How Dangerous is Wikipedia?

The Impact of Exposure to Internet-based Instructional Material

on Selected Rorschach Variables

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by

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The University of Texas at Austin, 2014

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This study investigated differences in R-PAS variables among two groups of participants, those who studied a Wikipedia article with information about the Rorschach (N=44) and those who did not (N=42). This study utilized a repeated measures design, wherein all of the participants took the Rorschach twice. The first time all participants completed the Rorschach under normal conditions. The second time all participants completed the Rorschach under the fake good condition, meaning they were motivated to present themselves in a favorable light. Participants in the experimental group were instructed to read the Wikipedia material before taking the test and to use this information to help them fake good. Results indicated that after reading the Wikipedia material, participants' responses demonstrated significantly improved perceptual accuracy (lower FQ-%). However, the overall findings suggested that most of the selected R-PAS variables were not significantly impacted by exposure to the Wikipedia material. All participants had changes in scores on a number of variables when asked to fake good, regardless of whether or not they were exposed to the Wikipedia material. Results indicated that when participants attempted to fake good, they were able to significantly improve markers of affect regulation (lower CF+C/SumC), coping effectiveness (higher MC-PPD), and interpersonal competency (lower PHR/GPHR). They were also likely to give less complex responses (lower Complexity) that were fewer in total number (lower R). Implications of these results and recommendations for forensic practice are discussed.

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Chapter 1: Introduction

Trudi Finger, a spokesperson for the Hogrefe Group, publisher of the Rorschach

Inkblot Test, has stated:

> It is therefore unbelievably reckless and even cynical of Wikipedia to on one hand
> point out the concerns and dangers voiced by recognized scientists and important
> professional associations and on the other hand — in the same article — publish
> the test material along with supposedly 'expected responses' (Cohen, 2009).

James Heilman, the Canadian physician responsible for posting the highly

controversial Rorschach content to Wikipedia, has audaciously responded:

> Restricting information for theoretical concerns is not what we are here to do . . .
> *Show me the evidence* [italics added]. I don't care what a group of experts says
> (Cohen, 2009).

Almost any concept, craze, or concern that exists in the real world exists in a

parallel form on the Internet. It is virtually inconceivable to imagine that some topic

cannot be found among the millions of websites on the Internet. This is problematic for

psychologists working in the field of assessment, who trust that only professionals within

their field are privy to certain information. Indeed, psychologists today are very

concerned about the increased proliferation of testing material available on the Internet.

Psychologists may wonder about the validity of certain measures commonly used in

assessments should their clients spend time researching the tests beforehand on the

Internet.

It is to be expected that a client will prepare for a psychological evaluation,

particularly in situations in which the outcome of an evaluation has the potential to

strongly impact the client's future. Even without this added incentive, it is probably

human nature to want to perform well on a test. Thus, it is no wonder that clients have

turned to the Internet, a widely accessible and up-to-the-minute resource, for advice on

how to "game" any test served up by an evaluator. Moreover, research suggests that

nearly 50 percent of lawyers acknowledge assisting their clients in ways to "beat"

particular tests utilized in psychological evaluations (Wetter & Corrigan, 1995).

The Rorschach Inkblot Test[1] is the second most widely used instrument in Child

Custody and Parenting Plan Evaluations (CCPPEs), just behind the Minnesota

Multiphasic Personality Inventory (MMPI)[2] in popularity amongst evaluators (Ackerman

& Ackerman, 1997; Keilin & Bloom, 1986). Among clinical psychologists, it ranks as the

fourth most frequently used test, and is exceeded in popularity only by the Wechsler

Adult Intelligence Scale (WAIS), the MMPI, and the Wechsler Intelligence Scale for

Children (WISC) (Hogan, 2005). The power and utility of the Rorschach appears to

depend largely on the ambiguous nature of the test, and the difficulty clients have in

determining the "right" response to provide. While self-report personality measures, such

as the MMPI and the Personality Assessment Inventory (PAI), offer valuable information

to a psychologist conducting a CCPPE, they are often deemed invalid, based on validity

scales within the instrument. As is often the case in CCPPEs, clients strive to present

themselves in a positive light, which typically results in a personality profile that cannot

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[1] For the sake of brevity, I will use the term "Rorschach" rather than Rorschach Inkblot Test or Rorschach Inkblot Method throughout this dissertation. It should be understood that the previously mentioned terms are used interchangeably in the literature.

[2] Throughout this dissertation, I will use the term "MMPI" to refer to all versions of the Minnesota Multiphasic Personality Inventory, including the Minnesota Multiphasic Inventory-Second Edition and the Minnesota Multiphasic Personality Inventory-Second Edition-Restructured Form.

be interpreted. This leaves the assessing clinician with little information on which to base her evaluation. Because the Rorschach is much less straightforward, clients have a harder time faking good (Ganellen, 1994; Grossman, Wasyliw, Benn, & Gyoerkoe, 2002; Wasyliw, Benn, Grossman, & Haywood, 1998). Indeed, the beauty of the Rorschach lies in its resistance to malingering and deception. This is particularly relevant in a child custody case, in which caretakers are motivated to present themselves as capable and well-suited to the task of raising children.

During a Rorschach administration, examinees are presented with a series of ten inkblots and asked, "What might this be?" Responses to the ten percepts are entirely open-ended and dictated by the examinee. This free-form quality contrasts sharply with the nature of a self-report measure in which clients are presented with a series of statements and asked to report the degree to which they agree with each statement. It is easy to imagine how prior exposure to the inkblots, or prior exposure to key information about the test, would call into question the validity of the Rorschach results. Prior to Wikipedia, the most well-known websites describing the Rorschach contained primarily spurious information about the test and were believed to be minor threats to test security (Ruiz, Drake, Glass, Marcotte, & van Gorp, 2002). Now, with a Wikipedia page describing the Rorschach in detail, psychologists must seriously consider the possibility that an administration will be spoiled or contaminated in some way (Rorschach test, 2012). Despite the clear need for a scholarly investigation into the effect of Wikipedia on Rorschach results, very few empirical studies to date have explored this topic (Schultz & Brabender, 2013).

Many questions remain regarding the future validity of the Rorschach, and a lively dialogue has surfaced surrounding this issue. Without digressing into the debate over the ethical issues involved in making sensitive information freely available on the Internet, an ongoing battle and intriguing philosophical discussion that could easily be the subject of its own dissertation, this study will explore Wikipedia's effect on the Rorschach protocols of individuals motivated to appear psychologically healthy. Psychologists may not like the fact that cherished information pertaining to the Rorschach, knowledge that was dispersed only to trained professionals in the past, is now accessible to anyone with an Internet connection and the ability to navigate a search engine. However, practitioners conducting forensic evaluations should accept the notion that this material has found a home in cyberspace, and focus on contributing to the empirical base of what we know about the Internet's role in clients' efforts to minimize their symptoms.

This dissertation is intended to be a first-step toward understanding a layperson's ability to appear well adjusted and free of emotional difficulties on the Rorschach after studying information available on the Internet. Through rigid scientific methods and a passion for performance-based assessment, the current study will significantly contribute to the ongoing conversation on Wikipedia and the Rorschach's susceptibility to positive impression management. The present study will significantly add to the literature on impression management and the Rorschach, and encourage future researchers to undertake projects that will contribute to the growing literature on forensic evaluations in the age of Wikipedia.

Chapter 2: Literature Review

Introduction

The literature review begins with a description of child custody and parenting plan evaluations (CCPPEs), and contains a particular emphasis on the admissibility and utility of Rorschach assessment in these types of evaluations. Next, the literature review will address the Rorschach's susceptibility to attempts at deception, including attempts to feign psychopathology as well as attempts to minimize psychological dysfunction. Following that section, the literature review will present research on the rapid pace with which sensitive material related to psychological assessment has infected mass media, and the thorny issue this presents for psychologists working in forensic domains. Lastly, the literature review will describe the most recently published Rorschach coding system, known as the Rorschach Performance Assessment System (R-PAS).

Child Custody and Parenting Plan Evaluations (CCPPEs):

<u>*Current Assessment Practices*</u>

Psychologists are often asked to consult in family law cases on matters of child custody and parenting capacity. The assessment method chosen by a practitioner conducting a Child Custody and Parenting Plan Evaluation (CCPPE) hinges on the legal issue in question as psychologists are obligated to choose instruments relevant to the forensic issue being litigated. Gould & Martindale (2007) emphasize that the purpose of a CCPPE is to provide information to the court and the family regarding the best psychological interest of the child or children. This follows from guidelines set forth by the American Psychological Association (APA), asserting that the primary purpose of a

CCPPE is to "assess the individual and family factors that affect the best psychological interests of the child" ("Guidelines for child custody evaluations in divorce proceedings.," 1994). Gould & Martindale note that evaluators have no duty to the child or the child's parents; psychologists conducting CCPPEs have a duty to the court or the attorneys involved in the case. This is an important point, as clinicians may need to shift their mindset from treating the child as a client to treating the court as the client. A psychologist conducting a CCPPE is charged with being an agent of the court. In addition, clinicians may be unfamiliar with the adversarial spirit of a courtroom.

Gould & Martindale propose a five pronged methodology for conducting scientifically informed CCPPEs. The authors suggest gathering data from the following sources: semi-structured interviews, psychological tests, self-report measures, direct behavioral observation, and extensive collateral record review and collateral interviews. They note that the report should be aimed at answering specific questions put forth by the court or the attorneys. The final report should provide pertinent information about family dynamics and assist the court in forming a custody decision. Information contained with the report should be as a clear and objective as possible, and practitioners should not be afraid of acknowledging the limitations of their evaluation. Gould & Martindale assert that evaluators should interpret test results carefully and clearly state how they arrived at specific conclusions. In others words, it is advisable to explain the link between one's methods and one's conclusions, to demystify the process and assure the court that the evaluation was based on sound assessment practices.

Bow & Quinnell (2004) surveyed 121 attorneys and judges to learn more about their opinions regarding CCPPEs. The attorneys and judges sampled in the study indicated that the most important aspects of an evaluation were discussions of the strengths and weaknesses of each parent, child information drawn from history and interview data, and recommendations for custody and visitation. They indicated that an evaluation should provide information related to parenting abilities and causal explanations for the parent's behavior, as well as the needs of the child.

Admissibility Standards of Expert Testimony

It is worthwhile to explore admissibility standards of expert testimony, considering the recent wave of critics who have questioned the scientific merits of the Rorschach and asserted that the Rorschach has no place in a court of law (Grove & Barden, 1999; Lilienfeld, Wood, & Garb, 2000; Wood, Nezworski, Lilienfeld, & Garb, 2008). As will be discussed in a later section, the Rorschach has been shown to contribute significantly to forensic evaluations, particularly as a tool for assessing parenting variables that are difficult to measure via self-report methods (Erard, 2005; Weiner, 2005). In addition, the existing literature reveals widespread support for the psychometric soundness and validity of the Rorschach Inkblot Method (Ritzler, Erard, & Pettigrew, 2002; Viglione, 1999; Weiner, 1996). Despite empirical evidence attesting to the utility of the Rorschach, opponents often put the burden on forensic psychologists to prove that inferences drawn from Rorschach scores are legitimate, which makes it imperative for psychologists to be familiar with legal standards for admissibility.

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Psychologists conducting CCPPEs must follow guidelines established by the Supreme Court's ruling in Daubert v. Merrell Dow Pharmaceuticals (1993). The Daubert decision established admissibility standards for expert testimony and in effect, allows judges to be the gatekeepers responsible for determining what is acceptable scientific testimony (McCann, 2004). In years past, testimony was deemed admissible if an expert witness based his or her testimony on a theory or technique generally accepted in his or her field (McCann, 2004). This is known as the Frye test, established nearly a century ago in 1923 (Frye v. United States). In the 1970s, the court put forth the Federal Rules of Evidence (FRE) in an attempt to clarify admissibility criteria. According to FRE, testimony was allowed if it was expected to add substantial, relevant information to the case. Thus, the Frye standards for expert testimony were based on general acceptance, while FRE standards were based on degree of helpfulness. These opposing standards were understandably confusing for psychologists working in forensic settings.

The Supreme Court's decision in Daubert v. Merrell Dow Pharmaceuticals *(*1993), which has been supported in two subsequent cases (General Electric Co. v. Joiner, 1997 and Kumho Tire Co. v. Carmichael, 1999), attempted to resolve the existing conflict and make admissibility criteria less ambiguous. Daubert gave trial judges significantly more power to determine admissibility of expert testimony. The Supreme Court advised that a judge base his or her decision on four criteria: (1) has the underlying theory or technique purported by an expert been tested?; (2) has the theory or technique been subject to peer review and publication?; (3) is there a known error rate?; and (4) is it generally accepted in the scientific community? (Bow, Gould, Flens, & Greenhut, 2006;

McCann, 2004). It is important for forensic psychologists to be familiar with this criteria and present testimony that is congruent with the court's evidentiary standards of reliability. Psychologists who serve as expert witnesses, particularly in heated child custody cases, should be prepared to face aggressive cross-examination and be capable of defending their testimony in light of the Daubert ruling. Bow et al. (2006) found factors such as adequate reliability and validity, a sufficient body of research on the instrument, adequate norms, acceptability in the child custody field, and relevance to the legal issue were important to psychologists when selecting tests for CCPPEs. It appears that psychologists conducting CCPPEs are well versed in the legal issues that may arise from a Daubert challenge, as they seem to choose tests that are likely to meet Daubert standards for admissibility.

A recent study investigated changes in the standards for admitting expert evidence in federal civil cases since Daubert (Dixon & Gill, 2002). After analyzing court opinions from 1980 to 1999, researchers found that judges were more likely to evaluate the reliability of expert evidence, standards for admitting expert evidence have tightened, and parties proposing and challenging evidence have adjusted to the change in standards. Dixon & Gill state that after Daubert, judges have examined the reliability of expert evidence more closely and have concluded that more evidence is unreliable as a result. The authors note that they were unable to ascertain whether or not this increased scrutiny is leading to better outcomes (i.e. dismissing evidence that is truly unreliable or irrelevant to the case). The researchers explain that in legal terms "reliability" is related to the trustworthiness of the data; the theory, methods, or logic underlying the findings; and

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general acceptance within the field. In addition, the study found that initially judges seemed to focus on evidence from the physical sciences, likely tied to the fact that the evidence presented in Daubert was medical in nature. In the years following the Daubert ruling, judges have expanded the type of evidence that is questioned.

Rorschach as an Integral Part of CCPPEs

As Heilbrun (1992) reminds his readers, psychologists conducting forensic assessments must select tests relevant to the legal issue at hand or to some psychological construct underlying the legal issue. In CCPPEs, the typical questions addressed by evaluators are related to ruling out psychopathology, assessing personality functioning, and determining parental strengths and weaknesses (Bow et al., 2006). The Rorschach is well suited to answering these questions and has been established as a valuable part of comprehensive CCPPEs (Calloway, 2005; Evans & Schutz, 2008). In fact, in a study of 201 practitioners with ample experience conducting CCPPEs, Ackerman & Ackerman (1997) found that the Rorschach was the second most popular instrument used to evaluate parents; it was second only to the MMPI-2.

Critics have charged that the Rorschach should not be used in CCPPEs because it is over-pathologizing and lacks sufficient psychometric properties (Grove & Barden, 1999; Wood, Nezworski, Lilienfeld, & Garb, 2003). However, these claims have not been supported in the literature and leading experts have asserted that the Rorschach is an appropriate and valuable test to administer as part of a thorough CCPPE (Erard, 2005; Weiner, 2005; Weiner & Meyer, 2009). Several researchers have emphasized the unique contributions of the Rorschach to CCPPEs, and noted that the Rorschach is able to

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answer questions related to personality functioning which are often overlooked or minimized in interviews or self-report questionnaires completed by the parent or caretaker.

Most, if not all, psychological tests administered in the course of a CCPPE measure parenting traits indirectly. The Rorschach is no exception. While it is not a direct measure of parental skills (indeed, it is difficult to even conceive of what such an instrument would look like), it can assess numerous variables relevant to parenting capacity. For example, Weiner (2005) outlines several personality characteristics linked to parental assets and limitations that are measurable by the Rorschach. These include factors such as general level of adjustment or psychological disturbance (i.e. the presence of depression, psychosis, coping deficits), judgment and decision making skills, ability to deal flexibly with problems, level of nurturance and empathy, interest in people, degree of comfort in close relationships, ability to express feelings and recognize feelings in others, and ability to manage stressful situations.

With impressive brevity and clarity, Weiner & Meyer (2009) explain the utility of the Rorschach in family law cases. The authors describe how the Rorschach can be used to assess personality characteristics "generally considered to enhance or detract from parents' abilities to meet the needs of their children" (p. 282). Weiner & Meyer suggest paying particular attention to indices of psychological disturbance, coping skills, and interpersonal accessibility when evaluating Rorschach results in the context of a CCPPE. The authors mention several specific variables that may serve as especially valuable

sources of information in matters of family law, including X-%, WSum6, GHR/PHR, the D-score, SumH, H:Hd+(H)+(Hd), Texture, and Cooperative Movement.

Erard (2005) explains that the Rorschach can assess the degree of fit between parents' psychological resources and the child or children's needs. This closely adheres to APA guidelines, which recommend that psychologists conducting CCPPEs assess "parenting capacity, the psychological and developmental needs of the child, and the resulting fit" ("Guidelines for child custody evaluations in divorce proceedings.," 1994, p. 678). Rorschach responses often provide information related to emotional instability, self-centeredness, antisocial attitudes, aggressiveness, impulse control, and irrational beliefs or thoughts (Erard, 2005). These are all issues that would be important to discuss in an evaluation examining how a parent's personality style may benefit or impede a child's development.

In a recent article, Evans & Schutz (2008) present straightforward and empirically informed guidelines for integrating Rorschach protocols into CCPPEs. The authors describe six key variable sets which can be effectively addressed by Rorschach results and are often of interest to the court: affectivity and its regulation; stress levels and coping styles/resources; psychopathology; conflict styles/tactics; ability to engage in nondefensive introspection; and interpersonal relatedness. In the Evans & Schutz model, these six categories, which are psychological constructs linked to parenting capacity, are used systematically to guide Rorschach interpretation. Readers will notice significant overlap between the Evans & Schutz method for utilizing Rorschach protocols in CCPPEs and the models described by Weiner, Weiner & Meyer, and Erard. The Evans &

Schutz model will serve as a guide for the current study, and the dependent variables were selected based on this framework.

Table 1 illustrates the Evans & Schutz model of Rorschach interpretation in CCPPE contexts:

TABLE 1.—Rorschach Variables Linked to Key Parenting Concerns in a CCPPE.

Psychological Construct	Interpretative Cluster	Configuration of Variables Useful for Assessment
Affectivity and its regulation	Anger and resentment	White Space (S); Aggressive Movement (AG Special Score); Aggressive Content (AGC)
	Anxiety and Stress	Inanimate Movement (m); Diffuse Shading (SumY); D and Adjusted D (AdjD); Armstrong's Trauma Content Index (TCI)
	Dysphoria and Pessimism	Sum of Achromatic Color (C'); Color Shading Blends (Col-Shd Blds); Morbid Content (MOR); Vista (V); Depression Index (DEPI); Suicide Constellation (S-CON)
	Affective Regulation and Impulsivity	FC:CF+C ratio*; Pure Color (C); Affective Ratio (afr); Intellectualization Index; Color Projection (CP)
Stress and Coping	Control and Stress Tolerance	D*; AdjD; Experience Actual (EA); Experienced Balance (eb); Coping Deficit Index (CDI)
	Passive Avoidance	Active to Passive ratio (a:p); Active to Passive Human Movement (Mp>Ma)
	Dependent Neediness	Texture responses (T); Food responses (Fd); Rorschach Oral Dependency scale (ROD)
	Withdrawal and Avoidance	Lambda (L); Isolation Index (Isol); TCI
Psychopathology	Affective Disorder	DEPI

TABLE 1, cont.

	Psychotic Processes	Perceptual Thinking Index (PTI)**; Ego Impairment Index (EII);
Conflict Styles/Tactics	Cooperative Strategies	Cooperative Movement (COP); Ratio of Good Human Representation to Poor Human Representation (GHR: PHR)*
	Competitive Strategies	AG; S; AgC; a:p
	Avoidant Strategies	Afr; p>a+1; Isol; L; CDI
Non-defensive Introspection of the Self	Capacity for self-inspection	Form Dimension (FD)
	Painful self-inspection	V
	Accuracy of self-representation	Reflections (Fr)*; Egocentricity Index (3r+[2]/R); Ratio of Whole Human Responses to Part Object or Fantasy-based Human Representations (H:Hd+[H]+[Hd]); Hypervigilance Index (HVI)
Interpersonal Relatedness and Responsiveness	Continuum between empathy and narcissistic preoccupation	T; COP; M; Mutuality of Autonomy scale (MOA); Fr; 3r+[2]/R
	Continuum between differentiation and fusion/enmeshment	MOA; ROD*, low SumH; ISOL

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T<small>ABLE</small> 1, cont.

Support and protection versus rejection and disdain	MOA; Obsessive Style Index (OBS); Fr
Attributional accuracy versus interpersonal distortion	M; H:Hd+[H]+[Hd]; HVI

Note. * indicates variable or R-PAS equivalent has been selected for analysis in the present study; ** indicates a component of the index has been selected for analysis in the present study.

