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How Dangerous is Wikipedia?

**The Impact of Internet-based Instructional Material on Select
Rorschach Variables**

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How Dangerous is Wikipedia?

The Impact of Internet-based Instructional Material on Select Rorschach Variables

by

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Report

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How Dangerous is Wikipedia?

The Impact of Internet-based Instructional Material on Select Rorschach Variables

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This study will investigate the effect of instructional material on constellations of personality functioning measurable by the Rorschach using a sample of parents from the community. Repeated measures ANOVA and qualitative techniques will be used to analyze the data. It is expected that reading online material will result in more defensive Rorschach protocols, but will not affect variables noted in the literature to be important aspects of parenting capacity. The results will be of interest to psychologists concerned about the proliferation of testing material on the Internet and practitioners conducting forensic evaluations.

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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, an emergency-room doctor who posted Rorschach images and research to Wikipedia, 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 if 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, especially in situations where the outcome of an evaluation could 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 Test¹ 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). The power and utility of the Rorschach seems to depend largely on the ambiguous nature of the test, and the difficulty clients have in determining the "right" response to provide. While objective 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 profile that cannot be interpreted. This leaves the assessing clinician with little information on

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

² Throughout this report, 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.

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 10 inkblots and asked, “What might this be?” Responses to the stimuli 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 statement and asked the degree to which they agree with the statement. It is easy to imagine how prior exposure to the blots, or key information about the test, would call into question the validity of the 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. Despite the clear need for a scholarly investigation into the effect of Wikipedia on Rorschach results, no empirical studies to date have explored this topic.

Without digressing into the debate over the ethical issues involved in making sensitive information freely available on the Internet, an ongoing battle that could easily be the subject of its own study, the proposed 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. The proposed study would significantly add to the literature on impression management and the Rorschach, and encourage future researchers to undertake projects that would contribute to the growing literature on forensic evaluations in the age of Wikipedia.

INTEGRATIVE ANALYSIS OF THE LITERATURE

Child Custody and Parenting Plan Evaluations (CCPPEs):

Current Assessment Practices

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 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.

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 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 Inkblot Test 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 (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). Several researchers have emphasized the unique contributions of the Rorschach to CCPPEs, and noted that the Rorschach is able to 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.

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 and Erard. The Evans & Schutz model will serve as a guide for the proposed study, and the dependent variables were selected based on this framework.

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.

Brief Overview of Studies on Malingering and the Rorschach

While the proposed study will investigate 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 Exner’s Comprehensive System and inferences can hardly be drawn to today’s more stringent Rorschach procedures (Exner, 2003); 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 to offer monetary incentives to simulators, which appears to function as a powerful motivator and has been recommended in the literature since the publication of Meisner's article (Rogers, 1997). The proposed 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.

Overview of Studies on Minimization

Underreporting Symptoms on Objective Measures

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 study. Interested readers are referred to Suhr & Gunstad (2007) for a more detailed review.

Efforts to Conceal on the Rorschach

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 proposed 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 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, participants 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, and 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 purposely 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 ideal in forensic cases.

Recent Controversy over Availability of Psychological Material on the Internet:

Implications for Forensic Evaluations

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). 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.

Ruiz et al. (2002) searched for 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 one decade ago in the year 2000. At the time this study 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, 2010).

The controversy surrounding Wikipedia’s Rorschach page has been a recent development and psychologists appear to be losing the battle to remove information from the website (Cohen, 2009; Smith, 2010). Wikipedia’s opponents 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 Canadian physician responsible for posting most of the disputed Rorschach material, argues that the right to free speech supersedes any APA guideline or plea from psychologists (Cohen, 2009; Smith, 2010). Although there has been a great deal of discussion amongst professionals who use the Rorschach routinely in practice, thus far there have been no scholarly investigations into how this website is affecting the validity of actual psychological evaluations. The proposed study will directly respond to this growing concern amongst psychologists who rely on the Rorschach as a powerful and unique assessment tool, particularly in forensic settings.

PROPOSED RESEARCH STUDY

Statement of Purpose

The purpose of this study is to investigate the outcome of viewing instructional material describing the Rorschach (Rorschach test, 2010) on participants instructed to take the Rorschach as if they are involved in a comprehensive CCPPE. To date, there has not been a scholarly investigation examining the impact of prior exposure to online information on clients involved in psychological assessments. The scope of the proposed study is to explore how exposure to the Wikipedia website describing the Rorschach influences outcomes of the test, specifically in a simulated forensic population in which conclusions drawn from personality measures often result in serious consequences for the parties involved.

Research Questions and Hypotheses

The overarching research question is whether or not exposure to information freely available on the Internet allows individuals to produce a more favorable profile than Rorschach results obtained without prior exposure. More specifically, the proposed study will investigate how viewing the Wikipedia page influences various constellations of personality functioning measurable by the Rorschach, and noted in the literature to be important aspects of parenting capacity. The six areas of interest include (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.

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

It is hypothesized that Rorschachs obtained post-exposure to the website will be marked by greater levels of defensiveness and guardedness than the first Rorschach administration. It is hypothesized that examinees will be more suspicious or skeptical of the test after viewing the website, which is expected to result in significantly fewer total responses (R), significantly more Personalized answers (PER), and significantly more Popular responses (P) compared to the first test administration. These variables are frequently selected as separate indicators of a defensive response set in studies of minimization (Ganellen, 1994; Wasyliw et al., 1998).

R is related to overall defensiveness and a reluctance to fully engage in the task. After reading sections of the Wikipedia article that claim the Rorschach is “pseudoscience,” it is predicted that participants will be wary of providing too many responses (Rorschach test, 2010, p. 10). Rorschach protocols containing a high number of PER are typically interpreted as a strong desire to justify one’s answers. The need for self-justification seems probable in a sample of parents attempting to present themselves in a positive light. Moreover, 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). Lastly, 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 Populars, suggesting that “people attempting to do well tend to respond to obvious cues and give more conventional answers” (p. 443). In addition, the instructional material presented to participants before the second test administration systematically lists the Popular responses for each card (Rorschach test, 2010).

Method

Participants

The study will involve approaching 300 potential participants, between 25 and 40 years of age. Of those approached, 110 will be selected to participate based on the following screening criteria. It is estimated that approximately ten percent of the sample will either drop out of the study, or fail to show up for a second test administration, resulting in incomplete data. Given the likelihood of attrition, 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. With the parameters and accounting for the statistical methods to be used, it was determined that the minimum sample size should be 20. Because Dies' guidelines were more conservative and specifically directed toward Rorschach research, it was decided to adhere to his recommendations.

