

Adult attachment theory and Rorschach Inkblot method: A systematic literature review

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Summary

This study systematically reviewed the association between the Rorschach Inkblot Method and attachment theory, to investigate whether empirical findings have found if responses from the Rorschach Inkblot Method can provide information on constructs of attachment theory. The motivation for this study is based on the fact that, although both the Rorschach Inkblot Method and attachment theory have been empirically explored separately, as well as regarding the various links between the two subjects, varying links between the two have been indicated (Shaver, Segal, Berant & Mikulincer, 2005). Therefore, the review aimed to find the most consistent, reliable and valid links between the Rorschach Inkblot Method and attachment theory, and it systematically and critically reviewed studies on the Rorschach Inkblot Method that measure the constructs of the attachment relationship or attachment representations (Shaver et al., 2005).

The following objectives were set in order to reach the aim of the study, which was to determine which variables of the Rorschach are associated with adult attachment constructs: Firstly, to critically review available literature concerning the association between the Rorschach Inkblot Method and attachment theory; and secondly, to critically review studies on the Rorschach Inkblot Method measure variables, that measure constructs of the attachment relationship or attachment representations.

The question that guided this research was: How are variables in the Rorschach Inkblot Method associated with adult attachment theory constructs?

Literature, specifically published between 1974 and 2015, relevant to the aim and question of the study was retrieved, while ignoring irrelevant literature. Data

collection involved a search strategy, which entailed the selection of specific key or search words or terms; proposed resources such as databases and manual searches, as well as the formulation of inclusion and exclusion criteria.

The researcher formulated the selection criteria to retrieve studies relevant to the research question in order to ensure that the research is comprehensive and specific, while excluding irrelevant research material. The first author, using the research question as well as the inclusion and exclusion criteria, systematically searched and selected relevant literature titles, followed by the selection of relevant abstracts from the selected titles and lastly the relevant full texts for the study. An independent reviewer followed the same steps. The lists of the selected titles, abstracts and texts were compared for consensus.

Through critical appraisal, the selected articles were assessed for quality and relevance. In total, 17 Rorschach variables were identified in the nine studies with varying strengths in their associations with adult attachment. The most significant variables identified as linking with attachment were the texture response variable, the oral response and the Rorschach oral dependency. The studies' sample sizes ranged from single case studies to a medium sample size ($n=224$). A limitation of the studies was the fact that they all made use of Exner's Comprehensive System, which is not the latest Rorschach interpretation tool; in addition, all the studies used attachment assessment tools, which were self-report measures (Cassella & Viglione, 2009; Iwasa & Ogawa, 2010).

Assessments of attachment are currently done through the use of the AAI and the AAP, which require specialized training that is expensive. The Rorschach is more accessible and versatile, and does not have cultural barriers and has been used in

South Africa (Moletsane, 2004); therefore finding valid Rorschach variables that correlate with attachment constructs will have incredible implications on the practice and policy of Psychology.

Preface

- This dissertation is in article format, complying with the requirements of the Manual for Masters and Doctoral Studies, October 2015 as determined by the North-West University.
- The referencing and editorial style of this dissertation conform to the guidelines set out in the Publication Manual of the American Psychological Association (6th ed.). The article will be compiled according to the guidelines of the journal to which the article will be submitted.
- The article will be submitted for possible publication in the Journal of Rorschachiana.
- In order to present the dissertation as a unit, the page numbering is consecutive, starting from the introduction and proceeding to the references.
- Ruan Spies, PhD, and Cristel Vosloo, co-authors of the article comprising this dissertation, have provided consent for the submission of this article for examination purposes for an MCLIN Psychology degree.

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DECLARATION ON EDITING

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Chapters 1 to 3 of the above dissertation was submitted to me for language editing, which was completed on 6 July 2017.

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PERMISSION LETTER FROM SUPERVISOR

Permission is hereby granted for the submission by the first author, Pholly Debra Zizi of the following article for examination purposes, towards the obtainment of a Matsre's degree in Clinical Psychology:

Adult attachment theory and Rorschach Inkblot Method: A systematic literature review

The role of the co-authors were as follows: Dr. R. Spies acted as supervisor and project head and Ms. Cristel Vosloo acted as co-supervisor of this research inquiry and both of them assisted in the peer review of this article.



Dr. R. Spies

Supervisor

ORIGINALITY REPORT

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Chapter 1: Introduction and contextualization of study

Introduction

The focus of this study was to perform a systematic review of the associations between the Rorschach Inkblot Method (the Rorschach) and adult attachment theory. Specifically, this study aims to explore which Rorschach variables are associated with attachment constructs as well as to report on the strengths of these links for the purpose of providing guidance to psychological practice. This study was motivated by the premise that although both the Rorschach and attachment theory have been empirically explored separately, and studies have been performed regarding the various links between the two subjects, findings have been inconsistent and the strength of associations between the two varied among individual studies (Shaver, Berant, Mikulincer, & Segal, 2005). Therefore, this review was aimed at finding the most consistent and valid links between the Rorschach and attachment theory, and critically reviewing studies on the Rorschach that measure the constructs of the attachment relationship or attachment representations (Shaver et al., 2005). In the final instance, this mini-dissertation will provide guidance to psychological practice and future research, based on the significance of associations between attachment constructs and the Rorschach (Berant & Wald, 2009).

Contextualization

This study was performed by collecting relevant literature and critically analyzing and synthesizing findings so as to answer the question: "How are variables

of the Rorschach significantly associated with adult attachment theory constructs and how can these findings be used in psychological practice?"

Aim of the study

The study aimed to explore the significance of the relationship between variables of the Rorschach and adult attachment theory constructs in order to provide guidance to psychological practice. The aim was reached through adherence to the following objectives:

- Critically reviewing available literature concerning the links between the Rorschach and adult attachment theory; and
- Critically reviewing studies on the Rorschach variables that measure constructs of the attachment relationship or attachment representations.

Problem statement and orientation

Attachment

John Bowlby, a British psychiatrist, developed the attachment theory in 1969 (Daniel, 2009). The theory is concerned with the organization of the attachment behavioral system in the infant and its development later in life into mental representations of early attachment figures, based on early experiences of the availability and responsiveness of these attachment figures to the person's physical and emotional needs (Cassidy & Shaver, 2008). The theory is rooted in the philosophical assumptions of biological evolution, cybernetics and ethology (Fearon & Roisman, 2017).

While developing the attachment theory, Bowlby became aware of animal studies such as Lorenz's study (1935, as cited by Cassidy & Shaver, 2008) and

Harlow's study (1958, as cited by Cassidy & Shaver, 2008) on rhesus monkeys, which indicated that animals did not become attached solely to satisfy biological needs. Human infants were observed, and it soon became evident that human infants too became attached to people who did not offer food (Ainsworth, 1967; Schaffer & Emerson, 1964, as cited by Cassidy & Shaver, 2008). According to Bowlby (1969, as cited by Cassidy & Shaver, 2008), appropriate responsiveness to crying and readiness to interact socially are essential determining variables regulating who will serve as an attachment figure. A sensitive and responsive attachment figure offers security and is a safe haven when in distress and as such Bowlby came to the conclusion that in addition to the provision of biological needs, emotional availability and sensitivity are pivotal factors in the development of an attachment relationship (Hesse & Main, 2000). A great deal of empirical evidence indicates that attachment patterns are not solely attributable to genetic factors (Vaughn & Bost, 1999, as cited by Daniel, 2009), but are determined by the quality of early infant-caregiver relationships (Cassidy & Shaver, 2008).

Attachment includes the process of forming and maintaining an emotional bond with parents or significant others (Mash & Wolfe, 2013). Attachment behavior is behavior aimed at increasing closeness to attachment figures during times of distress or danger, and the attachment behavioral system is the organization of these behaviors in the individual (Mash & Wolfe, 2013). Cassidy and Shaver (2008) describe the attachment bond as an affectional tie. Bowlby hypothesizes that infants are pre-adapted to engage in relationship-enhancing behaviors, such as smiling, crying and clinging, while adults exhibit complementary attachment-promoting behaviors (Mash & Wolfe, 2013). Bowlby speculates that complementary behavioral systems of attachment between infants and their primary caregivers maintain infants'

relations to those caregivers in times of danger or threat (Cassella & Viglione, 2009). These first attachment relationships become crucial as the child builds up a reservoir of attachment-related memories with primary caregivers that later in life forms the child's internal working model that is carried forward into adult relationships as attachment representations (Mash & Wolfe, 2013). These attachment representations collectively become the adult person's attachment style (Bartholomew & Horowitz, 1991)

From its inception, attachment theory developed over time into two traditions of measuring and describing adult attachment. The first tradition, initiated by Mary Main and her colleagues, maintained a developmental approach in line with the original authors of attachment theory, with the focus on retrospective descriptions of parent-child relationships, using interview measures such as the Adult Attachment Interview (AAI) instead of self-report questionnaires (Bartholomew & Horowitz, 1991; Bartholomew & Shaver 1998; Ravitz, Maunder, Hunter, Sthankiya & Lancee, 2010). The second tradition followed a social psychology approach and focused on adult romantic and intimate relationships with a preference for the use of self-report questionnaire measurements such as the Experiences in Close Relationship Scale (Bartholomew & Shaver, 1998; Brennan, Clark & Shaver, 1998). A reviewer of adult attachment literature would thus have to be cognizant of the differing views and focuses of the two traditions in order to infer accurate interpretations from the literature, as well as to appraise the validity and reliability of the measurements as these differ (Ravitz et al., 2010).

In the first tradition, where the focus is on the assessment of attachment states of mind in the context of parenting behavior, i.e. the developmental approach, the gold standard of measurement remains the AAI (Main, Hesse & Hesse, 2011).

With superior validity and reliability, this measurement requires the skills of a trained observer to code data generated from an interview into four categories, namely, a) secure/autonomous, b) avoidant/dismissing and c) anxious/preoccupied, with a fourth category that is unclassifiable and occurs in the context of loss, trauma or abuse (Ravitz, Maunder, Hunter, Sthankiya & Lancee, 2010). The AAI examines adult mental representations of attachment while exploring experiences from childhood (Ravitz et al., 2010). Individuals' attachment is coded according to how they describe their parents, as loving, rejecting, involved or pressuring; and according to the coherence of their discourse (Ravitz et al., 2010; Hesse, 1999; George, Kaplan & Main, 1996). In their discourse individuals may idealize attachment figures, have problems recalling details, experience fear of loss and anger or their discourse may involve derogation of their parents or attachment (Ravitz et al., 2010; Hesse, 1999; George, Kaplan & Main, 1996). Individuals with different attachment styles communicate and perceive their attachment relationships differently. Secure/autonomous individuals value close relationships and are able to describe their relationships in a coherent, internally consistent and non-defensive manner (Ravitz et al., 2010). These individuals are able to think about attachment distress and are comfortable with reaching out to attachment figures for comfort and help (George & West, 2011). Individuals displaying dismissing/avoidant attachment minimize the importance and personal impact of relationships and their descriptions of their relationships are defensive (Hazan & Shaver, 1987). Individuals with preoccupied attachment experience anxiety about their relationships with their parents, and have ambivalent and incoherent recollections of their past; their responses are confused and undecided (George & West, 2011). The fourth category is the unresolved/disorganized category, where individuals indicate trauma due to

unresolved loss or abuse (Ravitz et al., 2010; Hesse, 1999; George, Kaplan & Main, 1996).