Of course, practitioners trained in assessment practices are aware of the need to gather data from multiple sources, and are cautioned against drawing inferences based on an individual test. Indeed, the APA recommends interpreting test results "cautiously and conservatively, seeking convergent validity" ("Guidelines for child custody evaluations in divorce proceedings.," 1994). When composing the final report for a CCPPE, a responsible practitioner should base his or her conclusions, diagnostic impressions, and recommendations on multiple data points rather than results of an independent test. Assessors conducting CCPPEs are advised to integrate Rorschach findings with behavioral observations, historical information, collateral reports, and other test data in order form reasonable conclusions regarding a client's parental effectiveness (Weiner & Meyer, 2009).

Malingering and the Rorschach

While this dissertation investigates the ability of Rorschach clients to fake good, it is worthwhile to briefly examine the literature investigating the effect of malingering, or faking bad, on projective measures. This line of research is important because projective measures do not contain validity scales, as opposed to self-report inventories such as the MMPI or PAI. There is no established response set to identify malingerers or individuals attempting to exaggerate their symptoms. The vast majority of studies involve simulation research designs, meaning that researchers have instructed nonclinical samples to feign psychopathology or some sort of impairment (Elhai, Kinder, & Frueh, 2004; Sewell, 2008). Many designs are limited in that participants are required to take the Rorschach twice; once under normal conditions and once under feigning conditions. If the results do

indicate a difference in scores, it is unclear if this difference is due to the attempted simulation or the effect of retesting. In addition, many of the studies which have incorporated nonclinical samples face external validity issues; there is no way to compare the scores obtained by individuals in the feigning condition to those who are genuinely impaired.

Many clinicians are quick to point out that projective measures are immune to attempts at deception. This widely held belief likely arose from early studies of malingering and the Rorschach. Fosberg (1938) conducted the earliest known study of what he refers to as Rorschach "reliability". He asked the same group of participants to take the Rorschach first under standard instructions, again under instructions to "make the very best impression", and again under instructions to "make the worst possible impression." Fosberg used Chi-square analysis to compare the "psychograms" for each participant across the separate conditions and concluded that the Rorschach was impervious to attempts at impression management. He eloquently proclaims that the participants "could not escape their basic self without leaving – in the brief changes they could effect – traces of their origin" (p.30). Obviously, this study was conducted prior to modern day coding systems, such as Exner's Comprehensive System or the Rorschach Performance Assessment System, and inferences can hardly be drawn to today's more stringent Rorschach procedures (Exner, 2003; Meyer, Viglione, Mihura, Erard, & Erdberg, 2011a). However, it is interesting that early Rorschach pioneers were already interested in the power of this instrument to resist manipulation. In fact, Fosberg (1941,

1943) conducted similar studies over the next five years and concluded each time that participants could not successfully fake results on the Rorschach.

More recent studies of malingering and Rorschach present mixed results. Participants instructed to feign mental illness, such as depression or schizophrenia, typically produce fewer total responses, more responses with poor form quality, a low number of popular responses, and a greater number of morbid special scores (Albert, Fox, & Kahn, 1980; Caine, Kinder, & Frueh, 1995; Meisner, 1988; Netter & Viglione, 1994; Seamons, Howell, Carlisle, & Roe, 1981). Meisner (1988) was the first Rorschach researcher to offer monetary incentives to simulators. Perhaps not so surprisingly, money appears to function as a powerful motivator and has been recommended in the literature since the publication of Meisner's article (Rogers, 1997). The current study will take advantage of Meisner's innovative work and incorporate his idea of including financial incentives.

Across studies, it appears that skilled practitioners often misclassify simulators as genuine patients experiencing a mental disorder (Elhai et al., 2004; Sewell, 2008). This would suggest that the Rorschach is not as immune to manipulation as some proponents would hope. However, it is important to bear in mind that the Rorschach as a diagnostic tool has demonstrated mixed results in the literature. Some studies have provided evidence to support the diagnostic efficiency of particular indices, while other studies have claimed that the Rorschach is likely to produce many false positives within clinical populations depending on cutoff scores used by practitioners (Dao & Prevatt, 2006; Ganellen, 1996; Ilonen et al., 1999; Klonsky, 2004; Kumar & Khess, 2005). Therefore,

results suggesting that the Rorschach is susceptible to malingering are confounded by research demonstrating that Rorschach scores can misclassify even authentic patients.

Minimization and Psychological Assessment:

<u>Underreporting Symptoms on Self-report Measures</u>

Several studies have examined the effect of coaching on an individual's ability to underreport symptoms without detection (Baer & Sekirnjak, 1997; Baer & Wetter, 1997). Typically researchers provide information to the respondents regarding the validity scales within the instrument, explaining to the respondents that there are scales designed to detect if one is trying to present an unrealistically favorable impression. For the most part, these studies have shown that it is possible for well-trained assistants to teach people to underreport symptoms on such commonly used personality measures as the MMPI and the PAI. In addition, a vast literature exists on dissimulation and neuropsychological tests (Bauer & McCaffrey, 2006; Coleman, Rapport, Millis, Ricker, & Farchione, 1998; Dunn, Shear, Howe, & Ris, 2003; Erdal, 2004; Franzen & Martin, 1996; Rose, Hall, & Szalda-Petree, 1998). For the most part, researchers have addressed violations of test security with respect to neuropsychological measures, such as tests intended to assess for memory impairment or brain injury. An in depth discussion of these studies is beyond the scope of this dissertation. Suffice it to say, interested readers are referred to Suhr & Gunstad (2007) for a more detailed review.

<u>Efforts to Conceal on the Rorschach</u>

Research addressing the ability of individuals to simulate a favorable Rorschach profile is highly relevant to forensic issues, particularly CCPPEs (Elhai et al., 2004). In

child custody cases, caretakers have a strong incentive to appear psychologically healthy in the hopes of being awarded custody. There are far fewer studies in the literature examining attempts to conceal psychopathology than attempts to feign psychopathology on projective measures (Sewell, 2008). At the time this paper was submitted, only a handful of studies had been published addressing this topic. This gap in the literature cannot be underscored enough as it supports the need for the current study.

The first study to emerge in the field compared MMPI scores to Rorschach results in a sample of commercial airline pilots undergoing psychological evaluations to have their pilot's licenses reinstated (Ganellen, 1994). As predicted, participants responded in a defensive manner on the MMPI (i.e. elevations on the L scale, K scale, and F-K index). Contrary to the researcher's first hypothesis, Rorschach scores did not appear defensive or overly constricted. The exception to this was the number of Personalized answers; pilots in the sample produced a greater than average number of Personalized responses, which reflects one aspect of a defensive response set. Contrary to the author's second hypothesis, Rorschach profiles included indicators of emotional distress, damaged self-perceptions, and difficulty with interpersonal relationships. Ganellen commented that the discrepancy between MMPI and Rorschach results was provocative but preliminary and called for additional research.

Ganellen's method was to compare the pilots' protocols to Exner's norms for non-patient adults, and following Dies' suggestion, he chose not to perform any formal statistical contrasts as this would be an inappropriate use of norm data (Dies, 1995a). The lack of statistical comparisons is a limitation as well as the small sample size and absence

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of a control group. Moreover, the researcher could not be certain that the Rorschach data was an accurate portrayal of participants' personality functioning; perhaps the Rorschach protocols reflected less pathology than was actually present and the participant's attempts to conceal psychological disturbance *were* somewhat effective. Moving past the limitations of Ganellen's study and focusing on its strengths, the author should be praised for utilizing a sample of pilots who were genuinely motivated to present themselves in a positive light.

The second major study in this area involved a sample of alleged sex offenders, a group of participants the researchers assumed would be likely to deny their problems (Wasyliw et al., 1998). Researchers compared the Rorschach results of participants who minimized on the MMPI to participants who responded honestly on the MMPI. Wasyliw et al. (1998) hypothesized that minimizers would produce Rorschach protocols with a greater number of popular responses (P), a higher Lambda score (L), a greater number of Personalized answers (PER), a lower total number of responses (R), and fewer blends. Through a series of independent t-tests, Wasyliw et al. found no significant differences in Rorschach scores between the two groups. The authors suggested that their study may lend support to the notion that the Rorschach is immune to deliberate attempts at manipulation.

In a similar, more recent study, researchers investigated attempts to conceal psychopathology on the Rorschach in a sample of sex offenders (Grossman et al., 2002). Grossman et al. predicted there would be no significant differences in select Rorschach variables between sex offenders who minimized on the MMPI and those who responded

in a forthright manner. The researchers employed a series of t-tests to compare Rorschach variables related to emotional distress, faulty judgment, disordered thinking, and poor interpersonal relations. Their hypotheses were supported, as individuals who were able to minimize pathology on the MMPI were unable to produce Rorschach profiles free of psychological disturbance. Based on the results of this study, Grossman et al. propose that the Rorschach is resilient to attempts at faking good, and should be considered an especially powerful tool in forensic settings in which clients are likely to purposefully distort their symptomatology. Grossman et al. go on to say that while the MMPI is effective at detecting attempts to minimize, the results cannot shed light on the type of symptoms being denied or minimized by the client. Thus, the combined use of the MMPI and the Rorschach is considered ideal in forensic cases.

Taken together, the three studies described above provide evidence that the Rorschach is likely impervious to attempts at minimizing psychopathology. The researchers compared performance on the MMPI with performance on the Rorschach and found that participants who denied their problems on the MMPI were unable to do so when solving the Rorschach task. Ganellen examined a sample of commercial airline pilots, while Wasyliw et al. and Grossman et al. studied alleged sex offenders. Each sample was genuinely motivated to employ positive impression management strategies. In each study, the participants were unable to conceal psychopathology despite being motivated to present themselves in the best possible light.

The Availability of Sensitive Test Materials on the Internet:

A Look Back at Former Threats

Practitioners working in the field of forensic psychology today must be mindful of

the increased proliferation of instructional material on the Internet. It is true that an

industrious client could find all sorts of detailed information about psychological testing

in a book, such as a seminal work on MMPI interpretation (Butcher & Williams, 2000;

Graham, 2006; Greene, 2010). These reference materials, although targeted at

professionals, are available to any ordinary person who has the inclination and

wherewithal to seek them out. However, the accessibility of the Internet and the speed

with which information is transmitted makes it an especially attractive resource for

clients who wish to do their "homework" before an evaluation.

Although the present study will utilize instructional material available online, it is

well worth mentioning William Poundstone's probing bestseller, *Big Secrets* (1983).

Right there on the bright yellow book jacket, Poundstone boasts to readers that he will

reveal, "What your answers to the Rorschach test really mean." The book contains an

entire chapter dedicated to the Rorschach, including colorless renditions of all ten

inkblots and fairly detailed descriptions specific to each card. The chapter reads like an

instruction manual of sorts, complete with how-to's for each card. For instance, when

describing Card I, Poundstone states:

> The first blot is easy. How fast you answer is taken as an indication of how well
> you cope with new situations. The best reaction is to give one of the most
> common responses immediately. Good answers are bat, butterfly, moth, and (in
> center of blot) a female figure. Mask, jack-o'-lantern, and animal face are
> common responses too, but in some interpretation schemes they suggest paranoia.
> A bad response is any that says something untoward about the central female
> figure. "She" is often judged to be a projection of your own self-image. Avoid the
> obvious comment that the figure has two breasts but no head (Chapter 16, Section
> on Plate I).

In addition to providing information about each card, Poundstone advises readers that the psychologist administering the test will be recording everything the examinee says, will be attentive to the time it takes for the examinee to respond, and will be observing the number of responses the examinee produces to each card. Overall, the Rorschach-related information revealed in *Big Secrets* appears mixed in terms of accuracy and relevancy. He mentions several of the Popular responses, but also provides somewhat dubious information related to sexual content. For example, the author informs his readers:

> mentioning more than four sex images in the ten plates is diagnostic of schizophrenia. The trouble is, subjects who took Psychology 101 often assume they should detail every possible sex response, so allowances must be made. Most Rorschach workers believe the sex images should play a part in the interpretation of responses even when not mentioned (Chapter 16, Section on Plate II).

Empirically speaking, it is difficult to ascertain whether or not this particular book chapter should be considered a high threat to test security, as the segment of clients who are familiar with, or even aware of, this printed material remains unknown. Regardless, I believe it is important to acknowledge Poundstone's work since it was likely one of the primary sources of publically disseminated Rorschach knowledge prior to the Internet age.

Returning now to an overview of the availability of online material, Ruiz et al. (2002) sought to investigate websites with information that might help a client fake his or her results on a psychological evaluation. The researchers specifically looked for information useful to clients attempting to simulate depressive symptoms in order to

obtain or maintain disability benefits. The majority of websites, about 70 to 85%, were classified as "minimal threats" to test security because they contained information unlikely to help a client dissimulate effectively. Approximately 20 to 25% of the located websites were categorized as "indirect threats" and only two to five percent were viewed as "direct threats." In the latter category, Ruiz et al. found websites featuring accurate images of the Rorschach inkblots, as well as information related to detection strategies used by evaluators to identify psychopathological traits and evidence of malingering. Of note, the authors state that these websites were found more easily by graduate students than individuals not associated with psychology.

To keep matters in perspective, this study was conducted over one decade ago in the year 2000. At the time the proposal for this dissertation was written, there were no follow-up studies published in the literature. Common sense and practical experience would suggest that the number of websites describing sensitive information related to psychological testing has surely increased since Ruiz et al. published their analysis. Certainly, there was no Wikipedia page or mobile phone application devoted to the Rorschach at the time Ruiz and colleagues conducted their investigation (Lipert, 2009; Rorschach test, 2012). At the time of data collection, images of the actual Rorschach inkblots could not be spotted hiding in the background on popular television sitcoms, flashed on the screen as part of a "psychological evaluation" in a recently released video game, or presented in slideshow fashion in countless YouTube videos (andreasilva85, 2009; Harmon, Stamatopoulos, & Johnson, 2010; Obsidian Entertainment, 2010). In short, Ruiz et al.'s conclusions may be somewhat obsolete. The researchers could not

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account for the recent explosion of Rorschach cameos in the mass media, and their findings are misleading regarding the current threats to test security.

The Current State of Affairs

The Wikipedia entry for the Rorschach Inkblot Test is perhaps the most notorious of all websites in existence pertaining to the Rorschach (Rorschach test, 2012). At the time of this writing, it is the top website to appear when one performs a simple online search for the Rorschach test. Moreover, recent surveys indicate that a whopping 53% of all American Internet users report using Wikipedia (Pew Internet & American Life Project, 2011). The Wikipedia-hosted Rorschach article contains a wealth of information, with topics of varying depth and accuracy. For example, the page contains factual portrayals of all ten inkblots and a list of "Popular responses" next to each card. While some of the purported "Popular responses" could potentially earn a Popular score according to R-PAS coding criteria, other responses listed on the website would not meet established coding guidelines (Meyer et al., 2011a). Please refer to Appendix E of this dissertation for an abridged version of the Rorschach article. Interested readers may also wish to personally visit the Wikipedia site in order to fully explore the range of content that is currently available.

Fortunately for psychologists concerned about modern day threats to test security, a current search of the literature yielded a recently published article by Schultz & Loving (2012). The article sheds much needed light on the issue of the Rorschach's online presence and manages to address several of the limitations discussed in regards to the aforementioned Ruiz et al. paper. In their two-part study, Schultz & Loving investigated

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the prevalence of online information related to the Rorschach as well as Internet users'

reactions to the media coverage surrounding the Rorschach-Wikipedia controversy. In the

first part of the study, the authors completed Google searches for websites containing the

key terms "Rorschach" or "inkblot test." After excluding irrelevant results (i.e. pages

related to the Rorschach comic book character from the *Watchmen* series), the authors

proceeded to classify 88 distinct websites according to the level of threat each site posed

to test security. Among the 88 websites identified, the authors concluded that 39 sites

(44% of the sample) presented no threat, 13 sites (15%) presented a minimal threat, 19

sites (22%) presented an indirect threat, and 17 sites (19%) presented a direct threat.

According to the authors, many of the websites classified as an indirect threat were

training websites that allowed visitors to purchase sensitive test materials without

requiring a license or other professional credentials. Websites posing a direct threat were

described by the authors as sites containing depictions of the inkblots, lists of the

"common responses," or information regarding test interpretation.

In the second part of the study, Schultz & Loving analyzed a total of 520

comments made by Internet users in response to five major online news stories reporting

on the Rorschach-Wikipedia debate. The authors coded each comment as expressing a

favorable, unfavorable, or neutral opinion of the field of psychology, psychologists, or

the Rorschach. They found eight percent of comments featured unfavorable remarks

toward the field of psychology, 15% contained unfavorable opinions toward

psychologists, and 35% demonstrated unfavorable sentiments toward the Rorschach.

Examples of reactions that were coded as unfavorable toward the Rorschach included

comments describing the test as outdated, invalid, unscientific, or overly pathologizing.

The authors stated that the most frequently occurring theme contained within the

unfavorable comments was that the test lacks validity or utility. In addition, they noted

that many of the negatively tinged comments featured common misconceptions about the

Rorschach, such as the notion that psychologists could easily create a new set of inkblots,

or the perception that it is possible for a psychologist to make a diagnosis based on one

Rorschach response alone.

Interestingly, Schultz & Loving found that of the comments containing favorable

opinions toward the Rorschach, 60% were composed by self-identified mental health

professionals or graduate students. The authors go on to say that these favorable

comments generally attempted to defend the test by noting its acceptance in the

courtroom, its frequency of use in clinical and forensic settings, and its overall scientific

basis as demonstrated in the literature.

The Effect of Prior Exposure

To date, very few published studies have examined how prior exposure to

information about the Rorschach may affect test validity. In one of the first published

studies on the subject, Castro-Villarreal (2010) investigated the effect of prior exposure

to Card I on selected Comprehensive System variables. In a fairly straightforward

between-subjects design, the author divided a group of 59 Mexican-American

undergraduate students into an experimental and a control group. Participants in the

experimental group were exposed to Card I on two occasions, separated by a one week

interim. At Time 1, participants in the experimental condition were shown Card I on a

projector screen for approximately 10 seconds. One week later, at Time 2, those

participants were presented with Card I again, and were then instructed to complete an

abbreviated version of the Rorschach task in writing. Participants in the control condition

were only exposed to Card I on the day they completed the Rorschach task. Participants'

responses were coded and analyzed for group differences on selected CS variables (the

frequency of responses, popular responses, space responses, form quality of the response,

and special scores). Independent t-tests revealed no significant group differences on any

of the variables of interest. The author suggests that these results indicate prior exposure

does not differentially impact responses. In addition, she proposes that these results

support the appropriateness of re-testing. Of note, Castro-Villarreal utilized a modified

CS administration procedure in her study; she presented only the first card of the test,

administered the test in a group setting, and did not include the Inquiry phase. As such,

her results may be of limited generalizability, although they are an exciting jumping off

point for research into this area.

In one of the very few published studies examining the impact of online

information on test results, Schultz & Brabender (2013) sought to investigate how the

Wikipedia article might impact Rorschach results in child custody evaluations. The

authors employed a between-subjects design and incorporated various methodological

choices to increase the generalizability of their results to forensic populations. The

authors recruited a sample of 50 parents from the community, and divided the sample

into an experimental and a control group. The majority of the participants were married,

European-American, highly educated women. Before taking the test, the experimental

group was presented with an abridged form of the 2010 version of the Rorschach article found on Wikipedia, while the control group was given an irrelevant Wikipedia article on the Philadelphia Phillies. Participants in both groups were instructed to fake good, as if they were involved in a child custody dispute and were taking the test as part of a real life child custody evaluation. The Rorschachs were individually administered according to procedures outlined in the Comprehensive System (Exner, 2003).

Schultz & Brabender (2013) analyzed their data for group differences on several Comprehensive System variables. They found significant differences on the number of response (R) as well as variables associated with perceptual accuracy and conventionality (the number of Popular responses, X+%, XA%, and WDA%), with the experimental group demonstrating "better" scores on all of these variables. The researchers found no significant differences on Form%, Zf, Blends, or PERs, which were variables they hypothesized would be associated with defensiveness or low levels of engagement. In a follow-up analysis controlling for the influence of Populars, significant differences on variables associated with perceptual accuracy disappeared. Based on these results, Schultz & Brabender suggested that Popular responses served as a mediator variable that accounted for the initial improvement in form quality scores of the experimental group. The authors concluded that the Wikipedia article may allow examinees to present themselves as having better reality testing than they actually do. They cautioned evaluators that test preparation on the part of the client, such as browsing the Wikipedia site, could bias test results, particularly in regards to perceptual accuracy.

Implications for Forensic Assessment

The controversy surrounding Wikipedia's Rorschach page has been a recent development and it appears psychologists have lost the battle to remove information from the popular website (Rorschach test, 2012). Potentially damaging content related to the Rorschach, including images of all ten inkblots and a list of corresponding "Popular responses," was added to the online encyclopedia in 2009 by James Heilman, a Canadian emergency room physician. Dr. Heilman's contributions to the Rorschach article on Wikipedia sparked a fierce debate between worried psychologists and Internet users advocating for increased transparency within the field of psychological assessment (Cohen, 2009; Nashat, 2010; Smith, 2010; White, 2009).

Opponents of the Rorschach article on Wikipedia have argued that APA's ethical standards require psychologists to make every effort to preserve the "integrity and security of test materials" ("Ethical Principles of Psychologists and Code of Conduct.," 2002, p. 1072). On the other hand, James Heilman, the Saskatchewanian medical doctor responsible for posting images of the ten inkblots to Wikipedia, argues that the right to free speech supersedes any APA guideline or plea from psychologists (Cohen, 2009; Smith, 2010). An emergency room physician at Moose Jaw Union Hospital, Dr. Heilman has expressed disdain for psychologists' desire to protect information about the Rorschach. The Wikipedia contributor told a Canadian news outlet, "They don't want their profession exposed. They want to stay as a secret society" (White, 2009).

