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Correspondence Among Observer Ratings of Rorschach, Big Five Model, and *DSM–IV* Personality Disorder Constructs

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Observer ratings were collected using instruments designed to measure the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; American Psychiatric Association, 1994) personality disorders (Personality Diagnostic Questionnaire–4+ [PDQ–4+]; Hyler, 1994), the Big Five model (B5M; Goldberg's [1999] International Personality Item Pool), and Rorschach-derived constructs. For the latter, we revised the Rorschach Rating Scale (Meyer, Bates, & Gacono, 1999) to lower its reading level and renamed it the Rorschach Construct Scale (RCS) to emphasize its reliance on rated constructs. The RCS consists of 6 factors. Joint factor analysis of RCS, PDQ–4+, and B5M items also resulted in 6 factors: Self-Centeredly Exploitative, Poor Ego Resiliency, Extraversion, Task Conscientiousness, Openness to Ideas, and Emotional and Expressive Constriction. The first 2 factors received high loadings from RCS, PDQ–4+, and B5M variables. The sixth factor received high loadings from just RCS variables.

Personality constructs used by clinicians and researchers have evolved from a variety of sources and methodologies. Clinicians' and researchers' understanding of personality can be seen in the three popular perspectives exhibited by the personality disorders (PDs) contained in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision [*DSM–IV–TR*]; American Psychiatric Association, 2000), the personality constructs believed to be associated with Rorschach scores (e.g., Exner, 1993), and more recently, the personality traits embedded in the Big Five model (B5M; Digman, 1990; Goldberg, 1993; McCrae, 1992). The *DSM,* Rorschach, and B5M each contain personality constructs that are based on a rich accumulation of information over time. In this regard, the *DSM* and Rorschach are more similar to each other than to the B5M in that they both grew out of clinical practice. The key elements of the B5M, in contrast, developed over time through the evolution of language. That is, the B5M is based on predominant personality descriptors found in the everyday lexicon.

Joint factor analysis has been used to explore the conceptual overlap of observer-rated personality constructs from the B5M domains and *DSM* PDs (Blais, 1997) and the B5M and Rorschach (Meyer, Bates, & Gacono, 1999). However, no joint factor analytic studies have incorporated personality constructs from all three of these popular perspectives. Furthermore, many B5M studies in particular use self-report measures. For some purposes, observer ratings may provide more accurate information than self-report. This may be particularly true for constructs that require the judgment of an observer-participant (such as how "agree-

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able" one is), constructs that are based on overt behavior versus internal emotional experiences, and/or those that involve defensive distortion of one's self-perception. There is some evidence that self-observer agreement is low for the personality construct agreeableness and that narcissism increases overreporting of desirable behaviors (Gosling, John, Craik, & Robins, 1998). Other research suggests that ratings by others have higher accuracy than self-report for personality characteristics involving patterns of overt behavior (Kolar, Funder, & Colvin, 1996). The present study will use observer ratings to explore the overlap between B5M, *DSM–IV* (American Psychiatric Association, 1994), and Rorschach personality constructs.

In the subsequent sections, we provide basic descriptions of the B5M, *DSM,* and Rorschach perspectives on personality followed by research that investigates their overlapping constructs. Because our article focuses on factor analytically derived constructs of observed personality pathology, extant studies that employ this methodology are emphasized in the literature review. Finally, we describe the characteristics of an observer-rating instrument whose items are based on Rorschach constructs (Meyer, 1996a; Meyer et al., 1999), which are revised and used in this study.

The B5M is a dimensional model of personality derived from factor analysis using common trait adjectives or personality descriptors. The B5M domains are Neuroticism (N), Extraversion (E), Agreeableness (A), Conscientiousness (C), and Openness (O). There is a sound body of research supporting the B5M with nonclinical samples when using self-report and observer ratings (e.g., see John & Srivastava, 1999). Furthermore, its five-factor structure has been demonstrated in diverse samples using various methods of assessment including a clinical sample assessed by self-report questionnaire (Bagby et al., 1999), a mixed nonclinical and clinical sample assessed via a structured B5M interview (Trull et al., 1998), and a sample presumed to have some psychopathology assessed by observer ratings (Meyer et al., 1999).

In contrast to the B5M dimensions, the *DSM–IV–TR* uses a categorical model of personality consisting of PDs that are subsumed under three clusters: Cluster A (Schizoid, Schizotypal, Paranoid), Cluster B (Borderline, Antisocial, Narcissistic, Histrionic), and Cluster C (Dependent, Avoidant, Obsessive–Compulsive). When utilizing clinician interviews or clinician ratings of clinical samples, a three-factor or sometimes four-factor solution is found for the PDs, with Cluster B as the most frequently supported cluster (e.g., Bell & Jackson, 1992; Hyler & Lyons, 1988; Kass, Skodol, Charles, Spitzer, & Williams, 1985; Mulder & Joyce, 1997; Parker, Hadzi-Pavlovic, & Wilhelm, 2000; see also O'Connor & Dyce, 1998). In these analyses, rather than treating the PDs as dichotomous categories, they are treated as dimensional scales that sum the number of PD-specific symptoms endorsed.

Regarding the conceptual overlap between observer-rated *DSM* and B5M personality constructs, Blais (1997) employed joint factor analysis using clinician ratings of B5M items and *DSM–IV* PD criteria for a clinical sample with PDs (with borderline PD as the most common diagnosis). Using the B5M domains and *DSM–IV* PDs as the variables, he found a four-factor structure, which indicates how clinicians view their clients with PDs when applying *DSM–IV* PD and B5M constructs. The first factor was described as an emotional reactivity dimension and was defined[1] (i.e., had loadings ≥ .60) by N, Borderline PD, and Dependent PD. The second factor was described as a low agreeableness dimension and was defined by A on the negative pole and the Cluster A PDs on the positive pole (i.e., Paranoid, Schizoid, and Schizotypal). The third factor was described as a social orientation dimension and was defined by E, Narcissistic PD, and Histrionic PD. The fourth factor was viewed as an emotional health dimension and was defined by C and O on the positive pole and Antisocial PD on the negative pole.