Screening Criteria

- Participants must have at least one child under age 18 (whether or not the child lives with participant is not relevant to the proposed study).
- Participants must be between 25 and 40 years old. The minimum age is set at 25 to increase the generalizability of the sample to the target population of parents undergoing CCPPEs.
- Participants' native language must be English.
- Participants who are currently in any form of psychological treatment will be excluded from the study because their therapist or clinician may want to use the Rorschach at some point in the future as part of their treatment plan; participation in the proposed study could potentially compromise the validity of a future Rorschach administration.
- Participants must be naïve with regard to the Rorschach. It is critical that individuals who have previously taken the Rorschach are excluded from the study, as prior knowledge of the test could be a confounding variable.

In addition, participants who indicate substantial knowledge of the test will be excluded from the study.

Screening Measure:

Demographic Questionnaire

The demographic questionnaire designed for the purposes of this study will include items related to gender, ethnicity, age, level of education, marital status, native language, and current ages of children. The brief questionnaire will also include items related to the participant's knowledge of the Rorschach Inkblot Test. Prospective participants will be asked, "Have you heard of the inkblot test, also known as the Rorschach?" If they answer affirmatively, respondents will be asked to describe what they know about the test in an open-ended format. This portion of the survey will be informally qualitatively assessed by the researcher to determine eligibility for the study. Prospective participants will also be asked if they have ever taken the Rorschach. As mentioned earlier, respondents who have previously been administered the Rorschach will not be eligible to participate in the current study. The questionnaire will also include an item related to time availability, and whether or not the participant would be willing to commit to two testing sessions, lasting approximately one to three hours each, over the course of two weeks.

Procedures

Participants will be recruited from the community toward the end of the fall semester. The researcher will place an advertisement in a free weekly newspaper describing the study and informing readers of the monetary compensation available for qualified participants. The advertisement will explain that qualified participants will have the opportunity to earn \$50 for their time. The advertisement will instruct interested parties to call or send an email to the research team. Prospective participants will be guided through the demographic questionnaire over the phone. They will be notified immediately of their eligibility status. Qualified participants will provide contact information to the research team, and schedule their first appointment. Participants will be informed that all information collected in the study will be kept confidential.

The final pool of approximately 110 participants will be divided into two groups, in such a way that the groups are matched on key demographic variables (i.e. gender, ethnicity, age, educational level). This will help to ensure that the two groups do not differ in an unintended way and reduce potential confounding variables. The goal is for the two groups to be as homogenous as possible.

All Rorschachs will be administered by experienced licensed psychologists using the standard instructions of Exner's Comprehensive System (Exner, 2003). A team of at least four well-trained examiners will be randomly assigned equal numbers of participants. Examiners who are assigned to a participant will administer both Rorschachs to that participant. This step is intended to minimize differences due to personality characteristics of the various examiners.

Rorschachs will be administered in a similar setting for all participants, likely a quiet room within the Sanchez building, free from overt distractions. In addition, each Rorschach administration will be preceded by a five minute rapport building session, lead by the examiner, to make the examinee feel more comfortable in the testing situation and relieve any anxiety about the test. In an effort to maintain uniform procedures, examiners will participate in a training session prior to administering any Rorschachs. The training session will review customary administration procedures and focus on inquiry skills, as the inquiry phase is vital to producing valid protocols. This workshop will be useful if an issue arises during the data analysis phase, regarding whether standard procedures were maintained across the various examiners and to rule out alternative explanations in understanding the findings.

Upon arrival for their first testing session, all participants will be asked if they have prepared for the test in any way, such as searching for information about the Rorschach on the Internet, reading books about the Rorschach, or talking to friends who have taken the test in the past. If the participant answers affirmatively, he or she will be removed from the study. All participants will be given written information regarding the general purpose of the study, possible risks and benefits they 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, members of Group One will be informed that the researchers are interested in learning more about the assessment of parenting capacity and a test's ability to detect parents who are "warm, caring, responsible, and

psychologically-healthy.” They will be provided with typed instructions explaining that they are to imagine the results of the test will be used to determine if they can remain in custody of their child or children. It will be emphasized that they are to pretend the results of this test have actual consequences regarding their status as a parent. In addition, members of the experimental group will be told that the participant with the “best parental” profile, meaning the person who best exemplifies traits such as warmth, compassion, and dependability, will receive a \$300.00 gift card to a local grocery store.

Members of Group Two will be provided with typed instructions explaining that the researchers are interested in learning more about the effects of taking the Rorschach twice in a short amount of time. They will be informed that the purpose of the study is to gain information about the reliability of Rorschach data. Members of the control group will be cautioned against researching the test beforehand, as any prior knowledge could compromise the study and render the results meaningless. A research assistant will be present to answer any questions participants may have about the study.

After the first Rorschach administration, participants will schedule a time for their second testing session. Every attempt will be made to retain participants, and avoid the problem of missing data. Members of Group One will be instructed to reserve at least a three hour period of time for the second session, while members of Group Two will be instructed to reserve at least two hours for the second meeting. The desired time span between testing sessions is two 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.

Upon arrival for their second testing session, a research assistant will present members of Group One with a hard copy of the Wikipedia document describing the Rorschach. A printed 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 anytime (Wikipedia: The free encyclopedia, 2010). Participants will be given at least one hour in a private room to study the information, although they are not required to use the entire time allotted. They will receive written instructions emphasizing that this portion of this study is very important, and that it is critical that they carefully read all of the information available on the website. Participants will also be reminded of the \$300.00 reward to the examinee with the "best parental" profile. Throughout the study, examiners will be blind as to each participant's group membership. Participants in Group One will be instructed not to discuss their impressions of the online content with their examiner during the second administration. This will be imperative, as knowledge of group membership could potentially bias the examiner.

At the conclusion of the test, the examiner will exit the room. If the participant is a member of Group One, a research assistant will enter the room and distribute the follow-up questionnaire. Participants will receive their \$50 compensation for

participation in the study once they complete the survey. The follow-up questionnaire will ask participants a series of six questions:

- What information from the Wikipedia page stuck out to you the most?
- How did this information influence the responses you gave?
- What did you find the most helpful about the Wikipedia material?
- What did you find the least helpful about the Wikipedia material?
- How was this testing session different than the first one?
- What type of responses do you think would make you look like an ideal parent?

Similar to the procedures for the first testing session, upon arrival for their second appointment members of Group Two will be asked if they have prepared for the evaluation in any way, such as researching the Rorschach online or reading any books on the subject. If the participant answers in a positive fashion, he or she will be removed from the study. Participants will then be escorted to the testing room by a research assistant. At the conclusion of the test, the examiner will exit the room. If the participant is a member of Group Two, a research assistant will enter the room and give the participant his or her \$50 compensation for contributing to the study. The participant will be free to leave.