Although there has been a great deal of discussion amongst professionals who use the Rorschach routinely in practice, as of this writing there have been very few scholarly

investigations into how this website is affecting the validity of actual psychological

evaluations (Castro-Villarreal, 2010; Schultz & Brabender, 2013). The present study will

directly respond to this growing concern amongst psychologists who rely on the

Rorschach as a powerful and unique assessment tool, a concern that is particularly salient

for psychologists practicing in forensic settings.

The Rorschach Performance Assessment System (R-PAS):

<u>*Brief Overview*</u>

R-PAS is founded on the most up-to-date empirical research available on the

Rorschach and is spearheaded by leading researchers in the field of performance-based

personality assessment (Meyer et al., 2011a). R-PAS builds on Exner's Comprehensive

System with the goal of making names and symbols more consistent, improving the ease

with which Rorschach coding is taught and understood by new learners, and removing

variables lacking adequate construct validity (Meyer, Viglione, Mihura, Erard, &

Erdberg, 2011b). It is based on a multitude of studies addressing the need for a modified

administration procedure, a very recently published meta-analysis on 70 major

Comprehensive System variables, and international reference data (Dean, Viglione,

Perry, & Meyer, 2007; Meyer, Erdberg, & Shaffer, 2007; Mihura, Meyer, Dumitrascu, &

Bombel, 2013; Shaffer, Erdberg, & Meyer, 2007). In their own words, Meyer et al.

(2011b) explain that the new system:

> emphasizes those aspects of test performance that have the strongest empirical
> foundation, the most transparent connections with underlying psychological
> processes, the greatest utility as rated by experienced Rorschach users, and the
> most reliable normative comparisons.

The scholars behind the development of R-PAS have run or are currently running training workshops across the United States, Argentina, Brazil, Costa Rica, Finland, Italy, Japan, Mexico, the Netherlands, Norway, Spain, Sweden, and Turkey. In these workshops, the founders present the latest material on their coding system and their rationale for why a change is necessary to move Rorschach assessment into the 21st century (Meyer et al., 2011b).

Critics have accused R-PAS creators of destroying John Exner's legacy in the wake of his death, which occurred in 2006. Avid followers of the Comprehensive System have argued that it is premature to discredit Exner's work and have commented that there is currently no need to abandon the Comprehensive System (Sciara & Ritzler, 2010). However, as more information is disseminated on the system, a less malicious picture emerges. It appears that when this process began several years ago, the developers had no intentions of slandering Exner's work or producing a rift amongst Rorschach enthusiasts. Indeed, several of the leading proponents of R-PAS were colleagues of Exner, members of his Rorschach Research Council (RRC), and contributors on numerous articles supporting the reliability and validity of the Comprehensive System (Exner, Armbruster, & Viglione, 1978; Meyer, Viglione, & Exner, 2001; Ritzler, Erard, & Pettigrew, 2002; Viglione, Perry, Jansak, Meyer, & Exner, 2003). Prior to his death, John Exner did not legally appoint the RRC or any person as being specifically responsible for updating the Comprehensive System. After several years of debate between Exner's heirs and members of the RRC, his heirs decided to prohibit any modifications to the CS and to leave the system as it was in 2006. In order to keep pace with emerging scientific

developments and to follow through with research endeavors initiated by the RRC, four

members of the RRC ultimately developed R-PAS. The system "aims to enhance the

psychometric foundation of the Rorschach method, while allowing examiners to interpret

the rich communication, imagery, and interpersonal behavior within a stronger, evolving

psychometric foundation" (Meyer & Eblin, 2012, p. 108). Given that R-PAS is still in its

infancy, it is anticipated that the present study will be one of the first dissertations to

utilize this evidence-focused method of Rorschach administration and coding.

R-PAS and Impression Management

The creators of R-PAS provide brief guidelines regarding how to cope with

possible coaching in cases where the individual is motivated to distort his or her

responses (Meyer et al., 2011a). Examiners are advised to ask directly about preparation

for the testing. If the respondent reveals that he or she has prepared for the test, a clinical

determination should be made about whether to proceed. They recommend that the

examiner ask the respondent whether he or she is willing to be honest and spontaneous.

Lastly, R-PAS guidelines encourage examiners to be familiar with current publicly

available coaching materials.

Of high relevance to this dissertation, R-PAS administration instructions

specifically mention the Wikipedia website. Per Meyer at al.'s (2011a) instructions:

> it would behoove the examiner to know what kind of information – and
> misinformation – is most readily available on the Internet about the Rorschach.
> Especially for high stakes assessments, one could prepare a checklist of assertions
> from *sites like Wikipedia* [italics added] in order to evaluate protocols for
> evidence of their utilization (p. 12).

Although R-PAS administration guidelines acknowledge the possibility that respondents may research the test beforehand, the instructions provided within the manual stop short of offering any definitive solutions to the problem. It appears that without any evidence in the literature on how coaching or prior exposure affects Rorschach validity, the creators of R-PAS are forced to defer to the examiner's "sound clinical judgment" (Meyer et al, 2011a, p. 12). The fact that R-PAS guidelines include a short section addressing what to do if one suspects that a client has been coached on the test speaks to the importance and timeliness of this issue. It is clearly a cause for concern among experts in the field of Rorschach research. This dissertation will offer insights into this issue and answer questions that may impact future administration procedures.

Statement of Purpose

The purpose of this study was to investigate the outcome of exposure to Internet-based instructional material (Rorschach test, 2012) on selected R-PAS variables. To date, there have been very few scholarly investigations examining the impact of prior exposure to online information on the Rorschach protocols of individuals instructed to fake good (Schultz & Brabender, 2013). The present study sought to explore how exposure to Wikipedia-based information about the Rorschach influenced test results, specifically in a simulated forensic population. It was hoped that the results of this study would generalize to a forensic population, as there is a good probability that clients involved in high stakes legal cases may read information about the Rorschach prior to completing the test.

More specifically, the current study investigated how reading the Wikipedia material influenced various constellations of personality functioning measurable by the

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Rorschach, and noted in the literature to be important aspects of parenting capacity. The six areas of interest included (1) affectivity and its regulation; (2) stress and coping; (3) psychopathology; (4) conflict styles/tactics; (5) non-defensive introspection of the self; and (6) interpersonal relatedness. As noted by Evans and Schutz (2008), these six categories are considered cornerstones of an empirically grounded CCPPE. In addition, this study sought to investigate how exposure to the Wikipedia material impacted variables associated with defensiveness, conventionality, and level of engagement with the task.

Hypotheses

Because very little research addressing this topic has been published to date, the present study should be considered a pilot study and exploratory in nature. Therefore, no hypotheses were offered regarding the variables associated with the six primary areas of functioning noted above. There was no basis available in the literature to make an informed prediction of how instructional material would impact Rorschach scores relevant to parenting capacity.

Based on previous studies of positive impression management, hypotheses were made regarding whether or not Rorschach protocols obtained post-exposure to the website would be marked by greater levels of defensiveness and conventionality than protocols obtained during the first test administration (Ganellen, 1994; Schultz & Brabender, 2013; Wasyliw et al., 1998). The author hypothesized that participants would be more suspicious or skeptical of the test after studying the Wikipedia material, which was expected to result in significantly fewer total responses (R), significantly more

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Personalized answers (PER), significantly more Popular responses (P), a significantly higher Proportion of Pure Form responses (F%), and significantly lower Complexity compared to the first test administration. With respect to these five variables, it was hypothesized that no significant differences would be observed across time for participants who were not exposed to the Wikipedia material.

Chapter 3: Methods

Participants

100 participants from the Department of Educational Psychology subject pool were recruited for this study. It was determined that an N of 100 is sufficient to achieve power for this study following Dies' (1995a) suggestion that group sizes average at least fifty members and that for "exploratory studies in uncharted areas, larger samples are essential" (p. 106). In addition, sample size was determined using G*Power, a statistical program that computes sample size and power. The researcher set the desired power as .80 with an alpha of .05 and an anticipated moderate effect size of .25. An effect size of .25 was selected in light of a published meta-analysis demonstrating moderate to large effect sizes across Rorschach variables (Grønnerød, 2004). Taking into consideration the stated parameters and accounting for the statistical methods to be used, it was determined that the minimum sample size should be 28. Because Dies' guidelines were more conservative and specifically directed toward Rorschach research, it was decided that the goal would be adhere to his recommendations as closely as possible.

All of the participants were enrolled in an undergraduate course on Human Sexuality, and participated in this study in order to fulfill the department's undergraduate research requirement. Of those initially contacted by the primary investigator, eight students were either unable to attend a testing session due to scheduling conflicts, or failed to attend their scheduled testing session. Those individuals were subsequently removed from the study and offered the opportunity to complete an alternate assignment in order to satisfy the research requirement. Of the 92 students who completed both

phases of the study, four students provided Rorschach protocols with an insufficient number of responses (i.e. less than 16 responses). These low-R protocols were excluded from analysis, as they do not meet minimum guidelines for valid R-PAS interpretation (Meyer et al., 2011a). Of the 88 participants who completed both phases of the study and produced valid protocols, two students reported on the demographic questionnaire that they had previously taken the Rorschach. Their test data was excluded from analysis, as their prior exposure to the test could potentially bias the results of the study. Thus, the final sample consisted of 86 participants, with 44 participants in the experimental group and 42 participants in the control group.

Of the 86 participants in the final sample, 50 (58.1%) identified as European-American, 17 (19.8%) identified as Latina(o) or Hispanic, 11 (12.8%) identified as Asian or Asian-American, 5 (5.8%) identified as multiracial, and 1 (1.2%) identified as African-American. Two participants left the questionnaire item related to ethnic identity blank. The majority (82.6%) of the current sample identified as female, while 15 (17.4%) identified as male. The mean age was 20.62 years old, with a range of 18 to 27. Of the current sample, 17 (19.8%) participants identified as freshmen, 14 (16.3%) participants identified as sophomores, 22 (25.6%) participants identified as juniors, and 32 (37.2%) participants identified as seniors. The majority (88.4%) of the current sample was single. In contrast, 9 (10.5%) participants identified as cohabitating with a romantic partner.

Materials

Demographic Questionnaire. The demographic questionnaire designed for the purposes of this study included items related to gender, age, ethnic identity, year in

college, college major, relationship status, and native language. The brief questionnaire also included items related to the participant's knowledge of and/or prior exposure to the Rorschach. Participants were asked, "Had you heard of the inkblot test before today?" If they answered affirmatively, respondents were instructed to describe what they knew about the test in an open-ended format. This portion of the survey was assessed by the researcher to determine eligibility for the study. Participants were also asked if they had ever taken the Rorschach. Data collected from respondents who had previously been administered the Rorschach was not included in the current study. Throughout the data collection process, the term "Rorschach" was purposefully avoided in an attempt to discourage curious participants from researching the instrument prior to their second testing session.

The Rorschach Inkblot Test. The Rorschach Inkblot Test was the primary material used in this study. Standard R-PAS testing procedures were altered using a computerized group administration procedure, which was designed to optimize the number of participants tested while upholding R-PAS guidelines as best as possible. This methodology accommodated up to 15 participants per session. Each participant was seated at his or her own laptop computer. The goal of this methodology was to simulate standard R-PAS individual administration as closely as possible. The computerized test administration was constructed by the author for the purposes of this study using Qualtrics, a software company specializing in online data collection. All Rorschach coding was completed by the primary investigator.

Variables Selected for Analysis. Weiner (1995) suggested Rorschach variables needed to be refined, interactive, conceptually based, selective, and reliably scored. The author maintained that variables should be selected in a way that reflects up-to-date knowledge and contemporary practice with respect to scoring specificity (Weiner, 1995). For this dissertation, a total of 11 dependent variables were carefully chosen. The first six variables reflected specific personality characteristics relevant to CCPPEs as suggested in the Evans & Schutz model. The next five variables reflected aspects of defensiveness and level of engagement with the task. All of the variables selected for analysis were included in the R-PAS method of Rorschach coding and have demonstrated an excellent level of construct validity in the literature (Mihura et al., 2013). It should be noted that no approach to Rorschach interpretation disregards the qualitative aspects of the responses. However, given the confines of the present study, it was impractical to attempt a meaningful content analysis of the participants' Rorschach responses.

Tables 2 and 3 present the Rorschach variables selected for analysis in the current study:

TABLE 2.—Variables Related to Parenting Capacity Selected for Analysis.

Psychological Construct	R-PAS Variable	Abbreviation
Affectivity and its regulation[a]	Color Dominance Proportion	CF+C/SumC
Stress and Coping	Index of Human Movement and Weighted Color to Potentially Problematic Determinants	MC-PPD
Psychopathology	Form Quality Minus Percentage	FQ-%
Conflict Styles/Tactics	Poor Human Representation Proportion	PHR/GPHR
Non-defensive Introspection of the Self	Reflections	r
Interpersonal Relatedness	Oral Dependency Language	ODL

Note. [a]The category is derived from the CCPPE model developed by Evan and Schutz (2008).

TABLE 3.—Variables Related to Defensiveness, Conventionality, and Engagement Selected for Analysis.

Psychological Construct	R-PAS Variable	Abbreviation
Forthcomingness, Ideational Flexibility, Compliance[a]	Number of Responses	R
Defensiveness, Self-Assertiveness	Personal Knowledge Justification	PER
Conventionality	Popular Responses	P
Simplification, Lack of Involvement	Proportion of Pure Form Responses	F%
Engagement, Psychological Activity	Complexity	Complexity

Note. [a]The descriptors are derived from interpretation guidelines in the R-PAS manual (Meyer et al., 2011a).

CFC Proportion, or Color Dominance Proportion, is an approximate measure of one's ability to exert cognitive control and modulation in response to environmental stimuli, particularly in the presence of affectively charged stimuli (Meyer et al., 2011a). Exner & Erdberg (2005) explain that CFC Proportion is associated with impulse control and serves as a measure of one's "ability to modulate output when affect is involved" (p. 241). In R-PAS, CFC Proportion is categorized as a "Page 1" variable, indicating it is one of the variables that should be awarded primary weight during the interpretation process (Meyer et al., 2011b). This variable is known as the FC:CF+C ratio in the Comprehensive System.

The index of Human Movement and Weighted Color to Potentially Problematic Determinants (MC-PPD) is a general measure of coping effectiveness. High scores suggest an internal capacity to effectively cope with everyday stressors or upsetting situations. Human Movement and Weighted Color (MC) is related to other variables in a way that would be expected if one were to theorize MC is linked to psychological resources. For example, MC is positively correlated with IQ, executive functioning, education, dynamic capacity, ego strength, and being selected for insight-oriented therapy (Mihura et al., 2013). In R-PAS, MC-PPD is considered a "Page 1" variable, meaning it is one of the variables that should be emphasized when interpreting a Rorschach profile (Meyer et al., 2011b). This variable is conceptualized as EA-es or the D score in the Comprehensive System.

FQ-% is a measure of distortion or misinterpretation of external reality and is typically associated with poor judgments or unconventional behavior. Generally

speaking, elevations on this variable are associated with impaired reality testing or mediational dysfunction (Exner & Erdberg, 2005). FQ-% is considered a fundamental variable; it factors into several other multifaceted variables, such as the Ego Impairment Index-3 (EII-3) and the Thought and Perception Composite (TP-Comp). In addition, FQ-% is classified as a "Page 1" variable in R-PAS, which suggests it should be imparted substantial emphasis during any systematic interpretation of an individual's Rorschach profile (Meyer et al., 2011b). In the Comprehensive System, this variable is referred to as X-%.

Poor Human Representation Proportion (PHR/GPHR) reflects interpersonal competency and capacity for relatedness. This variable is associated with normative social representations and skill with interpersonal interactions. Low scores reflect sophisticated social awareness and an ability to understand interactions and relationships. Similarly, low scores suggest most interpersonal behaviors are likely to be adaptive across a broad spectrum of social situations (Exner & Erdberg, 2005). PHR Proportion is categorized as a "Page 1" variable in R-PAS, which implies it is an important variable to consider when interpreting a Rorschach profile (Meyer et al., 2011b). In the Comprehensive System, this variable is denoted as the GHR:PHR ratio.

Reflections (r) indicate the extent to which an individual experiences himself or herself as reflected in the world in a self-centered way. High scores are associated with a need for mirroring or admiration, and suggest the presence of narcissistic-like traits. Expressed differently, elevations may signify inflated self-involvement (Exner & Erdberg, 2005). This variable is included as a "Page 2" variable in R-PAS, which means

it has demonstrated a moderate level of empirical support in the published literature and

is considered particularly useful in hypothesis generating (Meyer et al., 2011b).

Comprehensive System terminology abbreviates reflection responses as Fr or Rf.

Oral Dependency Language (ODL) is a measure of implicit dependent attitudes

and behaviors. High scores are associated with dependence on others for nurturance,

guidance, support, and protection. ODL is currently the most frequently used projective

measure of dependency (Bornstein & Masling, 2005). Interestingly, Bornstein, Bonner,

Kildow, & McCall (1997) examined whether administering the Rorschach individually or

in a group format affected ODL scores, an issue which is highly relevant for the current

study. The researchers utilized both a between-subjects and a within-subjects design to

test this empirical question. Notably, the administration method made no difference in

obtained results; the authors concluded that individual and group administration

procedures yield comparable means and standard deviations with respect to ODL

(Bornstein et al., 1997). This variable is commonly referred to as the Rorschach Oral

Dependency Scale, or ROD, elsewhere in the literature. This variable is categorized as a

"Page 1" variable in R-PAS, but is not coded using the Comprehensive System (Meyer et

al., 2011b).

As presented in Table 3, five specific variables associated with defensiveness,

conventionality, and level of engagement were selected for data analysis: total number of

responses (R), personal knowledge justification thematic codes (PER), Popular responses

(P), the proportion of pure form responses (F%), and Complexity. R, PER, and P are

frequently selected as separate indicators of a defensive response set in studies of

minimization (Ganellen, 1994; Wasyliw et al., 1998). Schultz & Brabender (2013) included R, PER, P, and F% in their analysis of the effects of exposure to the Wikipedia article on selected CS variables.

R is related to overall defensiveness and an examinee's willingness to fully engage in the task. R is commonly associated with an examinee's motivation, due to either intrinsic or situational factors. Interpretations of R are typically made in conjunction with Complexity, but in general a high value of R signifies ideational flexibility, compliance, or a willingness to be forthcoming. R is designated as a "Page 1" variable in R-PAS and demonstrates strong inter-rater reliability (Meyer et al., 2011a).

Rorschach protocols containing a high number of PER are typically interpreted as a strong desire to justify one's answers. PER may indicate an effort to immunize oneself against challenge or criticism. Exner & Erdberg (2005) analyzed the Rorschach protocols of 50 custody litigants and found that a majority of the sample gave more than two PER answers. The authors contend that these higher than average frequencies reflect attempts to appear "mature or sophisticated when confronted with the demands of the test" (p. 442). In R-PAS, PER is categorized as a "Page 2" variable suggesting there is some empirical support for its validity, although further research is needed (Meyer et al., 2011a).

Producing a high number of P is associated with an effort to appear conventional, which seems likely in a sample striving to appear well adjusted and free of psychological difficulties. Exner & Erdberg found that more than a third of their sample of custody litigants provided a greater than average number of Popular responses, suggesting that

"people attempting to do well tend to respond to obvious cues and give more conventional answers" (p. 443). An unusually high P, in the absence of individuality and elaboration, may represent a deliberate attempt to suppress revealing material and to provide "good" responses (Meyer et al., 2011a). In addition, the Wikipedia article presented to participants in the experimental group systematically lists the Popular responses for each card (Rorschach test, 2012).

A high Form% score is associated with simplification and a straightforward approach to understanding the environment. Conversely, low F% is commonly interpreted as an awareness of subtle features in the internal or external environment and an ability to articulate these nuances. F% is considered a "Page 1" variable in R-PAS, with excellent inter-rater reliability and high validity (Meyer et al., 2011a). It is referred to as Lambda in the Comprehensive System.

Complexity is a composite score that was newly developed for R-PAS and is often described as the "first factor" of the Rorschach, as it is highly correlated with numerous variables of the test and appears to act as a moderator. In general, Complexity is related to psychological strengths, such as sophisticated processing, flexibility in coping, and openness to experience. However, interpretations of Complexity vary according to the context of the assessment and the history of the respondent's functioning. For example, Meyer et al. (2011a) state that low Complexity may result from a guarded test-taking approach, "so as to present oneself in a positive light by suppressing personally relevant and potentially compromising material" (p. 348). In this context, a low Complexity score may denote defensiveness and limited engagement with the task.

Procedure

Detailed descriptions of all of the lab procedures have been included for reference purposes in the appendix of this dissertation. Lab procedures for the first testing session can be located in Appendix C, while lab procedures for the second testing sessions can be found in Appendices D and E. Interested readers may find it helpful to refer to these materials.

Time 1: First Rorschach Administration

Prior to participants' arrival, the researcher will arrange the room so that there are an appropriate number of laptop computers set up, along with copies of the Informed Consent Form. Upon arrival for the first testing session, the researcher will guide each participant to have a seat as they come in by saying:

> *Hi, welcome! You are here for EDP Study 112 entitled "What might this be?" right? Great, have a seat and you can begin reading the consent form, but please do not look through any of the other materials at this time. If you agree and want to participate in this study, please complete and sign the consent form. I gave you 2 copies, so feel free to keep a copy for yourself if you'd like. When everyone is ready, we will start the experiment.*

Participants will be assigned a Participant ID Number as they read through the Informed Consent Form. The Informed Consent Form will describe the general purpose of the study, possible risks and benefits participants may experience as part of being in the study, as well as an overview of the time commitments required to stay involved in the study. With respect to the purpose of the study, participants will be informed that the researchers are interested in learning more about the reliability and validity of administering this particular personality test to a small group of students simultaneously.