No other studies have employed joint factor analyses of observer ratings of the B5M and *DSM* PD constructs. However, Schroeder, Wormworth, and Livesley (1992) conducted a joint factor analysis of the B5M domains and dimensions from an instrument they developed to assess *DSM* PD constructs called the Dimensional Assessment of Personality Pathology–Basic Questionnaire (DAPP–BQ). The DAPP–BQ contains 18 dimensions designed to assess major *DSM–III–R* (American Psychiatric Association, 1987) PD constructs and related constructs taken from the literature.[2] Using a general population sample and self-report measures, joint factor analysis of 16 DAPP–BQ dimensions (excluding Self-Harm and Cognitive Distortion) and the B5M domains revealed five factors. The first factor was defined (i.e., had loadings ≥ .60) by N, Anxiousness, Affective Lability, Diffidence, and Insecure Attachment. The second factor was defined by E and Stimulus Seeking. The third factor was defined by Restricted Expression. The fourth factor was defined by A on the positive pole and Interpersonal Disesteem and Rejection on the negative pole. The fifth factor was defined by C and Compulsivity. The conceptual similarity to Blais's (1997) B5M and *DSM–IV* PD joint factor solution (using clinical ratings of a PD sample) is most clearly seen in N, E, and A's strong loading on individual factors in each study. The factor most different from Blais's study had a strong loading from the DAPP–BQ Restricted Expression dimension, indicating problems with

[1]The term *defined* in this context is used to indicate the most prominent marker variables for a factor. It is not meant to imply that the factor does not receive meaningful loadings from other variables.

[2]The DAPP–BQ was developed through a complex series of steps including conceptual grouping of *DSM–III–R* PD constructs, adding non-*DSM* personality features from the literature, factor analyses of these items, and then developing additional DAPP–BQ items to measure the constructs resulting from this process (for further description, see Schroeder et al., 1992).

self-disclosure and the expression of both positive and negative sentiments.

Many studies have used other methods to explore associations between the *DSM* PD and B5M domain constructs. Here we report only studies that used clinical samples and clinician ratings of the *DSM* PDs. Across studies, Schizotypal and Obsessive–Compulsive PD were two *DSM* PDs that showed the lowest and/or least consistent relationship to B5M domains. On the other hand, the B5M N, E, and A domains have been related to the most PDs, whereas the O domain shows little consistent association with any of the PDs (e.g., Ball, Tennen, Poling, Kranzler, & Rounsaville, 1997; Blais, 1997; Reynolds & Clark, 2001; Trull, 1992).

In terms of the Rorschach, Meyer et al. (1999) utilized observer ratings to explore the factor solution of Rorschach constructs and their overlap with the B5M. These researchers developed an observer-rating instrument designed to measure predominant Rorschach constructs corresponding to the scores from a variety of scoring systems (Rorschach Rating Scale [RRS]; Meyer, 1996a; Meyer et al., 1999). Note that in the Meyer et al. study they had observers rate personality statements, not Rorschach protocols or scores derived from the protocols. Various sources can be used to inform the RRS ratings, such as observer ratings, self-ratings, and ratings of the Rorschach inkblot scores themselves. The RRS items and scales can serve as the external criteria for Rorschach variables in construct validity studies. The explicit link between RRS statements and Rorschach variables can also be used for other clinical and teaching purposes.

Using observer ratings of target participants with psychological difficulties, Meyer et al. (1999) found that the RRS had a six-factor structure labeled (1) Narcissism, Aggression, and Dominance; (2) Perceptual Distortions and Thought Disorder; (3) Passive Dependence, Vulnerability, and Inferiority; (4) Emotional Health and Coping Effectiveness Versus Emotional Control Problems; (5) Social and Emotional Engagement Versus Constriction; and (6) Intellectual Defenses and Obsessive Character. Joint factor analyses indicated that observer ratings of the Rorschach and B5M constructs showed considerable overlap. However, Rorschach constructs did not adequately define the B5M domains E and O. Conversely, the B5M domains did not adequately define three of the six Rorschach factors: Perceptual Distortions and Thought Disorder; Passive Dependence, Vulnerability, and Inferiority; and Intellectual Defenses and Obsessive Character.

In summary, when using pathological samples and observer ratings on B5M, *DSM,* and Rorschach constructs, joint factor analyses indicate that the B5M N and A domains show high overlap with both *DSM* PD and Rorschach constructs (Blais, 1997; Meyer et al., 1999). These studies and other research investigating the relationships among B5M domains and *DSM* PDs suggest that the B5M domains may be least associated with dependency, obsessive character, and psychotic-like thinking and perceptions (e.g., Ball et al., 1997; Blais, 1997; Meyer et al., 1999; Reynolds & Clark, 2001; Trull, 1992). When using a general population sample and self-ratings, joint factor analysis of B5M and expanded *DSM* PD constructs suggests that "restricted expression" may be a key personality construct that is not well defined by the B5M domains (Schroeder et al., 1992). Given that the *DSM,* Rorschach, and B5M provide popular constructs for understanding personality in research and practice, it should be informative to explore their mutual overlap as well as to determine their unique individual contributions.

Before undertaking such a study, we first revised the RRS to correct the high reading level it required. The original RRS had a Flesch–Kincaid reading difficulty at about the 13th-grade level (Flesch, 1949; Meyer et al., 1999). Although most clinicians would likely comprehend this level of reading difficulty, the RRS can be used by a variety of raters, including nonprofessionals who know the patient well—such as a partner or friend. These raters are less likely than clinicians to have obtained an advanced degree that would indicate a college reading level. Revising the RRS for readability should make this instrument accessible to more raters.

