inter-rater reliability for interpersonal Rorschach variables was adequate.

Central analyses consisted of Pearson moment correlations between Rorschach and MMPI-2-RF variables. Biserial correlations were computed for the dichotomous variables in the study, such as *High Sum T* and *Low RC9*. Table 6 displays the correlational matrix for associations between all MMPI-2-RF and Rorschach interpersonal variables.

Table 6  
*Correlation Coefficients for Interpersonal MMPI-2-RF and Rorschach Variables*

Variable	RC3	RC4	RC6	ANP	AGG	AGGR-r	SAV	SHY	INTR-r	DSF	IPP	Low AGGR-r	Low RC9	SFD	NFC	HLP
MAP	.28	.02	-.05	.00	-.06	-.01	.12	.20	.10	-.05	.17	.17	.16	.01	.01	-.13
PHR	-.04	.25*	-.12	.01	.01	.06	.09	.02	.02	.13	-.07	-.15	.00	-.10	-.02	-.06
AG	.02	-.03	.01	-.05	.05	.02	.04	-.06	-.06	.02	.04	.03	.12	-.27*	-.07	-.09
HVI	.10	.16	.12	.10	.18	.27*	.01	.04	-.03	.00	-.23	-.22	-.06	.02	-.14	.11
S	.00	.17	.07	.05	.04	.23	-.03	-.13	-.06	.03	-.20	.04	.06	-.04	-.10	.06
AgC	-.01	-.04	.13	.05	.05	.16	-.08	.00	-.16	-.16	-.13	.05	.21	-.06	-.12	-.17
AgPast	.19	.13	.09	.06	.15	.08	.11	.07	-.07	.12	.10	.09	.02	-.02	-.04	.11
AgPot	.04	-.13	-.08	.04	.00	.03	-.14	-.11	-.23	.16	-.03	.01	-.13	-.11	.03	-.06
Isol. Index	-.05	.04	.08	.00	-.05	.13	-.04	-.08	-.07	-.13	-.20	-.21	-.15	-.03	-.20	-.08
Low SumT	.02	.07	-.12	.02	.00	-.05	-.02	.05	.01	.01	-.11	.01	.07	.12	.15	.11
Low Human Content	.01	-.21	.17	-.02	.12	.21	-.02	.03	-.05	.01	-.14	-.02	-.11	-.01	.03	-.11
Low Afr	-.15	.01	-.19	-.19	-.19	.16	.17	.10	.12	.15	-.16	-.20	.14	-.10	-.06	.04
ODL	.07	.18	.04	.05	.04	.16	.02	-.02	.09	.03	-.20	-.08	-.11	-.03	-.09	.02
High SumT	.03	-.08	.01	-.03	.01	.16	.09	.05	.02	.14	.05	-.02	.00	-.10	-.04	.05
P	-.01	.16	.02	.04	.11	.23	-.16	-.13	-.15	.00	-.17	-.15	-.12	.04	-.16	-.11
Food	.02	.00	.13	-.01	.08	-.01	-.30*	-.28*	-.18	-.17	.07	.01	.00	.05	.06	.01
SumY	.12	.08	.12	-.01	.14	.28*	-.09	-.09	-.15	-.09	-.20	-.13	-.17	-.01	-.03	.01
SumV	-.16	.01	-.07	-.24	.06	-.03	-.13	-.01	-.23	-.09	.08	.08	-.20	-.21	-.12	-.22
CDI	.00	-.12	.10	-.18	-.04	.00	-.01	-.02	.02	-.11	-.03	-.07	.07	.09	.07	.05
PER	.24*	.09	.25*	.16	.13	.18	.26*	.19	.18	.20	-.16	-.05	-.02	.02	.16	.15

Note: \* $p < .05$ . “High” and “Low” Scores denote 1 SD above/below the normative means for the test variables.

Of the 320 correlations computed between MMPI-2-RF and Rorschach interpersonal variables, only nine of these correlations were significant at the  $p < .05$  level. The MMPI-2-RF Antisocial Behavior (*RC4*) scale and the Rorschach Poor Human Representations (*PHR*) variable correlated at .25, which reflects a medium effect size according to Cohen's effect size guidelines (Cohen, 1992). The MMPI-2-RF Aggressiveness-revised (*AGGR-r*) scale correlation coefficient with the Rorschach Hypervigilance Index (*HVI*) was .27, also reflecting a medium effect size (Cohen, 1992). Both of these fall correspond to the Hostility/Aggression domain. The seven additional significant correlations had medium effect sizes (Cohen, 1992), but were not between variables within this study's interpersonal domains. Overall, the minimal number of significant correlations between MMPI-2-RF and Rorschach variables of interest were congruent with the findings of Archer and Krishnamurthy (1993a, 1993b).

A criterion check was undertaken to verify that the minimal correlational findings were not due to an incorrect choice of interpersonal variables for the study. Specifically, Pearson correlations were conducted to assess whether the variables selected to represent a given interpersonal domain correlated highly with each other within each test. These are displayed in Tables 7, 8, 9 and 10.

(cont.)

Table 7

*Within-Test Intercorrelations in the Hostility/Aggression Domain*

MMPI-2-RF Variable	RC3	RC4	RC6	ANP	AGG	AGGR-r
RC3	-					
RC4	.20	-				
RC6	.48**	.17	-			
ANP	.38**	.07	.13	-		
AGG	.46**	.27*	.17	.51**	-	
AGGR-r	.28*	.08	.21	.02	.26*	-

  

Rorschach Variable	MAP	PHR	AG	HVI	S	AgC	AgPot	AgPast
MAP	-							
PHR	.13	-						
AG	.23	.42**	-					
HVI	.13	.59**	.28*	-				
S	.00	.29*	.10	.51**	-			
AgC	.19	.31*	.38**	.33**	.43**	-		
AgPot	.10	.21	.27*	.04	.08	.15	-	
AgPast	.68**	.21	.35**	.26*	-.01	.08	.22	-

Note: \* $p < .05$ , \*\* $p < .01$ .

Overall, 7 out of 15 (47%) MMPI-2-RF intercorrelations within the Hostility/Aggression domain were significant, and 12 out of 27 (44%) of Rorschach intercorrelations were significant.