They will be told that the present study involves a newly developed administration

procedure, and the researchers are interested in gathering information about the utility of

this contemporary administration method. A copy of the Informed Consent Form can be

found in Appendix B.

After all of the participants have reviewed and signed the Informed Consent

Form, the researcher will close the door and give a general introduction to the study:

> *Now everyone is here. First of all, I would like to thank you for your participation in this study. Let me introduce myself briefly and then I will give you some ideas about what we are going to do today. (Briefly introduce self here). During this study, you will complete an Internet survey and some additional pen-and-paper questionnaires. I will guide all of you through this study step by step. Therefore, it is very important to let me know if you have any questions at any point during the study. I will slow down if it is necessary to make sure everyone is on the same page. Do you have any questions so far about what we are going to do today? If there are no questions, I think we are ready to start.*

Participants will then be instructed to open their Internet browser and navigate to the

survey url, which will be projected on a screen so that all of the participants in the room

can easily read it. The researcher will assist any students who have trouble connecting to

the wireless network, typing the web address, or opening the link. The first screen will

ask participants to enter their Participant ID number. After entering their Participant ID,

the second screen will ask for a password. At this point, the researcher will pause and ask

the participants:

> *Now is everyone on a screen that asks you to select the password? Great! In the next stage, you will complete the first phase of the Inkblot Test. Has anyone ever heard of the Inkblot Test before?*

Briefly exploring the person's experience with the test is in compliance with R-PAS administration instructions. If participants respond affirmatively, the researcher will ask further about their experience in this test such as when, where, in what condition/situation, how much they were exposed to the test and how did they feel about this test. The researcher will reassure the participants that we are just interested in what they genuinely see, not what they might have heard. Depending on the situation, the researcher will make notes with regard to the participants' descriptions. If it is necessary, the researcher will discuss matters with her advisor to decide whether or not the data should be excluded in the future.

After briefly exploring anyone's experience with test, the researcher will continue introducing the task in a way that conforms to R-PAS administration instructions. The researcher will explain:

> *The instructions of how to do the first phase of the Inkblot Test are a little bit complicated. Therefore, please listen to my instructions and watch me to show you how to do it.*
>
> *When instructed to do so, you will view the first card. Your task is to use all or part of the inkblot and answer the question "What might this be?" You will have 1 minute and 30 seconds to view the card and to type at least 2 or possibly 3 responses on the computer in the textboxes. You may turn the card in your mind if you would like. Be sure to look at the card when you are deciding on your responses.*
>
> *When you are finished typing 2 or 3 responses for the first card, you will click the arrows at the bottom of the screen to continue with the rest of the test. Remember to look at the card to determine what it might be and type your responses in the space provided. We will repeat this task on a total of 10 cards. If you have a question, please raise your hand and I will come over to answer it.*

Does everyone know how to do the first phase of the test now? Great! It is time to begin the Inkblot Test. Remember you will have 1 minute 30 seconds to view each card and then type at least 2 responses to the question: "What might this be?"

[Point to Qualtrics screen] Ok, the password is "hook 'em horns." Please select "hook 'em horns" to continue. Now you should see an image that looks like this [Hold up Card I]. Click the text box below the image to begin entering your responses. Please stop when you reach a screen that says "Stop. Wait here for further instructions."

Participants will independently complete the Response Phase for Cards I through X. Per the timing feature built into the Qualtrics survey, this portion of the test should take approximately 15 minutes. After participants submit their responses to Card X, they will be directed to a screen with a large red stop sign and will be asked to "wait here for further instructions."

Once everyone in the room has completed the Response Phase, as indicated by reaching the screen with the stop sign, the researcher will announce:

Now we are going to finish the last part. For this next phase you will be clarifying the responses you gave earlier. Don't worry, your previous answers were saved and they will be displayed on your computer for you to review. The goal now is for you to help me see what you saw because I want to be able to see the things you saw just like you did.

At this point, the researcher will distribute location sheet packets to each participant and instruct each participant to write his or her Participant ID Number in the top right corner of each sheet. The researcher will continue:

I just gave you a packet with miniature versions of the inkblots. This is called a "location sheet". Go ahead and take them out as we will use them for this phase of the study. First, while looking again at the actual inkblot, you will read the responses you typed previously. Then you will use text boxes on the screen to describe in more detail what there is in the inkblot that makes it look like that to

you. Finally, you will use the location sheets to indicate where the things you saw were located. Again, I want you to help me see what you saw, because I want to be able to see the things you saw just like you did. To help you understand what I mean, I am going to show you two examples.

Next, the researcher will proceed through two carefully selected examples to help participants understand how to complete the Clarification Phase. The participants will be shown examples that were completed using responses to a picture of smokestack emissions that were clearly in the form of pigs and a picture of a fire engine. Neither of the pictures is symmetrical. The example responses identify the objects as "it looks like two pigs, facing the horizon," and "it looks like a bright red fire engine speeding down the road." The example clarification references key features of the pictured objects, and one or the other includes mention of Form, Movement, chromatic Color, Shading, and Dimensionality. These examples illustrate the kind of elaboration expected from the participants while limiting the chance of biasing their inquiry responses by asking directly about potential determinants. The idea to use such pictures stems from Exner's suggestion that a toy fire truck could be used as a prop when explaining and practicing inquiry with child clients (Exner, 2003).

After reviewing both of the examples, participants will be instructed to click through to the screen with Card I. Timing functions included in the survey will ensure participants spend at least three minutes on each card. The researcher will remind the participants of their task for this phase:

You will have approximately 3 minutes per <u>inkblot</u>, not response, to type your clarification and label the paper location sheet. We will repeat this for all remaining cards. If you have a question, please raise your hand and I will come

over to answer it. Remember, for each response you will explain what features in the inkblot make it look the way it does. Help me see it the same way as you. The sequence to follow is <u>look-type-label</u>. <u>Look</u> at your response on the <u>actual image</u>, not the location sheet. <u>Type</u> a description of what makes it look like that to you. Then <u>label</u> the "TOP" and then key features of the image on the <u>location sheet</u>.

Participants will complete the Clarification Phase card by card. The researcher will walk around the room from time to time, making sure participants are remembering to circle their responses on the location sheets and to label key features. This portion of the test should take about 30 minutes.

Once participants complete the Clarification Phase (and thus finish the online survey), the researcher will collect the location sheets and distribute the demographic questionnaire. Participants will be dismissed from the testing session once they complete the demographic questionnaire.

Time 2: Second Rorschach Administration

After the first Rorschach administration, participants will schedule a time for their second testing session. Participants will be randomly assigned to either the experimental group or the control group. Every attempt will be made to retain participants, and avoid the problem of missing data. Participants will be instructed to reserve at least a two and a half hour period of time for the second session. The desired time span between testing sessions is two to four weeks. This relatively short time span is intended to minimize the chance of significant life events occurring between testing sessions. Experiencing a dramatic life event would likely alter a participant's second set of Rorschach scores, which would negatively impact the results of the study.

The room will be arranged much the same as it was for the first testing session, with an ample number of laptop computers set up around the room. Upon arrival for their second testing session, participants will be instructed to take a seat in front of a laptop and open the survey url, which will again be mass projected so that it is visible to everyone in the room. The first screen of the survey will prompt participants to enter their assigned Participant ID Number. The researcher will provide participants with their Participant ID Number (the same number assigned during Time 1). Just as in the first testing session, the following screen will ask participants for a password. Once everyone in the room has reached the screen requesting a password, the researcher will announce:

> *Ok, let me explain what you'll be doing today. Basically you'll be completing the inkblot test again, but with a small twist. Like last time, I'm still interested in learning more about the usefulness and effectiveness of administering this personality test in a group setting with computers. The reason that I asked you to attend a second session is that I'm also interested in learning more about how mental health is assessed. I'm researching how well this test can determine whether or not an individual is **psychologically healthy**, so how **warm, caring, responsible, and well-adjusted** you can appear on the inkblot test. So you'll be taking the test again, but this time I want you to give answers that you think would reflect someone with superior mental health. As an added bonus, the participant with the "best" profile, meaning the person who best exemplifies traits such as **warmth, compassion, emotional stability, and dependability**, will receive a $150.00 gift card to the university bookstore.*

Participants in both the experimental group and the control group will be informed that the researchers are still interested in learning more about the reliability and validity of administering this particular personality test to several people at the same time. In addition, participants in both conditions will be informed that the researchers are especially interested in the assessment of mental well-being and a test's ability to detect

individuals who are "warm, caring, responsible, and well-adjusted." Participants will be told that the individual with the "best" profile, meaning the person who best demonstrates traits such as warmth, compassion, emotional stability, and dependability, will receive a $150.00 gift card to the university bookstore.

Participants in the *experimental condition* will be informed that in order to help them present themselves in a positive light on the test, they will be given an opportunity to read helpful information about the inkblot test. At this time, the researcher will instruct participants to click through to the next screen which will contain an abridged version of the Wikipedia article describing the Rorschach. A stable version of the online content will be used rather than allowing participants to view the live website. This will ensure that each participant receives the same information. Since the second test session may occur over a span of several weeks, it is possible that the content of the website will have changed during that time as Wikipedia depends on user-generated content and can be modified by anyone at any time (Wikipedia: The free encyclopedia, 2010). For the reader's benefit, a copy of the Wikipedia-based information presented to participants in the experimental group is included in Appendix F of this document.

Participants will be given five minutes to study the information and will be required to use the entire time allotted. They will receive instructions emphasizing that this portion of this study is very important, and that it is critical that they carefully read all of the information distributed because it will help them do well on the test. Participants will also be reminded of the $150.00 reward to the examinee with the "best" profile. The researcher will explain to participants:

Now in order to help you prepare and help you present yourself in a positive light, I'll provide you an opportunity to read useful information about the inkblot test. You'll have 5 minutes to read through the article. Then we'll proceed with the test itself. Again, I'd like you to really study this information and hopefully, it will help you with the task of looking psychologically healthy on the test.

After the allotted study time, participants in the experimental group will begin the Response Phase administration procedure.

Participants in the *control condition*, on the other hand, will proceed straight through to the test administration, without exposure to the Wikipedia information. For both groups, the test administration will proceed in exactly the same fashion as the previously described Time 1 procedure, a methodology which is designed to resemble the standard R-PAS individual administration as closely as possible (Horn et al., 2009). Across both conditions, the researcher will provide detailed instructions for the Response Phase:

Just to refresh your memory, I'm going to go through the same instructions you heard last time.

You will now complete the Inkblot Test. Your task is to use all or part of the inkblot and answer the question "What might this be?" You will have 1 minute to view the image and to type at least 2 or possibly 3 responses on the computer in the textboxes. You may turn the picture in your mind if you would like. Be sure to look at the card when you are deciding on your responses. When you are finished typing 2 or possibly 3 responses for the first card, you will click the arrows at the bottom of the screen to continue with the rest of the test. Remember to look at the picture to determine what it might be and type your responses in the space provided. We will repeat this for all 10 cards. If you have a question, please raise your hand and I will come over to answer it. (If participants ask if they should report the same answers as last time or if they can use some of the same answers as last time, tell them "it's up to you.")

Remember that the person with the "best" responses, meaning the person who comes across as the most psychologically healthy (warm, caring, responsible, well-adjusted) will receive a $150.00 gift card to the university bookstore.

Just as in their first testing session, participants will be instructed to stop after completing the Response Phase. After everyone has reached the screen with the stop sign, the researcher will distribute location sheets and once again, go through the slides detailing how to do the Clarification Phase. The researcher will say:

Ok, now that everybody is done with the first part of the test, you should be on a screen that says "Wait here for further instructions." Now we are going to finish the last part of the test. Please be patient as I go through the same instructions as last time. It will probably sound really familiar to you.

For this next phase you will be clarifying the responses you gave earlier. Don't worry, your previous answers were saved and they will be displayed on your computer for you to review. The goal now is for you to help me see what you saw because I want to be able to see the things you saw just like you did.

I just gave you a packet with miniature versions of the inkblots. This is called a "location sheet". We will be using them for this phase of the study. Here's what you're going to be doing. First, while looking again at the <u>actual</u> inkblot, you will read the responses you typed previously. Then you will use text boxes on the screen to describe in more detail what there is in the inkblot that makes it look like that to you. Finally, you will use the location sheets to indicate where the things you saw were located. Again, I want you to help me see what you saw, because I want to be able to see the things you saw just like you did. To help you understand what I mean, I am going to show you two examples.

The researcher will proceed through the same two examples demonstrating how to clarify one's answers. Once everyone understands the instructions, they will be told to click onto the screen with Card I. Due to timing features built into the survey, participants will have to remain on each card for a minimum of three minutes. This portion of the test should take approximately 30 minutes, although there is no upper time limit.

At the conclusion of the second testing session, participants in both conditions will be fully debriefed. During this debriefing process, the researcher will distribute a debriefing form (one to sign and one to keep) as well as provide a verbal explanation to the participants. They will be informed that there is no $150.00 gift card to the university bookstore for the participant with the "best" profile. It will be explained that this part of the experiment was included to increase participants' motivation and simulate a real life forensic population (i.e. parents involved in a child custody/parenting plan evaluation). It will be communicated to the participants that they will all be entered into a raffle to win the gift card and that the winner will be chosen at random. It is expected that revealing such information will not cause any significant stress or harm. Moreover, because the participants are serving as participants to earn research credits and learn about psychological research, it is expected that the debriefing will be an educational opportunity. The researcher will emphasize educational issues, such as how certain components of the study were intended to increase the generalizability of results.

Participants will sign the debriefing form to indicate understanding of areas of the experiment they were deceived about. Participants will also indicate on the debriefing form if they want to permit the researchers to use their data. Participants will be told that they must sign the debriefing form in order for researchers to use their data. Obtaining signatures on the debriefing form completes the informed consent process that was initiated when they were first described the study using deception. A copy of the Debriefing Form has been included in Appendix G of this dissertation.

Figure 1 summarizes the major steps of the procedure.

<u>Procedure</u>
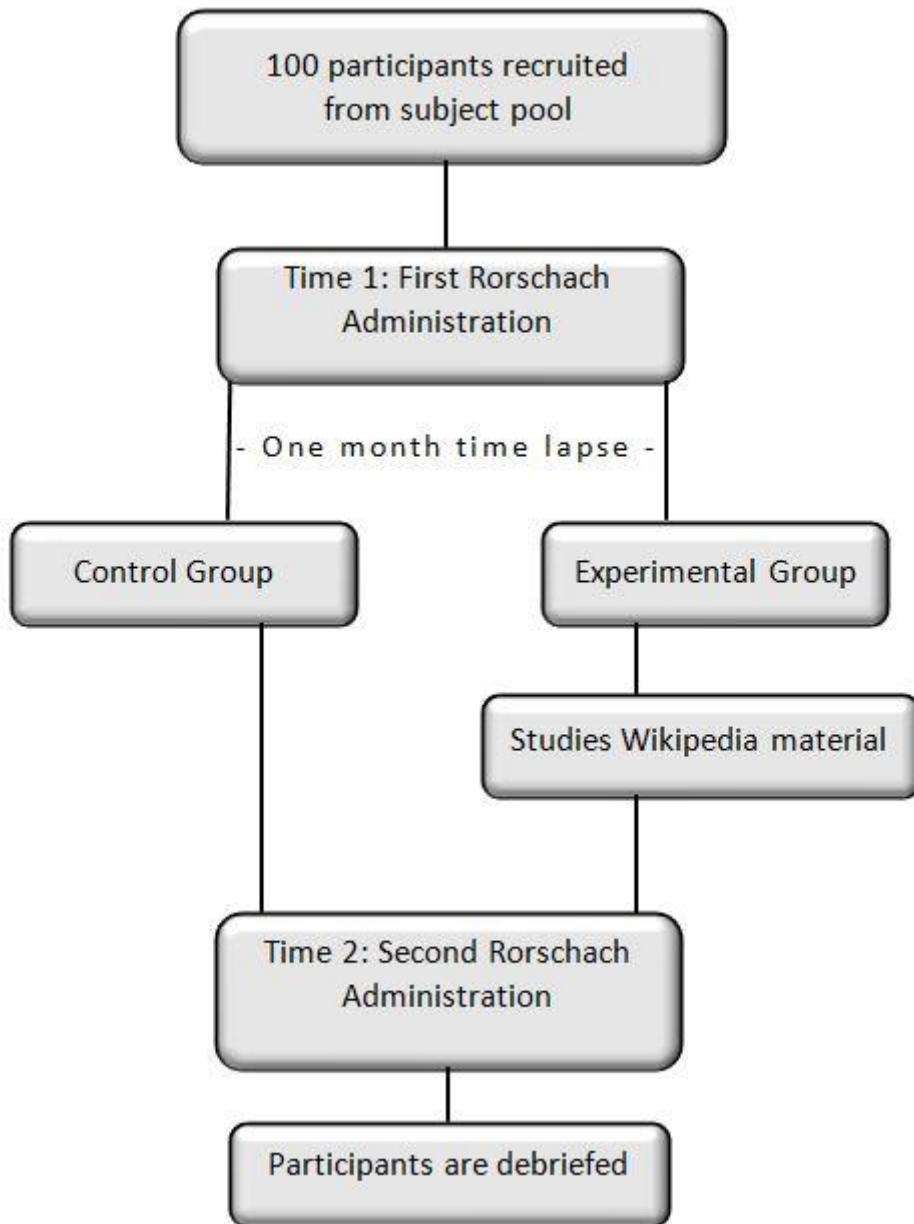
Data Analyses

The first data analysis procedure in this study was conducted to measure inter-rater reliability. A random sample of 38 (22%) of the protocols in the data pool were coded by an advanced graduate student who has achieved sufficient training in R-PAS. Intraclass coefficients (ICCs) were then calculated to determine the degree of inter-rater reliability. ICCs have been established in the literature as an appropriate measure of inter-rater reliability in R-PAS studies (Meyer et al., 2011a; Viglione, Blume-Marcovici, Miller, Giromini, and Meyer, 2012).

In order to investigate differences on the selected Rorschach variables of interest, separate two-way mixed ANOVAs were planned with an alpha level of .05. The between subjects factor was group membership and had two levels, the experimental group and the control group. The within subjects factor was time and had two levels, first administration and second administration. Significant interaction effects between condition and time were decomposed using a simple main effects analysis. For each significant main effect or interaction effect, an effect size was calculated to determine whether the effect was substantive. The current study utilized Pearson's correlation coefficient r as an index of effect size (McGrath & Meyer, 2006).

All of the dependent variables measure separate psychological constructs and are associated with a unique component of an individual's personality structure or information processing style. Thus, a series of separate two-way mixed ANOVAs was deemed an appropriate statistical approach rather than conducting a single MANOVA.

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Before the primary analyses were conducted, preliminary analyses were conducted to check that the assumptions for a mixed ANOVA were met for each variable. Normality for the repeated measures and homogeneity of variance for the between-subjects factor were examined. The assumption of normality was tested by examining values of skewness, kurtosis, and plotting the frequency distribution against the normal curve (Field, 2009). The Kolmogorov-Smirnov test and Shapiro-Wilk test were also used to check for normality; however, these tests can be spuriously significant with large samples sizes so they were interpreted in conjunction with histograms and the values of skewness and kurtosis (Field, 2009). The assumption of homogeneity of variance was tested with Levene's test. The assumption of sphericity was not a concern for this particular study as there are only two levels for each variable. In cases where a particular variable demonstrated severe non-normality or violated the homogeneity of variance assumption, non-parametric statistical procedures, such as a Wilcoxon signed-rank test or a Mann-Whitney U test, were utilized in conjunction with the two-way mixed ANOVA. Results from both the ANOVA and the non-parametric tests were presented, and limitations were duly noted.

Chapter 4: Results

Inter-Rater Reliability

To ensure that the author coded the Rorschach variables according to R-PAS guidelines (Meyer et al., 2011a), an advanced Counseling Psychology graduate student recoded 38 (22%) randomly selected protocols from the dataset. Intraclass coefficient (ICC) was chosen as a measure of inter-rater reliability, as this reliability coefficient was utilized in a recently published study investigating the inter-rater reliability of R-PAS (Viglione et al., 2012). In addition, ICCs are reported throughout the R-PAS manual when the authors discuss inter-rater reliability (Meyer et al., 2011a).

The findings indicated excellent (Cicchetti, 1994; Shrout & Fleiss, 1979) inter-rater reliability, as all of the ICCs were greater than .74. In fact, most of the ICCs were greater than .90. Table 4 illustrates the results:

TABLE 4.—Inter-Rater Reliabilities for the Selected Rorschach Variables.

Variable	ICC	Range
CF+C/Sum C	.80	Excellent[a]
MC-PPD	.92	Excellent
FQ-%	.87	Excellent
PHR/GPHR	.95	Excellent
r	.99	Excellent
ODL	.96	Excellent
R	1.00	Excellent
PER	1.00	Excellent
Populars	.96	Excellent
Form%	.97	Excellent
Complexity	.98	Excellent

Note. N = 38; ICC = Intraclass correlation.
[a]The characterization of the range of reliability coefficients is derived from Cicchetti (1994) and Shrout & Fleiss (1979).