Therefore, this study had two separate but related goals. First, the RRS was revised to lower the reading difficulty while retaining the same item constructs. The average readability goal was a standard level of reading difficulty (i.e., Flesch–Kincaid seventh- to eighth-grade level; Flesch, 1949). As part of the revision process, we also investigated the reliability and factor structure of the revised instrument and renamed it the Rorschach Construct Scale (RCS) in an effort to emphasize that it relies on ratings of Rorschach-relevant personality constructs rather than the raw scores obtained directly from Rorschach protocols. The second goal was to investigate the joint factor structure of *DSM–IV* PD, B5M, and Rorschach constructs using observer ratings of people with psychological difficulties.

METHOD

RRS Revisions

RRS. The original RRS contained 262 items and was divided into two sections (Meyer et al., 1999). The first section consisted of 185 items, 181 of which assessed single scale constructs from a variety of Rorschach systems. Five of these 181 items were repeated items that provided a measure of inconsistent responding. Four additional items indicated extremely high- or low-frequency behaviors (e.g., "He has never felt anger at any time in his life.") and were designed to detect random responding. The second section contained 77 items designed to assess the Comprehensive System (CS; Exner, 1993) constellations (and their individual criteria), which include suicide, psychosis, depression, coping deficits, hypervigilance, and obsessiveness.

RRS revision procedures. First, two items were added to the second section of the RRS because it lacked items for two constellation criteria. One item addressed the DEPI criterion of S > 2 and the other addressed the SCZI criterion of X – % > .40. Furthermore, well into this study, the CS was revised (Exner, 2001). The RRS was modified to reflect these changes, which involved creating two new items and altering three other items.[3] Therefore, these item additions and alterations resulted in a final set of 266 items on which the subsequent readability results are based. The revised instrument (i.e., RCS) consists of the same two sections and basic structure as the original RRS. The first RCS section now contains 187 items, including 178 nonduplicated items and 9 validity items. The second RCS section contains 79 items.

RRS statements were revised for readability with the goal of maintaining the original item constructs. The Flesch–Kincaid grade level (GL) and reading ease (RE) formulas were used as the measures of reading difficulty and they were computed using the Readability Calculations software program (Micro Power & Light Co., 1995). RE ranges are defined as 30 and below = *very difficult,* 30 to 50 = *difficult,* 50 to 60 = *fairly difficult,* 60 to 70 = *standard,* 70 to 80 = *fairly easy,* 80 to 90 = *easy,* and above 90 = *very easy.* The goal was a standard level of reading difficulty, which is defined as seventh to eighth GL and 60 to 70 RE (Flesch, 1949).

Joni L. Mihura revised the original RRS items. Expert rater feedback[4] was used to further modify several of the items until agreement was reached between Joni L. Mihura and Gregory J. Meyer. For the CS items, disagreements were resolved through discussion and iterative item changes were made until agreement was obtained. For non-CS items, experts rated each proposed revision on a 5-point scale ranging from –2 (*very poor; does not capture the construct/much worse than the original*) to +2 (*very good; clearly captures the construct/much better than the original*). The average rating for these items was .56 (i.e., between *captures the construct and as accurate as the original* and *captures the construct but more accurate than the original*).

RRS and RCS readability. The original RRS had an average reading difficulty at the 12.5 GL. The RCS has an average reading difficulty at the 7.1 GL. The original RRS had an average RE of 30 (*difficult to very difficult*). The RCS has an average RE of 65 (*standard*). Therefore, item revisions lowered the reading difficulty in a manner consistent with our goals (i.e., in all areas of GL, RE, and expert ratings). Examples of item revisions are (Item 47) "He cannot function effectively because he is temporarily overwhelmed by life stressors or emotional discomfort" (original RRS; GL = 17.8, RE = –5.78) to "He cannot function well right now because of some temporary stress in his life" (RCS; GL = 6.7, RE = 71.77), and (Item 75) "In recounting experiences, he omits significant details or portions of an event without realizing it" (original RRS; GL = 13.7, RE = 22.42) to "When talking about experiences, he leaves out important parts and is not aware that he did" (RCS; GL = 7.6, RE = 68.99). See the Appendix for the first 187 items of the RCS.

Participants

After excluding invalid data (see the Data Integrity section later), there were 182 observer raters from universities in the Pacific Northwest or Midwest who participated for extra course credit. The raters' mean age was 27.20 (median [*Mdn*] = 22, *SD* = 10.81) and 75.8% were women. Unfortunately, our demographic sheet inadvertently failed to inquire about ethnicity for the rater and the target person.

The targets had a mean age of 31.72 (*Mdn* = 25, *SD* = 14.58) and 50.3% were women. The target's relationship to the raters was described as 34.1% friend, 24.0% spouse/live-in partner, 11.2% parent, 10.4% sibling, 8.4% relative but not parent or sibling, and 9.0% other. Slightly under half (43%) of the raters knew the target person at least 10 years; 76% knew the target at least 3 years. Thirty-six percent of the raters spent at least 25 hr per week with the target person; 71% spent at least 5 hr per week with the target. Eighty-seven percent of the raters said that they knew the target person very well or extremely well.

Materials

RCS. For the RCS, the following procedures and results are based on the first 185 items (i.e., without the two new items created for CS [Exner, 2001] scores that were introduced after we began data collection). These 185 items include 5 repeated items and 4 random response items as measures of validity, resulting in a total of 176 nonoverlapping, legitimate clinical items. Only the latter were used in subsequent factor analyses.

[3]One additional item was created to measure the new CS WDA% variable. Items were revised for the Human Experience Variable (which added one new item) and the SCZI so they were consistent with their replacement scales, the Human Representation Variable and Perceptual-Thinking Index (Exner, 2001). There were a few CS variables that underwent slight changes (e.g., S – % changed to S–), although the original RRS statement still captured the variable's construct. These items were only revised for reading difficulty.