To be included in the data analysis, all protocols need to be valid and administered according to standard procedures following Exner's Comprehensive System (Exner, 2003). Invalid protocols (i.e. protocols with less than 14 responses) will not be included in the statistical analysis. To obtain sufficient interrater reliability, all protocols

will be rescored by a team of three psychologists with advanced training in the Comprehensive System. These psychologists as a group will rescore all of the Rorschach protocols to reach a minimum of 80% consensus on the targeted variables.

The following figure summarizes the major steps of the proposed procedure:

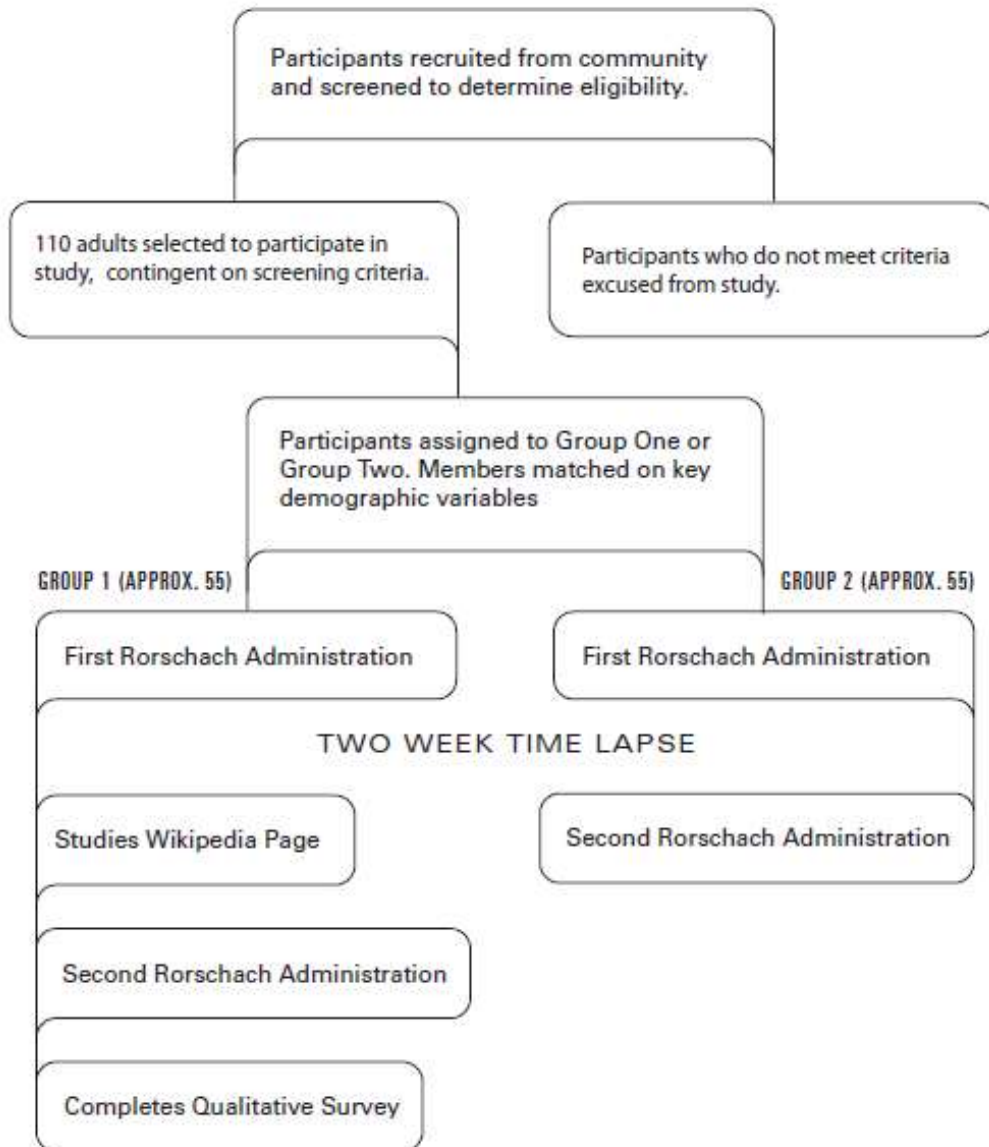


Figure 1. Procedure.

Statistical Analyses and Projected Results

Quantitative Results

Weiner (1995) suggests Rorschach variables need to be refined, interactive, conceptually based, selective, and reliably scored. In this study, each dependent variable has been carefully chosen to reflect specific personality characteristics relevant to CCPPEs as suggested in the Evans & Schutz model. It should be noted that no approach to Rorschach interpretation disregards the qualitative aspects of the responses. However, given the confines of the proposed research study, it is impractical to attempt a meaningful content analysis of the participants' Rorschach responses.

The following Rorschach variables and corresponding psychological constructs linked to parenting capacity will be analyzed:

Table 1: Dependent Variables Related to Parenting Capacity	
Psychological Construct	Rorschach Variable
Affectivity and its regulation	Affective Ratio (Afr)
Stress and Coping	The D score (D)
Psychopathology	Depression Index (DEPI)
Conflict Styles/Tactics	Cooperative Movement (COP)
Non-defensive Introspection of the Self	Egocentricity Index [3r+(2)/R]
Interpersonal Relatedness	Isolation Index (ISOL)

In order to investigate differences on five of the six dependent variables related to parenting capacity [Afr, D, COP, 3r+(2)/R, and ISOL], five separate 2 (time) x 2 (group) repeated measures ANOVAs will be conducted with an alpha level of .05. The between subjects factor will be group membership and have two levels, Group One (the

experimental group) and Group Two (the control group). The within subjects factor will be time and have two levels, first administration (pre-exposure for Group One) and second administration (post-exposure for Group One). As discussed in the Evans & Schutz model, the dependent variables measure separate psychological constructs. This provides the rationale behind the decision to use separate ANOVAs rather than a single MANOVA.

Because this is an exploratory study, no hypotheses are made regarding the likelihood of a significant interaction effect between condition and time on the dependent variables associated with parenting capacity. Should the interaction between group condition and time prove significant, t-tests will be conducted for each group to decompose the interaction. For example, contrasts may show that the experimental group demonstrated significant improvement on D after reviewing instructional material on the Rorschach. A t-test may reveal that the control group demonstrated no difference in D across the two testing sessions.

Before the overall analyses are conducted, the assumptions for a repeated measures ANOVA will be tested. Normality for the repeated measures and homogeneity of variance for the between-subjects factor will be examined. The assumption of normality will be 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 will also be used to check for normality; however, these tests can be spuriously significant with large samples sizes so they will need to be interpreted in conjunction with histograms and the values of skewness and kurtosis (Field, 2009).