The second tradition in adult attachment theory focused on intimate relationships, based on the two-dimensional representation of individual differences in adult attachment and made use of self-report questionnaires (Brennan, Clarke & Shaver, 1998; Fraley & Shaver, 2000, as cited by Roisman, Holland, Fortuna, Fraley, Clausell, & Clarke, 2007). The two-dimensional model is based on the notion that there is variation in attachment related to (i) anxiety (which is the extent to which individuals are anxious about their significant others' availability and responsiveness), and (ii) avoidance (which is the degree to which people are comfortable in depending on their significant others) (Baumgardner & Crothers, 2010).

Individuals scoring high on the anxiety dimension can be classified as preoccupied, fearing abandonment and rejection, which may lead to the development of low self-esteem and a negative self-view. This is then associated with anxiety in close relationships (Baumgardner & Crothers, 2010). Preoccupied individuals lack a sense of worthiness; however, they perceive others more positively and seek others' love and acceptance (Cash et al., 2004). These people are experienced as clingy and needy, even though they may seem sensitive and supporting. Their behavior stems from their own self-centered needs rather than from genuine concern about their partner's availability (Baumgardner & Crothers, 2010). Their fear of rejection may lead to controlling behavior in romantic relationships and they may experience intense jealousy (Forsyth, 2010).

Individuals scoring high on the avoidance dimension can also be classified as dismissing of attachment. They tend to struggle to trust others and they feel uncomfortable with intimacy or being around others, as they place high value on independence and self-reliance (George & West, 2012). Individuals with dismissing avoidant attachment display a lot of avoidance and little anxiety (Baumgardner & Crothers, 2010).

Secure adults are those individuals who have little anxiety and avoidance within romantic adult relationships (Baumgardner & Crothers, 2010). Secure individuals have a sense of self-worth and are comfortable with both intimacy and autonomy (Cash, Theriault, & Annis, 2004). These individuals enjoy forming intimate close relationships with others and are not burdened with the anxiety of being abandoned or rejected by others (Forsyth, 2010). The intimate and romantic relationships of these individuals are characterized by mutual responsiveness, in which closeness is appreciated, while maintaining a sense of self (Conklin, Malone & Fowler, 2012).

Lastly, the disorganized attachment style describes individuals who score high on anxiety and anxiety (Baumgardner & Crothers, 2010). Their negative self-view and fear of being unlovable are strong motivations to avoid closeness and intimacy with others (Baumgardner & Crothers, 2010). This attachment style is linked with a myriad of interpersonal difficulties, including unwillingness to provide comfort and support to others, therefore others experience these people as emotionally distant and even hostile (Webster & Joubert, 2011).

Measures of adult attachment, such as the AAI and the Adult Attachment Projective exist, but require extensive training, which is time-consuming and costly

(George & West, 2011) and the number of trained scorers is still relatively small (Mikulincer & Shaver, 2010). Self-report measures of attachment that exist depend on conscious processes, instead of unconscious processes that form part of the operation of the attachment behavioral system (Berant & Wald, 2009). However, individuals' subjective verbalizations of their lives are often distorted in attempts to keep some aspects of their attachment-related distress deflected (George & West, 2012). They transform thoughts, behaviors and emotions to shift attention away from attachment distress or they defensively keep them locked away from consciousness (Hesse & Main, 2006). Projective measures uncover these distortions and unlock certain elements to see through the individuals' defensively constructed subjective constructions (Finn, 2011). These measures access both conscious and unconscious thoughts, unlike self-report measures that rely on conscious processes (Hesse & Main, 2006).

Research and studies of attachment have made major contributions to psychology and concepts of attachment theory have been integrated into various psychological theories such as the object-relations theory. Knowledge of attachment theory is in addition helpful to psychotherapists of any orientation when making sense of the appearance of anxiety in relational contexts, as well as when working with parents and children (Liotti, 2011). For this reason the assessment of attachment needs to form an integral part in the management of cases in psychological practice; however, all of the measurements to date have been developed for research purposes and few psychologist make use of them in addition to their standard assessment batteries (Fearon & Roisman, 2017; Main, Hesse & Hesse, 2011). The Rorschach is a useful assessment tool that forms part of the

existing repertoire of many clinicians and therefore its potential use as an attachment measurement will be to the benefit of psychological practice.

Rorschach Inkblot Method and attachment

Hermann Rorschach, a Swiss psychiatrist, began to show inkblots to patients treated in the Krombach Mental Hospital in Switzerland and his findings were then published in 1921 (Weiner, 2003). Rorschach based the method on the children's game Klecksographie, also known as Blotto, which uses word and story associations from ink images blotted onto cards (Framingham, 2011). Using a deck of cards made up of black and white or colored inkblots, patients are asked to describe what image they see on the inkblot. Then a coding system developed by Rorschach scores these responses Rorschach (Lal, 2011). Rorschach viewed it as a method to assess cognitive structuring; however, years after his death it was recognized that the inkblot method could assess many more aspects of personality functioning (i.e. manners of perception and their association to personality and psychopathology) (Hertz, 1992) than only cognitive structuring (Weiner, 2003). Since then, the Rorschach has contributed enormously to the comprehension of the human mind and it is a unique method of magnifying human psychology and psychopathology (Yazigi & Nashat, 2012; Wood, Lilienfeld, Nezworski, Garb, Allen & Wildermuth, 2010), such as understanding of internal aspects that could lead to suicide (Laimou, 2012) and unconscious or implicit processes relevant to psychopathy (i.e. self-concept and unconscious drives (Wood, et al, 2010).

In the interpretation of the structural variables provided by the Rorschach responses, the Rorschach also reveals information concerning attachment bonds in adult relationships (Weiner, 2003). Various interpretation systems (i.e. Klopfer,

Ainsworth, Klopfer & Holt, 1954) have been developed for the Rorschach. In the 1960s John Exner continued Rorschach's study of inkblot assessments and developed a better organized coding system known as Exner's Comprehensive System (CS) (Wood et al, 2010). The CS offers various structural variables that can be assessed in the Rorschach (Weiner, 2003). Other studies do not use the CS; instead they assess the Rorschach responses according to psychoanalytic concepts such as ego boundary and defense mechanisms.

The most recent interpretation method used is the Rorschach Inkblot Performance Assessment System (R-PAS) (2011) that is based on the CS and further developed by four members of the Rorschach Inkblot Method Research Council (RRC) (Meyer & Eblin, 2012). The members of the RRC developed the R-PAS as an evidence-based approach to using the Rorschach, stemming from the latest research (Meyer et al., 2011b, as cited by Meyer & Eblin, 2012). The R-PAS focuses on behavior; it seeks to use the Rorschach as a complex behavioral assessment measure that provides a way of systematically perceiving and evaluating personality in action. This measuring system aims to increase the psychometric underpinning of the Rorschach, while at the same time providing a stronger evolving psychometric foundation within which administrators and examiners can interpret the rich communication, imagery and interpersonal behavior (Meyer & Eblin, 2012). Literature indicates that the Rorschach can assess attachment constructs (Berant & Wald, 2009).

Projective measures are not contaminated by self-serving biases, as in the case of self-report measures, because projective measures are unstructured and encourage responders to respond freely (George & West, 2012). Furthermore, projective measures have a decreased risk of exaggerations and diminutions of

experiences and they reveal rich information about interpersonal and behavioral dimensions, revealing patterns of unconscious and automatic defensive processing that lead to reliable interpretation (Leichtman, 2004, as cited by George & West, 2012). Projective measures have been criticized for being subject to interpretive bias and their validity and reliability soundness have been questioned; however, large-scale studies demonstrate that projective measures are a valid form of assessment, especially when interpretation has strong theoretical foundations (McClelland, Atkinson, Clark & Lowell, 1953, as cited by George & West, 2012). In the case of the Rorschach, it has an extensive theoretical foundation that is used for its interpretation, for instance the CS (Berant & Wald, 2009) and the R-PAS (Meyer & Eblin, 2012).

According to the CS, relationships between people involve the ability to sustain a reasonable level of interest, involvement and comfort in interacting with others, anticipation of intimacy and security in these interpersonal interactions, balancing of collaboration and acquiescence with competitiveness and assertiveness in relating to other people and the perception of people and social situations in an accurate and empathic manner (Weiner, 2003). Adults with secure attachment styles are confident in themselves and in their relationships, therefore their needs are satisfied (Baumgardner & Crothers, 2010). The intimate and romantic relationships of these individuals are characterized by more trust and intimacy, when compared to the other styles (Baumgardner & Crothers, 2010). They are also sensitive and supportive of their partners' needs (Baumgardner & Crothers, 2010).

A number of studies have investigated the relationship between attachment constructs and Rorschach scores (Cassella & Viglione, 2009; Iwasa & Ogawa, 2010; Mikulincer, Shaver & Segal, 2005; Berant & Wald, 2009; Duberstein & Talbot, 1993).

One such Rorschach score is the *Sum H*, which determines the extent to which individuals are attentive and feel comfortable in relationships with others (Exner, 2003). People indicate their level of attentiveness to others by the total number of human contents they provide (*Sum H*) (Weiner, 2003). A *Sum H* of above 3 indicates average interpersonal interest and a *Sum H* of below 3 indicates limited interest in people, which may be indicative of the person's attachment style (Weiner, 2003). Other variables of the Rorschach include the anticipation of interpersonal intimacy, which is measured with the texture determinant (*Sum T*), and security, which is measured with the hypervigilance index (HVI) (Weiner, 2003). The HVI is associated with approaching the world with alarm and suspicion, leading to people carefully guarding the boundaries of their personal space (Berant & Zim, 2013). The texture (T) determinant is coded for responses involving tactual sensation, for example some property of an object that a person can touch and feel, which might have implications for the interest to reach out and touch someone, whether physically or psychologically (Exner, 2003). The texture response differentiates between comparative desires for closeness and contact in relationships (Exner, 2003). Consequently, the texture response being regarded as a measure of desire for interpersonal contact and closeness (Beck & Molish, 1967; Klopfer, Ainsworth, Klopfer & Holt, 1954; Exner, 2003; Kataguchi, 1987) led to studies investigating the texture response as a possible measure of attachment constructs (Cassella & Viglione, 2009; Iwasa & Ogawa, 2010).

In addition, Shaver et al. (2005) studied links between self-reports of attachment, related specifically to the anxious-avoidant and anxious-resistant attachment patterns and responses to the Rorschach. They examined whether the motivational, cognitive and affective characteristics manifested within the anxious-

resistant and anxious-avoidant attachment bonds were revealed in the same way in people's Rorschach responses. In this study, participants completed self-report measures of the two attachment bonds. The Rorschach was administered and the participants' responses were coded using CS scoring (Weiner, 2003). The study indicated that a configuration of seven Rorschach scores constitutes the basic affective and cognitive processes related with hyperactivating strategies used by people with anxious-resistant attachment. The seven Rorschach scores are an appeal to emotional situations (Afr), problematic emotional regulation (CF), experiencing intrusive negative affect (color shading blends), vulnerability to situational stressors (m), sense of helplessness (Y), problems in maintaining a positive self-image (MOR) and adopting a dependent relational position (food) (Shaver et al., 2005). A constellation of four Rorschach scores is indicative of deactivating strategies of anxious-avoidant attachments. People using deactivating strategies score low on FM which means they lack the ability to acknowledge and express their primary needs, and they score high on the L, Cg and fr+rF score. The L indicates a disengaged attitude to reality, Cg indicates a tendency to hide behind a facade and fr+rF refers to maintaining a grandiose, inflated self-representation (Shaver et al., 2005).