[4]The RCS expert raters were Gregory J. Meyer (CS), Carl B. Gacono (Gacono & Meloy's Extended Aggression variables; Impressionistic Response [IMP; Gacono, 1988], Rorschach Defense Scales [RDS; Cooper, Perry, & Arnow, 1988], Primitive Object Relations Scale [POR; Kwawer, 1980]), Robert F. Bornstein (Rorschach Oral Dependence Scale [ROD; Bornstein, 1993; Masling, Rabie, & Blondheim, 1967]), Stephen B. Tuber (Mutuality of Autonomy Scale [MOA; Urist, 1977]), Walter Burke (Psychoanalytic Rorschach Profile [PRP; Burke, Friedman, & Gorlitz, 1988]), and Paul Lerner (Lerner and Lerner's Defense Scales [LDS; Lerner, 1980], RDS).

B5M. Goldberg's (1999) International Personality Item Pool (IPIP; 2001) contains 1,956 items that are in the public domain (see http://ipip.ori.org/ipip/), 967 of which are currently scored on at least one IPIP scale. Using a large sample of community residents who were administered IPIP items along with a range of other popular inventories, the IPIP item content has been organized into scales that parallel those found in the alternative inventories. For this investigation we relied on 300 IPIP items stated in a third-person format suitable for observer ratings. These items form 30 facet-level scales and 5 domain-level scales that parallel those found in Costa and McCrae's (1992) Revised Neuroticism Extraversion Openness Personality Inventory (NEO PI–R), which is probably the instrument used most frequently to assess the Five-factor model by observer rating or self-report. Items, scoring guidelines, and psychometric data for these scales are available at the IPIP Web site listed previously.

Using self-report data from 501 participants, Goldberg (1999; IPIP, 2001) found that the 30 IPIP facet-level scales had an average coefficient alpha of .80 (range .71 to .88), which was slightly higher than that observed for the NEO PI–R scales in the same sample (M = .75, range .61 to .85). The average correlation between each of the 30 facet-level scales from the IPIP and its parallel NEO PI–R scale was .73 (range .60 to .81). Goldberg did not report reliability or convergent validity coefficients for the 5 domain-level scales, although these coefficients should all be higher than those found at the facet level. In our study, after validity exclusion criteria (see Data Integrity section later), internal consistency (α) for the IPIP-derived B5M domains were N (.97), E (.96), A (.96), C (.97), and O (.92).

PDQ–4+. The PDQ–4+ is a 99-item measure of which 93 items are designed to assess the *DSM–IV* PD criteria (Hyler, 1994). For this study, items were restated from the first to the third person so the PDQ–4+ would serve as an observer-rating instrument. Relatively few studies have been conducted with the PDQ–4+, although earlier versions of the scale have been used extensively. Internal consistency estimates for the PDQ–4+ scales have averaged about .62 (range .46 to .74) using clinical samples from Italy and China (Fossati et al., 1998; Yang et al., 2000). These findings indicate the PD scales assessed rather heterogeneous constructs in these international samples. Ten-day retest reliability coefficients have been slightly higher (M = .67, range .48 to .79; Yang et al., 2000).

In this study, after validity exclusion criteria (see Data Integrity section following), internal consistency (α) averaged .79 and ranged from a low of .60 (Obsessive–Compulsive) to a high of .87 (Antisocial), with the other PDs ranging from .73 to .86 as follows: Avoidant (.86), Dependent (.83), Histrionic (.73), Narcissistic (.86), Borderline (.80), Negativistic (.83), Schizoid (.73), Schizotypal (.80), Paranoid (.79), and Depressive (.77). PDQ–4+ scales have shown correlations in the r = .20 to .40 range with parallel diagnoses derived from semistructured interviews (Fossati et al., 1998; Yang et al., 2000; also see Davison, Leese, & Taylor, 2001), which is consistent with a large body of other findings concerning cross-method correspondence (Meyer et al., 2001). The PDQ–4+ also appears to serve reasonably well as a screening instrument in that it does not miss many valid PD diagnoses despite the fact that it has a high false positive rate (Davison et al., 2001).

Procedures

The procedures for collecting data were the same as in Meyer et al. (1999). Before the RCS was administered, the raters were instructed to select a male or female target person whom they knew "very well" and had "psychological difficulties." After choosing the target, they received the appropriate "he" or "she" RCS version. RCS instructions had raters compare this target person to an "average person" and use as much relevant information as possible to rate the target based on what they thought "she or he was really like." They were also informed about the instruments' validity measures to increase reliable and valid responding. The RCS and PDQ–4+ items were rated on 5-point scales ranging from 1 (*very uncharacteristic/definitely false*) to 5 (*very characteristic/definitely true*). Following Goldberg's (IPIP, 2001) typical instructions, the B5M rating scale ranged from 1 (*very inaccurate*) to 5 (*very accurate*).

Data Integrity

The same data exclusion procedures were used here as in the original RRS reliability and validity study (Meyer et al., 1999). Data integrity was investigated by examining missing data and inconsistent responses. If any protocol met the following exclusion criteria, all of that participant's data was excluded from further analyses.

First, any RCS, B5M, or PDQ–4+ instrument with 5% or more missing items was considered invalid for further analyses. Next, the four RCS deviant response items and the five RCS repeated items were examined to detect random responding and inconsistency. To exclude data due to random responding, any RCS protocol with one or more endorsed deviant items (i.e., a rating of 3 or higher) was considered invalid.[5] To exclude invalid data due to RCS inconsistency, dif-

[5]A scale formed by these four items had an internal consistency estimate of α = .62. The PDQ–4+ contains a similar deviant response type of item (i.e., "I have lied a lot on this questionnaire"). The RCS Deviant Response scale was positively correlated with this PDQ–4+ item (r = .47; range for individual RCS items was .30 to .42), providing some validity evidence for the RCS measure.

ference scores were computed for each pair of duplicate items. Protocols were excluded if they had one deviation of 4 points or at least two deviations of 2 points or higher.[6] Finally, one participant's protocol was excluded because this person responded "3" throughout most of the B5M and all of the PDQ–4+. These procedures excluded 30.8% of the sample for a final sample size of 182 (out of 263). Out of the total sample, 3.4% met exclusion criteria for missing data, 26.6% for random responding, and 6.8% for inconsistency. Of those who responded inconsistently, 66.7% also met criteria for random responding. For the original RRS, these same criteria excluded a total of 21% of the sample (Meyer et al., 1999). It is possible that participants in our study were less attentive than in the previous study because there was a total of 663 items in this study compared to 312 items in the original RRS study.