The assumption of homogeneity of variance will be tested with Levene's test. The assumption of sphericity is not a concern for this particular study as there are only two levels for each variable. Preliminary analyses will assess for group differences based on the assigned examiner. Once checks on the assumptions have been made and preliminary analyses conducted, primary analyses will be performed based on the research questions.

In addition, the following Rorschach variables, noted in prior research to be indicators of defensiveness (Exner & Erdberg, 2005; Ganellen, 1994; Wasyliv et al., 1998), will be analyzed: total number of responses (R), number of Popular responses (P), and number of Personalized answers (PER). These Rorschach variables will be analyzed in much the same way as the variables described above. A 2 (time) x 2 (group) repeated measures ANOVA will be conducted for each variable with an alpha level set at .05. Each of the variables is associated with a unique component of defensiveness, and so a series of separate repeated measures ANOVAs was deemed an appropriate statistical approach rather than conducting a single MANOVA. It is expected that there will be a significant interaction effect between condition and time. The interaction will be decomposed using t-tests, similar to the statistical procedures outlined above.

It is hypothesized that participants in the experimental group will provide fewer responses (lower R) during the second test administration compared to the first administration. The following figure demonstrates the expected findings:

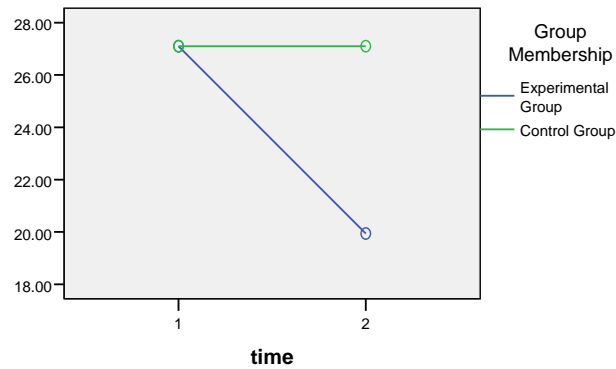


Figure 2. Expected Change in R.

It is hypothesized that participants in Group One will provide more Populars (P) during the second test administration than the first administration. The following figure illustrates the expected direction of results:

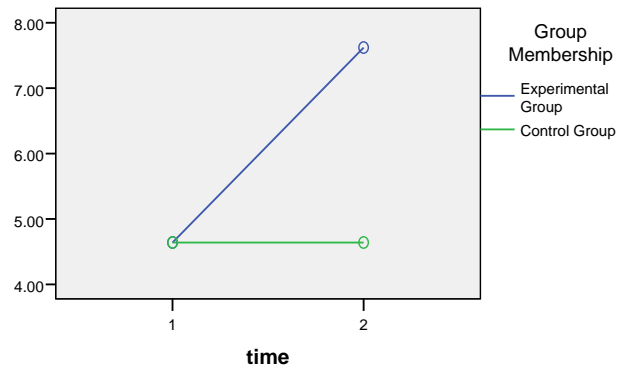


Figure 3. Expected Change in P.

It is predicted that Rorschach protocols obtained from participants in the experimental group will contain more PERs in the post-exposure condition than the pre-exposure condition. The following figure demonstrates the predicted results:

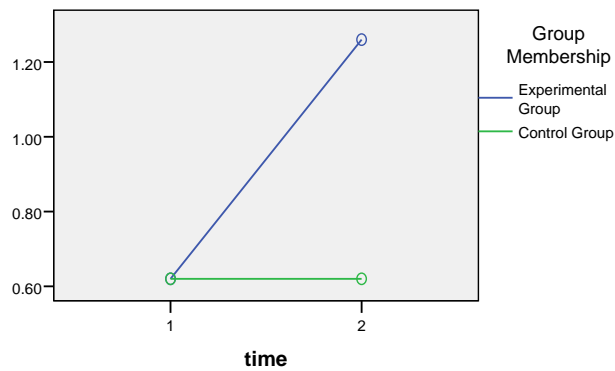


Figure 4. Expected Change in PER.

Lastly, a repeated measures binary logistic regression will be conducted to investigate differences in the Depression Index (DEPI) because it is a categorical variable. In this case, the dependent variable is dichotomous; participants either produce a positive DEPI or a negative DEPI. This contrasts with the previously described dependent variables which were all continuous. A repeated measures logistic regression will be conducted to explore whether group membership (experimental group vs. control group) or time (pre vs. post) predicts the probability of a positive DEPI. Because this is an exploratory study, no hypotheses are offered regarding the Rorschach variables related to parenting capacity, including the DEPI. Logistic regression techniques are useful to estimate the odds of a certain event occurring, and odds ratios will be determined from the analysis. The following statement is an example of how results will be reported. Results may show that the odds of a participant demonstrating a positive DEPI after studying instructional material are three times less than those of a participant who does not study instructional material.

Qualitative Results

The results of the follow-up survey distributed to members of the experimental group immediately following their second testing session will be qualitatively analyzed using a grounded theory approach (Glaser & Strauss, 1967). The purpose of the qualitative analysis is to learn more about participants' attitudes and opinions toward the Wikipedia article, as well as their beliefs regarding whether the material helps or hinders one's ability to "game" the test. The qualitative portion of the study will build on the quantitative results, and allow the researcher to understand concepts from a layperson's point of view and discover the utility of online information from the perspective of someone unfamiliar with the Rorschach.

The initial analysis will consist of coding the responses to each question, which will be carried out by the researcher and two research assistants. The team will then sort codes into clusters according to shared meaning. Next, the team will translate clusters into categories. The process of sorting clusters into categories will discontinue when no new category emerges. It is important for the research team to validate their interpretations against the data as the analysis process moves forward. While these steps appear very linear and precise, in reality the analysis process is dynamic, ever-changing, and requires creativity, flexibility, and tolerance for ambiguity on the part of the researcher (Corbin & Strauss, 2008). In short, qualitative analysis is a process of "generating, developing, and verifying concepts—a process that builds over time and with the acquisition of data" (Corbin & Strauss, 2008, p. 57).

As recommended by Heppner, Wampold, & Kivlighan (2008), the researcher will make a concerted effort to track all procedures throughout the analysis. This will help the research team remain cognizant of biases and assumptions. The overall goal of the analysis is to extract major themes and relationships from the data. It is hoped that the qualitative results will also stimulate further research.