Table 8

*Within-Test Intercorrelations in the Isolation/Avoidance Domain*

MMPI-2-RF Variable	SAV	SHY	INTR-r	DSF
SAV	-			
SHY	.64**	-		
INTR-r	.89**	.49**	-	
DSF	.61**	.30*	.54*	-

  

Rorschach Variable	Isol. Index	Low SumT	Low Human Co.	Low Afr
Isol. Index	-			
Low SumT	-.23	-		
Low Human Co.	-.08	-.20	-	
Low Afr	.24*	.04	-.09	-

Note: \* $p < .05$ , \*\* $p < .01$ .



All six MMPI-2-RF variables corresponding to the Isolation/Avoidance domain were significant correlated with each other. In contrast, only one of six (17%) of correlations between Rorschach variables was found to be significant. Thus, there is greater cohesiveness within the MMPI-2-RF set of variables used in this study.

Table 9

*Within-Test Intercorrelations in the Passivity/Dependency Domain*

MMPI-2-RF Variable	IPP	Low RC9	Low AGGR-r
IPP	-		
Low RC9	.23	-	
Low AGGR-r	.77**	.21	-

  

Rorschach Variable	ODL	High SumT	P	Food
ODL	-			
High SumT	-.09	-		
p	.51**	.01	-	
Food	-.10	-.12	.01	-

Note: \* $p < .05$ , \*\* $p < .01$ .

For the Passivity/Dependence domain, one of three (33%) MMPI-2-RF intercorrelations and one of six (17%) of Rorschach intercorrelations were significant.

Table 10

*Within-Test Intercorrelations in the Insecurity/Ineffectiveness Domain*

MMPI-2-RF Variable	SFD	NFC	HLP
SFD	-		
NFC	.50**	-	
HLP	.43**	.51**	-

  

Rorschach Variable	SumY	SumV	CDI	PER
SumY	-			
SumV	.09	-		
CDI	-.11	-.04	-	
PER	.28*	.18	-.20	-

Note: \* $p < .05$ , \*\* $p < .01$ .

In the Insecurity/Ineffectiveness domain, all three MMPI-2-RF variables were significantly correlated with each other. However, only one significant correlation was

found among the six correlations computed within the Rorschach. Thus, MMPI-2-RF provides greater cohesiveness.

Collectively, across each domain, the selection of variables was relatively well supported by the within-test correlational analysis, particularly for the MMPI-2-RF. Evidence for the homogeneity of domain-specific Rorschach variables were weaker, but acceptable. These results suggest a reasonable selection of the variables used to evaluate the hypotheses.

The first hypothesis for the study was evaluated with Pearson correlations between MMPI-2-RF and Rorschach variables, with the expectation that variables within an interpersonal domain would have a higher rate of positive correlation with each other than with variables of a different interpersonal domain. For example, MMPI-2-RF Hostility/Aggression variables were expected to correlate positively at a higher rate with Rorschach Hostility/Aggression variables than with Rorschach variables of Isolation/Avoidance, Passivity/Dependency and Insecurity/Ineffectiveness. Correlational results in all four interpersonal domains produced several inverse correlations that were unexpected. These were excluded in tabulating the rate of positive correlations. Specifically, an effect size of .10 or higher, representing at least a small effect size according to Cohen (1992) was used as the benchmark for tabulating the rate of positive correlations. Tables 11 and 12 display the results of correlations with regards to Hostility/Aggression.

Table 11

*MMPI-2-RF correlations with Rorschach Hostility/Aggression Variables versus All Rorschach Interpersonal Variables*

Variable	RC3	RC4	RC6	ANP	AGG	AGGR-r
MAP	.03	.02	-.05	.00	-.06	-.01
PHR	-.04	.25	-.12	.01	.01	.06
AG	.02	-.03	.01	.05	.05	.02
HVI	.10	.16	.12	.10	.18	.27
S	.00	.17	.07	.05	.04	.23
AgC	-.01	-.04	.13	.05	.05	.16
AgPast	.19	.13	.09	.06	.15	.08
AgPot	.04	-.13	-.08	.04	.00	.03
-----						
Isol. Index	-.05	.04	.08	.00	-.05	.13
Low SumT	.02	.07	-.12	.02	.00	-.05
Low Human Content	.01	-.21	.17	-.02	.12	.21
Low Afr	-.15	.01	-.19	-.19	-.19	.16
ODL	.07	.18	.04	.05	.04	.16
High SumT	.03	-.08	.01	-.03	.01	.16
p	-.01	.16	.02	.04	.11	.23
Food	.02	.00	.13	-.01	.08	-.01
SumY	.12	.08	.12	-.01	.14	.28
SumV	-.16	.01	-.07	-.24	.06	-.03
CDI	.00	-.12	.10	-.18	-.04	.00
PER	.24	.09	.25	.16	.13	.18

Note: The top section of the table shows MMPI-2-RF and Rorschach correlations within the Hostility/Aggression domain.

Among the MMPI-2-RF and Rorschach correlations in the Hostility/Aggression domain shown in Table 11, 27% of the variables were correlated positively with at least a small effect size. For those in other interpersonal domains, 30% of the MMPI-2-RF variables examined correlated positively with Rorschach variables in other domains with at least a small effect size. These results suggest that MMPI-2-RF Hostility/Aggression variables did not correlate higher with Rorschach Hostility/Aggression variables than with other interpersonal Rorschach variables.