Comparison of Experimental and Control Groups

Data analyses revealed that key demographic variables did not differ significantly by group. Pearson's chi-square test revealed that there was no significant association between gender and group membership χ^2 (1) = .147, p > .05. Similarly, there was no significant association between year in college and group membership χ^2 (1) = .731, p > .05. Furthermore, Fisher's exact test revealed that neither ethnic identity nor relationship status differed significantly by group membership p > .05 (in both cases). Lastly, an independent *t*-test revealed that participants in the control group were not significantly older (*M* = 20.71, SE = .239) than participants in the experimental group (*M* = 20.52, SE = .242) t(84) = -.562, p > .05.

Descriptive statistics for each of the Rorschach variables of interest are presented below in Table 5:

TABLE 5.—Group comparisons of mean, standard deviation, range, and distribution on Rorschach variables.

		Time	*M*	*SD*	Min	Max	Mdn	SK	KU
CF+C/Sum C	Cont	1	101.71	16.55	75	126	100.00	0.046	-1.030
		2	95.18	13.54	75	126	95.00	.0.231	-0.469
	Exp	1	102.27	17.98	75	126	103.50	-0.265	-1.132
		2	95.09	14.68	75	118	93.00	0.121	-1.291
MC-PPD	Cont	1	98.60	14.42	65	132	98.00	0.078	-0.143
		2	104.33	14.77	58	129	105.00	-0.636	1.014
	Exp	1	93.75	12.75	66	119	93.00	0.080	-0.796
		2	96.52	14.42	74	124	94.00	0.309	-1.097
FQ-%	Cont	1	112.88	13.62	85	143	111.00	-0.004	-0.142
		2	109.31	20.70	78	143	103.00	0.314	-1.054
	Exp	1	113.91	16.15	78	143	114.00	-0.407	0.054
		2	108.32	15.96	78	143	109.50	0.183	-0.605
PHR/GPHR	Cont	1	109.03	11.92	84	136	106.00	0.421	0.081
		2	101.87	16.41	75	131	104.00	0.163	-1.017
	Exp	1	107.43	15.99	75	134	111.00	-0.194	-0.792
		2	96.23	15.45	75	127	95.00	0.230	-0.775
r	Cont	1	99.00	8.68	95	128	95.00	1.990	2.864
		2	97.50	7.20	95	128	95.00	2.935	8.333
	Exp	1	100.07	10.95	95	141	95.00	2.186	4.304
		2	100.73	10.29	95	122	95.00	1.361	0.068
ODL	Cont	1	92.48	13.50	74	116	95.00	-0.049	-1.237
		2	105.31	16.27	74	133	108.00	-0.550	-0.450
	Exp	1	89.09	12.92	74	114	89.00	0.251	-1.300
		2	87.80	13.70	74	115	89.00	0.554	-0.882
R	Cont	1	101.43	12.25	60	120	102.00	-0.907	1.576
		2	87.69	6.24	69	99	88.00	-1.585	4.506
	Exp	1	98.68	11.63	69	122	97.50	-0.079	-0.011

TABLE 5, Cont.

								SK	KU
		2	92.57	11.10	60	124	88.00	0.386	2.683
PER	Cont	1	93.21	4.43	92	109	92.00	3.453	10.416
		2	94.31	9.44	92	146	92.00	4.685	23.393
	Exp	1	93.93	5.46	92	109	92.00	2.522	4.564
		2	93.14	5.54	92	125	92.00	5.190	27.773
Populars	Cont	1	98.05	10.99	80	126	96.00	0.615	0.337
		2	92.48	14.43	56	132	92.00	-0.160	1.126
	Exp	1	98.02	16.83	65	138	96.00	0.239	-0.153
		2	102.91	17.43	65	132	103.00	-0.291	-0.519
Form%	Cont	1	95.60	14.76	58	129	94.00	-0.047	0.052
		2	87.07	17.20	56	116	91.00	-0.421	-0.660
	Exp	1	96.30	13.74	59	122	95.00	-0.156	0.037
		2	93.57	16.12	58	125	92.00	-0.100	-0.111
Complexity	Cont	1	104.05	14.36	77	137	104.00	0.166	-0.514
		2	99.71	11.96	77	126	102.00	-0.064	-0.627
	Exp	1	100.80	13.29	73	132	100.00	-0.218	-0.087
		2	95.52	12.75	71	125	94.00	0.073	-0.285

Note. SK = skewness; KU = kurtosis.

Primary Analyses:

<u>*Variables Associated With Parenting Capacity*</u>

CF+C/SumC. Several participants in the current sample did not produce any CF or C scores in their Rorschach protocols. Values for CF+C/SumC could not be calculated for those participants, which resulted in missing data and a reduced sample size. For the purposes of this particular data analysis, there were 22 participants in the experimental group and 28 participants in the control group. Data analysis revealed there was a significant main effect of time, $F(1,48) = 6.077$, $p = .017$, $r = .335$. Examining the means presented in Table 5, this indicated that values of CF+C/SumC decreased over time, regardless of group membership. There was no significant effect of group, indicating that participants in both groups generated CF+C/SumC scores that were in general the same, $F(1,48) < 1.00$, $p > .05$. There was no significant interaction effect between time and group, $F(1,48) < 1.00$, $p > .05$. Results indicated that when participants were given the opportunity to read about the Rorschach on Wikipedia, CF+C/Sum C scores were not affected.

MC-PPD. Data analysis revealed there was a significant main effect of time, $F(1,84) = 6.894$, $p = .010$, $r = 0.275$. Referring to the mean values presented in Table 5, this result indicated that participants produced protocols with greater MC-PPD values during the second test administration, irrespective of group status. There was also a significant main effect of group membership, $F(1,84) = 6.040$, $p = .016$, $r = 0.259$. This result indicated that overall MC-PPD values were higher for the control group than the experimental group, regardless of time. There was no significant interaction effect

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between time and group membership, $F(1,84) < 1.00$, $p > .05$. Results demonstrated that during the second administration, participants in both groups modified their responses in such a way that their protocols contained more determinants associated with psychological resources and adaptive capacity, and fewer determinants associated with psychological demands. Regardless of whether or not the participant studied the Wikipedia material, protocols obtained during time 2 were marked by higher MC-PPD values, which is generally interpreted as greater coping effectiveness.

FQ-%. Preliminary data analysis revealed acceptable levels of skewness and kurtosis, indicating that the data followed an approximately normal distribution. However, Levene's test produced a significant result for time 2, $p < .05$, indicating that the data collected during the second test administration violated the homogeneity of variance assumption. Results indicated the variance in the groups was significantly different at time 2, with the control group demonstrating more variability in scores. Taking this into consideration, the results of non-parametric tests were reported in addition to the results of the two-way mixed ANOVA when a significant main effect was found.

Primary data analysis revealed there was a significant main effect of time, $F(1,84) = 4.599$, p $= .035$, $r = .228$. In both groups, FQ-% decreased across time. There was no significant main effect of group membership, $F(1,84) < 1.00$, $p > .05$. This result indicated that the FQ-% scores for participants were roughly equal, regardless of whether the participant belonged to the control group or the experimental group. The interaction effect between time and group status was not significant, $F(1,84) < 1.00$, $p > .05$.

However, non-parametric statistical procedures revealed a different outcome. A Wilcoxon signed-rank test showed that there was a significant decrease in FQ-% for participants in the experimental group from time 1 ($M = 113.91$, $SD = 16.153$) to time 2 ($M = 108.32$, $SD = 15.957$), $Z = -2.102$, $p = .036$, $r = .317$. For participants in the control group, the decrease in FQ-% from time 1 ($M = 112.88$, $SD = 13.619$) to time 2 ($M = 109.31$, $SD = 20.695$), was not significant, $Z = -0.851$, $p > .05$. A Mann-Whitney U test showed that the two groups did not differ significantly at time 1, $U = 871.500$, $p > .05$, nor did they differ significantly at time 2, $U = 919.000$, $p > .05$. In sum, these results showed that when given the opportunity to read about the Rorschach on Wikipedia, participants gave significantly fewer responses with poor form quality. In this case, it was deemed most appropriate to draw conclusions from the results of the non-parametric statistical analyses because the data violated the homogeneity of variance assumption and the results of the two-way mixed ANOVA were potentially erroneous.

PHR/GPHR. Preliminary data analysis revealed acceptable levels of skewness and kurtosis, indicating that the data followed an approximately normal distribution. However, Levene's test produced a significant result for time 1, $p < .05$, indicating that the data collected during the first test administration violated the homogeneity of variance assumption. Taking these results into consideration, non-parametric t-tests were also performed when the results of the two-way mixed ANOVA indicated a significant main effect.

Primary data analysis revealed there was a significant main effect of time, indicating PHR/GPHR scores decreased across time for all participants, regardless of

whether they were in the experimental or control group, $F(1,77) = 27.021$, $p < .001$, $r = .510$. A Wilcoxon signed-rank test showed that there was a significant decrease in PHR/GPHR scores for participants in the experimental group from time 1 ($M = 107.43$, $SD = 15.993$) to time 2 ($M = 96.23$, $SD = 15.450$), $Z = -3.720$, $p < .001$, $r = .588$. A Wilcoxon signed-rank test also revealed a significant decrease in PHR/GPHR from time 1 ($M = 109.03$, $SD = 11.920$) to time 2 ($M = 101.87$, $SD = 16.410$) for participants in the control group, $Z = -2.785$, $p = .005$, $r = .446$. The main effect of group was not significant, indicating PHR/GPHR scores did not vary significantly by group, $F(1,77) = 1.570$, $p > .05$. Results indicated there was not a significant interaction effect between time and group affiliation, $F(1,77) = 1.313$, $p > .05$. Overall, results showed that the Wikipedia article did not significantly impact PHR/GPHR scores, but when participants attempted to fake good on the test, PHR/GPHR was likely to decrease.

Reflections. Preliminary data analysis revealed severe normality and homogeneity of variance violations. Values of skewness and kurtosis were markedly high and Levene's test was significant for time 2, $p < .01$. Primary data analysis revealed no significant main effect of time, $F(1,84) < 1.00$, $p > .05$. The main effect of group was also not significant, $F(1,84) = 1.513$, $p > .05$. In addition, data analysis revealed the interaction effect was not significant, $F(1,84) = 1.077$, $p > .05$. These results indicated that the number of reflections did not differ significantly across time or by group; the likelihood of producing a reflection was not affected by reading about the Rorschach on the Internet.

ODL. Data analysis revealed there was a significant main effect of time, $F(1,84) = 9.520$, $p = .003$, $r = .319$, as well as a significant main effect of group, $F(1,84) = 18.827$, $p < .001$, $r = .428$. Data analysis further revealed a significant interaction effect, $F(1,84) = 14.275$, $p < .001$, $r = .381$. The interaction effect was decomposed using the method of simple main effects. Results showed that, for participants in the experimental group, ODL did not differ significantly from time 1 ($M = 89.09$, $SD = 12.916$) to time 2 ($M = 87.80$, $SD = 13.695$), $F(1,84) < .01$, $p > .05$. For participants in the control group, ODL codes significantly increased from time 1 ($M = 92.48$, $SD = 13.498$) to time 2 ($M = 105.31$, $SD = 16.267$), $F(1,84) = 23.020$, $p < .001$, $r = .464$. There was no significant difference in ODL between the experimental and the control group at time 1, $F(1,84) = 1.413$, $p > .05$. In contrast, the difference in scores at time 2 was statistically significant, $F(1.84) = 29.273$, $p < .001$, $r = .508$. To summarize, when participants reviewed Wikipedia-based information about the Rorschach and were told to fake good, ODL scores did not change. When participants attempted to fake good without the Wikipedia information, the likelihood of the participant providing an ODL response increased.

Variables Associated With Defensiveness, Conventionality, and Engagement

R. Preliminary data analysis revealed marked levels of skewness and kurtosis, indicating that the data did not follow a normal distribution. In addition, Levene's test produced a significant result for time 2, $p < .01$, indicating that the data collected during the second test administration violated the homogeneity of variance assumption. Therefore, non-parametric t-tests were also executed when the results of the two-way mixed ANOVA demonstrated statistical significance.

Primary data analysis revealed a significant main effect of time, indicating that participants on average produced protocols with lower R during the second test administration, irrespective of group, $F(1,84) = 40.928$, $p < .001$, $r = .572$. There was no significant main effect of group, $F(1,84) < 1.00$, $p > .05$.

There was a significant interaction effect between time and group, which was decomposed using the method of simple main effects, $F(1,84) = 6.037$, $p = .016$, $r = .259$. Results showed that for participants in the experimental group, R decreased significantly from time 1 ($M = 98.68$, $SD = 11.631$) to time 2 ($M = 92.57$, $SD = 11.099$), $F(1,84) = 7.948$, $p = .006$, $r = .294$. For participants in the control group, R also significantly decreased from time 1 ($M = 101.43$, $SD = 12.246$) to time 2 ($M = 87.69$, $SD = 6.237$), $F(1,84) = 38.311$, $p < .001$, $r = .560$. A Wilcoxon signed-rank test produced similar results. There was a significant decrease across time for participants in the experimental group, $Z = -2.424$, $p = .015$, $r = .365$. For participants in the control, R also significantly decreased across time, $Z = -4.748$, $p < .001$, $r = .733$. At time 1, there was no significant difference in R between the experimental group and the control group, $F(1,84) = 1.138$, $p > .05$, whereas the difference in scores at time 2 did reach statistical significance, $F(1.84) = 6.231$, $p = .015$, $r = .263$. A Mann-Whitney U test produced similar results. The two groups differed significantly at time 2, $U = 634.000$, $p = .005$, $r = .300$, but did not differ significantly at time 1, $U = 777.500$, $p > .05$. In sum, participants were likely to provide fewer responses when attempting to present themselves in a positive light. Additionally, participants who did *not* read the Wikipedia article provided fewer responses than participants who did study the Wikipedia information.

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PER. Preliminary data analysis revealed that the data for PER was not normally distributed. While Levene's test was not significant, levels of skewness and kurtosis revealed major normality violations. Primary data analysis revealed no significant main effects for either factor, $F(1,84) < 1.00$, $p > .05$. The interaction effect was also not significant, $F(1,84) = 1.013$, $p > .05$. These results indicated that PER codes did not differ significantly across time or by group. Overall, the likelihood of producing a PER was not affected by reading about the Rorschach on the Internet.

Populars. Preliminary data analysis revealed acceptable levels of skewness and kurtosis, indicating that the data followed an approximately normal distribution. However, Levene's test produced a significant result for time 1, $p < .05$, indicating that the data collected during the first test administration violated the homogeneity of variance assumption. Thus, non-parametric t-tests were also performed when the results of the two-way mixed ANOVA indicated statistical significance.

Primary data analysis revealed that the main effect of time was not significant, $F(1,84) < 1.00$, $p > .05$. The main effect of group approached significance, $F(1,84) = 3.627$, $p = .060$. Results indicated a significant interaction effect between time and group, $F(1,84) = 8.392$, $p = .005$, $r = .301$. The interaction was decomposed using the method of simple main effects. Results showed that for participants in the experimental group, the increase in Popular responses from time 1 ($M = 98.02$, $SD = 16.828$) to time 2 ($M = 102.91$, $SD = 17.426$) approached statistical significance, $F(1,84) = 3.752$, $p = .056$, $r = .207$. In the control group, P demonstrated a significant decrease from time 1 ($M = 98.05$, $SD = 10.988$) to time 2 ($M = 92.48$, $SD = 14.426$), $F(1,84) = 4.656$, $p = .034$, $r = .229$. A

Wilcoxon signed-rank test showed fairly similar results. There was a significant decrease in Popular responses for participants in the control group across time, $Z = -2.902$, $p = .004$, $r = .448$. For participants in the experimental group, P scores increased across time but the difference was not statistically significant, $Z = -1.678$, $p > .05$.

At time 1, there was no significant difference in P between the experimental group and the control group, $F(1,84) < 1.00$, $p > .05$, whereas the difference in scores at time 2 was statistically significant, $F(1.84) = 9.100$, $p = .003$, $r = .313$. A Mann-Whitney U test indicated similar results. At time 2, there was a significant difference in P between the experimental group and the control group, $U = 587.500$, $p = .003$, $r = .317$, while the difference in scores at time 1 was not significant, $U = 910.500$, $p > .05$.

Results showed that when participants attempted to fake good without reading the Wikipedia information, the likelihood of the participant providing a Popular response decreased. On the other hand, when participants attempted to fake good after reading Wikipedia information, the likelihood of the participant providing a Popular response did not significantly change.

Form%. Data analysis revealed a significant main effect of time, $F(1,84) = 12.737$, $p = .001$, $r = .363$. This result indicates that participants, regardless of whether they were in the experimental or control condition, produced lower Form% scores during the second test administration. There was no significant effect of group, indicating that the Form% scores of participants in both groups were generally about the same, $F(1,84) = 1.489$, $p > .05$. There was no significant interaction effect between time and group, $F(1,84) = 3.381$, $p > .05$. Results demonstrated that being instructed to fake good led to a

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decrease in F%, but that reading about the Rorschach on the Internet did not impact F%.

Complexity. Data analysis revealed there was a significant main effect of time, whereby participants across both conditions produced protocols with less complexity during the second administration, $F(1,84) = 11.692$, $p = .001$, $r = .350$. There was no significant effect of group, $F(1,84) = 2.298$, $p > .05$. This result indicated that Complexity values were about the same for all participants, regardless of whether a participant belonged to the experimental group or the control group. Lastly, the interaction effect was not significant, $F(1,84) < 1.00$, $p > .05$. In other words, when participants were motivated to fake good on the test, the likelihood of a participant producing a less complex protocol increased. Results showed that reading about the Rorschach on Wikipedia did not significantly impact Complexity.

Chapter 5: Discussion

To address deficits in our understanding of how online information impacts simulation of good adjustment, this study investigated differences in several key R-PAS variables among two groups of participants, those who studied a Wikipedia page with information about the Rorschach and those who did not. The study utilized a repeated measures design, wherein all of the participants took the Rorschach twice. The first time all participants completed the Rorschach under normal conditions. The second time all participants completed the Rorschach under the fake good condition, meaning that they were motivated to appear psychologically healthy and to present themselves in a favorable light. However, participants in the experimental group were instructed to read the Wikipedia material before taking the test and to use this information to help them improve their responses (Rorschach test, 2012).

In their empirically informed guidelines for integrating Rorschach protocols into child custody/parenting plan evaluations (CCPPEs), Evans & Schutz (2008) described six key variable sets which could be effectively addressed by the Rorschach and were often of interest to the court: affectivity and its regulation; stress levels and coping styles/resources; psychopathology; conflict styles/tactics; ability to engage in nondefensive introspection; and interpersonal relatedness. These six categories, which are psychological constructs linked to parenting capacity, are used systematically to guide Rorschach interpretation in the Evans & Schutz model. Based on this framework, six R-PAS variables representative of each category were selected for analysis. In addition, five

R-PAS variables representative of defensiveness, conventionality, and level of engagement were selected for analysis, as these types of variables have been analyzed in previous studies of positive impression management (Exner & Erdberg, 2005; Ganellen, 1994; Grossman et al., 2002; Schultz & Brabender, 2013; Wasyliw et al., 1998).

Overall, the findings of this study suggested that most of the selected R-PAS variables were not significantly impacted by exposure to the Wikipedia material. Exposure to the Wikipedia material did lead to a decrease in the number of responses (R) and an improvement in the Form Quality (FQ-%) of these responses. All participants had changes in scores on a number of variables when asked to fake good, regardless of whether or not they were exposed to the Wikipedia material. For example, when people were motivated to fake good on the Rorschach, they had higher scores on the Index of Human Movement and Weighted Color to Potentially Problematic Determinants (MC-PPD). In addition, these individuals had lower scores on Color Dominance Proportion (CF+C/SumC), Poor Human Representation Proportion (PHR/GPHR), Proportion of Pure Form Responses (F%), and Complexity.

Table 6 summarizes the main findings for each of the selected R-PAS variables:

TABLE 6.—Primary Results for Rorschach Variables.

	Change in Scores		Interaction Effect	Main Effect of Time
	Control	Experimental		
P	Lower	No Change	Yes, $p = .005$	No
R	Lower	Lower	Yes, $p = .016$	Yes, $p = .000$
ODL	Higher	No Change	Yes, $p = .000$	Yes, $p = .003$
FQ-%	No Change	Lower	Yes, $p = .036$	No
CF+C/SumC	Lower	Lower	No	Yes, $p = .017$
MC-PPD	Higher	Higher	No	Yes, $p = .010$
PHR/GPHR	Lower	Lower	No	Yes, $p = .000$
Complexity	Lower	Lower	No	Yes, $p = .001$
F%	Lower	Lower	No	Yes, $p = .001$
PER	No Change	No Change	No	No
r	No Change	No Change	No	No

Impact of Wikipedia Material on R-PAS Variables

Popular Responses (P). The Wikipedia material appeared to increase the number of Popular responses provided, but not at a statistically significant level. While these findings were very close to significance ($p = .056$), they were not technically statistically significant. The Wikipedia material did provide some Popular responses that participants

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would not have had access to without the materials. It is possible that participants were trying to be sincere in their Rorschach responses, potentially trying to conceal the fact that they had used the Wikipedia information. They could have just forgotten this information, they may not have studied this aspect of the Wikipedia material as closely, or they adopted a strategy for taking the test that best simulated how someone might take the Rorschach if they were trying to appear "good" but not "too good". In a sense, not wanting to be identified as someone who was trying to cheat or game the test. Interestingly, motivation to fake good without the help of the Wikipedia material appeared to decrease the number of Popular responses. It is possible that participants without the Wikipedia material believed that "good" responses were the result of creativity or uniqueness which are common misconceptions of what the Rorschach is trying to measure, or some other aspect of responding.