The high proportion of protocols excluded due to missing data, random responding, and inconsistent responding may be due to using a sample with little investment in the testing—college students participating for extra course credit—and several hundred personality items. Berry et al. (1992) investigated this hypothesis with the Minnesota Multiphasic Personality Inventory–2 (MMPI–2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) and found high VRIN scores (T > 65) in 15% to 22% of college student and community samples compared to 3% in a job applicant sample. Based on self-report that followed the MMPI–2, a substantial number of college students acknowledged careless and random responding, with significantly more random responses at the end of the test compared to the beginning, middle, or scattered throughout. Berry et al.'s findings suggest that careless responding is more common in samples with little investment in the testing and more pronounced with longer questionnaires. The topic of careless and random responding in volunteer samples needs more exploration. However, we took a conservative approach that excluded all protocols meeting our a priori criteria. Our criteria were also used with the original RRS study (Meyer et al., 1999), which make both studies comparable.

For the final sample, no RCS protocol had more than five missing items, no B5M protocol had more than four missing items, and no PDQ–4+ protocol had more than three missing items. The total proportion of missing items across the three instruments averaged .00060 items. Because of the negligible proportion of missing items, mean substitution was used in the factor analyses.

Factor-Analytic Procedures

For our exploratory factor analyses, the same factor analytic procedures used with the original RRS were employed in this study. That is, first we used a modified version of Horn's (1965) parallel analysis to determine the number of factors to extract for each analysis. Parallel analysis retains all factors with eigenvalues greater than the average of parallel eigenvalues generated from random data matrices containing the same number of participants and variables as the target analysis. However, as in the original RRS study (Meyer et al., 1999), we retained all factors in the target analysis with eigenvalues greater than the largest average eigenvalue from the random data sets. For each of the following four factor analyses reported, to determine the largest average parallel eigenvalue we generated 50 random data matrices and averaged the eigenvalues from them. For all analyses, the number of participants was 182, although the number of variables was different for each. For example, the RCS factor structure was determined by the 176 legitimate RCS items. Therefore, the largest parallel eigenvalue used for the RCS factor analysis was based on the average of 50 random data sets with 182 participants and 176 variables.

Because parallel analysis may overextract factors with complex variables and retain poorly defined factors (Glorfeld, 1995; Zwick & Velicer, 1986), as with the original RRS, we also followed Guadagnoli and Velicer's (1988) recommendation for a sample size of at least 150. Specifically, they recommended that factors be retained when they have either 4 or more loadings greater than .60 or 10 or more loadings greater than .40.

Many researchers have been taught that factor analysis requires a certain number of participants for each variable analyzed (e.g., 5 participants per variable). However, empirical studies have repeatedly shown that these rules of thumb are false; the adequacy of a factor solution cannot be predicted from a participant-to-variable ratio (Guadagnoli & Velicer, 1988; MacCallum, Widaman, Zhang, & Hong, 1999; Velicer & Fava, 1998). Instead, the evidence indicates that factor accuracy depends on (a) the square root of the sample size, which speaks to the stability of the correlation matrix; (b) the number of variables that define a factor via salient loadings (three is the minimum), which is a function of the number of variables that are initially available in the analysis (i.e., more variables per factor is better, which is opposite the historical recommendation to limit the number of variables used in an analysis); and (c) the magnitude of the salient loadings on a factor, which is related to the average communality for the variables included in an analysis. Furthermore, these determinants of factor accuracy interact so that strengths in one area can compensate for weaknesses in another.

[6] A scale formed by these five items had an internal consistency estimate of $\alpha = .32$. Although low, this value is comparable to what has been found with similar scales for published inventories. The Minnesota Multiphasic Personality Inventory–2 (MMPI–2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) and MMPI–A (Butcher et al., 1992) manuals do not report alpha for the Variable Response Index (VRIN) scale. However, the Personality Assessment Inventory (Morey, 1991) manual reports alpha values of .45, .26, and .23 for its Inconsistency scale in census-matched, college student, and clinical samples, respectively (all *N*s ≥ 1,000).

The factor analyses described following have low participant-to-variable ratios (N = 182 for all analyses, with 176 RCS, 300 B5M, 93 PDQ–4+, and 140 final joint factor analysis variables).[7] However, because our final sample of participants was reasonably large (N = 182), this produces a correlation matrix with relatively small standard errors. In addition, across all analyses, we extracted just three to six factors. At a minimum (in the final joint factor analysis with 140 variables and six extracted factors), 23 variables are theoretically available to define each factor, which is a large ratio. Finally, by following Guadagnoli and Velicer's (1988) criteria for factor retention, we ensured that items with sufficiently large loadings defined each extracted factor. As a consequence, the results reported following should be reasonably reproducible. Disregarding for a moment the number of variables that defined our extracted factors, one can estimate the average distance between the factor loadings observed in a sample and the population parameters using just N and the estimated magnitude of salient loadings (via Equation 3 in Guadagnoli & Velicer, 1988). If we estimate the average salient factor loading will be .50, which is conservative because our retention criteria require each factor to have at least 4 loadings greater than .60 or 10 greater than .40, then our observed factor loadings would diverge from the true loadings by .0875 on average. In actuality, the average deviation would be slightly lower because all our solutions contained factors defined by numerous variables and the average of the salient loadings was higher than .50.

With one exception, varimax and oblimin rotations were examined in the factor solutions. The exception was with the B5M. Because of the preponderance of support for independent factors within this model, only a varimax solution was considered.

RESULTS

RCS Item Analyses

The RCS was evaluated for items that might be poor discriminators (i.e., highly or minimally characteristic of most people). The a priori criteria for poor items was either (a) a range < 4, (b) a Mdn < 2.0 or > 4.0, or (c) a SD < .75. No items were defined as poor based on these criteria. Each item had a range of 4.0 with a SD > .98.