Table 12

*Rorschach Correlations with MMPI-2-RF Hostility/Aggression Variables versus MMPI-2-RF Interpersonal Variables*

Variable	MAP	PHR	AG	HVI	S	AgC	AgPast	AgPot
RC3	.03	-.04	.02	.10	.00	-.01	.19	.04
RC4	.02	.25	-.03	.16	.17	-.04	.13	-.13
RC6	-.05	-.12	.01	.12	.07	.13	.09	-.08
ANP	.00	.01	-.05	.10	.05	.05	.06	.04
AGG	-.06	.01	.05	.18	.04	.05	.15	.00
AGGR-r	-.01	.06	.02	.27	.23	.16	.08	.03
-----								
SAV	.12	.09	.04	.07	-.03	-.08	.11	-.14
SHY	.20	.02	-.06	.04	-.13	.00	.07	-.11
INTR-r-	.10	.02	-.06	-.03	-.06	-.16	-.07	-.23
DSF	-.05	.13	.02	.00	.03	-.16	.12	.16
IPP	.17	-.07	.04	-.23	-.20	-.13	.10	-.03
Low AGGR-r	.17	-.15	.03	.22	.04	.05	.09	.01
Low RC9	.16	.00	.12	-.06	.06	.21	-.02	-.13
SFD	.01	-.10	-.27	.02	-.04	-.06	-.02	-.11
NFC	.01	-.02	-.07	-.14	-.10	-.12	-.04	.03
HLP	-.13	-.06	-.09	.11	.06	-.17	.11	-.06

Note: The top section of the table shows Rorschach and MMPI-2-RF correlations within the Hostility/Aggression domain.

Among the Rorschach correlations with MMPI-2-RF counterparts shown in Table 12, within the Hostility/Aggression domain, 29% of the variables had positive correlations with at least a small effect size. For those in other interpersonal domains, 20% of the Rorschach variables correlated positively with MMPI-2-RF variables of another domain with at least a small effect size. These results suggest that Rorschach Hostility/Aggression variables correlated moderately higher with MMPI-2-RF Hostility/Aggression variables than with other interpersonal MMPI-2-RF variables.

Overall, there was mild support for the expectation that MMPI-2-RF and Rorschach Hostility/Aggression variables will correlate more highly with each other than with those of a different interpersonal domain.

Tables 13 and 14 display the results of these correlations with regards to Isolation/Avoidance.

Table 13

*MMPI-2-RF Correlations with Rorschach Isolation/Avoidance Variables versus All Rorschach Interpersonal Variables*

Variable	SAV	SHY	INTR-r	DSF
Isol. Index	-.04	-.08	-.07	-.13
Low SumT	-.02	.05	.01	.01
Low Human Content.	-.02	.03	-.05	.01
Low Afr	.17	.10	.12	.15
-----				
MAP	.12	.20	.10	-.05
PHR	.09	.02	.02	.13
AG	.04	-.06	-.06	.02
HVI	.01	.04	-.03	.00
S	-.03	-.13	-.06	.03
AgC	-.08	.00	-.16	-.16
AgPast	.11	.07	-.07	.12
AgPot	-.14	-.11	-.23	.16
ODL	.02	-.02	.09	.03
High SumT	.09	.05	.02	.14
p	-.16	-.13	-.15	.00
Food	-.30	-.28	-.18	-.17
SumY	-.09	-.09	-.15	-.09
SumV	-.13	-.01	-.23	-.09
CDI	-.01	-.02	.02	-.11
PER	.26	.19	.18	.20

Note: The top section of the table shows MMPI-2-RF and Rorschach correlations within the Isolation/Avoidance domain.

Among the MMPI-2-RF correlations with Rorschach counterparts, within the Isolation/Avoidance domain shown in Table 13, 25% of the variables had positive correlations with at least a small effect size. For those in other interpersonal domains, 19% of the MMPI-2-RF variables examined had positive correlations with Rorschach variables of another domain with at least a small effect size. These results suggest that MMPI-2-RF Isolation/Avoidance variables correlate mildly to moderately higher with

Rorschach Isolation/Avoidance variables than with other interpersonal Rorschach variables.

Table 14

*Rorschach Correlations with MMPI-2-RF Isolation/Avoidance Variables versus All MMPI-2-RF Interpersonal Variables*

Variable	Isol. Index	Low SumT	Low Human Cont.	Low Afr
SAV	-.04	-.02	-.02	.17
SHY	-.08	.05	.03	.10
INTR-r	-.07	.01	-.05	.12
DSF	-.13	.01	.01	.15
-----				
RC3	-.05	.02	.01	-.15
RC4	.04	.07	-.21	.01
RC6	.08	-.12	.17	-.19
ANP	.00	.02	-.02	-.19
AGG	-.05	.00	.12	-.19
AGGR-r	.13	-.05	.21	.16
IPP	-.20	-.11	-.14	-.16
Low AGGR-r	-.21	.01	-.02	-.20
Low RC9	-.15	.07	-.11	.14
SFD	-.03	.12	-.01	-.10
NFC	-.20	.15	.03	-.06
HLP	-.08	.11	-.11	.04

Note: The top section of the table shows MMPI-2-RF and Rorschach correlations within the Isolation/Avoidance domain.

Among the Rorschach correlations with MMPI-2-RF counterparts shown in Table 14, 25% of the variables in the Isolation/Avoidance domain had positive correlations with at least a small effect size. For those in other interpersonal domains, 19% of the Rorschach variables examined had positive correlations with MMPI-2-RF variables of another domain with at least a small effect size. These results suggest that Rorschach Isolation/Avoidance variables correlate mildly to moderately higher with MMPI-2-RF Isolation/Avoidance variables than with those of other interpersonal MMPI-2-RF variables.

Overall, there was moderate support for the hypothesis that MMPI-2-RF and Rorschach Isolation/Avoidance variables will correlate more highly with each other than with those of a different interpersonal domain.

Tables 15 and 16 display the results of these correlations with regards to Passivity/Dependency.

Table 15

*MMPI-2-RF Correlations with Rorschach Passivity/Dependency Variables versus All Rorschach Interpersonal Variables*

Variable	IPP	Low AGGR-r	Low RC9
ODL	-.02	-.08	-.11
High SumT	.05	-.02	.00
p	-.17	-.15	-.12
Food	.07	.01	.00
-----			
MAP	.17	.17	.16
PHR	.07	-.15	.00
AG	.04	.03	.12
HVI	-.23	-.22	-.06
S	-.20	.04	.06
AgC	-.13	.05	.21
AgPast	.10	.09	.02
AgPot	-.03	.01	-.13
Isol. Index	-.20	-.21	-.15
Low SumT	-.11	.01	.07
Low Human Content	-.14	-.02	-.11
Low Afr	-.16	-.20	.14
SumY	-.20	-.13	-.17
SumV	.08	.08	-.20
CDI	-.03	-.07	.07
PER	-.16	-.05	-.02

Note: The top section of the table shows MMPI-2-RF and Rorschach correlations within the Passivity/Dependency domain.