Berant and Wald (2009) extended the scope of the above study by not only looking at comprehensive scores in relation to attachment, but also reviewing boundary constructs, defense processes and alternative CS scores. The boundary representations concept (Fisher & Cleveland 1958, as cited by Berant & Wald, 2009), posits that the manner in which people describe the boundaries in the Rorschach reflects how they feel about their ego boundaries. For example, permeable boundaries correlate with an anxious (insecure-resistant) attachment

style, because these persons seek to merge with others because of insecurity (Berant & Wald, 2009). Berant and Wald (2009) also used a Rorschach scoring system to measure specific operations presumed to characterize defensive functioning. Lerner and Lerner (1980), for example, measured defenses and tested the hypothesis that individuals with an insecure-resistant style used projective identification. This defense mechanism involves the capacity to blur boundaries between the self and the other and the need to control the other, which correlate with the basic characteristics of an individual with an insecure-resistant attachment style.

Insecure-avoidant individuals were hypothesized to use devaluation and splitting. Devaluation refers to depreciating and tarnishing the importance of one's inner and outer objects (Lerner, 2005). People who use this defense mechanism view others as unavailable or unsupportive, therefore they depreciate others to feel more independent in order to preserve their own self-esteem (Berant & Wald, 2009). These behaviors are characteristic of individuals with an insecure-avoidant attachment style. Splitting refers to the polarisation of drives, affects, internal object models and external object relations (Robbins, 1976). It manifests in the tendency to view and describe the self and other people in overruling polarities (Pruyser, 1975). Individuals with an avoidant attachment style defend themselves against feeling negative emotions, so they tend to consider themselves in grandiose and positive terms, and they tend to regard others in a negative manner (Mikulincer & Horesh, 1999).

Duberstein and Talbot (1993) studied the relationship between orality in the Rorschach responses and attachment styles. Oral responses contain food and drink ("ice-cream" or "water" for instance), oral activity ("people talking") and food organs ("mouth" or "tongue"). In their study, they administered the Rorschach and the

Attachment Questionnaire, counted the number of oral responses in the Rorschach and then examined whether the number of oral responses could differentiate among the attachment styles (Duberstein & Talbot, 1993). Their findings were inconsistent.

Conclusion

There is extensive literature on both the Rorschach and attachment theory (Berant & Wald, 2009; Weiner, 2003; Duberstein & Talbot, 1993; Iwasa & Ogawa, 2010; Cassella & Viglione, 2009; Shaver et al., 2005). The literature indicates that various links exist between the Rorschach and attachment theory; however, some of the available research reached inconsistent findings and other studies indicated links of varying strengths among them. Therefore, this systematic review was conducted not to find new empirical findings but to synthesize and integrate existing findings and to appraise the varying strengths between the different links that exist comprehensively. A systematic review allows the researcher to summarize available evidence on the topic by identifying, appraising and synthesizing literature to best answer the question guiding the research (Melnik & Fineout-Overhot, 2005).

Literature on the links between the Rorschach responses and attachment constructs are therefore not conclusive, especially in respect of the specific and consistent variables in the Rorschach that capture the differences in attachment dimensions. Adult attachment measurements exist, but their application is limited to measuring attachment, and in especially developing countries training opportunities to apply them are limited and costly. The Rorschach is more versatile in its application to measure a wide spectrum of interpersonal and intrapsychic processes, of which attachment may be part. An additional benefit of using an inkblot is that the ambivalence of the image makes the respondent less susceptible to defensive

responses (Weiner, 2003). The Rorschach may have the potential to supplement attachment assessment, if valid and reliable links between the Rorschach and attachment constructs are found. Therefore the research question is how variables in the Rorschach are associated with adult attachment theory constructs and how a critical appraisal of the literature concerning these links can promote its use in psychology practice.

Ethical considerations

The study was a systematic review, therefore no participants were sampled for the study, as reports on research studies, qualitative and quantitative studies and articles were the unit of analysis. Shaughnessy, Zechmeister and Zechmeister (2012) provide the following ethical guidelines to follow when doing research: firstly a researcher must communicate findings in peer-reviewed scientific journals. Secondly, when deciding who should receive publication credit, the researcher must base his/her decisions on the scholarly importance of the contribution (Shaughnessy et al., 2012). Therefore, the researcher acknowledged individuals who contributed to the research in a fair manner. The researcher also recognized the work of others by using correct and proper citation and referencing (Shaughnessy et al., 2012). This means using quotation marks when material is taken directly from the source and citing secondary sources when the original source was not consulted (Shaughnessy et al., 2012).

The researcher, in this study, took on the responsibility to carry out high-quality and competent research. Two research supervisors at the North-West University, Potchefstroom Campus, supervised this study. The researcher agreed to conduct an

ethical systematic review based on the guidelines of Brink *et al.* (2006) and Burns and Grove (2005).

The knowledge of experts in the field was sought to minimize publication bias and to conduct a comprehensive systematic review, which included all the sources and literature on the subject of interest, in this case the Rorschach and attachment theory constructs, and the associations between the two.

The selection criteria for the inclusion and exclusion criteria as set out in the methodology section of Chapter 2 protected this study from investigator bias, in other words protected the researcher from choosing studies on the basis of their results. To prevent bias, the selection criteria was set during the planning of the systematic review in the protocol (JBI, 2001, Kitchenham, 2004).

During the critical appraisal, both rigorous primary studies and other rigorous research studies (such as systematic reviews) were included, in order to ensure that the research results would be valid and rigorous. The evaluation of the quality of the primary studies took into account the degree to which the study minimized bias and maximized internal and external validity. The critical appraisal of the studies was based on the following criteria: allocation bias, performance bias, attrition bias and detection bias by means of the critical appraisal tool as discussed in the methodology of Chapter 2. Allocation bias is caused by the process of selecting and allocating participants to study groups, which results in differences between the treatment and control groups. Performance bias is caused by evaluating the differences in the treatment of the study participants instead of the intervention being evaluated. Attrition bias is caused by loss of participants from the study, which causes a difference between the treatment and control group. Detection bias is

caused by the way in which treatment and control groups are being measured to determine their outcomes (JBI, 2001; Kitchenham, 2004).

For data collection all the relevant data were extracted and the process was systematically recorded. The findings of the study were reported in a complete manner and presented in a way that minimized bias and that would be understandable (JBI, 2001; Kitchenham, 2004).

For the systematic review to be transparent and replicable, the researcher documented the process in sufficient detail, so that the readers would be able to assess the thoroughness of the search. Furthermore, the research process was documented as it occurred and changes were noted and justified. According to Burns and Grove (2005), auditability is part of ensuring rigor. This was done by ensuring that every detail of the research study was reported, so that a future researcher will be able to get similar results when conducting the same study although new studies are published very often and a follow-up systematic review will probably yield different results.

In this study the researcher aimed to

- be honest, accurate and integrative by strictly adhering to the ethical principles by keeping a detailed record of the review and reporting the research findings in an unbiased manner for audit purposes;
- be honest, by avoiding fabrication, falsification and plagiarism, by including the correct and full bibliographic details in the list of references, as well as referring correctly and giving credit in the text to the authors and study material used; the researcher will diligently comply with the NWU policy on plagiarism and intellectual property;

- be respectful towards the community by following the fundamental ethical principles of protecting the scientific knowledge gathered from it and showing respect for the information sources and databases by handling all information with confidentiality and responsibility;
- use sound scientific data sources that will be traceable, accessible and relevant for audit purposes, keep a well-documented record of all the databases searched and used, as well as the search results and inclusion and exclusion criteria of the studies searched and used;
- check through critical appraisal if original studies were done ethically;
- use resources effectively, by planning the research and conducting it properly and ensuring that permission is given to do the research, to prevent wasting money and time; and
- use valid and reliable as well as protected internet resources to ensure honesty and accuracy (Brink *et al.*, 2006, p. 30-41; Burns & Grove, 2005, p. 203-212).

The North-West University's Manual of Postgraduate Studies (NWU, 2010) was used as a guide for ethical research, for the code of conduct regarding plagiarism, to ensure the mini-dissertation was written according to the North-West University's guidelines for a mini-dissertation. The Health Research Ethics Committee of the North-West University reviewed and granted ethical approval for the research to be conducted (NWU-00188-15-S1).

Outline of the study

In accordance with the North-West University's academic guidelines (Manual for Masters and Doctoral Studies, October 2015), the final product of this exploration will be submitted in a research article format for examination in July 2017.

Outline of suggested mini-dissertation (article format):

- Acknowledgements
- Summary
- Preface
- Permission letter from supervisors
- Language and technical editing certificate
- Turnitin originality report
- Chapter 1: Introduction and contextualization of the study
- Chapter 2: Article: A systematic literature review investigating the association between attachment theory and the Rorschach Inkblot Method.
- Chapter 3: Critical reflection
- Reference list
- Addendum: Tables

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CHAPTER 2: Manuscript

Adult attachment theory and Rorschach Inkblot Method: A systematic literature review

Guidelines to authors: Rorschachiana

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Rorschachiana is the scientific publication of the International Society for the Rorschach. The journal is interested in advancing theory and clinical applications of the Rorschach and other projective techniques, and research work that can enhance and promote projective methods. All papers published are subject to rigorous peer review to internationally accepted standards by external reviewers, working under the auspices of the experienced international editorial team. Rorschachiana is interested in promoting theory, practice, and clinical research in the field of projective methods.

Rorschachiana publishes the following types of articles

Original Articles: These articles include theoretical articles and systemic reviews.

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Case Studies: Case studies aim to present a specific clinical assessment or therapeutic intervention by examining in depth, and in a holistic manner, various aspects of one or several cases. They should include the context of assessment/treatments; a thorough and detailed description of the case; the central issues/dilemmas/questions raised by the case; case data (e.g., test results, themes of interviews); the analysis and interpretation, which is based on the case data in the light of the theoretical framework; a discussion on the conflict, theoretical or clinical

challenges of the case; a conclusion which presents the imitations of the study but also considers the implications for wider theoretical and/or research issues.

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Manuscripts should be submitted online at <http://www.editorialmanager.com/ror>. Please follow the online instructions for submission. Should you have any technical queries regarding the submission portal, please contact production@hogrefe.com. Please direct any editorial questions to the Editor-in-Chief, Sadegh Nashat (rorschach.submission@gmail.com, Tel. +41 22 548-1560) The Editor-in-Chief will screen manuscripts in order to ensure that they fall within the aims and scope of Rorschachiana. Those that fit will be reviewed by two independent reviewers. All papers will be subject to peer review in terms of their merits, readability, and interest.