[7]The B5M factor analysis had by far the lowest participant-to-variable ratio (182:300). Although a main goal for the B5M factor analysis was to obtain high loading items for the final joint factor analysis (which was accomplished with a M loading = .69 and range = .57 to .78), the resulting five factors were highly correlated with Goldberg's (1999) B5M domain scales (see B5M and PDQ–4+ Factor Analyses section).

Development of RCS Scales

Two sets of RCS scales were constructed. The first set was derived from exploratory factor analysis and the second set consisted of the conceptually derived scales developed for the original RRS (Meyer et al., 1999).

Factor derived scales. Principal component analyses with varimax and oblimin (Δ = 0) rotation were conducted with the 176 RCS items. The eigenvalues (and percent variance explained) for the first eight factors were 41.82 (23.8), 9.40 (5.3), 7.21 (4.1), 6.53 (3.7), 4.76 (2.7), 3.89 (2.2), 3.67 (2.1), and 3.46 (2.0), respectively. Parallel analysis revealed that the largest average eigenvalue from the random data sets was 3.80, suggesting that six factors should be retained. Applying Guadagnoli and Velicer's (1988) criteria suggested that four factors should be retained for the varimax solution and six factors for the oblique solution. The six factors from the oblique solution were then correlated with the six factors resulting from varimax rotation and they showed a clear pattern of convergent (i.e., r > |.95|) and discriminant (i.e., r < .25) correlations. Because the oblique rotation met Guadagnoli and Velicer's criteria and also corresponded to the parallel analysis criteria, the following descriptions focus on the six-factor oblique solution for the RCS items. The highest correlation between these oblique factors was .33, suggesting that they were adequately independent factors. The six RCS factors explained 41.8% of the variance.

The first RCS factor was bipolar and contained 32 items with loadings greater than .50. Item content suggested this was a factor of Aggression, Dominance, and Narcissism. The second factor was bipolar and contained 29 items with loadings greater than .50. The content suggested this was a factor of Thinking and Perceptual Disturbance. The third factor was bipolar and contained 21 items with loadings greater than .50. Item content suggested this was a factor of Coping Problems, Vulnerability, and Distress. The fourth factor was bipolar and contained 15 items with loadings greater than .40. The content suggested this was a factor of Emotional and Expressive Constriction. The fifth factor was bipolar and contained 13 items with loadings greater than .40. The content suggested this was a factor of Interpersonal Needs and Dependency. The sixth factor was unipolar and contained 10 items with loadings greater than .40. The content of these items suggested this was a factor of Effective Functioning.

Next, RCS factor scales were constructed by choosing marker items for each factor. *Marker items* were defined as items with a primary factor loading greater than .40 that was also at least .10 greater than its loading on the other five factors. Using these criteria, Factor 6 had only 4 marker items. Because our goal was at least 10 items per scale, we relaxed the marker criteria for Factor 6 to include all items with a loading greater than .40 on that factor. Table 1 illustrates the RCS factor scales and corresponding coefficient alphas,

TABLE 1
Factor-Analytically Derived RCS Scales: Psychometrics, Marker Items, and Two Highest Loading Items

RCS Factor and Items	*Total Items*		*M*	*SD*	*Marker Items*
F1—Aggression, Dominance, & Narcissism	27	.95	75.12	24.32	2,[a] 22, 30, 31, 58, 80, 81, 83–85, 121, 122, 124, 125, 128, 136, 137, 139, 142–144, 146–148, 160, 161, 180
161. He gets pleasure by having power and control over others.					
84. He tries to feel aggressive or powerful so he doesn't feel vulnerable.					
F2—Thinking & Perceptual Disturbance	18	.92	47.51	15.11	51, 52, 72, 73, 75–79, 89–95, 145, 151
93. When he does not have clear structure, his thoughts become illogical or mixed together.					
79. He deals with emotional conflict or stress by splitting up experiences on the basis of how they feel. Although he can be aware of different feelings at different times, he is not able to feel positive and negative emotions at the same time. As a result, he does not see the full picture of himself and others.					
F3—Coping Problems, Vulnerability, & Distress	20	.92	59.92	16.87	1,[a] 3–6, 23, 24, 26–28, 32,[a] 34,[a] 47, 48, 96, 132, 157, 169, 177, 183
177. He has the sense that he is "falling apart" when he feels emotionally distressed.					
157. He feels lonely and has strong wishes for an emotional connection with others.					
F4—Emotional & Expressive Constriction[b]	13	.85	43.18	9.63	16–18, 19,[a] 20,[a] 25, 55, 62, 64, 67, 118, 172, 173
20. He responds a lot to emotional situations (reverse scored).					
118. He is guarded and withholds personal feelings, thoughts, and reactions.					
F5—Interpersonal Needs & Dependency	10	.81	33.69	7.72	7, 101, 104, 105, 116, 117, 154–156, 181
116. His self-esteem depends on positive input from others. Therefore, he tries to be with people who admire him and make him feel important.					
154. He has a desire for close and intimate relationships.					
F6—Effective Functioning	10	.82	30.66	7.57	14, 36, 44, 49, 60, 110, 113, 131, 165, 167
44. He is alert to his surroundings and tries to integrate lots of information to make sense of things.					
165. He is resilient. He knows that even when upset he will regain his emotional stability.					

Note. $N = 182$. RCS = Rorschach Construct Scale.
[a]Reverse-scored item. [b]Factor score multiplied by –1.0 to reverse the direction of the loadings to be consistent with the direction of the item statements.

means, standard deviations, item numbers, and two representative item statements.[8] Compared to the original RRS (Meyer et al., 1999), the RCS factor scales contain more items and, consequently, have higher internal consistency coefficients. In terms of content, the first five RCS factors were very similar to those found for the RRS, even though the specific marker items differed.