Among the MMPI-2-RF and Rorschach correlations in the Passivity/Dependency domain shown in Table 15, no MMPI-2-RF Passivity/Dependency variables correlated in a positive direction with corresponding Rorschach Passivity/Dependency variables with at least a small effect size. For variables in other interpersonal domains, 15% of the

MMPI-2-RF variables correlated in a positive direction with Rorschach variables of another domain with at least a small effect size. These results suggest that MMPI-2-RF Passivity/Dependency variables did not correlate higher with Rorschach Passivity/Dependency variables than with other interpersonal Rorschach variables.

Table 16

*Rorschach Correlations with MMPI-2-RF Passivity/Dependency Variables versus All MMPI-2-RF Interpersonal Variables*

Variable	ODL	High SumT	P	Food
IPP	-.20	.05	-.17	.07
Low AGGR-r	-.08	-.02	-.15	.01
Low RC9	-.11	.00	-.12	.00
-----				
RC3	.07	.03	-.01	.02
RC4	.18	-.08	.16	.00
RC6	.04	.01	.02	.13
ANP	.05	-.03	.04	-.01
AGG	.04	.01	.11	.08
AGGR-r	.16	.16	.23	-.01
SAV	.02	.09	-.16	-.30
SHY	-.02	.05	-.13	-.28
INTR-r	.09	.02	-.15	-.18
DSF	.03	.14	.00	-.17
SFD	-.03	-.10	.04	.05
NFC	-.09	-.04	-.16	.06
HLP	.02	.05	-.11	.01

Note: The top section of the table shows MMPI-2-RF and Rorschach correlations within the Passivity/Dependency domain.

Among the Rorschach correlations with MMPI-2-RF counterparts shown in Table 16, within the Passivity/Dependency domain, no Rorschach Passivity/Dependency variables correlated positively with corresponding MMPI-2-RF Passivity/Dependency variables with at least a small effect size. For those in other interpersonal domains, 8% of the Rorschach Passivity/Dependency variables examined correlated positively with MMPI-2-RF variables of another domain with at least a small effect. These results suggest that Rorschach Passivity/Dependency variables did not correlate higher with



MMPI-2-RF Passivity/Dependency variables than with other interpersonal MMPI-2-RF variables.

Overall, there was no support for the expectation that MMPI-2-RF and Rorschach variables within the Passivity/Dependency domain will correlate more highly with each other than with those of a different interpersonal domain.

Tables 17 and 18 display the correlation results with regards to Insecurity/Ineffectiveness.

Table 17

*MMPI-2-RF correlations with Rorschach Insecurity/Ineffectiveness Variables versus all Rorschach Interpersonal Variables*

Variable	SFD	NFC	HLP
SumY	-.01	-.03	.01
SumV	-.21	-.12	-.22
CDI	.09	.07	.05
PER	.02	.16	.15
-----			
MAP	.01	.01	-.13
PHR	-.10	-.02	-.06
AG	-.27	-.07	-.09
HVI	.02	-.14	.11
S	-.04	-.10	.06
AgC	-.06	-.12	-.17
AgPast	-.02	-.04	.11
AgPot	-.11	.03	-.06
Isol. Index	-.03	-.20	-.08
Low SumT	.12	.15	.11
Low Human Co.	-.01	.03	-.11
Low Afr	-.10	-.06	.04
ODL	-.03	-.09	.02
High SumT	-.10	-.04	.05
p	.04	.16	-.11
Food	.05	.06	.01

Note: The top section of the table shows MMPI-2-RF and Rorschach correlations within the Insecurity/Ineffectiveness domain.

Among the MMPI-2-RF correlations with Rorschach counterparts shown in Table 17, within the Insecurity/Ineffectiveness domain, 17% of the MMPI-2-RF variables had positive correlations with corresponding Rorschach Insecurity/Ineffectiveness variables with at least a small effect size. For those in other interpersonal domains, 13% of the MMPI-2-RF variables examined had positive correlations with Rorschach variables of another domain with at least a small effect size. These results suggest that MMPI-2-RF Insecurity/Ineffectiveness variables correlated at a slightly higher rate with Rorschach Insecurity/Ineffectiveness variables than with other interpersonal Rorschach variables.

Table 18

*Rorschach correlations with MMPI-2-RF Insecurity/Ineffectiveness variables versus All MMPI-2-RF Interpersonal Variables*

Variable	SumY	SumV	CDI	PER
SFD	-.01	-.21	.09	.02
NFC	-.03	-.12	.07	.16
HLP	.01	-.22	.05	.15
-----				
RC3	.12	-.16	.00	.24
RC4	.08	.01	-.12	.09
RC6	.12	-.07	.10	.25
ANP	-.01	-.24	-.18	.16
AGG	.14	.06	-.04	.13
AGGR-r	.28	-.03	.00	.18
SAV	-.09	.13	-.01	.26
SHY	-.09	-.01	-.02	.19
INTR-r	-.15	-.23	.02	.18
DSF	-.09	-.09	-.11	.20
IPP	-.20	.08	-.03	-.16
Low AGGR-r	-.13	.08	-.07	-.05
Low RC9	-.17	-.20	.07	-.02

Note: The top section of the table shows MMPI-2-RF and Rorschach correlations within the Insecurity/Ineffectiveness domain.

Among the Rorschach correlations with MMPI-2-RF counterparts shown in Table 18, within the Insecurity/Ineffectiveness domain, 17% of the variables correlated in a positive direction with at least a small effect size. For those in other interpersonal

domains, 29% of the Rorschach Insecurity/Ineffectiveness variables examined correlated in a positive direction with MMPI-2-RF variables of another interpersonal domain. These results suggest that Rorschach Insecurity/Ineffectiveness did not correlate at a higher rate with MMPI-2-RF Insecurity/Ineffectiveness variables than with other interpersonal MMPI-2-RF variables.