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**Manuscript title: Adult attachment theory and Rorschach Inkblot Method: A
systematic literature review**

Abstract

Both the Rorschach Inkblot Method and attachment theory have been empirically explored regarding the various links between the two subjects; however, links vary in strength and are at times contradicting. The aim of the study was to systematically review literature focusing on the Rorschach Inkblot Method variables that measured constructs of the attachment relationship or attachment representations in order to provide guidance to psychology practice. Through a process of critical appraisal and synthesis of the studies, the most promising links that were found were texture, oral responses and Rorschach oral dependency, with other variables indicating weaker associations with attachment. Finally, the authors discussed the limitations of the studies, made recommendations for future research and pointed out practical implications.

Keywords: Attachment styles, attachment theory, Rorschach.

Introduction

The aim of this study was to perform a systematic review of the associations between the Rorschach Inkblot Method (the Rorschach) and attachment theory to provide guidance to psychology practice. Various links between the two subjects have been discovered, yet the findings have been inconsistent (Shaver et al., 2005). Therefore, this systematic literature review examined studies that consistently linked the Rorschach and attachment theory in order to identify whether these empirical

findings can be used in practice when making interpretations of Rorschach responses in relation to adult attachment theory.

John Bowlby, the founding father of attachment theory, developed the hypothesis that the attachment system functioned to maintain proximity between an infant and his/her caregiver in times of distress in order to promote the infant's survival (Bartholomew & Horowitz, 1991). Bowlby hypothesized that infants are pre-adapted to engage in relationship-enhancing behaviors such as smiling, crying and clinging, and adult caregivers have complementary attachment-promoting behaviors within themselves (Mash & Wolfe, 2013). Complementary behavior systems of attachment between infants and their primary caregiver maintain the infants' relation to the caregiver in times of danger or threat (Cassella & Viglione, 2009).

Ainsworth, a colleague of Bowlby, developed the Strange Situation Procedure to categorize variations in an infant's security of attachment (Ainsworth, Blehar, Waters & Wall, 1978). Over time, children internalize their experiences with their caregivers and these experiences become the internal working models of attachment. In this manner, the early attachment relationship becomes a prototype for future relationships outside the family (Bartholomew & Horowitz, 1991).

This study is based on the representation of attachment in adulthood. There are two traditions in the investigation and research of adult attachment (Bartholomew & Shaver, 1998). However, both traditions classify individual differences in attachment functioning into the categories of secure, preoccupied and avoidant (Bartholomew & Shaver, 1998). The two traditions that investigate and research adult attachment differ in that one tradition adopts the subculture created by Bowlby and Ainsworth, which follows a more developmental psychology perspective

focusing on attachment related to parenting (Bartholomew & Shaver, 1998); while the other tradition focuses more strongly on pair bonds and intimate relationships, related more closely to social psychology

From the pair bonds perspective, adult attachment can be described using a two-dimensional representation of individual differences (Brennan, Clarke & Shaver, 1998; Fraley & Shaver, 2000). The two dimensions are defined as attachment anxiety and attachment avoidance (Mikulincer, Shaver & Pereg, 2003). The two-dimensional model is based on the notion that variation in attachment related to anxiety and avoidance is crucial in arranging individual differences in adult attachment styles (Baumgardner & Crothers, 2010).

Individuals with a secure attachment style exhibit low anxiety and low avoidance (Mikulincer et al., 2003). These individuals have a sense of worthiness combined with the expectation that others are generally accepting (Bartholomew & Horowitz, 1991). However, little avoidance and more anxiety are displayed by individuals with an anxious-resistant style and this corresponds conceptually with Main's "preoccupied style" (Main, Kaplan & Cassidy, 1985) and with Hazan and Shaver's "ambivalent attachment" style (Hazan & Shaver, 1987). The anxious style is characterized by a subjective sense of unworthiness, negative self-perception but a positive evaluation of others, which leads the person to strive for acceptance from valued others (Bartholomew & Horowitz, 1991).

On the contrary, the avoidant dimension refers to the degree of trust and comfort with intimacy (Baumgardner & Crothers, 2010). This dimension is divided into two attachment styles, namely the fearful avoidant and dismissive avoidant attachment styles. A dismissive-avoidant style is characterized by little anxiety and

much avoidance (Baumgardner & Crothers, 2010). Individuals with a dismissive-avoidant attachment style have positive self-perceptions and a sense of worthiness, but have negative dispositions towards others (Bartholomew & Horowitz, 1991). They are confident and they view others as irrelevant (Baumgardner & Crothers, 2010) and disappointing (Bartholomew & Horowitz, 1991). This leads them to be self-reliant and independent and they avoid intimacy and dependency on others (Brennan, Clarke & Shaver, 1998).

Lastly, the fearful attachment style refers to individuals with negative self-perceptions such as unlovability, combined with a negative view of others in that they struggle to trust others and have the expectation of rejection from others (George & West, 2012). Individuals with a fearful avoidant style have high anxiety levels and high avoidance levels (Baumgardner & Crothers, 2010). This leads to the avoidance of intimacy to protect oneself against anticipated rejection (Bartholomew & Horowitz, 1991). Therefore in the current systematic review, literature is reviewed to explore how Rorschach variables associate with these differences in attachment functioning.

Projective measures, such as the Rorschach, are used to evaluate individuals' internalized mental representations of attachment orientation by analyzing their narrative descriptions of experience (George, West & Pettem, 1999). During a person's development, particularly through experiences of disrupted care of attachment, the emotionally charged elements of the person's narratives are distorted in attempts to keep certain aspects of the distress related to the attachment carefully hidden (George & West, in press; Solomon & George, 2011a). The experience and the emotions attached to that experience are transformed to be acceptable to consciousness or even kept out of consciousness by rather locking them away in the unconscious (George & West, 1999).

Measures that explore or evaluate adult attachment exist, such as the Adult Attachment Projective Picture System (AAP) (George & West, 1999) and the Adult Attachment Interview (AAI) (George, Kaplan & Main, 1985), both from the first tradition. Statistically, the AAI has excellent properties in respect of both reliability and validity when compared to other attachment assessment tools (Ravitz, Maunder, Hunter, Sthankiya & Lancee, 2010). However, training in the administration of the measure is extensive, time-consuming and expensive (George & West, 2011); the number of trained scorers is consequently still relatively small (Mikulincer & Shaver, 2010) when compared to persons trained to use the Rorschach.

The Rorschach method is more versatile in its application to measure a wide spectrum of interpersonal and intrapsychic processes (Weiner, 2003), and attachment may be included once suitable links are found. The study aimed to review literature in order to identify variables of the Rorschach that are significantly associated with adult attachment theory constructs and to report on the strength of these associations with the purpose of providing guidance to psychology practice.

Methodology

The author conducted a systematic review of published studies to investigate the evidence of associations between the Rorschach Inkblot Method and attachment theory through identifying, appraising and synthesizing relevant studies (Melnik & Fineout-Overhot, 2005). The purpose of using a systematic literature review is to allow the researcher to synthesize and integrate the most relevant literature in order to answer the research question thoroughly: How are variables in the Rorschach Inkblot Method associated with adult attachment theory constructs

and how can a critical appraisal of the literature concerning these links assist its use in psychology practice?

The search strategy entailed using EbscoHost, Google Scholar and JSTOR as databases into which the following search terms were entered: adult attachment AND Rorschach, attachment theory AND Rorschach* + adult attachment AND Rorschach + Rorschach OR adult projective + r-pas, self-reported attachment styles + patterns + representations AND Rorschach responses + related scores, R-PAS AND attachment styles*, attachment classification AND r-pas, attachment AND inkblot, attachment bonds, attachment relationships, Exner comprehensive system, R-PAS, adult attachment picture measure and projective measure.

Bowlby developed the attachment theory in 1969 (Bowlby, 1969) and John Exner published the Rorschach interpretive system and the Comprehensive System (CS) in 1974 (Weiner, 2003), therefore the researchers only included studies published between 1974 and 2015. The inclusion criteria consisted of published studies concerning Rorschach and attachment theory in which the participants were older than 18 years, as the focus was on adult attachment. The authors excluded non-academic literature from the search, as well as studies in languages other than English.

The first author, using the research aim in line with the inclusion and exclusion criteria, systematically sifted through 986 036 titles and selected 151. Titles were excluded when the words “attachment” and “Rorschach” were not present, the study was not applicable to the research question, did not meet the inclusion criteria, was not published in a reputable journal, was non-academic or was written in a non-English language. Thereafter, 34 relevant abstracts were included. Abstracts were

excluded for not being relevant to the research question and not meeting the inclusion criteria. Lastly, nine relevant full-text articles were selected in line with the inclusion and exclusion criteria. An independent reviewer followed the same steps as indicated above and the lists of selections were compared to ensure consensus. Cohen's kappa coefficient was used to calculate the inter-rater reliability between the two reviewers. The inter-rater agreement on selected titles was $k=0.88$ and for abstract and full text selections, $k=1$. According to Pallant (2007), a kappa of above 0.8 is indicative of good inter-rater agreement. All the articles selected to be explored in order to answer the research question are included in Table 1.

<Insert Table 1 approximately here>

The researchers critically appraised the selected articles, assessing the quality and relevance of the studies included in the review. Critical appraisal was performed using the guidelines set out by the Critical Appraisal Skills Program (CASP, 2006), Quality Criteria Checklist (ADA, 2008) and criteria set out by Petticrew and Robberts (2006); furthermore, the reliability and validity of adult attachment measures determined by Ravitz et al. (2010) were appraised. Thereafter, the researchers synthesized the studies and assessed the heterogeneity among the study findings. In accordance with to the appraisal instruments mentioned, one of the nine selected articles (Concklin et al., 2012) was excluded because it was based on secondary data, therefore conclusions could not be drawn from results of the study as there was no statistical support. By using the article of Ravitz et al. (2010), the reliability and validity of the adult attachment measures used in the studies were appraised and influenced whether the results were accepted, accepted with caution

or rejected. Reviewed studies that made use of attachment measures with no statistical information influenced the believability of the results of the study as the validity and reliability of the attachment measure are questionable.

Following the methodological steps for a systematic review set out by Petticrew and Roberts (2006), the findings from the explored studies are synthesized and discussed in the results and discussion chapters of this paper.

The Health Research Ethics Committee of the North-West University (NWU-00188-15-S1) granted ethical approval for the study. In addition to obtaining ethical approval and complying with the NWU policy on plagiarism, the researcher applied the guidelines provided by Brink *et al.* (2006) and Burns and Grove (2005) to ensure honesty and avoid fabrication, falsification and plagiarism.

Results

In total, the authors identified 17 Rorschach variables, with varying strengths of association with adult attachment in the nine studies. The most significant variables identified as linking with attachment were the texture (T) response variable, oral responses and Rorschach oral dependency (ROD). The sample sizes of the studies varied from small (single-case study) to medium ($n = 224$). Exner's CS was used in the interpretation of the Rorschach in all the studies and a variety of attachment measurements were used; however, all the studies used self-report measures, indicating an inclination towards the social psychology tradition, as well as limited reliability and validity (Cassella & Viglione, 2009; Iwasa & Ogawa, 2010). In the paragraphs that follow, the researchers will report on the most important

findings from the studies of the variables in the Rorschach, which are related to attachment theory. The results are summarized in Table 2.