Conceptually derived scales. The original RRS included conceptually derived scales to assess B5M constructs and other personality constructs. Because the RCS items were revised using a method to ensure that they expressed the same constructs as the original RRS items, the original conceptually derived scales were applied to the RCS. However, to determine whether item revisions and/or sample variations reduced reliability for any of these scales, we conducted a reliability analysis and deleted any item if it reduced coefficient alpha by .05 or more. Only one item met this exclusion criterion (i.e., Item 97, which was removed from the Projection and Projective Identification scale).

Information on the RCS conceptually derived scales is reported in Table 2, including the scale name, coefficient alpha, mean, standard deviation, and item composition. These conceptually derived scales had a mean coefficient alpha of .78, which is comparable to the mean of .79 found with the original RRS. As expected, the very short scales produce the lowest internal consistency estimates. Using Cohen's *d,* the largest difference between the means for the original RRS sample and this RCS sample on the conceptually derived scales was |.41| (for reference, $d = .50$ is comparable to a difference of 5 T-score points). This difference occurred on the Formal Thought Disorder scale on which this RCS sample had slightly higher ratings than the original RRS sample, even though the original sample included some substance abuse outpatients.

[8]Note that the original RRS factor scales reported in Meyer et al. (1999, p. 210) Table 1 omitted relevant items. The correct factor scales consisted of 65 items instead of 53. All corrected scales had correlations with the previously published scales > .95. The correct RRS items per factor scale are as follows (along with their correlations with the previously published factor scales). Factor 1 (.99): 7, 9, 21, 73, 83, 85, 99, 105, 107, 136, 137, 144, 160–162; Factor 2 (.96): 37, 51, 52, 57, 74–77, 86, 89, 91–93; Factor 3 (.99): 6, 114-116, 132, 134, 135, 150, 151, 156, 157, 168, 169, 181; Factor 4 (.96): 13, 14, 22r, 24r, 43, 56, 61; Factor 5 (.96): 19, 20, 54, 60, 126r, 130, 154, 164, 172r; Factor 6 (1.00): 49, 62–66, 120 (1.00).

TABLE 2
Item Composition, Internal Consistency, Means, and Standard Deviations of Conceptually Derived RCS Scales

RCS Scale	*Total Items*		*M*	*SD*	*Item Composition*
B5M-related constructs					
Neuroticism	21	.91	63.58	16.55	3–6, 13,[a] 22–26, 28–29, 46–47, 132, 157, 165,[a] 169, 175, 177, 179
Extraversion-Sociability	8	.80	26.71	6.37	1, 27,[a] 110–113, 119,[a] 154
Openness-Emotional Sensitivity	12	.73	37.34	7.46	11,[a] 12, 14, 15[a]–18,[a] 38,[a] 164, 166–167, 172[a]
Agreeableness Versus Hostility	14	.86	46.54	10.78	30[a]–31,[a] 81,[a] 84,[a] 99,[a] 118,[a] 120[a]–122,[a] 130–131, 139,[a] 160[a]–161[a]
Conscientiousness-Thoroughness	5	.81	14.31	4.72	41, 43, 45, 49, 171
Scales of other constructs					
Defensive Avoidance of Negative Affect	13	.70	34.33	7.30	62–73, 77
Polarized Self and Object Representations	12	.85	29.27	9.39	2,[a] 8–10, 128, 134–135, 141–143, 146, 153
Diffuse Psychological Boundaries	10	.81	26.34	7.54	53, 96, 108–109, 129, 140, 149,[a] 150–152
Perceptual Distortions	8	.88	23.78	7.39	86–92, 145
Narcissism	8	.86	23.83	7.72	7, 83, 85, 107, 136–137, 144, 147
Effective Coping	6	.86	17.46	5.91	32–34, 37,[a] 61, 182[a]
Dependent Needs for Others	6	.73	19.14	4.96	114–117, 155–156
Global, Vague, and Impressionistic Thinking	5	.69	14.72	4.13	44,[a] 50–52, 174
Projection and Projective Identification	4	.79	11.26	4.00	80, 125, 162–163
Formal Thought Disorder	3	.87	7.89	3.50	93–95
Gaps in Memory or Experience	3	.74	7.51	3.21	75–76, 78
Emotional Spontaneity	2	.67	6.51	2.17	19–20
Sexual Preoccupations	2	.88	6.36	2.56	104–105
Attention to Small/Unusual Details	2	.44	6.29	2.10	48, 106

Note. $N = 182$. RCS = Rorschach Construct Scale; B5M = Big Five model.
[a]Reverse-scored item.

B5M and PDQ–4+ Factor Analyses

To explore a Joint Model using factor scores from the RCS, B5M, and PDQ–4+, we first conducted separate factor analyses of the B5M and PDQ–4+ items according to the previously described procedures (i.e., parallel analysis followed by the Guadagnoli and Velicer, 1988, criteria).

B5M factor analysis. A principal component analysis with varimax rotation was conducted with the 300 B5M items. The eigenvalues (and percent variance explained) for the first 10 factors were 63.95 (21.3), 24.75 (8.2), 19.42 (6.5), 13.59 (4.5), 9.02 (3.0), 6.50 (2.2), 5.42 (1.8), 5.25 (1.7), 4.93 (1.6), and 4.25 (1.4), respectively. Parallel analysis revealed that the largest average eigenvalue from the random data sets was 5.06, suggesting that 8 factors should be retained. Applying the Guadagnoli and Velicer (1988) criteria suggested that 5 factors should be retained. The resulting B5M factor solution was readily identifiable as A, N, C, E, and O dimensions (although the direction for A was reversed, with agreeable items having negative loadings). These 5 factors explained 43.5% of the variance. The factor scores from these varimax-rotated factors obtained by observer ratings correlated with the B5M scales as follows: A (–.92), N (.86), C (.82), E (.84), and O (.92). As a comparison, using nonclinical data, Costa, McCrae, and Dye (1991) found the following correlations between self-report NEO PI–R varimax-rotated factors and their respective domain scales: A (.95), N (.91), C (.89), E (.89), and O (.95).