Overall, there was minimal support for the hypothesis that MMPI-2-RF and Rorschach variables within the Insecurity/Ineffectiveness domain will correlate more highly with each other than with those of a different interpersonal domain.

In summary, examination of the preceding correlation tables suggests moderate support for the first hypothesis with regards to the Isolation/Avoidance domain. Mild support was found with regards to the domain of Hostility/Aggression. Minimal support was found with regards to the Insecurity/Ineffectiveness domain. No support was found with regards to the Passivity/Dependency domain.

To test the second hypothesis, hierarchical linear regressions were used to analyze incremental change when the Rorschach is added to the MMPI-2-RF and when the MMPI-2-RF is added to the Rorschach in each interpersonal domain, in predicting to the OQ45.2 Interpersonal Relations outcome measure scores. Table 19 and 20 display these results for the Hostility/Aggression domain.

Table 19

*Incremental Validity for Hostility/Aggression: MMPI-2-RF in First Model*

Variable	Adjusted R <sup>2</sup>	$\Delta R^2$	$\beta$
Step 1	.11		
RC3			-.23
RC4			.33
RC6			.31
ANP			-.02
ANG			.01
AGGR-r			-.06
Step 2	.24	.21	
RC3			-.26
RC4			.37
RC6			.23
ANP			.00
ANG			-.07
AGGR-r			-.13
MAP			-.46
PHR			-.18
AG			-.07
HVI			-.04
S			-.08
AgC			.35
AgPast			-.05
AgPot			.63

In the Hostility/Aggression domain, MMPI-2-RF variables of this domain were entered into the regression equation first, with Rorschach variables being added in step 2. Analyses showed an incremental change of .21, or a 21% increased contribution to the prediction of the outcome scores, when adding the Rorschach to the MMPI-2-RF in this direction. This represents a moderate to strong increase in incremental validity.

Table 20

*Incremental Validity for Hostility/Aggression: Rorschach in First Model*

Variable	Adjusted R <sup>2</sup>	Δ R <sup>2</sup>	β
Step 1	.11		
MAP			-.45
PHR			-.05
AG			-.07
HVI			-.13
S			.00
AgC			.32
AgPast			-.15
AgPot			.65
Step 2	.24	.18	
MAP			-.46
PHR			-.18
AG			-.07
HVI			-.04
S			-.08
AgC			.35
AgPast			-.05
AgPot			.63
RC3			-.26
RC4			.37
RC6			.23
ANP			.00
AGG			-.07
AGGR-r			-.13

When Rorschach Hostility/Aggression variables were entered into the hierarchical linear regression first, the addition of MMPI-2-RF variables displayed an incremental change of .18, or an 18% increase in predictive ability. This represents a moderate incremental change when the MMPI-2-RF is added to the Rorschach in the domain of Hostility/Aggression.

Overall, moderate to strong evidence was shown for the incremental value of multimethod assessment in the interpersonal domain of Hostility/Aggression.

Tables 21 and 22 display the regression analysis results for the Isolation/Avoidance domain.

Table 21

*Incremental Validity for Isolation/Avoidance: MMPI-2-RF in First Model*

Variable	Adjusted R <sup>2</sup>	Δ R <sup>2</sup>	β
Step 1			
SAV	.08		-.32
SHY			.15
INTR-r			.31
DSF			.31
Step 2			
SAV	.06	.04	-.30
SHY			.16
INTR-r			.32
DSF			.28
Isol. Index			-.10
Low SumT			-.16
Low Human Content			-.07
Low Afr			-.09

Using the hierarchical linear regression equation in the domain of Isolation/Avoidance, MMPI-2-RF variables were entered into the regression equation first, with Rorschach variables being added in step 2. Analyses showed an incremental change of .04, or a 4% increase in predictive ability, when adding the Rorschach to the MMPI-2-RF in this direction. This represents a mild increase in incremental validity.

Table 22

*Incremental Validity for Isolation/Avoidance: Rorschach in First Model*

Variable	Adjusted R <sup>2</sup>	Δ R <sup>2</sup>	β
Step 1	-.02		
Isol. Index			-.16
Low SumT			-.04
Low Human Content			-.02
Low Afr			-.18
Step 2	.06	.13	
Isol. Index			-.16
Low SumT			-.07
Low Human Content			-.09
Low Afr			-.10
SAV			.28
SHY			.32
INTR-r			.16
DSF			-.30

When Rorschach Isolation/Avoidance variables were entered into the hierarchical linear regression first, the addition of MMPI-2-RF variables displayed an incremental change of .13, or a 13% increase in predictive ability. This represents a moderate incremental change when the MMPI-2-RF is added to the Rorschach in the domain of Isolation/Avoidance.

Overall, mild to moderate evidence was shown for the incremental value of multimethod assessment in the interpersonal domain of Isolation/Avoidance.

Tables 23 and 24 display the regression analysis results for the Passivity/Dependency domain.

Table 23

*Incremental Validity for Passivity/Dependency: MMPI-2-RF in First Model*

Variable	Adjusted R <sup>2</sup>	Δ R <sup>2</sup>	β
Step 1	.02		
IPP			.03
Low AGGR-r			.13
Low RC9			.16
Step 2	-.02	.03	
IPP			.01
Low AGGR-r			.16
Low RC9			.17
ODL			-.04
High SumT			.15
p			.09
Food			-.02

In the domain of Passivity/Dependency, MMPI-2-RF variables were entered into the regression equation first, with Rorschach variables being added in step 2. Analyses showed an incremental change of .03, or 3%, when adding the Rorschach to the MMPI-2-RF in this direction. This represents a weak increase in incremental validity in this direction.



Table 24

*Incremental Validity for Passivity/Dependency: Rorschach in First Model*

Variable	Adjusted R <sup>2</sup>	Δ R <sup>2</sup>	β
Step 1	-.04		
ODL			-.05
High SumT			.15
p			.05
Food			-.02
Step 2	-.02	.07	
ODL			-.05
High SumT			.15
p			.09
Food			-.02
IPP			.01
Low AGGR-r			.16
Low RC9			.17

When Rorschach Passivity/Dependency variables were entered into the hierarchical linear regression first, the addition of MMPI-2-RF variables displayed an incremental change of .07, or a 7% increase in predictive ability. This represents a mild increase in incremental validity when the MMPI-2-RF is added to the Rorschach in the domain of Passivity/Dependency.