Table 2

Results

Rorschach Inkblot Method variables associated with attachment theory constructs

Articles	Rorschach coding variable/s	Findings or association	Sample size	Strength of relationship	Attachment measuring instruments used in the study	Validity and reliability of the attachment measuring instrument according to Ravitz et al. (2010)
Cassella, M. J. & Viglione, D. J. (2009).	Texture response (T)	T=1 is related to a secure attachment style. T>1 is associated with a preoccupied style. T=0 is associated with an avoidant style.	79	Secure (T=1): d=0.580 Preoccupied (T>1): d=0.38 Avoidant (T=0): d=0.52 Regression analysis yielded significant predictions in all the above instances (p<0.0005, p<0.028, p<0.025).	The relationship questionnaire (RQ). The relationship scales questionnaire (RSQ).	Reliability: + Validity: ++
Iwasa, K. & Ogawa, T. (2010).		T=1 is associated with the secure attachment style. T>1 is associated with the preoccupied style. T=0 was inconclusive.	47	Statistically significant difference in means between the three T-groups and preoccupied, secure and attachment anxiety, as tested by ANOVA.	The RQ.	Reliability: + Validity: ++
Iwasa, K. & Ogawa, T. (2013).		Inconclusive results when linking.	224	No direct associations were investigated. Only assumptions based on indirect inferences.	Experiences in close relationship scale (ECR).	Reliability: ++ Validity: ++
Conklin, A.C., Malone, C. & Fowler, J.T. (2012).	Texture (T), human movement (M), good human vs poor	T=0: Avoidant attachment T=1: Secure T>1:	n/a	n/a	n/a	n/a

	human responses (GHR and PHR).	<p>Preoccupied.</p> <p>Profile made up of: T>1, M->1 or M+<3, GHR – PHR<1, with H≥3 that is representative of an individual with either an avoidant or preoccupied attachment style.</p> <p>Profile made up of T=1, M+² ≥3, M-≤1, GHR-PHR≥1, with H≥3 that is representative of an individual with a secure attachment style.</p> <p>Profile made up of T=0, M->1 or M+<3, H<2 or GHR-PHR<1, that is representative of an avoidant attachment style.</p>				
Duberstein, P. R. & Talbot, N.L. (1993).	Oral responses and human responses.	<p>A curvilinear relationship was found between 0 and >4 oral responses and insecurity and 1-3 oral responses and security.</p> <p>Human responses relating to aggression on card III was associated with attachment insecurity.</p>	198	Regression analysis yielded significant prediction (p<0.01).	Attachment questionnaire.	Reliability: ++ Validity: ++
Lecbych, M. & Seidl, M. (2013).	Rorschach oral dependency (ROD) score.	<p>Higher attachment anxiety is associated with a higher ROD score only for people with no psychiatric treatment</p>	31	<p>Avoidant: Insignificant.</p> <p>Anxious: r=0.683.</p>	ECR relationship scale .	Reliability: ++ Validity: ++

Berant, E. & Wald, Y. (2009).	Rorschach indexes indicating ego-boundary perception (barrier and penetration), use of projective identification, devaluation and splitting defenses, and scores that represent boundary blurring.	history Permeable boundaries, projective identification, cognitive slippage indicating boundary blurring are associated with anxious/preoccupied/anxious-resistant, attachment styles.	89	Variable related to anxious-resistant attachment: -Projective identification: r=0.24 -Penetration: r=0.29 -INC: r=0.2 -FAB: r=0.24 -INC + FAB: r=0.27	10-item Hebrew-language scale measuring attachment anxiety and avoidance similar to the English-language ECR.	None.
Berant, E. & Zim, S. (2013).	Reality testing, thinking processes, coping and defense mechanisms	The Rorschach allows for observation of a person's problem-solving strategies, reality testing, and thinking processes as well as self-representations and interpersonal concerns.	One case study	Qualitative description of findings	ECR scale	Reliability: ++ Validity: ++
Shaver, P. R., Berant, E., Mikulincer, M. & Segal, Y. (2005).	Affective ratio (Afr), color form (CF<), ColShdBld, diffuse shading (Y), inanimate movement (m), morbid content (MOR), food, feral movement (FM) and L, sum of reflection-reflection form + form reflection (Fr + rF), and Clothing (Cg).	7 -Seven Rorschach scores associated with affect regulation and need-gratification (Afr, CF< ColShdBld, Y, m, MOR, food) were associated with anxious/preoccupied attachment. Four Rorschach scores relating to avoidance (low FM and high L, Fr + rF and Cg scores) were associated with avoidant attachment.	72	Afr: r=0.48 CF: r=0.47 ColShdBld: r=0.36 Y: r=0.46 m: r=0.36 MOR: r=0.26 Food: r=0.42 Low FM: r=0.44 L: r=0.42 Fr+rF: r=0.33 Cg: r=0.26	10-item Hebrew-language scale measuring attachment anxiety and avoidance.	None available.

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Attachment assessment measures statistical significance:

Reliability: “+”- “++” indicate adequate test and retest, inter-rater/ inter-item; one “+” for each criterion. Three “+” (eg. “+++”) indicate excellent properties.

Validity: One “+” indicates convergence with other attachment scales. Two “+” indicate other evidence of convergence, discriminant and predictive validity. Three “+” indicate excellent properties.

Pearson correlation (Mukaka, 2012):

- $r=.10-.29$ is small
- $r=.30-.49$ is medium
- $r=.50-1.0$ is large

Cohen’s d-value (Pallant, 2007)

- * $d=.2$ is small
- * $d=.5$ is medium
- * $d=.8$ is large

Texture response

The most promising Rorschach variable showing associations with attachment was the texture response (T). Exner describes T as a response in which *“the shading components of the blot are translated to represent a tactual phenomenon, with no consideration to the form features”* (Exner, 2005, p.32). Both Cassella and Viglione (2009) and Iwasa and Ogawa (2010) found significant associations between T and attachment. Concurrently both studies found that T=1 was associated with attachment security and T>1 was associated with a preoccupied attachment style. In addition, Casella and Viglione (2009) reported a significant relationship between T=0 and avoidant attachment as measured by the RQ and the RSQ, but Iwasa and Ogawa (2013) failed to find any significance between the same variables in a Japanese sample. However, it must be noted that the Japanese study in 2013 never directly compared the Rorschach variables with attachment measures. Associations between the Rorschach T and the Vividness of Tactile Imagery Scale (VTIS) were found and in a separate sample associations between the VTIS and attachment were found. Therefore, the authors interpret these findings with caution.

In the early stages of the CS, Exner (1974) already proposed that the T-score might be indicative of the person's affective interpersonal contact needs and that a higher T could indicate a more intense need. As individuals with secure attachment representations experience relatively little attachment anxiety or avoidance, they are able to balance their internal resources with their available relational resources. On the other hand, individuals with preoccupied representation experience attachment anxiety and an increased need for validation and interpersonal contact because they experience a negative self-model (Bartholomew & Shaver, 1998). Being more reliant on others for affective regulation could thus be translated into an increased need for

affective interpersonal contact, as indicated by a higher T-score. Individuals scoring high on attachment avoidance, whether dismissing or fearful of attachment, have a negative view of others and respond with avoidance of closeness, because of negative expectations in interpersonal relationships. They do not make use of interpersonal resources for affect regulation (Bartholomew & Horowitz, 1991) and would thus deny a need for affective interpersonal contact as measured with a T=0.

Oral responses

Duberstein and Talbot (1993) studied the relationship between oral and human responses in the Rorschach and attachment styles in 198 participants. Oral responses contain food and drink (“ice-cream” or “water” for instance), oral activity (“people talking”) and food organs (“mouth” or “tongue”). In their study, they administered the Rorschach and the attachment questionnaire, counted the number of oral responses and human responses in the Rorschach and then examined whether the number of oral responses and human responses could differentiate between attachment styles. Masling (1986) associated oral imagery with dependent and help-seeking behavior and this could relate to similar attachment constructs (Juni, Masling, & Brannon, 1979). A curvilinear relationship was found between no response and more than four oral responses and insecurity, and one to three oral responses and security. Individuals who had no oral responses or more than four were more likely to idealize their primary caregivers (Duberstein & Talbot, 1992). However, individuals who provided a single oral response had a decreased likelihood to idealize their parents (Duberstein & Talbot, 1992).

Human responses

Exner (1986) explains that human responses are associated with attentiveness to others and interpersonal interest. Individuals with an avoidant attachment style have limited interest in forming close interpersonal relationships with others. They avoid intimacy and closeness; therefore, they would have a low count of human responses (Duberstein & Talbot, 1993). On the contrary, individuals with a preoccupied attachment style strive for relationships with others and may therefore have a higher count of human responses (Duberstein & Talbot, 1993). Duberstein and Talbot (1993) compiled a list of all the human responses from the participants' protocols. These protocols were scored by two raters; the second rater was not blind to the first raters' scores. Duberstein and Talbot (1993) observed no difference between the number of human responses given by securely attached individuals and insecure individuals; however, they observed that human responses relating to aggression on card III was associated with attachment insecurity. Therefore, in general the number of human responses in this study was not associated with attachment, and only a single card showed promise.

Rorschach oral dependency score

Another promising Rorschach variable is the ROD score, which score measures interpersonal dependency and is a predictor of conformity, compliance, help and support-seeking behavior (Bornstein & Masling, 2005; Masling, Rabie & Blondheim, 1967; Lecbych & Seidl, 2013). The ROD score was incorporated in the new Rorschach system, the Rorschach Inkblot Performance Assessment System (R-PAS), as the Oral Dependency Language Scale owing to its reliability and validity (Meyer, Viglione, Mihura, Erard, & Erdberg, 2011). Lecbych and Seidl (2013) found that higher attachment anxiety is associated with a higher ROD score only for people with no history of psychiatric treatment. Individuals with a preoccupied representation

experience attachment anxiety and because they lack a sense of worthiness and view others more positively (Bartholomew & Horowitz, 1991), they strive for other's love and acceptance (Cash, Theriault & Annis, 2004). Being needy and more dependent on others (Baumgardner & Crothers, 2010) could thus yield a higher ROD score.

However, with regard to the quality of the methodology, the study yielded insignificant results with clinical participants (Lecbych & Seidl, 2013). The strength of the correlation between attachment anxiety and a high ROD score was large. Unfortunately, the low sample size limits the statistical power (Lecbych & Seidl, 2013), and the fact that no significant Rorschach variables were statistically linked to attachment avoidance suggests caution when interpreting these results.

In addition, 22 of the 31 participants in this study (Lecbych & Seidl, 2013) were psychology students, even though advanced psychology students enrolled in Rorschach studies were not accepted. Therefore, their answers may have been influenced by the measures used, because psychology students are more likely than the general public to have some idea of diagnostic assessment measures and the principles and administration of the Rorschach (Lecbych & Seidl, 2013).