DISCUSSION

Summary and Implications

The Internet has dramatically influenced the way people obtain information. It is widely accessible, functions at lightning speeds, and is constantly expanding. To the reader, these observations probably come as no surprise. But what is surprising is the amount of material related to psychological testing that is available online at this very moment. Instructional material once regarded as private knowledge, information only discussed in training programs and professional circles, is now accessible to anyone with an Internet connection and the savvy to search for a specific test. In particular, the alarmingly prevalent dissemination of test material is of concern to psychologists who work in forensic settings and conduct CCPPEs. Clients involved in CCPPEs are especially motivated to search for ways to “cheat” a test, which is understandable given that the results of an evaluation could affect clients’ custody rights (Exner & Erdberg, 2005). Common sense would suggest that clients undergoing a CCPPE might turn to the Internet when looking for advice on how to “fake good” on popular psychological tests.

Recently, a controversy has brewed over the evolution of a Wikipedia page describing the Rorschach (Rorschach test, 2010). Psychologists worry that exposing the public to information about the test, such as publishing images of the ten inkblots and listing the most common responses for each card, threatens the validity of future psychological evaluations (Cohen, 2009; Smith, 2010). No empirical studies to date have addressed this topic.

The current study proposes to investigate the effect of prior exposure to material available on Wikipedia on Rorschach protocols administered in such a way as to simulate a CCPPE. The proposed study 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. Rorschach proponents would like to believe that the test is a valid tool in legal contexts in which a person stands to benefit by modifying his or her presentation. However, no study has yet examined the impact of the Internet on attempts at Rorschach dissimulation. Many questions remain regarding the future validity of the Rorschach, and a lively dialogue has surfaced surrounding this issue. Through rigid scientific methods and a passion for projective assessment, the current study will significantly contribute to the ongoing conversation on Wikipedia and the Rorschach's susceptibility to positive impression management.

Strengths, Limitations, and Future Research

One strength of the proposed study is that it is the first empirical study to explore how instructional material available on the Internet may influence Rorschach scores. As such, the results of the study have the potential to significantly affect how practitioners conduct CCPPEs in the future. Depending on the nature of the results, the proposed study may provide evidence to support the publication of Rorschach material on the Internet, or substantiate claims made by Wikipedia opponents who argue that exposing the public to this information is harmful. Another strength of the study is that it controls for the effects of taking the test more than once. Historically, Rorschach research has been plagued by a

lack of appropriate control groups (Dies, 1995b). Finally, members of the experimental group and the control group will be matched on key demographic variables, a design element which will assist in limiting the differences between conditions.

There are several limitations to the proposed study that must be taken into account. First, the proposed study utilizes a sample of volunteers from the community rather than actual clients undergoing CCPPEs. A major disadvantage of this research design pertains to the generalizability of the findings, and whether participants asked to simulate a “fake good” profile are comparable to real life parents or caretakers embroiled in a comprehensive psychological evaluation. However, this decision was made because it is highly unlikely that psychologists and lawyers involved in CCPPEs would risk allowing their clients to study information about the Rorschach, potentially invalidating an evaluation. The researcher chose to create an experimental situation analogous to a real evaluation in the hopes that the anticipated benefits of the study would outweigh the anticipated shortcomings.

A second and related limitation of the study regards establishing the salience of differences in conditions. It is unclear if members of the experimental group will thoroughly review the instructional material provided to them prior to the second Rorschach administration. The qualitative portion of the study attempts to assess, at least to some degree, participants’ level of engagement with the material. However, there is no way to know if research participants will approach the material and study it with the same fervor as an actual client undergoing a CCPPE. Again, this limitation has implications for the external validity of the study and whether it is appropriate to generalize the findings

to real life clients in forensic settings. Future studies may consider putting less emphasis on experimental control and more emphasis on external validity. Future researchers may want to survey real clients who previously underwent CCPPEs and gather data related to clients' strategies for appearing well adjusted and compare these strategies to the outcome of the evaluation.

Third, due to the enormous time commitments and scheduling practicalities involved in administering 110 Rorschachs, the researcher chose to use a team of highly qualified Rorschach examiners. Consequently, not all Rorschachs will be administered by the same examiner, which introduces potential experimenter bias into the results. Characteristics of the examiner, such as age, physical appearance, and interpersonal style, may inadvertently influence participants' Rorschach responses, thereby confounding the results. In order to reduce the possible effects of experimenter attributes, the data will be statistically analyzed to assess for differences across examiners. Future researchers may want to match examiners on key attributes or maintain the same examiner throughout the study.

Finally, participants in the proposed study will be given a printed version of the Wikipedia page, which introduces a potential confound of the independent variable. It is possible that individuals peruse printed documents differently than online information. Perhaps participants would more easily navigate the text if it was displayed as a website. Future studies on this topic may want to investigate differences in reading comprehension for material presented in paper form versus digital form.

Appendix A

Demographic Questionnaire

1. Name: _____ Date of Call: _____

2. Best phone number to reach you: _____

(Email address if available: _____)

Participant ID#: _____

.....

Participant ID#: _____

2. Gender: ☐ Female ☐ Male ☐ Transgender

3. Age: _____ (must be 25-40)

4. Ethnic Identity: _____

5. Highest level of education: _____

6. Marital Status:

☐ Married ☐ Cohabiting with partner ☐ Divorced/Separated ☐ Single

7. Native language: ☐ English ☐ Other*

8. Current ages of children: _____ (must have at least one child under 18)

9. Have you heard of the inkblot test, also known as the Rorschach? ☐ Yes ☐ No

If yes, please describe what you know about the test

10. Have you ever taken the Rorschach? ☐ Yes* ☐ No

11. Available for two meetings in the next month, lasting 1 to 3 hours each? ☐ Yes ☐ No*

Dates and times available _____

12. Currently in psychological treatment? ____Yes* ____No

*caller is ineligible for study

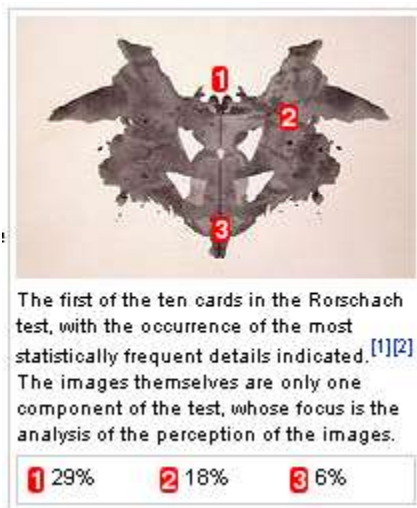
Appendix B

Wikipedia-based Information Distributed to Participants

Rorschach test

From Wikipedia, the free encyclopedia

This is an old revision of this page, as edited by D'ohBot (talk | contribs) at 15:50, 6 January 2010. It may differ significantly from the current revision.