Overall, weak evidence was shown for the incremental value of multimethod assessment in the interpersonal domain of Passivity/Dependency.

Tables 25 and 26 display the regression analysis results for the Insecurity/Avoidance domain.

Table 25

*Incremental Validity for Insecurity/Ineffectiveness: MMPI-2-RF in First Model*

Variable	Adjusted R <sup>2</sup>	Δ R <sup>2</sup>	β
Step 1	.09		
SFC			-.04
NFC			.42
HLP			-.10
Step 2	.09	.06	
SFD			-.04
NFC			-.09
HLP			.41
SumY			-.13
SumV			-.09
CDI			-.19
PER			-.00

Using the hierarchical linear regression in the domain of Insecurity/Ineffectiveness, MMPI-2-RF variables were entered into the regression equation first, with Rorschach variables being added in step 2. Analyses showed an incremental change of .06, representing a 6% predictive increment when adding the Rorschach to the MMPI-2-RF in this direction. This represents a mild increase in incremental validity.

(cont.)

Table 26

*Incremental Validity for Insecurity/Ineffectiveness: Rorschach in First Model*

Variable	Adjusted R <sup>2</sup>	Δ R <sup>2</sup>	β
Step 1	.01		
SumY			-.14
SumV			-.17
CDI			-.17
PER			.06
Step 2	.09	.12	
SumY			-.13
SumV			-.09
CDI			-.19
PER			.00
SFD			-.04
NFC			-.09
HLP			.41

When Rorschach Insecurity/Ineffectiveness variables were entered into the hierarchical linear regression first, the addition of MMPI-2-RF variables displayed an incremental change of .12, a 12% increase in added incremental variance. This represents a moderate increase in incremental validity.

Overall, mild to moderate evidence was shown for the incremental value of multimethod assessment in the interpersonal domain of Insecurity/Ineffectiveness.

Because two of the interpersonal domains contained dichotomous high/low variables (e.g., Low Afr; High SumT), a supplemental analysis using a binary logistic regression was conducted for the domains of Isolation/Avoidance and Passivity/Dependency. The OQ45.2’s interpersonal relations scale clinical cut-off score of 15 was used to dichotomize the outcome variable. Results indicated that the MMPI-2-

RF displayed strong incremental change when added to the Rorschach for the Isolation/Avoidance domain (estimated  $\Delta R^2 = 30\%$ ) and moderate incremental change in the Passivity/Dependency domain (estimated  $\Delta R^2 = 18\%$ ). The Rorschach provided minimal change in either the domain of Isolation/Avoidance (estimated  $\Delta R^2 = 4\%$ ) or Passivity/Dependency (estimated  $\Delta R^2 = 4\%$ ). These results may be better indicators of incremental validity for these two specific interpersonal domains than the linear regression results show.

### Discussion

Interpersonal dysfunction can have wide-ranging effects on people's lives, causing immense pain and extensive social/occupational/legal difficulties. It can manifest itself in many ways, ranging from social withdrawal at one end of the spectrum to antipathy toward others at the other end. The type and intensity of an individual's interpersonal dysfunction is best evaluated using personality measures such as the MMPI-2-RF and Rorschach, both of which contain multiple indices of disordered interpersonal functioning. Personality assessment research has shed light on various aspects of interpersonal dysfunction, helping to establish discernable patterns within this realm. From a theoretical perspective, Sullivan (1953) posited that all personality dysfunction arises from "interpersonal loneliness," which he considered the most intense negative consequence of the human experience. Interpersonal loneliness arises from the internalization of *all* past negative interpersonal experiences (Sullivan, 1953). Sullivan's "interpersonal loneliness" may then be said to represent an overarching frame within which discrete interpersonal dysfunction domains can be examined. Further research is necessary to study interpersonal dysfunction in greater depth, and personality assessment offers the best avenue for doing so. A specific area warranting further investigation concerns the use of multiple personality measures, involving different methodologies, to determine if their combined use improves the assessment of interpersonal dysfunction.

At a broad level, the current study aimed to examine facets of interpersonal disorder through combined use of the self-report MMPI-2-RF and performance-based Rorschach. Prior studies indicated that similar constructs measured by these tests are

unlikely to correlate highly with each other (Archer & Krishnamurthy, 1993a, 1993b; Krishnamurthy, Archer & House, 1996). This is due partly to method variance and partly to differences in the levels and facets of personality that each test measures. The results of the current study supported these findings, demonstrating a minimal number of significant MMPI-2-RF and Rorschach intercorrelations among the full range of interpersonal variables examined in this study. The aforementioned researchers also posited that there is potential for incremental validity when multiple methods of assessment are used. The MMPI family of instruments and the Rorschach have commonly been the subject of these studies of incremental validity. Thus, the central purpose of the current study was to continue this focus on an integrated approach to examine its yield.

The MMPI-2-RF and Rorschach variables for the study were selected based on their construct descriptions and were placed into four interpersonal domains that seemed the best fit: Hostility/Aggression, Isolation/Avoidance, Passivity/Dependency, and Insecurity/Ineffectiveness. This selection was completed with the recognition that the variables selected may fit into more than one category, and thus a “perfect fit” was unlikely. Nonetheless, the adequacy of variable selection was a necessary first step for validation and evaluation of the two hypotheses for the current study. Collectively, across each domain, the selection of variables was relatively well supported by a within-test correlational analysis, suggesting a reasonable selection of variables for each interpersonal domain. It should also be noted that the sample reflected an adequate representation of “interpersonal dysfunction” as a whole, as seen in the elevated MMPI-

2-RF mean scores for more than half of the selected interpersonal variables, the fact that Rorschach interpersonal variables could be coded for a substantial number of participants, as well as from clinically elevated OQ45.2 Interpersonal Relations scores in 57% of the sample.