Rorschach indexes representing ego-boundary perception, projective identification, devaluation and splitting defenses, and scores that indicate boundary blurring

Berant and Wald (2009) linked Rorschach indexes related to ego boundary perception, devaluation, projective identification, and splitting defenses and scores that indicate boundary blurring to attachment. The boundary representations concept (Fisher & Cleveland, 1958) posits that the way people describe the

boundaries in the Rorschach reflects their ego boundaries. For example, permeable boundaries correlate with an anxious (insecure-resistant) attachment style, because such persons seek to merge with others because of their insecurity (Berant & Wald, 2009). Berant and Wald (2009) also used the CS Rorschach scoring system employed to measure specific operations presumed to represent defensive functioning (Lerner & Lerner, 1980). They measured defenses and tested the hypothesis that individuals with an insecure-resistant style used projective identification. This defense mechanism involves the capacity to blur boundaries between the self and the other, and the need to control others; these traits correlate with the basic characteristics of an individual with an insecure-resistant attachment style (Berant & Wald, 2009). Berant and Wald (2009) found that permeable boundaries, projective identification and cognitive slippage indicating boundary blurring are associated with the anxious/preoccupied/anxious-resistant attachment styles.

The study involved a relatively large sample size ($n=89$); however, it made use of an attachment assessment measure on which there is no available statistical information and the strength of the relationship between the studied Rorschach variables and attachment constructs is small. This decreases the believability of the study. The variables that the researchers of this study speculated would correlate with attachment avoidance resulted in insignificant findings. The study focused on participants of a particular age and cultural group; 80% of the participants in the study were undergraduate university students and all of them were of Israeli descent (Berant & Wald, 2009).

Hyperactivating strategies and deactivating strategies, and Rorschach scores

Shaver, Berant, Mikulincer, and Segal (2005) studied and linked self-reports of attachment and responses to the Rorschach. There were 72 participants, who each completed the 10-item Hebrew-language scale, measuring the link between attachment anxiety and avoidance and the Rorschach. They examined whether the motivational, cognitive and affective characteristics that manifested in the anxious-resistant and anxious-avoidant attachment bonds manifested in the same way in people's Rorschach responses. The study indicated that a group of seven Rorschach scores indicate the underlying affective and cognitive processes related with the hyperactivating strategies used by people with anxious-resistant attachment. These seven Rorschach scores are: (i) attraction to emotional situations (Afr); (ii) problematic emotional regulation (CF); (iii) the experience of intrusive negative affect (color shading blends); (iv) susceptibility to situational stressors (m); (v) sense of helplessness (Y); (vi) problems in maintaining a positive self-image (MOR); and (vii) adopting a dependent relational position (food), and they indicate the hyperactivating strategies used by people with anxious-resistant attachment (Shaver et al., 2005).

In support of these findings, data and theory from previous research have indicated that self-reports of attachment anxiety are related to intense emotional reactions, chronic distress, negative self-perceptions and ruminations over threat-related experiences (Bartholomew & Horowitz, 1991; Mikulincer 1995; Mikulincer & Florian, 1998; Shaver et al., 2005). In addition, a constellation of four Rorschach scores is indicative of deactivating strategies of anxious-avoidant attachments. People using deactivating strategies score low on FM and high on L, Cg and fr+rF scores, which relates to a diminished ability to acknowledge and express their primary needs. Low scores on FM indicate people who seldom experience intense emotions and have an unconcerned and detached attitude; high scores on L indicate

a disengaged attitude to reality; high scores on Cg indicate a tendency to hide behind a façade; while high scores on fr+rF refer to maintaining a grandiose, inflated self-representation (Shaver et al., 2005). Extensive research indicates that individuals with avoidant attachment use deactivating strategies (Shaver et al., 2005). Self-reports of avoidant attachment are related to avoidance of intimacy, close relationships and dependency on others, and the projection of a negative self-view onto others (Fraley & Shaver, 1997; Pietromonaco & Feldman Barrett, 1997; Mikulincer, 1995; Mikulincer & Horesh, 1999; Collins & Read, 1990; Shaver et al., 2005).

Besides self-report measures, observational and cognitive experimental techniques have found that there are interpersonal and intrapersonal manifestations of hyperactivating and deactivating strategies (Collins & Feeney, 2000; Fraley & Shaver, 1997; Baldwin, Fehr, Keedian & Seidel, 1993; Fraley & Shaver, 1998; Simpson, Rholes & Nelligan, 1992; Shaver et al., 2005). Hyperactivating and deactivating strategies are more implicit and less conscious markers of attachment constructs (Shaver et al., 2005). This study (Shaver et al., 2005) indicated that self-report measures of attachment avoidance and anxiety were moderately related to implicit presentations of these dimensions in the Rorschach. Future studies are needed to investigate whether these Rorschach variables and self-report scores predict similar attachment behaviors (Shaver et al., 2005).

Reality testing, thinking processes, coping and defense mechanisms

The Rorschach allows for observation of a person's problem-solving strategies, reality testing and thinking processes, as well as self-representations and interpersonal concerns (Berant & Zim, 2013). Berant and Zim (2013) based their

findings on one case study. The case study was performed on a psychotherapeutic client. The client's clinical picture did not match the self-reported attachment questionnaire used in this study, but instead corresponded with the Rorschach administered to the client (Berant & Zim, 2013). This occurs when clients are not aware of the full extent of their difficulties (Berant & Zim, 2013), therefore they become defensive or confused when discussions of the full extent of their difficulties arise (Finn, 2007). When this type of client struggles to self-disclose, he/she often hides his/her unwanted aspects (Finn, 2007). The client, in this case study, was described as having an avoidant attachment style, based on her clinical picture and reporting of no need for intimate relationships, and she was aloof when speaking of her social interactions (Berant & Zim, 2013).

Hazan and Shaver (1987) conceptualize individuals with an avoidant attachment style as struggling to be intimate, because they have difficulty trusting others enough. The client's Rorschach variables corresponded with her clinical picture (Berant & Zim, 2013). The client had a positive hypervigilance index, indicating that she approached those around her with suspicion and fear of possible threat (Berant & Zim, 2013). The Rorschach also confirmed the client's use of a façade of good adjustment, coping and hiding negative emotions, through the following scores: Rorschach variables: D=0; AdjD=0; C=3. Avoidant attachment describes that an individual maintains self-reliance and over-independence in order to protect himself/herself from a perceived potential threat (Hazan & Shaver, 1987; Bartholomew & Horowitz, 1991; Baumgardner & Crothers, 2010). Her GHR:PHR scores on the Rorschach indicated that she had negative object representations (Meyer et al., 2011; Berant & Zim, 2013). These scores coincided with her hypervigilance against possible threats to her security, such as rejection. She

avoided intimate relationships, because they were perceived with alarm (Berant & Zim, 2013).

This respondent's Rorschach also showed that in addition to a negative view of others, she had a negative self-view, reflected in her MOR and V Rorschach variables (Berant & Zim, 2013). A fearful avoidant attachment style describes individuals who experience a sense of unworthiness; in order to protect themselves from an anticipated threat or rejection by others, these individuals avoid intimate relationships and closeness to others (Bartholomew & Horowitz, 1991).

Variables that were investigated, but that were not statistically significant

Devaluation and splitting. Insecure-avoidant individuals are hypothesized to use devaluation and splitting defensive mechanisms (Lerner 2005, as cited by Berant & Wald, 2009). Devaluation refers to depreciating and tarnishing the importance of one's inner and outer objects (Lerner 2005, as cited by Berant & Wald, 2009). Splitting refers to the polarization of drives, affects, internal object representations and external object models (Robbins, 1976) and it manifests in the tendency to view and describe the self and other people in overruling polarities (Pruyser, 1975). Individuals with an avoidant attachment style defend themselves against feeling negative emotions, so they tend to consider themselves in grandiose and positive terms, and they tend to regard others in a negative manner (Mikulincer & Horesh, 1999).

Human movement, good human vs poor human responses. In a paper compiled by Conklin, Malone and Fowler in 2012 based on secondary data, they examined variables from the CS, which included the human movement responses (*M and M-*),

relating to empathic abilities, and quality of human responses (GHR and PHR), which relate to the accuracy of perceptions of people (Conklin et al., 2012).

Conklin et al. (2012) also examined the form quality of M and the ratio of GHR and PHR. Concerning the form quality of M, Urist (1976) suggested that the form quality of M is associated with empathic understanding. Exner and Erdberg (2005) identified the good form M as representative of interpersonal skills and the poor form M as an indication of difficulties in empathic understanding of others, leading to interpersonal difficulties (Weiner, 1966, 2003), and it is interpreted as such in the CS (Exner, 2003). None of these variables was significantly related to attachment.

Discussion and implications of this study

This systematic review aimed to explore the associations between the Rorschach and attachment. The aim was fulfilled by systematically reviewing the coding variables in the Rorschach and how they are associated with attachment theory, specifically to explore whether empirical findings have indicated if Rorschach responses can provide information to psychology practice on constructs of attachment theory. This paper draws from other studies done on the subject. By appraising the nine selected studies, and critically interpreting the results, the most consistent links were found for T, oral response and ROD.

Conceptually there is a strong association between the absence and presence of the T response and the four styles of adult attachment as described by Bartholomew (1990; Bartholomew & Horowitz, 1991), the T=1 as assumed to be linked with secure attachment, the T>1 with preoccupied attachment and T=0 with fearful or dismissing avoidant attachment. Later empirical studies confirmed these assumptions (Cassella & Viglione, 2009; Iwasa & Ogawa, 2010). However, Iwasa

and Ogawa (2010) observed that the absence of T led to inconclusive results when studying Japanese participants. Their study revealed cultural-specific characteristics of attachment and T was more sensitive to measure attachment anxiety than avoidance with Japanese participants. However, this is the first study to indicate Japanese cultural-specific characteristics, therefore the study needs to be repeated and future studies in Japan need to employ a dimensional scale measuring the degrees of attachment anxiety and avoidance in order to confirm conclusively the hypothesis that T is a measure of attachment anxiety rather than attachment avoidance (Iwasa & Ogawa, 2010). This study made use of a categorical assessment measure, which measures the degree to which constructs of an attachment style are present and assigns participants to categories of an attachment style (Ravitz et al., 2010). Clinically, interpretations of the T=0 should be employed with caution at least in Japan, and clinicians must consider the Japanese cultural characteristics of attachment, once it has been proven that there are Japanese cultural-specific attachment characteristics.

Studies such as that of Shaver et al. (2005) show evidence of implicit manifestations related to attachment constructs in the Rorschach, therefore future research should investigate whether these Rorschach variables and self-report scores predict similar attachment behaviors (Shaver et al., 2005). This also implicates psychological practice and training because the following Rorschach scores should be used with caution when using the Rorschach to assess attachment: (i) an appeal towards emotional situations (Afr); (ii) problematic emotional regulation (CF); (iii) experiencing intrusive negative affect (color shading blends); (iv) vulnerability to situational stressors (m); (v) sense of helplessness (Y); (vi) problems in maintaining a positive self-image (MOR); and (vii) adopting of a

dependent relational position (food), indicating hyperactivating strategies used by people with anxious-resistant attachment (Shaver et al., 2005). The Rorschach variables Afr, CF, ColShdBld, Y and m indicate medium correlation strength with preoccupied attachment and the following four Rorschach variables: low FM (seldom experiences of intense emotions), L (disengaged attitude) and Fr+rF (grandiose self-representation), also indicate medium correlation strength to avoidant attachment style. Clinicians can interpret these Rorschach variables with attachment constructs, but other resources and clinical expertise are needed to confirm their interpretations because there is only medium strength and one cannot definitively relate the variables to attachment. The MOR and Cg variables indicate a small correlation, therefore cannot be associated with attachment.