The **Rorschach test** (German pronunciation: [ˈʁɔʁʃax]; also known as the **Rorschach inkblot test** or simply the **Inkblot test**) is a psychological test in which subjects' perceptions of inkblots are recorded and then analyzed using psychological interpretation, complex scientifically derived algorithms, or both. Some psychologists use this test to examine a person's personality characteristics and emotional functioning. It has been employed to detect an underlying thought disorder, especially in cases where patients are reluctant to describe their thinking processes openly.^[3] The test takes its name from that of its creator, Swiss psychologist Hermann Rorschach.

In a national survey in the U.S., the Rorschach was ranked eighth among psychological tests used in outpatient mental health facilities.^[4] 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,^[4] usually in a battery of tests that often include the MMPI-2 and the MCMI-III.^[5] In surveys, the use of Rorschach ranges from a low of 20% by correctional psychologists^[6] to a high of 80% by clinical psychologists engaged in assessment services, and 80% of psychology graduate programs surveyed teach it.^[7]

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,^[8] some researchers have raised questions about the objectivity of psychologists administering the test; 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.^[9]

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History



Hermann Rorschach created the Rorschach inkblot test in 1921.

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.^[10]

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.^[11] French psychologist Alfred Binet had also experimented with inkblots as a creativity test,^[12] and, after the turn of the century, psychological experiments where inkblots were utilized multiplied, with aims such as studying imagination and consciousness.^[13]

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),^[14] 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.^[15]

In 1927, the newly-founded Hans Huber publishing house purchased Rorschach's book *Psychodiagnostik* from the inventory of Ernst Bircher.^[16] Huber has remained the publisher of the test and related book, with Rorschach a registered trademark of Swiss publisher Verlag Hans Huber, Hogrefe AG.^[17] The work has been described as "a densely written piece couched in dry, scientific terminology".^[18]

After Rorschach's death, the original test scoring system was improved by Samuel Beck, Bruno Klopfer and others.^[19] 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,^{[20][21]} 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.^[citation needed]

Method

The tester and subject typically sit next to each other at a table, with the tester slightly behind the subject.^[22] 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.^[23] 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.^{[24][25][26]} 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.^[27] 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.^[22]

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.^[28] Methods of interpretation differ. Rorschach scoring systems have been described as a system of pegs on which to hang one's knowledge of personality.^[29] 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.^[22]

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."^[22]

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).^[30] as well as by any comments the subject may make in addition to providing a direct response.^[31]

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.^{[32][33]} "Popularity" and "originality" of responses^[34] can also be considered as basic dimensions in the analysis.^[35]

Content

 This section requires expansion.

Content is classified in terms of "human", "nature", "animal", "abstract", etc., as well as for statistical popularity (or, conversely, originality).^[36]

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.^[37]

Location

 This section requires expansion.

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.^[23]

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*,^[38] which was inadvertently introduced by poor printing of the inkblots (which originally featured uniform saturation), and subsequently recognized as significant by Rorschach himself.^{[39][40][41]}

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),^[42] 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".^[43]

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.^[43]

Exner scoring system

The *Exner scoring system*, also known as the *Rorschach Comprehensive System* (RCS),^[44] 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.^{[8][45]} 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.^[46]

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,^[47] framed in the context of standardized administration, objective, reliable coding and a representative normative database.^[48] 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*.^[49]

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.^[29]

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.^[50]

Cultural differences

Comparing North American Exner normative data with data from European and South American subjects showed marked differences in some features, some of which impact important variables, while others (such as the average number of responses) coincide.^[51] For instance, texture response is typically zero in European subjects (if interpreted as a need for closeness, in accordance with the system, European would seem to express it only when it reaches the level of a *craving* for closeness),^[52] and there are fewer "good form" responses, to the point where schizophrenia may be suspected if data were correlated to the North American norms.^[53] Form is also often the only determinant expressed by European subjects;^[54] while color is less frequent than in American subjects, color-form responses are comparatively frequent in opposition to form-color responses; since the latter tend to be interpreted as indicators of a defensive attitude in processing affect, this difference could stem from a higher value attributed to spontaneous expression of emotions.^[52]

The differences in form quality are attributable to purely cultural aspects: different cultures will exhibit different "common" objects (French subjects often identify a chameleon in card VIII, which is normally classed as an "unusual" response, as opposed to other animals like cats and dogs; in Scandinavia, "Christmas elves" (*nisser*) is a popular response for card II, and "musical instrument" on card VI is popular for Japanese people),^[55] and different languages will exhibit semantic differences in naming the same object (the figure of card IV is often called a *troll* by Scandinavians and an *ogre* by French people).^[56] Many of Exner's "popular" responses (those given by at least one third of the North American sample used) seem to be universally popular, as shown by samples in Europe, Japan and South America, while specifically card IX's "human" response, the crab or spider in card X and one of either the butterfly or the bat in card I appear to be characteristic of North America.^{[56][57]}

Form quality, popular content responses and locations are the only coded variables in the Exner systems that are based on frequency of occurrence, and thus immediately subject to cultural influences; therefore, cultural-dependent interpretation of test data may not necessarily need to extend beyond these components.^[58]

The cited language differences mean that it's imperative for the test to be administered in the subject's native language or a very well mastered second language, and, conversely, the examiner should master the language used in the test. Test responses should also not be translated into another language prior to analysis except possibly by a clinician mastering both languages. For example, a bow tie is a frequent response for the center detail of card III, but since the equivalent term in French translates to "butterfly tie", an examiner not appreciating this language nuance may code the response differently from what is expected.^[59]

Neurology

Research using figure 03 have found that "unique responses" are produced in people with larger amygdalas. The researchers note, "Since previous reports have indicated that unique responses were observed at higher frequency in the artistic population than in the nonartistic normal population, this positive correlation suggests that amygdalar enlargement in the normal population might be related to creative mental activity."^[60]

The ten inkblots

Below are the ten inkblots of the Rorschach test printed in Rorschach's *Rorschach Test – Psychodiagnostic Plates*,^[61] together with the most frequent responses for either the whole image or the most prominent details according to various authors. They have been in the public domain in Hermann Rorschach's native Switzerland since at least 1992 (70 years after the author's death, or 50 years after the cut-off date of 1942), according to Swiss copyright law.^{[62][63]} They are also in the public domain under United States

copyright law:^{[64][65]} all works published before 1923 are considered to be in the public domain.^[66]

Card	Popular responses ^{[67][68][69]}	Comments ^{[70][71]}
	<p>bat, Beck: butterfly, moth bat (53%), Piotrowski: butterfly (29%) Dana (France): butterfly (39%)</p>	<p>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.</p>
	<p>Beck: two humans four-legged Piotrowski: animal (34%, gray parts) animal: dog, Dana (France): elephant, bear (50%, gray)</p>	<p>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.</p>
	<p>Beck: two humans (gray) human Piotrowski: figures (72%, gray) Dana (France): human (76%, gray)</p>	<p>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).</p>
	<p>Beck: animal hide, skin, rug animal Piotrowski: skin, skin rug (41%)</p>	<p>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</p>

Dana (France): animal skin (46%) 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.