These findings were similar to results reported by Exner & Erdberg (2005) who found that 36% of custody litigants in their sample provided greater than average Popular responses, with 54% of their sample providing an average number of Popular responses and 10% of the sample providing a lower than average number of Popular responses. The current study found that without the Wikipedia material, being asked to fake good led to a decrease in standard score from 98.1 to 92.5 on the Popular variable, falling in the average range according to R-PAS. Additionally, 56% of the faking good participants in the current study had an average number of Popular responses. Thus, the findings of the current study were consistent with the results reported by Exner & Erdberg (2005). Further, the finding that the Wikipedia material increased the number of Popular

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responses was also consistent with previous research (Schultz & Brabender, 2013). This was not surprising given that the Wikipedia page does, in fact, provide a number of Popular responses, although not consistently across the percepts. However, given that the current results were only marginally statistically significant at best, any clinical inferences drawn from an increase in Popular responses in a custody litigant sample should be made with caution.

Number of Responses (R). Both groups of participants had a decrease in the number of responses when they were asked to fake good, but those who were not provided the Wikipedia material had even fewer responses. The decrease in R was expected given that R is related to overall defensiveness and an examinee's willingness to fully engage in the task (Meyer et al., 2011a). However, results demonstrated that the decrease in R was significantly greater when participants were not given the Wikipedia material. In other words, both groups appeared more defensive, but perhaps the Wikipedia material gave otherwise defensive approaches some material to work with. The Wikipedia material had a great deal of content for the participant to rely on and perhaps may have given them more information about the fact that the examiner would be looking at a number of different variables in their answers (even though it did not do a good job of telling them what those variable were). This extra information may have given participants slightly more confidence in providing additional responses. This was consistent with prior research (Schultz & Brabender, 2013).

Oral Dependency Language (ODL). Findings indicated that Oral Dependency

Language scores increased when participants were asked to fake good. However, the

addition of the Wikipedia material did not impact these scores. This is likely because the

Wikipedia material did not contain any explicit references to ODL or obvious indications

that the Rorschach measures dependency attitudes and behaviors (Rorschach test, 2012).

Rather, it seemed likely that the Wikipedia material encouraged participants in the

Wikipedia group to generally be more cautious with their use of language, which in turn

discouraged them from utilizing an abundance of ODL.

On the other hand, findings indicated Oral Dependency Language scores

significantly increased when participants were asked to fake good. It appeared that these

participants were more likely to use ODL when they attempted to fake good with no prior

exposure to the Wikipedia material. It may be that these participants believed

incorporating this type of language into their verbal descriptions would help them fake

good. For example, perhaps when they attempted to fake good, participants in the control

group may have reported seeing more objects who were smiling, laughing, or talking,

which they assumed would be interpreted as "good" response. They may have also

reported seeing more food content, which they assumed would be interpreted as a "good"

response because food is generally associated with nourishment and positive feelings. In

addition, they may have reported seeing more objects who were praying, which they

assumed would be interpreted as a "good" response because the dominant culture

generally views prayer as a positive activity. All of these verbalizations would meet the

R-PAS coding criteria for ODL (Meyer et al., 2011a) and could explain the increase in

scores. Future research should focus on the categories of ODL most likely to be seen in samples motivated to fake good on the Rorschach.

Form Quality Minus Percentage (FQ-%). Participants were able to improve their Form Quality when they were provided with the Wikipedia material. However, these scores did not change merely based on being encouraged to fake good. The findings suggested that the Wikipedia material encouraged participants to give responses with better form quality. It seemed likely that after reading information about the test, which included specific information about form quality, participants in the Wikipedia group were more cognizant of whether the inkblot location looked like the object they were describing. After reading that "responses are scored with reference to . . . the form quality of the response (to what extent a response is faithful to how the actual inkblot looks)," participants probably attempted to avoid giving answers that were grossly inconsistent with blot contours (Rorschach test, 2012). In addition, results showed participants in the experimental gave more Popular responses after reading the Wikipedia material. Unless otherwise spoiled, Popular responses are coded with good form quality, which could be another explanation for the significant decrease in FQ-% observed among participants in the experimental group.

This finding is important because FQ-% factors into other R-PAS indices and composite scores and has many implications regarding psychopathology and the examinee's reality testing capacity (Meyer et al., 2011a). It is a measure of distortion or misinterpretation of external reality and is often associated with poor judgments or

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unconventional behavior. In general, elevations on FQ-% are associated with impaired reality testing or mediational dysfunction (Exner & Erdberg, 2005). The finding of the current study was consistent with other studies investigating distortion in similar samples (Schultz & Brabender, 2013). Furthermore, many experts in the field have recommended that psychologists conducting forensic evaluations pay particular attention to scores obtained on this variable (Erard, 2005; Evans & Schutz, 2008; Weiner, 2005; Weiner & Meyer, 2009).

Personal Knowledge Justification (PER). Contrary to the proposed hypothesis, findings indicated that exposure to the Wikipedia material did not lead to a significant increase in PER responses. In fact, PER responses remained unchanged from time 1 to time 2 for all participants, irrespective of group membership. This is supported by previous research as well (Schultz & Brabender, 2013). These null findings may in part be attributable to the low base rate of PER responses. The primary R-Optimized modeled normative reference data indicates that PER responses are fairly rare, with a mean raw score of 0.7 and modal raw score of zero (Meyer et al., 2011a).

Results from the current study, as well as results reported by Schultz & Brabender, disagreed with previous research purporting a relationship between PER and faking good. For example, Ganellen (1994) examined the Rorschach protocols of 16 commercial airline pilots undergoing psychological evaluations to have their pilot's licenses reinstated. Ganellen reported that the pilots in the sample produced a greater than average number of PER responses, and suggested that the high number of PER responses

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reflected defensiveness. Additionally, Exner & Erdberg (2005) analyzed the Rorschach

protocols of 50 custody litigants and found that a majority of the sample gave more than

two PER answers. The authors contended that these higher than average frequencies

reflected attempts to appear "mature or sophisticated when confronted with the demands

of the test" (p. 442). Of note, these researchers relied on observational data and did not

conduct any formal statistical analyses, whereas the present study involved experimental

data and robust quantitative analyses. While it is possible that the simulation approach to

both the current study and the Schultz & Brabender study did not significantly capture the

true feeling of defensiveness that one might experience in a custody evaluation, the

present findings concerning PER suggested that the common interpretation of PER as a

sign of defensiveness warrants further empirical study.

Reflections (r). Findings indicated that the likelihood of producing a reflection

response was not significantly affected by exposure to the Wikipedia material. Moreover,

results showed that for all participants, regardless of group membership, the number of

reflections did not significantly differ from time 1 to time 2. The findings suggested that

neither the Wikipedia material nor the motivation to fake good had a significant impact

on the number of reflections. Similar to PER, these null findings might be explained by

the low base rate of reflection responses. The primary R-Optimized modeled normative

reference data indicates that reflections are quite rare, with a mean raw score of 0.5 and

modal raw score of zero (Meyer et al., 2011a).

Impact of Faking Good on R-PAS Variables

Color Dominance Proportion (CF+C/SumC), Index of Human Movement and

Weighted Color to Potentially Problematic Determinants (MC-PPD), and Poor Human

Representation Proportion (PHR/GPHR). Findings indicated that when participants were

motivated to fake good, they were likely to produce Rorschach profiles with a lower

CF+C/SumC, a higher MC-PPD, and a lower PHR/GPHR. These findings were true

regardless of whether the participant was in the experimental group or the control group,

meaning that the Wikipedia material did not significantly impact scores. Moreover, the

direction that these variables changed from time 1 to time 2 would generally imply

improved psychological functioning. In a clinical setting, the significant differences

observed in these variables would typically be associated with better impulse control,

greater coping effectiveness, and increased interpersonal competency (Meyer et al.,

2011a). In regards to these three variables, it appeared that participants' efforts to fake

good were successful.

The findings described above seemed to be at odds with results of previous

studies investigating the ability of individuals to simulate a favorable Rorschach profile.

Past researchers have compared performance on the MMPI with performance on the

Rorschach and found that participants who denied their problems on the MMPI were

unable to do so when solving the Rorschach task (Ganellen, 1994; Grossman et al., 2002;

Wasyliw et al., 1998). Ganellen examined a sample of commercial airline pilots, while

Wasyliw et al. and Grossman et al. studied alleged sex offenders. Each sample was

genuinely motivated to employ positive impression management strategies. In each study,

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the participants were unable to conceal psychopathology despite being motivated to present themselves in the best possible light.

Methodological differences may explain the disparity between the results of the current study and results of previous studies addressing positive impression management and the Rorschach (Ganellen, 1994; Grossman et al., 2002; Wasyliw et al., 1998). Previous researchers based their conclusions on Rorschach data collected at a single point in time. They could not be certain that the Rorschach data was an accurate portrayal of participants' personality functioning; perhaps the Rorschach protocols did reflect less pathology than was actually present and the participant's attempts to conceal psychological disturbance *were* somewhat effective. In contrast, conclusions of the current study are based on Rorschach data collected at two points in time, with each participant serving as his or her own control. The repeated measures design of the current study increased internal validity, or the degree of confidence one can have in the causal relationship between faking good and changes in CF+C/SumC, MC-PPD, and PHR/GPHR.

Complexity. Contrary to the author's hypothesis, results indicated that reading the Wikipedia material did not significantly affect Complexity. However, findings did reveal that Complexity scores significantly decreased when participants attempted to fake good, regardless of whether they were in the experimental group or the control group. Results showed that Complexity scores significantly decreased from time 1 to time 2 for

participants in both groups. It seemed that participants gave less complex responses when they were motivated to fake good and simulate positive adjustment.

Complexity is a composite score that was newly developed for R-PAS and is often described as the "first factor" of the Rorschach, as it is highly correlated with numerous variables of the test and appears to act as a moderator. Interpretations of Complexity vary according to the context of the assessment and the history of the respondent's functioning. Findings of the current study were consistent with Meyer et al.'s (2011a) theory that low Complexity may result from a guarded test-taking approach, "so as to present oneself in a positive light by suppressing personally relevant and potentially compromising material" (p. 348). When attempting to fake good and minimize symptoms, it appeared that participants were wary of saying too much for fear of revealing less desirable traits. Participants may have been trying to censor their verbalizations to avoid disclosing any negative or potentially harmful information about themselves. In the context of a child custody/parenting plan evaluation, a low Complexity score may denote defensiveness and limited engagement with the task.

Additionally, these findings indicated that participants in both groups gave significantly fewer responses (R) when they were motivated to fake good. Both R and Complexity are affected by the testing situation and the respondent's motivation. In the context of faking good, one might expect that both R and Complexity would be low because the respondent is attempting to suppress rather than express his or her personality (Meyer et al., 2011a).

Proportion of Pure Form Responses (F%). Contrary to the author's hypothesis, findings revealed that reading the Wikipedia material did not significantly impact Proportion of Pure Form Responses, consistent with the findings of Schultz & Brabender (2013). A high F% score is generally associated with simplification, lack of involvement with the test, or a straightforward approach to understanding the environment. Conversely, low F% is commonly interpreted as an awareness of subtle features in the internal or external environment and an ability to articulate these nuances (Meyer et al., 2011a). The author hypothesized that participants who read the Wikipedia material would produce high F% scores, indicative of a low level of engagement with the test. However, the results did not support this hypothesis.

Furthermore, results showed a significant decrease in F% from time 1 to time 2 regardless of whether or not they were provided with the Wikipedia material. These results suggested that all participants, regardless of group membership, gave responses less dependent on form when motivated to fake good. Rather, the participants provided answers with a greater variety of determinants when attempting to simulate good adjustment. In other words, individuals who are trying to fake good may provide more vibrant, interesting protocols.

It is fascinating to consider the results obtained for R, Complexity, and F% together, as these variables are often interpreted in conjunction with each other (Meyer et al., 2011a). When interpreting the results, readers should bear in mind that low F% is analogous to high Complexity. Findings of the present study indicate that F% was

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significantly lower when participants were asked to fake good, which suggested a higher level of engagement with the task; however, both Complexity and R significantly decreased in the fake good condition, which suggested a lower level of engagement. These results are seemingly contradictory. It may be that when participants attempted to fake good, they assumed it would be beneficial to give slightly more detailed responses, but that this effort to provide more detail only impacted the density of determinants and not all of the variables comprising Complexity (e.g. Location, Space, Object Qualities, and Contents). It may also be that when participants attempted to fake good, they suppressed a tendency to be adventurous and instead, only reported seeing percepts they felt sure about, thus becoming more comfortable being creative when explaining these percepts to the researcher. Being more selective with their responses may have given participants more confidence in explaining them. This strategy would potentially lead to a decrease in R, a decrease in Complexity, and a decrease in F%.

Limitations

While this study provides important new information about the impact of Wikipedia information on Rorschach results, it is not without limitations. Although large for empirical research involving the Rorschach, the study's sample of relatively high functioning undergraduate students differed from clients undergoing child custody/parenting plan evaluations (CCPPEs) in many ways. Parents involved in CCPPEs are in high conflict over their children and have been referred for an evaluation by the court, meaning that they are not taking part in the evaluation by choice. When they

are administered the Rorschach, these clients are genuinely motivated to fake good and present themselves in the best possible light. They are also more likely to be older and married. In contrast, undergraduates tend to be single, childless, younger volunteers. In addition, while the researcher provided a large monetary incentive for participants to fake good, it may be that some participants were less motivated by this incentive or perhaps felt apathetic toward fully complying with the study's aims. It also warrants mentioning that 82.6% of the sample identified as female, which would not be the case in a real life sample of parents involved in CCPPEs. Taking these differences into consideration, it may be that some of the outcomes do not generalize to a real life forensic population. For example, participants in the control group gave significantly fewer P responses when asked to fake good. The author speculated this was because they associated faking good with being unique or creative. In an actual CCPPE, clients may have been coached by a lawyer on how to present themselves in a favorable light, which means they are likely to want to appear conventional on the Rorschach rather than display their creativity or unique personality attributes. In other words, there may be far more additional external presses for actual CCPPE clients than were present in this simulation study.

That being said, there are some ways in which using a sample of undergraduate students did not detract from the generalizability of results. By chance, the study's large sample of undergraduate students was likely to contain some psychopathology, which would increase the degree of overlap between the current sample and an actual forensic population. Additionally, students in the experimental group were required to read and study the Wikipedia material as well as given time to do so within the actual experiment

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(rather than be left to study the material on their own). One would expect that a sample of undergraduate students would be well suited for this task because they are enrolled in higher education and have been developing their reading comprehension skills for several years. Although participants did not review the Wikipedia material with a lawyer (as might be the case in a CCPPE), the author is confident that the sample of undergraduate students possessed the cognitive skills necessary to independently comprehend the material. Furthermore, this dissertation could never be ethically or legally carried out in the field. It must be simulated because of the high stakes involved in CCPPEs and the importance that no external influences impact a result that will ultimately be included in a court order surrounding the best interests of a child. An ideal sample would be parents in conflict who are not going to be referred for an evaluation. However, a sample of this nature might be difficult to obtain, especially with adequate sample size.

Another consideration in terms of generalizability is the method of test administration, as this study utilized a group administration procedure based closely on R-PAS administration guidelines (Horn et al., 2009). Using this modified administration procedure may limit the external validity of these results to evaluations in which the standard, individualized R-PAS administration is used. For example, findings indicated no significant differences in PER responses from time 1 to time 2. It may be that those findings were impacted by the lack of a close relationship between the participant and the examiner. PER responses are thought to reflect a strong desire to justify one's answers, which seems more likely in a scenario in which an examiner thoroughly clarifies an examinee's answers and then forces the examinee to verbally respond. In the present

study, participants completed the clarification phase independently, in writing. This could be considered a less pressured situation (i.e. self-paced with the opportunity to edit one's rationale) compared to completing the clarification phase face to face. However, for the purposes of investigating an empirical question with little to no existing research in the literature, the group administration procedure is regarded as a highly valuable method of administration (Bornstein et al., 1997; Castro-Villarreal, 2010; Horn et al., 2009).

Lastly, an additional limitation of the study is that findings which have been attributed to faking good might be conflated with the effect of prior exposure to the Rorschach itself, as all of the participants took the test twice. Without a third group (i.e. a group who was not instructed to fake good during the second test administration), it is nearly impossible to tease apart the impact of faking good from the impact of prior exposure to the test. It should be noted that the literature regarding the temporal consistency reliability of Rorschach variables suggested that Rorschach results are fairly stable over time (Castro-Villarreal, 2010; Erginel, 1972; Grønnerød, 2003). While previous studies on Rorschach stability levels supported the author's conclusion that the results were due to faking good and not solely due to test-retest effects, the absence of a third group remains a limitation.

Directions for Future Research

While the present study resulted in many significant findings regarding the Rorschach and its degree of susceptibility to impression management, this study also generated new questions which merit further research. Future investigators may seek to

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examine the validity and interpretive significance of PER responses. In the present study, PER responses did not significantly increase during the fake good condition, which was an unexpected finding. The same was true in other studies analyzing the Rorschach data of samples who were motivated to fake good (Schultz & Brabender, 2013; Wasyliw et al., 1998). These null findings go against the general interpretation of PER as a tendency to justify one's views based on personal knowledge or authority, or as an attempt to defend oneself against challenge or criticism (Meyer et al., 2011a). Future researchers may wish to investigate the empirical support for PER by examining the Rorschach profiles of individuals involved in forensic evaluations and determine if PER responses occur at a higher than average rate.

Future researchers may also wish to investigate the categories of ODL responses (e.g. foods and drinks, oral activity, "baby talk" responses, nurturers, etc.) most often provided by individuals who are motivated to fake good, as this study found that ODL significantly increased when people attempted to fake good without exposure to the Wikipedia material. The findings related to F% also warrant further research. Future researchers may wish to examine how the decrease in F% observed in this study affected other Rorschach variables related to determinants, such as the number of Blends. In particular, it would be interesting to discover if lower F% resulted in a higher number of responses containing Color Blended with Shading and Achromatic Color.

Additionally, the meaning and impact of the empirical findings of the present study would likely be bolstered by conducting a similar study with a qualitative component. Asking individuals to describe their perceptions of the Wikipedia material

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and to describe how they used the information to fake good would provide much needed insight into an examinee's thought process. A qualitative study would likely yield valuable findings regarding an examinee's strategy for faking good, such as whether she thought it would be beneficial to give answers that demonstrated creativity or whether she thought it best to give more conventional answers that could be easily seen in the blots. It would also be interesting to discover a layperson's understanding of how the Rorschach works and its utility as a personality test after reading the Wikipedia material. Does the Wikipedia material stimulate curiosity about the test? Or, does the Wikipedia information make the test seem outdated and less credible to the average layperson?

Implications for Forensic Practice

Overall, the author strongly believes the findings of this dissertation provide intriguing information of potential value to psychologists conducting forensic evaluations, particularly CCPPEs, in which clients are motivated to underreport symptoms and to suppress certain personality traits. The findings of the current study are also of significance to psychologists concerned about the proliferation of sensitive test materials on the Internet and the prolonged effect this may have on future clinical practice. Forensic practitioners should take away the message that reading information about the Rorschach on the Internet did not impact results as much as making a conscious effort to fake good on the test. When participants attempted to simulate positive adjustment, they were able to significantly improve key markers of affect regulation (lower CF+C/SumC), stress and coping (higher MC-PPD), and conflict styles/tactics (lower PHR/GPHR). They were also likely to give less complex responses (lower

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Complexity) that were fewer in total number (lower R). With respect to the impact of the Wikipedia material, the main finding was related to FQ-%. Practitioners should be aware that after reading the Wikipedia material, participants' responses demonstrated improved perceptual accuracy (lower FQ-%). Overall, results indicated that the information currently available on the Internet is not likely to impact scores to an appreciable degree.

Based on the findings of this study, the author has developed four main recommendations for forensic practitioners: 1) directly ask the client how he or she prepared for the test, 2) begin the interpretation process by examining variables associated with engagement and consider using Complexity-adjusted scores if the value of Complexity is below average, 3) do not base interpretations on a single score, particularly in regards to the client's reality testing abilities, and 4) keep in mind that ethical forensic practice involves the review of multiple data sources, not just the results of one test. The findings of this study underscore the importance of building rapport with the client and helping him or her feel comfortable with the assessment process. It is highly recommended that prior to the Rorschach administration, practitioners inquire if the client has prepared for the examination, including anything specific about the Rorschach. If the client responds affirmatively, practitioners may want to normalize this behavior for the client by telling him or her that this behavior is common when people are being evaluated in legal contexts. It is recommended that practitioners empathize with the client's wish to do well on the test, but inform the client that it is in his or her best interest to respond to the test in an honest, forthright manner. In addition, the results of this study suggest that it may be ethical to inform the client that research has suggested that the

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information provided on the Internet is not always accurate and may not ultimately be helpful to them as a basis for their responses.

When analyzing Rorschach results as part of a CCPPE, the findings of this study suggested that practitioners should begin by assessing variables related to the client's level of engagement with the task, such as Complexity, R, and F%. If the Complexity score is below average (which is likely to be the case in forensic settings), it is recommended that practitioners interpret the Complexity-adjusted scores. Lastly, it would behoove the practitioner to examine multiple variables associated with perceptual accuracy (e.g. EII-3, TP-Comp, FQ-%, WD-%, and FQo%) and to draw conclusions about the client's reality testing based on the overall picture that emerges from these synthesized results, rather than any one on its own.