Other Rorschach variables, which currently cannot be interpreted in relation to attachment yet, include GHR:PHR scores, the hypervigilance index, MOR, V, D and AdjD, which assessed the client's thinking processes, reality testing, coping and defense mechanisms (Berant & Zim, 2013). The results are based on a single case study and can therefore not be generalized. Berant and Zim (2013) did a case study in which a client's clinical picture of an avoidant attachment style corresponded with the Rorschach administered to the client. The study indicated the potential of the Rorschach being used as an attachment assessment tool in a clinical context. However, the study was based on a single case, therefore the results cannot be considered applicable to other individuals, and cannot be used in practice.

Lastly, the Rorschach indexes indicating ego boundary perception, projective identification, and devaluation and splitting defenses could possibly provide information on a person's attachment style, as shown in the study by Berant and Wald (2009). Theoretically these Rorschach indexes are associated with attachment

styles, but applied practically in the study they resulted in insignificant findings, therefore in clinical settings or in training these Rorschach indexes cannot be interpreted conclusively as indicating attachment constructs.

Rorschach variables that were investigated but had the weakest association with attachment are form quality, M, and human responses (Conklin et al., 2012). Duberstein and Talbot (1993) observed no relation between the number of human responses and differentiating attachment styles, but they also observed that human responses relating to aggression on card III was associated with attachment insecurity. However, no other data or theory supports this speculation. Clinicians should not interpret the number of human responses as an indicator of dependency needs or to differentiate among the attachment styles. In addition, findings from the study by Conklin et al. (2012) were based on secondary information, therefore could not offer any statistical information needed to establish the correlation strength between the Rorschach variable and attachment constructs.

Limitations

With regard to the current study, the limitations of the study were not extensive, as there was no conflict of interest to report and the researcher had the necessary resources to carry out the study. The only disadvantage was that the study was limited to literature published in English. There were, however, limitations in the reviewed studies, which influenced the believability and interpretation of the results. Firstly, even though the most consistent links that were found were the T, oral response and the ROD, the association between the Rorschach variables to attachment avoidance was problematic (Iwasa & Ogawa, 2010; Lecbych & Seidl,

2013). There was no significant correlation between the absence of either T or ROD and avoidant attachment (Iwasa & Ogawa, 2010; Lecbych & Seidl, 2013).

Secondly, none of the studies reviewed made use of the traditional attachment measures; they all made use of questionnaires or self-report measures from the pair bonds dimensional perspective. It is important to note that the Rorschach follows a psychodynamic tradition, and traditional attachment measures follow the same tradition. Therefore it may prove more comprehensive and reliable to make use of assessments such as the AAI or the AAP. For instance, the AAI is the most predominantly used attachment measure. Its validity is based on over 25 years of research (Bakermans-Kranenburg & van Ijzendoorn, 2009) and the content of the interview is not based only on face value such as self-report questionnaires; instead the interviewee's responses are examined through complex semantic analysis (George & West, 2011). On the other hand, the AAP also has substantial advantages. It evokes unconscious material similar to the Rorschach, so a study done on the current topic using the AAP may yield more correlations not yet investigated. The AAP is also based on an important core attachment feature stated by Bowlby (1969/1982), that attachment can only be measured when the attachment system is activated (Bowlby, 1969/1982). Therefore the AAP may measure attachment constructs more reliably than the attachment measures used in the reviewed studies.

Thirdly, two of the studies made use of attachment measures with no statistical information, which influenced the believability of the results of the study, as the validity and reliability of the attachment measure are questionable (Berant & Wald, 2009; Shaver et al., 2005). It is therefore unclear whether the accurate

attachment constructs were captured by the measure and consequently whether the appropriate attachment constructs were associated with the Rorschach variables.

Conclusion

This review succeeded in answering the research question and indicated that the T, oral response and the ROD score consistently associated with attachment constructs. However, during the critical appraisal, limitations in the reviewed studies negatively influenced the believability and generalizability of the findings. Some variables that were investigated ought to be interpreted with caution because of small sample sizes in the studies, and in some studies, associations were made between adult attachment and the Rorschach that were not all statistically or theoretically supported. Moreover, the exclusive use of attachment measures that fall within the pair bonds perspective/social psychology approach in the reviewed studies indicate a gap in the literature pertaining to this topic. In addition, attachment measures from the psychodynamic/developmental perspective, such as the AAI and AAP, have superior reliability and validity compared to the pair bonds perspective, such as questionnaires and self-report measures (Ravitz et al., 2010). What this study contributes in value is to supplement literature on the topic and subsequently to supplement the assessment of attachment constructs. Finding consistent links between the Rorschach and attachment can have implications for psychological practice, training and policy because the Rorschach can be used in the assessment of attachment. The Rorschach's potential to supplement the assessment of adult attachment will be beneficial to the practice of psychology, as it already forms part of the existing basic skills set of many psychologists, whereas existing traditional attachment measures require extensive and costly training (George & West, 2011).

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Chapter 3: Critical reflection

Introduction

This study aimed to synthesize and integrate available research and literature on links between the Rorschach Inkblot Method (the Rorschach) and attachment theory. Studies on the Rorschach variables that measure constructs of attachment were identified and included from the literature, while reporting on the strengths of these links. Limitations and recommendations for future research will be discussed in the chapters that follow. Limitations of this study and the limitations within the literature found are discussed below.

Limitations

Firstly, the available literature on the Rorschach and how it relates to attachment theory is based on Exner's (1974) CS, which is not the latest interpretational device for the Rorschach. The latest Rorschach interpretive system is the Rorschach Performance Assessment System (R-PAS) (Meyer et al., 2011).

Before the R-PAS was developed, the CS was widely used in the interpretation of the Rorschach. John Exner developed the CS in 1974. Later, in 1997, Exner founded the Rorschach Research Council (RRC), which focused on advancing the research foundations of the CS in order to improve the system. After Exner's death, four of the authors of the manual of the RRC played a large role in the development of the R-PAS (Meyer et al., 2011). In light of the criticism of the psychometric foundation of the Rorschach, the R-PAS was developed as an evidence-based, internationally focused scoring and interpretive method of the Rorschach, based on the most recently available research (Eblin & Meyer, 2012).

The R-PAS enhances the effectiveness of the Rorschach by selecting variables with the strongest empirical, response representational and clinical support, by describing each score's empirical basis and psychological rationale, and by applying modern statistical and computational methods, reducing examiner subjectivity and variability (Meyer et al., 2011). Furthermore, despite the psychometric advantages, some of the Rorschach variables that were in the CS have either been removed or the name has been changed. For example, the ROD score was incorporated as the Oral Dependency Language Scale in the R-PAS because of its reliability and validity (Meyer, Viglione, Mihura, Erard, & Erdberg, 2011).

Secondly, the samples of some of the studies were small or based on a single case study, therefore the findings cannot be applied to the larger population, as they may be over-generalized.

Furthermore, the studies reviewed used attachment assessment measures with comparably poorer reliability and validity (Ravitz et al., 2010). The studies done by Shaver et al. (2005) and Berant and Wald (2009) used attachment assessment measures, which did not have any validity and reliability scores available, influencing the believability of the results found, as the measure's reliability and validity are questionable.

In addition, all the studies used attachment measures from a pair bonds/social psychology perspective, therefore the psychodynamic developmental perspective was not taken into account. This indicates a gap and limitation in the literature. The assessment measures of attachment from the traditional developmental school have superior validity and reliability (Ravitz et al., 2010).

The potential for biased results was another limitation in the studies reviewed. Firstly, the scoring procedure of some of the studies reviewed also influenced the interpretation of the results. For instance, in the study by Duberstein and Talbot (1993) the participants' protocols were scored by two raters, however, the second rater was not blind to the previous rater's score, which might have led to bias. Secondly, some of the studies used psychology students as participants in their research (Lecbych & Seidl, 2013). Psychology students are more likely to have some knowledge of the psychological assessment measures that form the foundation of literature pertaining to this research topic.

Recommendations

It is important to note that as the Rorschach follows a psychodynamic tradition, studies using assessment methods such as interviews that focus on retrospective descriptions of the parent-child relationship will be more in line with the developmental traditions in attachment. Future studies may include the Adult Attachment Interview (AAI) or Adult Attachment Projective Picture System (AAP) in relation to the Rorschach.

Future studies should use the more recent evidence-based R-PAS interpretation system.

Regarding the strength of the relationships between variables in the selected studies, small or medium ranges were found, with only the ROD score indicating a large correlation with attachment; however, that study used a small sample size (Lecbych & Seidl, 2013). The clinical implication is that the Rorschach should be used with caution when obtaining information about a patient's attachment style and should always be administered as part of an assessment battery and not in isolation.

Conclusion

This systematic review allowed the researcher to synthesize and integrate literature relevant to the topic in order to best answer the research question (Melnyk & Fineout-Overhot, 2005). A systematic review requires that literature and evidence on the topic be identified, appraised and synthesized in order to answer the question comprehensively, without bias and to challenge any limitations and gaps.

This study indicated that the texture response, oral response and Rorschach oral dependency score are Rorschach variables that consistently offer information on attachment representations. However, there are limitations in the literature reviewed. The available literature on the Rorschach and how it relates to attachment is based on Exner's (1974) CS, which is not the latest interpretive device, the samples of some of the studies were small, some of the studies used attachment measures with comparably poorer reliability and validity, and lastly all the studies used attachment measures from a pair bonds/social psychology perspective. Therefore, it is recommended that some of the findings be interpreted with caution, that in future research the latest R-PAS interpretive device be used, larger sample sizes be used and attachment measures such as the AAI or AAP, which are in line with the psychodynamic developmental perspective, be included.

Despite the limitations in the reviewed studies, this current study has empirical value in that it will supplement literature on the subject and have clinical value. The study succeeded in answering the research question, "How are variables of the Rorschach Inkblot Method significantly associated with adult attachment theory constructs and how can these findings be used in psychological practice?" and fulfilled the aim of exploring the Rorschach variables associated with attachment

constructs, while reporting on the strengths of these associations. Whether the Rorschach has the ability to measure attachment constructs definitively and is able to supplement attachment assessment remains an open-ended question.