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 seeing 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



animal: not
Beck: cat or dog
(pink)

four-legged

Piotrowski: animal
(94%, pink)

four-legged

Dana (France): animal
(93%, pink)



Beck: human
(orange)

Piotrowski: none

Dana (France): none



crab,
Beck: lobster,
spider (blue)

crab, spider

(37%, blue),

rabbit head

(31%, light

green),

Piotrowski: caterpillars,

worms,

snakes

(28%, deep

green)

Dana (France): none

make this card also relate to feminine sexuality in particular.

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.

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.

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.

Prevalence



The examples and perspective in this article **may not represent a worldwide view of the subject**. Please improve this article and discuss the issue on the talk page.

United States

The Rorschach test is used almost exclusively by psychologists. In a survey done in the year 2000, 20% of correctional psychologists used the Rorschach while 80% used the MMPI.^[6] Forensic psychologists use the Rorschach 36% of the time.^[72] In custody cases, 23% of psychologists use the Rorschach to examine a child.^[73] Another survey found that 124 out of 161 (77%) of clinical psychologists engaging in assessment services utilize the Rorschach,^[74] and 80% of psychology graduate programs teach its use.^[7] Another study found that its use by clinical psychologists was only 43%, while it was used less than 24% of the time by school psychologists.^[72]

Controversy

Some skeptics consider the Rorschach inkblot test pseudoscience,^{[9][75]} as several studies suggested that conclusions reached by test administrators since the 1950s were akin to cold reading.^[76] In the 1959 edition of *Mental Measurement Yearbook*, Lee Cronbach (former President of the Psychometric Society and American Psychological Association)^[77] is quoted in a review: "The test has repeatedly failed as a prediction of practical criteria. There is nothing in the literature to encourage reliance on Rorschach interpretations." In addition, major reviewer Raymond J. McCall writes (p. 154): "Though tens of thousands of Rorschach tests have been administered by hundreds of trained professionals since that time (of a previous review), and while many relationships to personality dynamics and behavior have been hypothesized, the vast majority of these relationships *have never been validated empirically* [*sic*], despite the appearance of more than 2,000 publications about the test."^[78] A moratorium on its use was called for in 1999.^[79]

A 2003 report by Wood and colleagues had more mixed views: "More than 50 years of research have confirmed Lee J. Cronbach's (1970) final verdict: that some Rorschach scores, though falling woefully short of the claims made by proponents, nevertheless possess "validity greater than chance" (p. 636). [...] "Its value as a measure of thought disorder in schizophrenia research is well accepted. It is also used regularly in research on dependency, and, less often, in studies on hostility and anxiety. Furthermore, substantial evidence justifies the use of the Rorschach as a clinical measure of intelligence and thought disorder."^[80]

Test materials

The basic premise of the test is that objective meaning can be extracted from responses to blots of ink which are supposedly meaningless. Supporters of the Rorschach inkblot test believe that the subject's response to an ambiguous and meaningless stimulus can provide insight into their thought processes, but it is not clear *how* this occurs. Also, recent research shows that the blots are not entirely meaningless, and that a patient typically responds to meaningful as well as ambiguous aspects of the blots.^[8] Reber (1985) describes the blots as merely ".. the vehicle for the interaction .." between client and therapist, concluding: ".. the usefulness of the Rorschach will depend upon the sensitivity, empathy and insightfulness of the tester totally independently of the Rorschach itself. An intense dialogue about the wallpaper or the rug would do as well provided that both parties believe."^[81]

Tester projection

Some critics argue that the testing psychologist must also project onto the patterns. A possible example sometimes attributed to the psychologist's subjective judgement is that responses are coded (among many other things), for "Form Quality": in essence, whether the subject's response fits with how the blot actually looks. Superficially this might be considered a subjective judgment, depending on how the examiner has internalized the categories involved. But with the Exner system of scoring, much of the subjectivity is eliminated or reduced by use of frequency tables that indicate how often a particular response is given by the population in general.^[8] Another example is that the response "bra" was considered a "sex" response by male psychologists, but a "clothing" response by females.^[82] In Exner's system, however, such a response is always coded as "clothing" unless there is a clear sexual reference in the response.^[8]

Third parties could be used to avoid this problem, but the Rorschach's inter-rater reliability has been questioned. That is, in some studies the scores obtained by two independent scorers do not match with great consistency.^[83] This conclusion was challenged in studies using large samples reported in 2002.^[84]

Validity

When interpreted as a projective test, results are thus poorly verifiable. The Exner system of scoring (also known as the "Comprehensive System") is meant to address this, and has all but displaced many earlier (and less consistent) scoring systems. It makes heavy use of what factor (shading, color, outline, etc.) of the inkblot leads to each of the tested person's comments. Disagreements about test validity remain: while the Exner proposed a rigorous scoring system, latitude remained in the actual interpretation, and the clinician's write-up of the test record is still partly subjective.^[85] Reber (1985) comments ".. there is essentially no evidence whatsoever that the test has even a shred of validity."^[81]

Nevertheless, there is substantial research indicating the utility of the measure for a few scores. Several scores correlate well with general intelligence. Interestingly, one such

scale is R, the total number of responses; this reveals the questionable side-effect that more intelligent people tend to be elevated on many pathology scales, since many scales do not correct for high R: if a subject gives twice as many responses overall, it is more likely that some of these will seem "pathological". Also correlated with intelligence are the scales for Organizational Activity, Complexity, Form Quality, and Human Figure responses.^[86] The same source reports that validity has also been shown for detecting such conditions as schizophrenia and other psychotic disorders; thought disorders; and personality disorders (including borderline personality disorder). There is some evidence that the Deviant Verbalizations scale relates to bipolar disorder. The authors conclude that "Otherwise, the Comprehensive System doesn't appear to bear a consistent relationship to psychological disorders or symptoms, personality characteristics, potential for violence, or such health problems as cancer".^[87] (Cancer is mentioned because a small minority of Rorschach enthusiasts have claimed the test can predict cancer.)^[88]

Reliability

It is also thought that the test's reliability can depend substantially on details of the testing procedure, such as where the tester and subject are seated, any introductory words, verbal and nonverbal responses to subjects' questions or comments, and how responses are recorded. Exner has published detailed instructions, but Wood et al.^[82] cites many court cases where these had not been followed. Similarly, the procedures for coding responses are fairly well specified but extremely time-consuming to inexperienced examiners, who may cut corners as a result.