Overall, the current study suggested that if a protocol looks fairly dramatized or disturbed, it is not likely to be the result of an attempt to fake good on the task. However, future research does need to investigate how lower F% might contribute to higher color-shading blends. At the same time, the current study does call into question the validity of Rorschach results when a custody litigant has exceptionally healthy scores, particularly regarding the variables investigated here. Competent forensic practice relies on the convergence of multiple data points from multiple sources, including other testing data, behavioral observations, and historical collateral data. When confronted with exceptionally healthy scores in individuals who have not demonstrated healthy behavior patterns consistently in the past, the reliance on Rorschach data may need to decrease relative to the reliance on other converging data points.

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The main purpose of this study was to answer the question, how dangerous is Wikipedia? Many psychologists in the field of forensic assessment are concerned about the increased proliferation of instructional material on the Internet. Forensic practitioners know that the widespread accessibility of the Internet and the speed with which information can be found makes it an especially attractive resource for clients who wish to do their "homework" before an evaluation. The Wikipedia article describing the Rorschach Inkblot Test is perhaps the most notorious of all websites in existence pertaining to the Rorschach. The Wikipedia-hosted Rorschach article contains a wealth of information, including factual portrayals of all ten inkblots and a list of "Popular responses" next to each card. Fortunately for psychologists worried about the potential threat posed by this website, results of this dissertation indicated that the Wikipedia material did not prove to be enormously influential in respondents' Rorschach scores. In sum, the information presented on Wikipedia may not be so dangerous after all, which is good news for psychologists who rely on the Rorschach as a powerful and unique assessment tool integral to conducting comprehensive psychological assessments.

Appendix A

<u>Demographic Questionnaire</u>

1. Name: _____

2. Best email address to reach you: _____

3. Best phone number to reach you: _____

Participant ID#: _____

………………………………………………………………………………………………

Participant ID#:_____

Gender: ___Female ___Male ___Transgender

Age: ___

Ethnic Identity: _____

Year in college: _____   Major: _____

Relationship Status:

    ___Married ___Cohabitating with partner ___ Divorced/Separated ___Single

Native language: ___English ___Other

Had you heard of the inkblot test before today? ___Yes ___No

    If yes, please describe what you know about the test

    _____

    _____

    _____

Had you ever taken the inkblot test before today? ___Yes ___No

    If yes, when?

    _____

Are you currently in psychological treatment? ___Yes ___No

    If yes, please describe services you are participating in (e.g. individual

    counseling, career counseling, couples therapy, etc.)

    _____

    _____

Appendix B

Informed Consent Form

Title: What might this be? Conducted By: Tracy Carver (Graduate Student) of The University of Texas at Austin, Department of Educational Psychology, SZB 262H; Phone: 512-484-0737, Email: UTResearchStudy@gmail.com.

You are being asked to participate in a research study. This form provides you with information about the study. The person in charge of this research will also describe this study to you and answer all of your questions. Please read the information below and ask any questions you might have before deciding whether or not to take part. Your participation is entirely voluntary. You can refuse to participate or stop participating without penalty or loss of benefits to which you are otherwise entitled. You can stop your participation at any time and your refusal will not impact current or future relationships with UT Austin or participating sites. To do so simply tell the researcher you wish to stop participation. The researcher will provide you with a copy of this consent for your records.

The purpose of this study is to learn more about the reliability and validity of administering a widely used personality test to a small group of students simultaneously. In addition, we hope to explore the impact of Internet-based instructional material on test results, particularly how this material helps or hinders one's ability to present a favorable impression on the test.

If you agree to be in this study, we will ask you to do the following things:
- Attend two in-lab testing sessions over the course of two weeks
- Participate in a computerized personality measure containing inkblots
- Read an article about the inkblot test at the beginning of session two
- Complete a brief follow-up survey toward the end of session two, which includes questions about your experience taking the test and your opinion of the materials presented

Total estimated time to participate in study is about 4 hours (up to 90 minutes during the first session, up to 120 minutes during the second session)

The **risks** of participating in this study are no greater than those of everyday life. In rare cases, taking the inkblot test has the potential to cause participants to experience possibly intense emotions, which may cause distress in certain participants. This harm is not at a greater level of likelihood or severity than that experienced in participants' everyday life. The researchers would like to emphasize that your participation is entirely voluntary and the option to withdraw from the study without penalty is always available. If you do experience distress during or following the study, please call the UT Telephone Counseling Hotline (471-CALL) or the UT Counseling and Mental Health Center (471-3515).

There is no personal **benefit** to you for taking part in this study. Although there is no personal benefit to the participants for taking part in this study, the study will potentially benefit society as

a whole as it will provide knowledge relevant for psychologists who provide personality assessments to the public.

Compensation:
You will receive 4 hours of credit toward your research requirement for taking part in both portions of the study. You will receive no credit toward your research requirement for taking part in only the first session. In order to fulfill your research requirement, you are free to participate in any of the other studies being offered through the Department of Educational Psychology for which you are eligible. You also have the option of completing an alternate assignment if you do not wish to participate in research studies.

Confidentiality and Privacy Protections:
Your privacy will be protected by conducting an experiment in a separate room away from those outside of the experiment. We ask you not to discuss any information disclosed by others during the experiment to those outside of the session. The computer screens in the lab room are arranged such that none of the other participants are able to see your computer screen. None of the data will be looked at until after the session is over and you are dismissed.

The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you with it, or with your participation in any study.

The records of this study will be stored securely and kept confidential. Consent forms will be kept separately from the electronic files in a locked cabinet. Consent documentation will be securely destroyed (i.e., shredded) 3 years after the submission is closed with the IRB. All electronic data will only be identifiable through a subject number and be kept in a password protected file. Electronic data will be securely destroyed (i.e. shredded) 3 years after the submission is closed with the IRB. Any data collected on paper will have only the subject number on them (no actual names) and be kept in a different room that is also locked and accessible only to the researchers on the project. All data in paper form will be disposed of and shredded after a period of 3 years. The master key file that connects all identifying information collected to the subject number will be kept in a secure, password protected computer in a separate folder from any study data. This file will only be accessible to the Principal Investigator. The master key will be destroyed as soon as human subjects interaction is complete.

Authorized persons from The University of Texas at Austin and members of the Institutional Review Board have the legal right to review your research records and will protect the confidentiality of those records to the extent permitted by law. All publications will exclude any information that will make it possible to identify you as a subject. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

Contacts and Questions:
If you have any questions about the study please ask now. If you have questions later, want additional information, or wish to withdraw your participation call the researchers conducting the study. Their names, phone numbers, and e-mail addresses are at the top of this document. If you have questions about your rights as a research participant, complaints, concerns, or questions about the research please contact the Office of Research Support at (512) 471-8871 or email: orsc@uts.cc.utexas.edu.

You will be given a copy of this information to keep for your records.

Statement of Consent:

I have read the above information and have sufficient information to make a decision about participating in this study. I consent to participate in the study.

_____   Date: _____
Signature of Participant

_____   Date: _____
Signature of Person Obtaining Consent

_____   Date: _____
Signature of Investigator

Appendix C

Lab Procedures for Time 1

Preparation before the experiment:

The researcher needs to make sure he/she has the following materials:
   a. Participant roster to mark attendance and record ID#s
   b. Consent forms and copies for all participants (**x 30**)
   c. Demographic Questionnaire for all participants (**x 15**)
   d. Participant ID #s placed at each computer station (**x 15**)
   e. Several pens for participants to use.
   f. A "Location Sheet" folder. In the folder, it should have a Rorschach location sheet packet with the images face down. (**x 15**)

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The researcher will guide each participant to have a seat as they come in by saying:

   Hi, welcome! You are here for EDP Study 112 entitled "What might this be?" right? Great, have a seat and you can begin reading the consent form, but please do not look through any of the other materials at this time. If you agree and want to participate in this study, please complete and sign the consent form. I gave you 2 copies, so feel free to keep a copy for yourself if you'd like. When everyone is ready, we will start the experiment.

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After all of the participants sit down and complete the Informed Consent Form, the researcher will close the door and give a general introduction to the study:

   Now everyone is here. First of all, I would like to thank you for your participation in this study. Let me introduce myself briefly and then I will give you some ideas about what we are going to do today. (Briefly introduce self here). During this study, you will complete an Internet survey and some additional pen-and-paper questionnaires. I will guide all of you through this study step by step. Therefore, it is very important to let me know if you have any questions at any point during the study. I will slow down if it is necessary to make sure everyone is on the same page. Do you have any questions so far about what we are going to do today? If there are no questions, I think we are ready to start.

▪▪▪

[Instruct Participants to open link to Qualtrics survey]

Is everyone on a screen that requests your Participant ID#? Good! Please enter the Participant ID# at your desk and click the arrows at the bottom right-hand corner of the screen to continue.

Now is everyone on a screen that asks you to select the password? Great! In the next stage, you will complete the first phase of the Inkblot Test. Have anyone ever heard of the Inkblot Test before?

[If yes, the researcher will ask further about their experience in this test such as when, where, in what condition/situation, how much they were exposed to the test and how did they feel about this test. The researcher will reassure the participants that we are just interested in what they genuinely see, not what they might have heard. Depending on the situation, the researcher will make notes with regard to the participants' descriptions. If it is necessary, the researcher will discuss with advisor to decide whether or not the data should be excluded in the future.]

The instructions of how to do the first phase of the Inkblot Test are a little bit complicated. Therefore, please listen to my instructions and watch me to show you how to do it.

When instructed to do so, you will view the first card. Your task is to use all or part of the inkblot and answer the question "What might this be?" You will have 1 minute and 30 seconds to view the card and to type at least 2 or possibly 3 responses on the computer in the textboxes. You may turn the card in your mind if you would like. Be sure to look at the card when you are deciding on your responses.

When you are finished typing 2 or 3 responses for the first card, you will click the arrows at the bottom of the screen to continue with the rest of the test. Remember to look at the card to determine what it might be and type your responses in the space provided. We will repeat this task on a total of 10 cards. If you have a question, please raise your hand and I will come over to answer it.

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Does everyone know how to do the first phase of the test now? Great! It is time to begin the Inkblot Test. Remember you will have 1 minute 30 seconds to view each card and then type at least 2 responses to the question: "What might this be?"

[Point to Qualtrics screen] *Ok, the password is "hook 'em horns." Please select "hook 'em horns" to continue. Now you should see an image that looks like this* [Hold up Card I]. *Click the text box below the image to begin entering your responses. Please stop when you reach a screen that says "Stop. Wait here for further instructions."*

Participants provide responses to Cards I-X. This portion of the test should take approximately 15 minutes.

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[Clarification Phase]

The researcher will announce:

Ok, now that everybody is done with the first part of the test, you should be on a screen with a big stop sign that says "Wait here for further instructions" underneath.

Now we are going to finish the last part. For this next phase you will be clarifying the responses you gave earlier. Don't worry, your previous answers were saved and they will be displayed on your computer for you to review. The goal now is for you to help me see what you saw because I want to be able to see the things you saw just like you did.

[Distribute location sheet packets]

I just gave you a packet with miniature versions of the inkblots. This is called a "location sheet". Go ahead and take them out as we will use them for this phase of the study. First, while looking again at the <u>actual</u> inkblot, you will read the responses you typed previously. Then you will use text boxes on the screen to describe in more detail what there is in the inkblot that makes it look like that to you. Finally, you will use the location sheets to indicate where the things you saw were located. Again, I want you to help me see what you saw, because I want to be able to see the things you saw just like you did. To help you understand what I mean, I am going to show you two examples.

[Click to next screen] *Please click the arrows at the bottom of the screen to continue to the next page. Ok, so if this was the card you were looking at, you might have responded "It looks like 2 pigs facing the horizon."*

[Click to next screen] *This screen provides an example of what your screen would look like for completing this last phase of the test. As you see on this screen, your response will be shown back to you in the area indicated. Your task is to clarify your response in the textbox here so I can see the things you saw just like you did.*

[Click to next screen] *And here is an example of someone explaining that response.* [Read statement aloud] *And the next slide is meant to give you an idea of what your location sheet might look like with this example of the 2 pigs.*

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Let's look at another example. [click to next slide with example #2 - fire truck] *Pretend this was one of the cards. You might have responded, "It looks like a bright red fire engine speeding down the road." For this stage of the task, your previous response will be shown here, and you will again clarify your response here by typing in the text box.* [continue clicking through the example and be sure to read clarification statement aloud] *Ok, the next slide is meant to give you an idea of what your location sheet might look like with this fire engine example.*

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So let's go into more detail about those location sheets. I'm going to show you exactly how to use them. Please take out the location sheet and label the "TOP" first. Let me explain what I mean by labeling "TOP." For example, if you had your card like this [Use the Rorschach Card I and the location sheet, show them the inkblot card upright] *for the first response on your card I, you would write "TOP" here* [pointing to the place on the location sheet]. *If you gave your second response with the card turned like this* [show them the card sideways]*, you would write "TOP" here* [pointing to the place on the location sheet, response 2]. *If you gave your third response with the card turned like this* [show them the card upside down]*, you would write "TOP" here* [pointing to the place on the location sheet, response 3].

Next, after you label the "TOP" on the location sheet, you will circle the area you used and label the key features. Just like we saw in the two examples. So you want to outline where you saw it and identify key features. If you used the whole inkblot, just circle the entire image. [Make sure participants understand that they are to circle the area and label the key features].

One more thing, and this is a very important step, please write your Participant ID# in the upper, right-hand corner of your location sheet. [Check that participants do this].

Give participants about 10 seconds to write their ID#s on the sheets.

****

Introduction for Card I:

You will have approximately 3 minutes per <u>inkblot</u>, not response, to type your clarification and label the paper location sheet. We will repeat this for all remaining cards. If you have a question, please raise your hand and I will come over to answer it. Remember, for each response you will explain what features in the inkblot make it look the way it does. Help me see it the same way as you. The sequence to follow is <u>look-type-label</u>. <u>Look</u> at your response on the <u>actual image</u>, not the location sheet. <u>Type</u> a description of what makes it look like that to you. Then <u>label</u> the "TOP" and then key features of the image on the <u>location sheet</u>.

Now you can click continue to move on to the first card and type your clarification. Please begin and raise your hand if you have any questions.

****

Participants will complete the clarification phase card by card. Walk around the room and make sure participants remember to circle their responses on the location sheets and label key features. This portion of the test should take about 30 minutes.

∎∎

After the clarification phase is done, the researcher will say:

Congratulations! You are done with the Inkblot Test! You can put your location sheets back in the folder on your desk. I will come around in a minute to collect the folders. Just to double check, has everyone written their Participant ID#s on the right-hand corner of your location sheets? Ok, perfect!

[Distribute demographic questionnaire]

Alright, I have one last thing for you to do before today's session is over. I just need to collect some demographic information. Please go ahead and complete the survey I just passed out. Make sure that when you fill out your Participant ID # at the top of the form, that it matches the one you previously entered. This is very important to ensure that you receive course credit for your study participation.

[Collect demographic questionnaires and dismiss participants. Remind them that for this project, they are required to attend a total of 2 sessions.]

Lab Procedures for Time 2, Control Group

Preparation before the experiment:

  The researcher needs to make sure he/she has the following materials:

 a. Participant roster to mark attendance and provide ID#s.

 b. Several pens for participants to use.

 c. Location sheets (**x 15**)

 d. Debriefing Forms and copies for all participants (**x 30**)

****

The researcher will guide each participant to have a seat as they come in by saying:

  Hi! You are here for your second session of EDP Study 112 entitled "What might this be?" right? Great, have a seat and we'll get started soon.

****

- Take roll and provide ID#s.

- Help participants set up their laptops and connect to the wireless network.

▪▪

[Instruct Participants to open link to qualtrics survey]

  Is everyone on a screen that requests your Participant ID#? Good! Please enter your Participant ID# and click the arrows at the bottom of the screen to continue.

  Now is everyone on a screen that requests a password? Great!

  *Ok, let me explain what you'll be doing today. Basically you'll be completing the inkblot test again, but with a small twist. Like last time, I'm still interested in learning more about the usefulness and effectiveness of administering this personality test in a group setting with computers. The reason that I asked you to attend a second session is that I'm also interested in learning more about how mental health is assessed. I'm researching how well this test can determine whether or not an individual is **psychologically healthy**, so how **warm, caring, responsible, and well-adjusted** you can appear on the inkblot test. So you'll be taking the test again, but this time I want you to give answers that you think would reflect someone with superior mental health. As an added bonus, the participant with the "best" profile, meaning the person who best exemplifies traits such as **warmth, compassion, emotional stability, and dependability**, will receive a $150.00 gift card to the university bookstore.*

  Any questions about that?

■■

[Free Response Phase]

Just to refresh your memory, I'm going to go through the same instructions you heard last time.

You will now complete the Inkblot Test. Your task is to use all or part of the inkblot and answer the question "What might this be?" You will have 1 minute to view the image and to type at least 2 or possibly 3 responses on the computer in the textboxes. You may turn the picture in your mind if you would like. Be sure to look at the card when you are deciding on your responses. When you are finished typing 2 or possibly 3 responses for the first card, you will click the arrows at the bottom of the screen to continue with the rest of the test. Remember to look at the picture to determine what it might be and type your responses in the space provided. We will repeat this for all 10 cards. If you have a question, please raise your hand and I will come over to answer it. (If participants ask if they should report the same answers as last time or if they can use some of the same answers as last time, tell them "it's up to you.")

Remember that the person with the "best" responses, meaning the person who comes across as the most psychologically healthy (warm, caring, responsible, well-adjusted) will receive a $150.00 gift card to the university bookstore.

Ok, the password is "homeslice, h-o-m-e-s-l-i-c-e." Please begin. Stop when you reach a screen that says "Wait here for further instructions."

■■

[Clarification Phase]

The researcher will distribute location sheet packets and announce:

Ok, now that everybody is done with the first part of the test, you should be on a screen that says "Wait here for further instructions." Now we are going to finish the last part of the test. Please be patient as I go through the same instructions as last time. It will probably sound really familiar to you.

For this next phase you will be clarifying the responses you gave earlier. Don't worry, your previous answers were saved and they will be displayed on your computer for you to review. The goal now is for you to help me see what you saw because I want to be able to see the things you saw just like you did.

I just gave you a packet with miniature versions of the inkblots. This is called a "location sheet". We will be using them for this phase of the study. Here's what you're going to be doing. First, while looking again at the <u>actual</u> inkblot, you will read the responses you typed previously. Then you will use text boxes on the screen to describe in more detail what there is in the inkblot that makes it look like that to you. Finally, you will use the location sheets to indicate where the things you saw were located. Again, I want you to help me see what you saw, because I want to be able to see the things you saw just like you did. To help you understand what I mean, I am going to show you two examples.

[Click to next screen] *Please click the arrows at the bottom of the screen to continue to the next page. Ok, so if this was the card you were looking at, you might have responded "It looks like 2 pigs facing the horizon."*

[Click to next screen] *This screen provides an example of what your screen would look like for completing this last phase of the test. As you see on this screen, your response will be shown back to you in the area indicated. Your task is to clarify your response in the textbox here so I can see the things you saw just like you did.*

 [Click to next screen] *And here is an example of someone explaining that response.* [Read statement aloud]

****

Let's look at another example. [click to next slide with fire truck] *Pretend this was one of the cards. You might have responded, "It looks like a bright red fire engine speeding down the road." For this stage of the task, your previous response will be shown here, and you will again clarify your response here by typing in the text box.* [continue clicking through the example and read clarification statement aloud]

****

Next, I'm going to show you how to use the location sheets. You will circle the area you used and label the key features. Just like you see here in the two examples. So you want to outline where you saw it and identify key features. If you used the whole inkblot, just circle the entire image. [Make sure participants understand that they are to circle the area and label the key features].

Also, and this is a very important step, please write your Participant ID# in the right-hand corner of your location sheet. [Check that participants do this].

****

Introduction for Card I:

You will have approximately 3 minutes per <u>inkblot</u>, not response, to type your clarification and label the paper location sheet. We will repeat this for all remaining cards. If you have a question, please raise your hand and I will come over to answer it. Remember, for each response you will explain what features in the inkblot make it look the way it does. Help me see it the same way as you. The sequence to follow is <u>look-type-label</u>. <u>Look</u> at your response on the <u>actual image</u>, not the location sheet. <u>Type</u> a description of what makes it look like that to you. Then <u>label</u> the key features of the image on the <u>location sheet</u>.

Now you can click continue to move on to the first card and type your clarification.

****
Participants will complete the clarification phase card by card.

▪▪

After the clarification phase is done, the researcher will collect location sheets and say:

Ok, I have one last thing for you to do before today's session is over. I just need you to fill out this short questionnaire. The data you provide will be used in a later study. Make sure that when you fill out your Participant ID# at the top of the form, that it matches the one you previously entered. This is very important to ensure that what you're filling out now can be linked back to the responses you submitted online.

▪▪

[Debriefing]

After participants complete the brief questionnaire, the researcher will distribute the debriefing form (one to sign and one to keep) and provide a verbal explanation to the participants. The researcher will explain that there is no $150.00 gift card to the university bookstore for the participant with the "best" profile. The researcher will explain that this part of the experiment was included to increase participants' motivation and simulate a real life forensic population (i.e. parents involved in a child custody/parenting plan evaluation). The researcher will inform participants that they will all be entered into a raffle to win the gift card and that the winner will be chosen at random. Participants will sign the debriefing form to indicate understanding of areas of the experiment they were deceived about.

Appendix E

<u>Lab Procedures for Time 2, Experimental Group</u>

Preparation before the experiment:
      The researcher needs to make sure he/she has the following materials:
      a. Participant roster to mark attendance and provide ID#s.
      b. Several pens for participants to use.
      c. Location sheets (**x 15**)
      d. Debriefing Forms and copies for all participants (**x 30**)

****

The researcher will guide each participant to have a seat as they come in by saying:

Hi! You are here for your second session of EDP Study 112 entitled "What might this be?" right? Great, have a seat and we'll get started soon.