The results for the study identified a distinct pattern among interpersonal dysfunction domains, discussed here with the caveat that several unexpected inverse correlations were found, which were not included in the analysis of results. Throughout the study, the interpersonal domain of Hostility/Aggression received at least moderate support in relation to the hypotheses. For the first focus of the study, MMPI-2-RF variables and Rorschach variables within the Hostility/Aggression domain correlated mildly to moderately higher with each other than across other interpersonal domains. In other words, Rorschach Hostility/Aggression variables correlated more strongly with their MMPI-2-RF counterparts than with other MMPI-2-RF interpersonal variables. The highest correlation was between MMPI-2-RF's *RC4* and Rorschach's *PHR*. *RC4* reflects antisocial behavior, acting out, and difficulty conforming to social norms. It also suggests a history of poor familial relations and poor achievement (Ben-Porath & Tellegen, 2008). *PHR* reflects patterns of ineffective or maladaptive interpersonal behaviors and is associated with interpersonal histories marked by conflict and/or failure (Exner, 2003). Other significant correlations occurred between the MMPI-2-RF's *AGGR-r* and the Rorschach's *S* and *HVI* scale. *AGGR-r* reflects general aggressive tendencies, while *S* reflects more subtle hostility and anger. *HVI* may reflect hypervigilance, suspiciousness of others, as well as an interpersonal discomfort or distancing. Overall, these findings

suggest undercurrents of anger and perceived threat as contributors to hostility and aggression. The second focus of the study was on whether the combination of the MMPI-2-RF and the Rorschach could provide incremental validity, advancing the knowledge gained by using just one test, in predicting interpersonal outcomes. The addition of either the Rorschach or the MMPI-2-RF in the Hostility/Aggression domain provided moderate to strong evidence for the use of multimethod assessment in assessing interpersonal dysfunction in this domain. Specifically, the MMPI-2-RF and the Rorschach Hostility/Aggression variables provided comparable levels of increment to each other in predicting to an interpersonal outcome measure. The results derived from this interpersonal domain suggest that this particular area of interpersonal functioning may be easier to identify and assess than other areas. Indeed, some early psychoanalytic literature suggests that the pathologically aggressive character is distinct in that his or her hostility is “bound by necessity...vengeance becomes a vital, coordinating principle on the basis of which [he or she] organizes life” (Daniels, 1969). A possible implication of this is that aggressiveness may be more viable for study, and more salient, than other interpersonal domains. One may consider the vast number of people incarcerated for aggression or hostility toward others, and its close relationship to anger and bouts of rage, as other indicators of the salience of this particular domain, and the importance of being able to recognize and assess for it in the most effective way possible.

Mild to moderate support was found within each aspect of the study concerning the Isolation/Avoidance domain. MMPI-2-RF and Rorschach interpersonal variables within this domain correlated mildly to moderately higher with each other than with



variables from other interpersonal domains, with the strongest correlation between Rorschach's *Low Afr* and MMPI-2-RF's *SAV* and *DSF*. *Low Afr* reflects a reluctance to engage in, or even an aversion to, emotional engagement. *SAV* and *DSF* both reflect a level of social avoidance and an unwillingness to associate with others. These findings support Millon et al. (2004)'s conceptualization of the interpersonally avoidant individual as operating under the assumption that emotional distance can guarantee safety, while placing trust in another, or being emotionally vulnerable, often invites pain. There was also mild to moderate support within this domain for the second hypothesis concerning incremental validity, with both the MMPI-2-RF and the Rorschach providing at least mild incremental value. Specifically, the MMPI-2-RF Isolation/Avoidance variables provided moderate levels of increment to their Rorschach counterparts in predicting the interpersonal outcome measure, whereas the Rorschach provided mild levels of increment to the MMPI-2-RF. Thus, the combined usage of the MMPI-2-RF and the Rorschach suggests at least mild contributions from each test in the domain of Isolation/Avoidance. This domain often involves complex interpersonal dynamics, and therefore, may particularly benefit from multimethod assessment. Interpersonal isolation or avoidance indicates a lack of interpersonal connectedness, either by choice or other circumstance. The impact of dysfunctional isolation or avoidance from others is particularly notable due to its proximity to the need for independence. The line between isolation/avoidance and independence is thin, and thus extra effort must be made in order to delineate between someone suffering from a lack of connection and someone dedicating himself or herself to achieving more independence.

Some minimal to mild support was found throughout the study for the area of Insecurity/Ineffectiveness. MMPI-2-RF and Rorschach interpersonal variables within this domain correlated minimally higher with each other than with variables in other interpersonal domains. There was also mild to moderate support within this domain for the second hypothesis concerning incremental validity, with both the MMPI-2-RF and the Rorschach providing at least mild incremental value to each other in predicting to an interpersonal outcome measure. Specifically, the MMPI-2-RF Insecurity/Ineffectiveness variables provided moderate levels of increment to Rorschach Insecurity/Ineffectiveness variables, while the Rorschach variables provided mild levels of increment to the MMPI-2-RF variables, in predicting to an interpersonal outcome measure. The combined usage of the MMPI-2-RF and the Rorschach suggests at least mild contributions from each test in the interpersonal domain of Insecurity/Ineffectiveness. Multimethod assessment application is likely to be particularly fruitful in this domain as well. Insecurity, low self-esteem, and a lack of ability to build positive and effective interpersonal relations is indeed an extremely troubling area of interpersonal dysfunction. This particular area, perhaps more so than the others, portends a *desire* to find positive connection, and therefore it is imperative that this area be examined in-depth in order to understand how to relate to the insecure individual and improve their history of ineffectiveness in social relations. Insecurity and ineffectiveness in interpersonal relationships is also perhaps the broadest category. Many hostile, avoidant, and dependent individuals may also feel insecure. Thus, the construction of this as a separate domain may address a need for further identification and classification in this area. Although the current study provided

minimal to mild evidence toward this end, this interpersonal dysfunction area in particular should continue to be empirically examined.