US Courts have challenged Rorschach as well. *Jones v Apfel* (1997) stated (quoting from *Attorney's Textbook of Medicine*) that Rorschach "results do not meet the requirements of standardization, reliability, or validity of clinical diagnostic tests, and interpretation thus is often controversial".^[89] In *State ex rel H.H.* (1999) where under cross examination Dr. Bogacki stated under oath "many psychologists do not believe much in the validity or effectiveness of the Rorschach test"^[90] and *US v Battle* (2001) ruled that the Rorschach "does not have an objective scoring system" ^[91]

Population norms

Another area of controversy are the test's statistical norms. Exner's system was thought to possess normative scores for various populations. But, beginning in the mid-1990s others began to try to replicate or update these norms and failed. In particular, discrepancies seemed to focus on indices measuring narcissism, disordered thinking, and discomfort in close relationships.^[92] Lillienfeld and colleagues, who are critical of the Rorschach, have stated that this proves that the Rorschach tends to "overpathologise normals".^[92] Although Rorschach proponents, such as Hibbard,^[93] suggest that high rates of pathology detected by the Rorschach accurately reflect increasing psychopathology in society, the Rorschach also identifies half of all test-takers as possessing "distorted thinking",^[94] a false positive rate unexplained by current research.

The accusation of "over-pathologising" has also been considered by Meyer et al. (2007). They presented an international collaborative study of 4704 Rorschach protocols, obtained in 21 different samples, across 17 different countries, with only 2 % showing significant elevations on the index of perceptual and thinking disorder, 12 % elevated on indices of depression and hyper-vigilance and 13% elevated on persistent stress overload—all in line with expected frequencies among nonpatient populations.^[95]

Applications

The test is also controversial because of its common use in court-ordered evaluations.^[citation needed] This controversy stems, in part, from the limitations of the Rorschach, with no additional data, in making official diagnoses from the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).^[96] Irving B. Weiner (co-developer with John Exner of the Comprehensive system) has stated that the Rorschach "is a measure of personality functioning, and it provides information concerning aspects of personality structure and dynamics that make people the kind of people they are. Sometimes such information about personality characteristics is helpful in arriving at a differential diagnosis, if the alternative diagnoses being considered have been well conceptualized with respect to specific or defining personality characteristics".^[97] In the vast majority of cases, anyway, the Rorschach test wasn't singled out but used as one of several in a battery of tests,^[5] and despite the criticism of usage of the Rorschach in the courts, out of 8,000 cases in which forensic psychologists used Rorschach-based testimony, the appropriateness of the instrument was challenged only six times, and the testimony was ruled inadmissible in only one of those cases.^[7] One study has found that use of the test in courts has increased by three times in the decade between 1996 and 2005, compared to the previous fifty years.^[5] Others however have found that its usage by forensic psychologists has decreased.^[98]

Protection of test items and ethics

Outlines of the ten official inkblots were first made publicly available by William Poundstone in his 1983 book *Big Secrets*, which also described the method of administering the test. The blots are in the public domain in most countries, particularly those with a copyright term of up to 70 years *post mortem auctoris*.

The American Psychological Association (APA) has a code of ethics that supports "freedom of inquiry and expression" and helping "the public in developing informed judgments".^[99] It claims that its goals include "the welfare and protection of the individuals and groups with whom psychologists work", and it requires that psychologists "make reasonable efforts to maintain the integrity and security of test materials". The APA has also raised concerns that the dissemination of test materials might impose "very concrete harm to the general public". It has not taken a position on publication of the Rorschach plates but noted "there are a limited number of standardized psychological tests considered appropriate for a given purpose".^[100] For example, the Rorschach test is

capable of detecting suicidality.^{[101][102][103]} A public statement by the British Psychological Society expresses similar concerns about psychological tests (without mentioning any test by name) and considers the "release of [test] materials to unqualified individuals" to be misuse if it is against the wishes of the test publisher.^[104] In his book *Ethics in psychology*, Koocher (1998) notes that some believe "reprinting copies of the Rorschach plates ... and listing common responses represents a serious unethical act" for psychologists and is indicative of "questionable professional judgment".^[105] Other professional associations, such as the Italian Association of Strategic Psychotherapy, recommend that even information about the purpose of the test or any detail of its administration should be kept from the public, even though "cheating" the test is held to be practically impossible.^[106]

On September 9, 2008, Hogrefe attempted to claim copyright over the Rorschach ink blots during filings of a complaint with the World Intellectual Property Organization against Ney Limonge of Brazil. These complaints were denied.^[107] Further complaints were sent to two other websites that contained information similar to the Rorschach test in May 2009 by legal firm Schluep and Degen of Switzerland.^{[108][109]}

Psychologists have sometimes refused to disclose tests and test data to courts when asked to do so by the parties citing ethical reasons; it is argued that such refusals may hinder full understanding of the process by the attorneys, and impede cross-examination of the experts. APA ethical standard 1.23(b) states that the psychologist has a responsibility to document processes in detail and of adequate quality to allow reasonable scrutiny by the court.^[110]

Controversy ensued in the psychological community in 2009 when the original Rorschach plates and research results on interpretations were published in the "Rorschach test" article on Wikipedia.^[111] Hogrefe & Huber Publishing, a German company that sells editions of the plates, called the publication "unbelievably reckless and even cynical of Wikipedia" and said it was investigating the possibility of legal action.^[111]

Dr. James Heilman, a Canadian emergency room physician involved in the debate, compared it to the publication of the eye test chart: though people are likewise free to memorize the eye chart before an eye test, its general usefulness as a diagnostic tool for eyesight has not diminished.^[111] For those opposed to exposure, publication of the inkblots is described as a "particularly painful development", given the tens of thousands of research papers which have, over many years, "tried to link a patient's responses to certain psychological conditions."^[111] Controversy over Wikipedia's publication of the inkblots has resulted in the blots being published in other locations, such as *The Guardian* and *The Globe And Mail*.^[112]

Publication of the Rorschach images is also welcomed by critics who consider the test to be pseudoscience. Benjamin Radford, editor of *Skeptical Inquirer* magazine, stated that

the Rorschach "has remained in use more out of tradition than good evidence," and was hopeful that publication of the test may finally hasten its demise.^[113]

See also

- Holtzman Inkblot Test – a similar inkblot test designed to correct the limitations of the Rorschach
- Pareidolia
- Picture Arrangement Test
- Projective test
- Thematic Apperception Test

Notes

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External links

- The International Society of the Rorschach and Projective Methods (ISR)
- Overview of the Rorschach test, published by the Göteborgs Universitet, Sweden

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