****

- Take roll and provide ID#s.
- Help participants set up their laptops and connect to the wireless network.

■■■

[Instruct Participants to open link to qualtrics survey]

Is everyone on a screen that requests your Participant ID#? Good! Please enter your Participant ID# and click the arrows at the bottom of the screen to continue.

Now is everyone on a screen that requests a password? Great!

*Ok, let me explain what you'll be doing today. Basically you'll be completing the inkblot test again, but with a small twist. Like last time, I'm still interested in learning more about the usefulness and effectiveness of administering this personality test in a group setting with computers. The reason that I asked you to attend a second session is that I'm also interested in learning more about how mental health is assessed. I'm researching how well this test can determine whether or not an individual is **psychologically healthy**, so how **warm, caring, responsible, and well-adjusted** you can appear on the inkblot test. So you'll be taking the test again, but this time I want you to give answers that you think would reflect someone with superior mental health. As an added bonus, the participant with the "best" profile, meaning the person who best exemplifies traits such as **warmth, compassion, emotional stability, and dependability**, will receive a $150.00 gift card to the university bookstore.*

Any questions about that?

■ ■

[Free Response Phase]

Just to refresh your memory, I'm going to go through the same instructions you heard last time.

You will now complete the Inkblot Test. Your task is to use all or part of the inkblot and answer the question "What might this be?" You will have 1 minute to view the image and to type at least 2 or possibly 3 responses on the computer in the textboxes. You may turn the picture in your mind if you would like. Be sure to look at the card when you are deciding on your responses. When you are finished typing 2 or possibly 3 responses for the first card, you will click the arrows at the bottom of the screen to continue with the rest of the test. Remember to look at the picture to determine what it might be and type your responses in the space provided. We will repeat this for all 10 cards. If you have a question, please raise your hand and I will come over to answer it. (If participants ask if they should report the same answers as last time or if they can use some of the same answers as last time, tell them "it's up to you.")

Remember that the person with the "best" responses, meaning the person who comes across as the most psychologically healthy (warm, caring, responsible, well-adjusted) will receive a $150.00 gift card to the university bookstore.

Ok, the password is "homeslice, h-o-m-e-s-l-i-c-e." Please begin. Stop when you reach a screen that says "Wait here for further instructions."

■ ■

[Clarification Phase]

The researcher will distribute location sheet packets and announce:

Ok, now that everybody is done with the first part of the test, you should be on a screen that says "Wait here for further instructions." Now we are going to finish the last part of the test. Please be patient as I go through the same instructions as last time. It will probably sound really familiar to you.

For this next phase you will be clarifying the responses you gave earlier. Don't worry, your previous answers were saved and they will be displayed on your computer for you to review. The goal now is for you to help me see what you saw because I want to be able to see the things you saw just like you did.

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I just gave you a packet with miniature versions of the inkblots. This is called a "location sheet". We will be using them for this phase of the study. Here's what you're going to be doing. First, while looking again at the <u>actual</u> inkblot, you will read the responses you typed previously. Then you will use text boxes on the screen to describe in more detail what there is in the inkblot that makes it look like that to you. Finally, you will use the location sheets to indicate where the things you saw were located. Again, I want you to help me see what you saw, because I want to be able to see the things you saw just like you did. To help you understand what I mean, I am going to show you two examples.

[Click to next screen] *Please click the arrows at the bottom of the screen to continue to the next page. Ok, so if this was the card you were looking at, you might have responded "It looks like 2 pigs facing the horizon."*

[Click to next screen] *This screen provides an example of what your screen would look like for completing this last phase of the test. As you see on this screen, your response will be shown back to you in the area indicated. Your task is to clarify your response in the textbox here so I can see the things you saw just like you did.*

 [Click to next screen] *And here is an example of someone explaining that response.* [Read statement aloud]

****

Let's look at another example. [click to next slide with fire truck] *Pretend this was one of the cards. You might have responded, "It looks like a bright red fire engine speeding down the road." For this stage of the task, your previous response will be shown here, and you will again clarify your response here by typing in the text box.* [continue clicking through the example and read clarification statement aloud]

****

Next, I'm going to show you how to use the location sheets. You will circle the area you used and label the key features. Just like you see here in the two examples. So you want to outline where you saw it and identify key features. If you used the whole inkblot, just circle the entire image. [Make sure participants understand that they are to circle the area and label the key features].

Also, and this is a very important step, please write your Participant ID# in the right-hand corner of your location sheet. [Check that participants do this].

****
Introduction for Card I:

You will have approximately 3 minutes per <u>inkblot</u>, not response, to type your clarification and label the paper location sheet. We will repeat this for all remaining cards. If you have a question, please raise your hand and I will come over to answer it. Remember, for each response you will explain what features in the inkblot make it look the way it does. Help me see it the same way as you. The sequence to follow is <u>look-type-label</u>. <u>Look</u> at your response on the <u>actual image</u>, not the location sheet. <u>Type</u> a description of what makes it look like that to you. Then <u>label</u> the key features of the image on the <u>location sheet</u>.

Now you can click continue to move on to the first card and type your clarification.

****

Participants will complete the clarification phase card by card.

■•■■

[Debriefing]

After participants complete the clarification phase, the researcher will distribute the debriefing form and provide a verbal explanation to the participants. The researcher will explain that there is no $150.00 gift card to the university bookstore for the participant with the "best" profile. The researcher will explain that this part of the experiment was included to increase participants' motivation and simulate a real life forensic population (i.e. parents involved in a child custody/parenting plan evaluation). The researcher will inform participants that they will all be entered into a raffle to win the gift card and that the winner will be chosen at random. Participants will sign the debriefing form to indicate understanding of areas of the experiment they were deceived about.

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Appendix F

Wikipedia Material

The **Rorschach test** (German pronunciation: [ˈʁoːɐʃax]; also known as the **Rorschach inkblot test, the Rorschach technique**, or simply the **inkblot test**) is a psychological test in which subjects' perceptions of inkblots are recorded and then analyzed using psychological interpretation, complex algorithms, or both. Some psychologists use this test to examine a person's personality characteristics and emotional functioning. It has been employed to detect underlying thought disorder, especially in cases where patients are reluctant to describe their thinking processes openly.[4] The test is named after its creator, Swiss psychologist Hermann Rorschach.

In the 1960s, the Rorschach was the most widely used projective test.[5] In a national survey in the U.S., the Rorschach was ranked eighth among psychological tests used in outpatient mental health facilities.[6] It is the second most widely used test by members of the Society for Personality Assessment, and it is requested by psychiatrists in 25% of forensic assessment cases,[6] usually in a battery of tests that often include the MMPI-2 and the MCMI-III.[7] In surveys, the use of Rorschach ranges from a low of 20% by correctional psychologists[8] to a high of 80% by clinical psychologists engaged in assessment services, and 80% of psychology graduate programs surveyed teach it.[9]

Although the Exner Scoring System (developed since the 1960s) claims to have addressed and often refuted many criticisms of the original testing system with an extensive body of research,[10] some researchers continue to raise questions. The areas of dispute include the objectivity of testers, inter-rater reliability, the verifiability and general validity of the test, bias of the test's pathology scales towards greater numbers of responses, the limited number of psychological conditions which it accurately diagnoses, the inability to replicate the test's norms, its use in court-ordered evaluations, and the proliferation of the ten inkblot images, potentially invalidating the test for those who have been exposed to them.[11]

History

Using interpretation of "ambiguous designs" to assess an individual's personality is an idea that goes back to Leonardo da Vinci and Botticelli. Interpretation of inkblots was central to a game from the late 19th century. Rorschach's, however, was the first systematic approach of this kind.[12]

It has been suggested that Rorschach's use of inkblots may have been inspired by German doctor Justinus Kerner who, in 1857, had published a popular book of poems, each of which was inspired by an accidental inkblot.[13] French psychologist Alfred Binet had also experimented with inkblots as a creativity test,[14] and, after the turn of the century, psychological experiments where inkblots were utilized multiplied, with aims such as studying imagination and consciousness.[15]

Hermann Rorschach created the Rorschach inkblot test in 1921.

After studying 300 mental patients and 100 control subjects, in 1921 Rorschach wrote his book *Psychodiagnostik*, which was to form the basis of the inkblot test (after experimenting with several hundred inkblots, he selected a set of ten for their diagnostic value),[16] but he died the following year. Although he had served as Vice President of the Swiss Psychoanalytic Society, Rorschach had difficulty in publishing the book and it attracted little attention when it first appeared.[17]

In 1927, the newly-founded Hans Huber publishing house purchased Rorschach's book *Psychodiagnostik* from the inventory of Ernst Bircher.[18] Huber has remained the publisher of the test and related book, with Rorschach a registered trademark of Swiss publisher Verlag Hans Huber, Hogrefe AG.[19] The work has been described as "a densely written piece couched in dry, scientific terminology".[20]

After Rorschach's death, the original test scoring system was improved by Samuel Beck, Bruno Klopfer and others.[21] John E. Exner summarized some of these later developments in the *comprehensive system*, at the same time trying to make the scoring more statistically rigorous. Some systems are based on the psychoanalytic concept of object relations. The Exner system remains very popular in the United States, while in Europe other methods sometimes dominate,[22][23] such as that described in the textbook by Evald Bohm, which is closer to the original Rorschach system and rooted more deeply in the original psychoanalysis principles.

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Method

The tester and subject typically sit next to each other at a table, with the tester slightly behind the subject.[24] This is to facilitate a "relaxed but controlled atmosphere". There are ten official inkblots, each printed on a separate white card, approximately 18x24 cm in size.[25] Each of the blots has near perfect bilateral symmetry. Five inkblots are of black ink, two are of black and red ink and three are multicolored, on a white background.[26][27][28] After the test subject has seen and responded to all of the inkblots (*free association* phase), the tester then presents them again one at a time in a set sequence for the subject to study: the subject is asked to note where he sees what he originally saw and what makes it look like that (*inquiry* phase). The subject is usually asked to hold the cards and may rotate them. Whether the cards are rotated, and other related factors such as whether permission to rotate them is asked, may expose personality traits and normally contributes to the assessment.[29] As the subject is examining the inkblots, the psychologist writes down everything the subject says or does, no matter how trivial. Analysis of responses is recorded by the test administrator using a tabulation and scoring sheet and, if required, a separate location chart.[24]

The general goal of the test is to provide data about cognition and personality variables such as motivations, response tendencies, cognitive operations, affectivity, and personal/interpersonal perceptions. The underlying assumption is that an individual will class external stimuli based on person-specific perceptual sets, and including needs, base

motives, conflicts, and that this clustering process is representative of the process used in real-life situations.[30] Methods of interpretation differ. Rorschach scoring systems have been described as a system of pegs on which to hang one's knowledge of personality.[31] The most widely used method in the United States is based on the work of Exner.

Administration of the test to a group of subjects, by means of projected images, has also occasionally been performed, but mainly for research rather than diagnostic purposes.[24]

Test administration is not to be confused with test interpretation:

> "The interpretation of a Rorschach record is a complex process. It requires a wealth of knowledge concerning personality dynamics generally as well as considerable experience with the Rorschach method specifically. Proficiency as a Rorschach *administrator* can be gained within a few months. However, even those who are able and qualified to become Rorschach *interpreters* usually remain in a "learning stage" for a number of years."[24]

Features or categories

The interpretation of the Rorschach test is not based primarily on the contents of the response, i.e., *what* the individual sees in the inkblot (the *content*). In fact, the contents of the response are only a comparatively small portion of a broader cluster of variables that are used to interpret the Rorschach data: for instance, information is provided by the time taken before providing a response for a card can be significant (taking a long time can indicate "shock" on the card).[32] as well as by any comments the subject may make in addition to providing a direct response.[33]

In particular, information about *determinants* (the aspects of the inkblots that triggered the response, such as form and color) and *location* (which details of the inkblots triggered the response) is often considered more important than content, although there is contrasting evidence.[34][35] "Popularity" and "originality" of responses[36] can also be considered as basic dimensions in the analysis.[37]

Content

Content is classified in terms of "human", "nature", "animal", "abstract", etc., as well as for statistical popularity (or, conversely, originality).[38]

More than any other feature in the test, content response can be controlled consciously by the subject, and may be elicited by very disparate factors, which makes it difficult to use content alone to draw any conclusions about the subject's personality; with certain individuals, content responses may potentially be interpreted directly, and some information can at times be obtained by analyzing thematic trends in the whole set of content responses (which is only feasible when several responses are available), but in general content cannot be analyzed outside of the context of the entire test record.[39]

Location

The basis for the response is usually the whole inkblot, a detail (either a commonly or an uncommonly selected one), or the negative space around or within the inkblot.[25]

Determinants

Systems for Rorschach scoring generally include a concept of "determinants": these are the factors that contribute to establish the similarity between the inkblot and the subject's content response about it, and they can represent certain basic experiential-perceptual attitudes, showing aspects of the way a subject perceives the world. Rorschach's original work used only *form*, *color* and *movement*; currently, another major determinant considered is *shading*,[40] which was inadvertently introduced by poor printing of the inkblots (which originally featured uniform saturation), and subsequently recognized as significant by Rorschach himself.[41][42][43]

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Form is the most common determinant, and is related to intellectual processes; color responses often provide direct insight into emotional life. Shading and movement have been considered more ambiguously, both in definition and interpretation: Rorschach originally disregarded shading (which was originally not even present on the cards, being a result of the print process),[44] and he considered movement as only actual experiencing of motion, while others have widened the scope of this determinant, taking it to mean that the subject sees something "going on".[45]

More than one determinant can contribute to the formation of the subject's percept, and fusion of two determinants is taken into account, while also assessing which of the two constituted the primary contributor (e.g. "form-color" implies a more refined control of impulse than "color-form"). It is, indeed, from the relation and balance among determinants that personality can be most readily inferred.[45]

Exner scoring system

The *Exner scoring system*, also known as the *Rorschach Comprehensive System* (RCS),[46] is the standard method for interpreting the Rorschach test. It was developed in the 1960s by Dr. John E. Exner, as a more rigorous system of analysis. It has been extensively validated and shows high inter-rater reliability.[10][47] In 1969, Exner published *The Rorschach Systems*, a concise description of what would be later called "the Exner system". He later published a study in multiple volumes called *The Rorschach: A Comprehensive system*, the most accepted full description of his system.

Creation of the new system was prompted by the realization that at least five related, but ultimately different methods were in common use at the time, with a sizeable minority of examiners not employing any recognized method at all, basing instead their judgment on subjective assessment, or arbitrarily mixing characteristics of the various standardized systems.[48]

The key components of the Exner system are the clusterization of Rorschach variables and a sequential search strategy to determine the order in which to analyze them,[49] framed in the context of standardized administration, objective, reliable coding and a representative normative database.[50] The system places a lot of emphasis on a cognitive triad of *information processing*, related to how the subject processes input data, *cognitive mediation*, referring to the way information is transformed and identified, and *ideation*.[51]

In the system, responses are scored with reference to their level of vagueness or synthesis of multiple images in the blot, the location of the response, which of a variety of determinants is used to produce the response (i.e., what makes the inkblot look like what it is said to resemble), the form quality of the response (to what extent a response is faithful to how the actual inkblot looks), the contents of the response (what the respondent actually sees in the blot), the degree of mental organizing activity that is involved in producing the response, and any illogical, incongruous, or incoherent aspects of responses. It has been reported that popular responses on the first card include bat, badge and coat of arms.[31]

Using the scores for these categories, the examiner then performs a series of calculations producing a structural summary of the test data. The results of the structural summary are interpreted using existing research data on personality characteristics that have been demonstrated to be associated with different kinds of responses.

With the Rorschach plates (the ten inkblots), the area of each blot which is distinguished by the client is noted and coded – typically as "commonly selected" or "uncommonly selected". There were many different methods for coding the areas of the blots. Exner settled upon the area coding system promoted by S. J. Beck (1944 and 1961). This system was in turn based upon Klopfer's (1942) work.

As pertains to response form, a concept of "form quality" was present from the earliest of Rorschach's works, as a subjective judgment of how well the form of the subject's response matched the inkblots (Rorschach would give a higher form score to more "original" yet good form responses), and this concept was followed by other methods, especially in Europe; in contrast, the Exner system solely defines "good form" as a matter of word occurrence frequency, reducing it to a measure of the subject's distance to the population average.[52]

The ten inkblots

Below are the ten inkblots of the Rorschach test printed in Rorschach's *Rorschach Test – Psychodiagnostic Plates*,[63] together with the most frequent responses for either the whole image or the most prominent details according to various authors.

Card	Popular responses[64][65][66]	Comments[67][68]
	Beck: bat, butterfly, moth **Piotrowski:** bat (53%), butterfly (29%) **Dana (France):** butterfly (39%)	When seeing **card I**, subjects often inquire on how they should proceed, and questions on what they are allowed to do with the card (e.g. turning it) are not very significant. Being the first card, it can provide clues about how subjects tackle a new and stressful task. It is not, however, a card that is usually difficult for the subject to handle, having readily available popular responses.
	Beck: two humans **Piotrowski:** four-legged animal (34%, gray parts) **Dana (France):** animal: dog, elephant, bear (50%, gray)	The red details of **card II** are often seen as blood, and are the most distinctive features. Responses to them can provide indications about how a subject is likely to manage feelings of anger or physical harm. This card can induce a variety of sexual responses.
	Beck: two humans (gray) **Piotrowski:** human figures (72%, gray) **Dana (France):** human (76%, gray)	**Card III** is typically perceived to contain two humans involved in some interaction, and may provide information about how the subject relates with other people (specifically, response latency may reveal struggling social interactions).
	Beck: animal hide, skin, rug **Piotrowski:** animal skin, skin rug (41%) **Dana (France):** animal skin (46%)	**Card IV** is notable for its dark color and its shading (posing difficulties for depressed subjects), and is generally perceived as a big and sometimes threatening figure; compounded with the common impression of the subject being in an inferior position ("looking up") to it, this serves to elicit a sense of authority. The human or animal content seen in the card is almost invariably classified as male rather than female, and the qualities expressed by the subject may indicate attitudes toward men and authority. Because of this Card IV is often called "The Father Card".[69]

Beck: bat, butterfly, moth

Piotrowski: butterfly (48%), bat (40%)

Dana (France): butterfly (48%), bat (46%)

Card V is an easily elaborated card that is not usually perceived as threatening, and typically instigates a "change of pace" in the test, after the previous more challenging cards. Containing few features that generate concerns or complicate the elaboration, it is the easiest blot to generate a good quality response about.

Beck: animal hide, skin, rug

Piotrowski: animal skin, skin rug (41%)

Dana (France): animal skin (46%)

Texture is the dominant characteristic of **card VI**, which often elicits association related to interpersonal closeness; it is specifically a "sex card", its likely sexual percepts being reported more frequently than in any other card, even though other cards have a greater variety of commonly seen sexual contents.

Beck: human heads or faces (top)

Piotrowski: heads of women or children (27%, top)

Dana (France): human head (46%, top)

Card VII can be associated with femininity (the human figures commonly seen in it being described as women or children), and function as a "mother card", where difficulties in responding may be related to concerns with the female figures in the subject's life. The center detail is relatively often (though not popularly) identified as a vagina, which makes this card also relate to feminine sexuality in particular.

Beck: animal: not cat or dog (pink)

Piotrowski: four-legged animal (94%, pink)

Dana (France): four-legged animal (93%, pink)

People often express relief about **card VIII**, which lets them relax and respond effectively. Similar to card V, it represents a "change of pace"; however, the card introduces new elaboration difficulties, being complex and the first multi-colored card in the set. Therefore, people who find processing complex situations or emotional stimuli distressing or difficult may be uncomfortable with this card.

Beck: human (orange)

Piotrowski: none

Dana (France): none

Characteristic of **card IX** is indistinct form and diffuse, muted chromatic features, creating a general vagueness. There is only one popular response, and it is the least frequent of all cards. Having difficulty with processing this card may indicate trouble dealing with unstructured data, but aside from this there are few particular "pulls" typical of this card.

Beck: crab, lobster, spider (blue)

Piotrowski: crab, spider (37%, blue), rabbit head (31%, light green), caterpillars, worms, snakes (28%, deep green)

Dana (France): none

Card X is structurally similar to card VIII, but its uncertainty and complexity are reminiscent of card IX: people who find it difficult to deal with many concurrent stimuli may not particularly like this otherwise pleasant card. Being the last card, it may provide an opportunity for the subject to "sign out" by indicating what they feel their situation is like, or what they desire to know.

Appendix G

<u>Debriefing Form</u>

Now that you have completed Part Two of the research study entitled "What might this be?" the researchers would like to share with you additional information about the study. The researchers invite you to ask any questions pertaining to the study or how your data will be used.

- The researchers will not determine who had the "best" profile.
- Instead, all participants will be entered into a raffle to win the $150.00 gift card to the university bookstore, and the winner will be chosen at random.
- This part of the experiment was included to increase your motivation to appear psychologically healthy on the test.
- The researchers hope that the results of this study will tell us something about caretakers who complete the inkblot test as part of a child custody evaluation.
- So for this study, it was important to provide you with an incentive to do well on the test because clients involved in child custody evaluations are motivated to present themselves in a favorable light.

I have read the above information and permit the researchers to use my data.

_____   Date: _____
Signature of Participant

_____   Date: _____
Signature of Person Obtaining Permission

_____   Date: _____
Signature of Investigator

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