The interpersonal domain of Passivity/Dependency received relatively little support in both of the two central hypotheses. MMPI-2-RF and Rorschach interpersonal Passivity/Dependency variables within this domain did not correlate positively at a higher rate with each other than with variables in other interpersonal domains. There was also minimal support within this domain for the second hypothesis concerning incremental validity, with both the MMPI-2-RF and the Rorschach Passivity/Dependency variables providing little incremental value from their combined usage. The reason for the lack of support found in the interpersonal domain of Passivity/Dependency is unclear. It may be attributed partly to the choice of variables. In the current study, the Passivity/Dependency domain was the least robust, containing the fewest number of variables (7) compared to variables of other interpersonal dysfunction areas such as Aggression/Hostility (14), which was proportionate to their representation in the MMPI-2-RF and the Rorschach. The poor results concerning this interpersonal domain may also be due to variability in the presentation of the passive/dependent individual. For example, Biceaga (2013) found that interpersonally passive individuals can become internally paralyzed with depressive feelings or apathy and retreat to a life of inactivity. However, Millon et al. (2004) observed the *passive-aggressive personality pattern*, which may manifest interpersonally in the vacillation between loyalty to the other and sabotage. Thus, this particular interpersonal dysfunction domain may be representative of a number of different interpersonal features. The previous literature and the results of the current study suggest

a more nuanced approach be taken when assessing for interpersonal dysfunction within more passive or dependent populations.

Overall, this study's results show a degree of support for the first hypothesis, specifically within the interpersonal domains of Hostility/Aggression and Isolation/Avoidance, although the evidence was not compelling. More support was shown for the second hypothesis, suggesting the use of multiple methods of assessment may prove fruitful when assessing for dysfunction in specific interpersonal domains. The MMPI-2-RF was shown to have moderate incremental validity when added to the Rorschach in the domains of Isolation/Avoidance and Insecurity/Ineffectiveness, and potentially in Passivity/Dependency as seen from the alternate logistic regression analysis results. The Rorschach provided strong incremental validity when added to MMPI-2-RF Hostility/Aggression variables. Each method has its particular benefits. Self-report inventories assess characteristics that are generally within an individual's awareness, whereas performance-based measures tap into personality patterns that individuals may not recognize as being typical of them (Ganellen, 2007).

The implications of the study's overall findings are two-fold. First, they reflect the complex nature of interpersonal dysfunction (Heider, 1958; Yalom, 1995). The complexity of the many interconnected facets of interpersonal relations was observable throughout this study. While efforts have been made in the field of clinical psychology to differentiate symptomology and organize them into distinct categories in order to guide diagnosis and treatment, the study suggests, in part, that interpersonal dysfunction lies more on a continuum than in discrete categories. Passive-aggression, over-controlled

hostility, and insecure dependency are all examples of the various ways in which domains of interpersonal dysfunction may overlap with each other. The second implication that arises when examining the results concerns the use of assessment to measure these domains. Previous literature suggests there is in fact some element of connectivity among interpersonal dysfunction domains, and that the use of multiple methods of data collection, particularly the combination of self-report and performance-based methods, may be better able to detect a particular area of dysfunction. Thus, there is a paradox between these two findings. There exists a need to view interpersonal dysfunction as existing on a continuum, and also a need to extract data through assessment concerning specific areas of interpersonal dysfunction. The present study provides some promising evidence that the use of multimethod assessment may be able to aid in interpretation toward this end.

Limitations of the study begin with the size and demographics of the sample. Specifically, 65 valid protocols limited the ability to adequately represent Rorschach variables, as the low frequency of some variables such as *Food* ( $n = 5$ ) limited the statistical power in both the correlational and incremental validity analyses. Another common limitation endemic to studies using the Rorschach is the range restriction of certain variables, such as the aforementioned *Food* variable and *SumV*, and this was also experienced in this study. Another limitation related to the diagnostic demographics of the sample, as descriptive statistics showed participants generally presented to the outpatient clinic with feelings of depression or substance use disorder, and usually were not diagnosed with a personality disorder or other clearly delineated diagnosis of

interpersonal dysfunction. With testing data indicating the majority of the sample did experience some form of interpersonal problems, this lack of consistency represents a possible limitation in this study. Lastly, a limitation arose from the fact that the majority of the scoring for this outpatient sample was completed by graduate students in training, with relatively limited experience with personality assessment. This may have increased the error attached to assessment scores, particularly from the more complex Rorschach scoring systems. It might also account, at least partly, for the unexpected direction of some correlations found in this study.

Future research may wish to focus more specifically on populations known to have some type of disturbed interpersonal functioning, with personality disorders being the most apparent next step. For example, areas such as Hostility/Aggression and Isolation/Avoidance were quite cohesive domains, correlated reasonably well between measures, and represented a moderate increase in incremental validity. These results may suggest that the domains of Hostility/Aggression and Isolation/Avoidance are more concrete in their definitions and overt in their manifestations relative to Passivity/Dependency and Insecurity/Ineffectiveness, and thus more easily recognizable in the assessment of personality across methods. This would indicate that a more in-depth study of populations in which these two interpersonal domains are deemed to be highly dysfunctional, such as Antisocial Personality Disorder and/or Avoidant Personality Disorder, could be useful for future studies. Future researchers may also wish to include secondary outcome measures more specific to certain domains of interpersonal dysfunction, as opposed to the general interpersonal outcome measure utilized for this

study. Lastly, future research may look to expand upon the possible incremental value between the two measures used in this study, the MMPI-2-RF and the Rorschach (with a combination of CS and R-PAS variables). Multimethod assessment of these two specific measures could benefit from additional study, both within and outside of the interpersonal realm.

In summary, the complex nature of interpersonal dysfunction begs further exploration. Certainly, most patients that walk through the door are suffering from some type of social or interpersonal difficulties, be it with a current partner or the lack thereof, and with the need for someone to be close to or the need to achieve greater independence from someone close. Most clinical assessors would not doubt the additive value of the use of multiple methods of assessment. The combined use of different types of assessment data (e.g., self-report, performance-based, etc.) can only further help to understand the client's personality and interpersonal perspective, and advance therapeutic gains in this regard. The current study displayed some promising trends toward quantifying the value of multimethod assessment for interpersonal dysfunction toward this end, as well as in evaluating for incremental validity.

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