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Addendum: Tables

Table 1

Table indicating the included and excluded articles

Search words	# of articles found	# Titles	# Abstracts selected	# Full texts selected
adult attachment AND Rorschach	1846	28	34	25
attachment theory AND Rorschach* + adult attachment AND Rorschach+ Rorschach OR adult projective + r-pas	1599	29		
Self-reported attachment styles+patterns+representations AND Rorschach responses + related scores	0	0		
R-PAS AND attachment styles*	5	2		
attachment classification AND r-pas	14	3		
attachment AND inkblot	805	19		
Attachment bonds	261 344	14		
Attachment relationships	665 055	21		
Exner comprehensive system	6110	24		
R-PAS	4146	4		
Adult attachment picture measure	2032	7		
Projective measure	43 080	0		
TOTAL		151	34	25

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Data summary sheet

Title	Authors	Year of publication	Journal	Attachment Assessments used	Sample size	Demographics	Findings	Statistical significance
The Rorschach Inkblot Method Texture Response: A Construct Validation Study using Attachment Theory.	Cassella, M. J. & Viglione, D. J.	2009	<i>Journal of Personality Assessment</i> , 91(6), 601-610. doi: 10.1080/00223890903230931.	The relationship questionnaire (RQ). The relationship scales questionnaire (RSQ).	79	40 men and 39 women, aged 21 years and older.	T=1 is closely associated to secure attachment style. T>1 is associated with preoccupied style. T=0 is associated with avoidant style	Avoidant (T=0): Medium d=0.52 Preoccupied (T >1): Medium d=0.38 Secure (T=1): Medium d=0.580
The relationship between Texture Responses on the Rorschach Inkblot Method and Adult Attachment Rorschach Inkblot Method correlates of Self-Reported Attachment Dimensions: Dynamic Manifestations of Hyperactivation	Iwasa and Ogawa	2010	<i>American Psychological Association</i> , 31, 4-21. doi: 10.1027/1192-5604/a000002	The relationship questionnaire (RQ)	47	47 Japanese undergraduate and post-graduate students. 14 male and, 33 female. Age ranged from 18 to 29 years old.	T=1 is closely associated to secure attachment style. T>1 is associated with preoccupied style. T=0 was inconclusive	Unclear No direct associations were investigated. Only assumptions based on indirect inferences.
Rorschach Inkblot Method correlates of Self-Reported Attachment Dimensions: Dynamic Manifestations of Hyperactivation	Shaver, P.R., Berant, E., Mikulincer, M. & Segal, Y.	2005	<i>Journal of Personality Assessment</i> , 84(1), 70-81. doi:10.1207/s15327752jpa8401_13.	10 item Hebrew-language scale measuring attachment anxiety and avoidance	72	72 participants, 57 were women and 15 men; individuals' ranging in age from 19 to 57 years. All of Israeli decent.	7 Rorschach scores (Afr, CF< ColShdBld, Y, m, MOR, Food)= Anxious/ preoccupied attachment. Four Rorschach scores (low FM and high L, Fr + rF and Cg scores) = avoidant attachment.	Afr: Medium r=0.48 CF: Medium r=0.47 ColShdBld: Medium r=0.36 Y:Medium r=0.46 m:Medium r=0.36

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ng and Deactivating strategies								MOR: Small r=0.26 Food: Medium r=0.42 Low FM: Medium r=0.44 L: Medium r=0.42 Fr+rF: Medium r=0.33 Cg: Small r=0.26
Self-reported Attachment Patterns and Rorschach Inkblot Method-related scores of Ego boundary, Defensive Processes and Thinking Disorders.	Berant, E. & Wald, Y.	2009	<i>Journal of Personality Assessment</i>	10 item Hebrew-language scale measuring attachment anxiety and avoidance similar to the English language ECR	89	89 citizens of Israeli women and men, ranging in age between 19 and 57 years. All of Israeli decent.	Permeable boundaries, projective identification, cognitive slippage indicating boundary blurring = anxious/preoccupied/ anxious-resistant attachment	Variable related to anxious-resistant attachment: -Projective identification: Small r=0.24 -Penetration: Small r= 0.29 -INC:Small r=0.2 -FAB:Small r=0.24 -INC + FAB: Small r=0.27
Rorschach Inkblot Method Oral Imagery, Attachment Style and Interpersonal	Duberstein and Talbot	1993	<i>Journal of Personality Assessment</i>	Attachment Questionnaire	198	198 undergraduate students; 98 were men and 100 were women. Age range was not	A curvilinear relationship was found between 0 and >4 oral responses and insecurity and 1-3 oral responses and security. Human responses relating to aggression on card III was associated with attachment	Regression analysis yielded significant prediction (p<0.01).

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Relatedness								
Integration of attachment self-report scales with the Rorschach	Berant & Zim	2013	<i>Rorschachiana</i>	Experiences in close relationship scale (ECR)	One case study	stated in study methodology. 24 year old female of Israeli decent, and is a psychotherapeutic outpatient.	insecurity The Rorschach allows for observation of a person's problem-solving strategies, reality testing, and thinking processes as well as self-representations and interpersonal concerns.	Study is based on one case study, deductions made from that case study form the entire study which makes the findings limited. Therefore the variables associated to attachment need to be investigated further by future research. Avoidant: Insignificant Anxious: Large r=0.683
The Association Between Self-Report Attachment Dimensions and the Rorschach Oral Dependency Scale in a Sample of Czech Adults	Lecbych & Seidl	2013	<i>Rorschachiana</i>	Experiences in close relationship scale (ECR)	31	Adults all aged older than 18 years. All of Czech decent.	Low ROD score= Avoidant attachment High ROD score= Anxious/preoccupied attachment	Anxious: Large r=0.683
Mentalization and the Rorschach	Conklin ,Malone , & Fowler	2012	<i>Rorschachiana</i>	n/a	n/a	n/a	T=0: Avoidant attachment T=1: Secure T>1: Preoccupied.	Due to the fact that the study is based on secondary data variables associated to

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<p>Rorschach Texture Responses Are Related to Adult Attachment via Tactile Imagery and Emotion</p>	<p>Iwasa, K. 2013 & Ogawa, T.</p>	<p><i>Rorschachiana</i></p>	<p>Experiences in close relationship scale (ECR)</p>	<p>224</p>	<p>224 participants; 97 were male and 127 were female. The mean age was 19.58 years, no age ranges were indicated in the methodology. All were Japanese undergraduate students.</p>	<p>Profile made up of: T>1, M->1 or M+<3, GHR – PHR<1 with H≥3 is representative of an individual with either an avoidant or preoccupied attachment style.</p> <p>Profile made up of: T=1, M+²≥3, M-≤1, GHR-PHR≥1 with H≥3 is representative of an individual with a secure attachment.</p> <p>Profile made up of: T=0, M->1 or M+<3, H<2 or GHR-PHR<1 is representative of avoidant attachment.</p> <p>Deductions from study are limited as this was a literature review therefore the Rorschach variables associated to attachment need to be further investigated by future research. Inconclusive results when linking</p>	<p>attachment need to be investigated further by future research</p> <p>No direct associations were investigated. Only assumptions based on indirect inferences.</p>
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Data extraction sheets

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	Relevance question : Did the authors study an outcome or topic that is relevant to the aims and objectives of this study?	Validity questions: Was the research question clearly stated? 1.1 Was the specific procedure (independent variable(s)) identified?	1.2 Was the outcome(s) clearly indicated?	1.3 Were the target population and setting specified?	2. Was the selection of study subjects/patients free from bias? 2.1 Were inclusion/exclusion criteria specified and with sufficient detail and without omitting criteria critical to the study?	2.2 Were criteria applied equally to all study groups?	2.3 Were characteristics of subjects described?	2.4 Were the subjects/patients a representative sample of the relevant population?
Duberstein and Talbot (1993)	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes
Iwasa and Ogawa (2010)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear
Lecbych & Seidl (2013)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Shaver, P.R., Berant, E., Mikulincer, M. & Segal, Y. (2005).	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cassella, M. J. & Viglione, D. J. (2009)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Iwasa and Ogawa (2013)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear
Berant & Wald (2009)	Yes	Yes		Yes	Yes 2.1 Unclear	Yes	Yes	Yes

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Table 1.1 (continuation of Table 1)

	3 Was the method of handling withdrawals described? 3.1 Was the number and/ or characteristics of withdrawals (eg: dropouts) described?	3.2 Were all enrolled subjects/patients (in the original sample) accounted for?	4. Was blinding used to prevent introduction of bias 4.1 Were data collectors blinded for outcomes assessment? (If outcome is measured using an objective test, such as a lab value, this criterion is assumed to be met.)	4.2 In cohort study or cross-sectional study, were measurements of outcomes and risk factors blinded?	5. Were exposure factor or procedure and any comparison(s) described in detail? Were intervening factors described? 5.1 Was the amount of exposure and, if relevant, subject/patient compliance measured?	5.2 Was the information for 5.1 assessed the same way for all groups?
Duberstein and Talbot (1993)	Yes	Yes	Unclear	Unclear	No	No
Iwasa and Ogawa (2010)	Unclear	Unclear	Unclear	Unclear	No	No
Lecbych & Seidl (2013)	No	No	Unclear	Unclear	No	No
Shaver, P.R., Berant, E., Mikulincer, M. & Segal, Y. (2005).	Yes	Yes	Unclear	Unclear	No	No
Cassella, M. J. & Viglione, D. J. (2009)	Unclear	Unclear	Unclear	Unclear	No	No
Iwasa and Ogawa (2013)	Unclear	Unclear	Unclear	Unclear	No	No

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Berant & Wald (2009)	Unclear	Yes	Unclear	Unclear	Unclear	Unclear
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Table 1.2 (continuation of Table 1)

	6. Were outcomes clearly defined and the measurements valid and reliable? 6.1 Were the observations and measurements based on standard, valid, and reliable data collection instruments/tests/procedures?	6.2 Were other factors accounted for (measured) that could affect outcomes?	6.3 How is the reliability and validity of the attachment instruments rated according to Ravitz et al., 2010.	6.4 Were the methods of assessment in the Rorschach recent? (I.e. was R-PAS or Exner system used.)
Duberstein and Talbot (1993)	Yes	No	Reliability: ++ Validity: ++	Exner's system used
Iwasa and Ogawa (2010)	Yes	Unclear	Reliability: + Validity: ++	Exner's system used
Lecbych & Seidl (2013)	Yes	No	Reliability: ++ Validity: ++	Exner's system used
Shaver, P.R., Berant, E., Mikulincer, M. & Segal, Y. (2005).	Yes	Yes	Unclear	Exner's system used
Cassella, M. J. & Viglione, D. J. (2009)	Yes	Yes	Reliability: + Validity: ++	Exner's system used
Iwasa and Ogawa (2013)	Yes	Unclear	Reliability: + Validity: ++	Exner's system used
Berant & Wald (2009)	Unclear (the assessment measure is described as being similar to ECR)	No	Unclear	Exner's system used

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Table 2 Case Study

	Did study address a clearly focused issue?	Do authors use appropriate method to answer research question?	Were cases recruited in an acceptable way	Was exposure accurately measured to minimise bias?	What are the results?	How precise is the estimate?	Do you believe the results?
Berant & Zim (2013)	Yes	Yes	Can't tell	Yes	The Rorschach provides information about a person's attachment through the assessment of his/her thinking processes, coping mechanisms, defence mechanisms, level of his/her primary needs or yearnings..	Can't tell	Yes

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Table 3 Systematic Review/ Conceptual framework

	Is the study relevant to Psychology?	Will the information if true require change in practice?	Was the research question clearly focused and appropriate?	Was the search strategy comprehensive?	Were inclusion and exclusion criteria specified and appropriate?	Was there an appraisal of the quality and validity of studies included?	Were processes for data abstraction, synthesis and analysis described?	Are the results clearly presented in narrative and/ or quantitative terms?	Are conclusions supported by results with biases and limitations taken into consideration? Are limitations identified and discussed?
Concklin, Malone & Fowler (2012)	Yes	Yes	Yes	Can't tell	No- not specified in article	No	Yes	Yes-narrative	Yes