PDQ–4+ factor analysis. Next, principal component analyses with varimax and oblimin rotation were conducted with the 93 PDQ–4+ items. The eigenvalues (and percent variance explained) for the first eight factors were 25.09 (27.0), 6.98 (7.5), 4.38 (4.7), 3.76 (4.0), 2.70 (2.9), 2.27 (2.4), 2.09 (2.2), and 1.81 (1.9), respectively. Parallel analysis revealed that the largest average eigenvalue from the random data sets was 2.80, suggesting that four factors should be retained. Applying the Guadagnoli and Velicer (1988) criteria indicated that three factors should be retained for the varimax solution as well as the oblique solution. The oblique and varimax factors were then correlated and they revealed a clear pattern of convergent (i.e., $r > .97$) and discriminant (i.e., $r < .17$) correlations. Therefore, the varimax solution was used for the PDQ–4+. The three factors explained 39.2% of the variance. Pearson correlations among the individual PD scales and the three factors were the following (Factor 1, 2, and 3, respectively): Antisocial (.87, .20, .03), Narcissistic (.81, .22, .29), Histrionic (.76, .35, .09), Negativistic (.70, .48, .35), Borderline (.65, .52, .34), Dependent (.38, .84, .06), Avoidant (.10, .81, .43), Depressive (.25, .70, .43), Obsessive–Compulsive (.18, .18, .72), Schizoid (.22, .27, .68), Schizotypal (.35, .39, .66), and Paranoid (.50, .35, .63). For ease of discussion, based on item content, we labeled these

three PDQ–4+ factors (1) Antisocial and Narcissistic, (2) Neurotic and Dependent, and (3) Asocial and Mistrusting.

Associations Among the B5M, PDQ–4+, and RCS Factor Scores

Before presenting the joint factor analysis results, it may be beneficial to understand the relationship among the observer-rated B5M, PDQ–4+, and RCS factors. Therefore, Table 3 presents the Pearson correlations among these factor scores. Although a rich discussion could be derived from just these associations, we note only a few observations here. Using the factor scores from our study, the B5M and RCS had two factors with considerable overlap: (a) the B5M A factor and the RCS Aggression, Dominance, and Narcissism factor (r = –.82); and (b) the B5M N factor and the RCS Coping Problems, Vulnerability, and Distress factor (r = .75). Consistent with research that finds N related to many aspects of personality pathology, our observer-rated N factor was associated to some degree with all the RCS factors.

For the B5M and PDQ–4+ PD factor scores, the observer-rated B5M A and N factors showed the strongest associations with PDQ–4+ factors—Antisocial and Narcissistic (r = –.82) and Neurotic and Dependent (r = .70), respectively—followed closely by a negative association between E and the Asocial and Mistrusting factor (r = –.62). Consistent with previous five factor and *DSM* PD research, our B5M factor O had the lowest association with the PDQ–4+ factors (none significant at the $p < .001$ level used for these comparisons).

For the RCS and PDQ–4+ factor scores, the RCS Aggression, Dominance, and Narcissism factor and the Coping Problems, Vulnerability, and Distress factor showed the highest overlap with PDQ–4+ factors—respectively, the Antisocial and Narcissistic factor (r = .69) and Neurotic and Dependent factor (r = .72). Of all the RCS factors, the Emotional and Expressive Constriction factor had the least association with the PDQ–4+ factors (none were significant at the $p < .001$ level).

Across all the associations among the B5M, PDQ–4+, and RCS factors, two personality constructs appeared to be highly shared across the instruments. The first shared construct appears to consist of antisocial and narcissistic traits (B5M A [negative pole]; RCS Aggression, Dominance, and Narcissism; and PDQ–4+ Antisocial and Narcissistic factors). The second shared construct seems to consist of neurosis with the need for others to cope (B5M N; RCS Coping Problems, Vulnerability, and Distress; and PDQ–4+ Neurotic and Dependent factors). The two factors with the least associations with factors from other instruments were the RCS Emotional and Expressive Constriction factor and the B5M O factor. Overall, each instrument's factors had quite unique patterns of associations with the factors from other instruments.

Joint Factor Analysis

Prior to conducting a joint analysis of the RCS, B5M, and PDQ–4+, an equal number of items were selected to identify the factors from each instrument. This insured that the constructs derived from each approach to understanding personality would contribute equally to the joint analysis. To identify items that defined the RCS, B5M, and PDQ–4+ factors, the 10 highest loading items were chosen from each of the 14 factors (i.e., the 6 RCS factors, 5 B5M factors, and 3 PDQ–4+ factors). Principal component analyses with varimax and oblimin rotation were conducted with these 140 items. The eigenvalues (and percent variance explained) for the first eight factors were 34.27 (24.5), 11.18 (8.0), 8.25

TABLE 3
Pearson Correlations Among the B5M, PDQ–4+, and RCS Factor Scores

	B5M					*PDQ–4+*		
	F1–A[a]	*F2–N*	*F3–C*	*F4–E*	*F5–O*	*F1–AN*	*F2–ND*	*F3–AM*
PDQ–4+								
F1—Antisocial & Narcissistic	–.82*	.14	–.26*	.24	–.04	—	—	—
F2—Neurotic & Dependent	.16	.70*	–.41*	–.23	–.15	—	—	—
F3—Asocial & Mistrusting	–.27*	.17	.35*	–.62*	.02	—	—	—
RCS								
F1—Aggression, Dominance, & Narcissism	–.82*	.25*	.04	–.15	–.01	.69*	.04	.47*
F2—Thinking & Perceptual Disturbances	–.28*	.41*	–.30*	–.06	–.21	.40*	.40*	.15
F3—Coping Problems, Vulnerability, & Distress	.01	.75*	–.01	–.40*	–.02	–.01	.72*	.39*
F4—Emotional & Expressive Constriction[b]	.20	–.33*	–.23	–.21	–.14	–.22	–.01	.05
F5—Interpersonal Needs & Dependency	–.07	.35*	–.19	.35*	.26*	.30*	.26*	–.21
F6—Effective Functioning	.11	–.28*	.38*	.13	.35*	–.16	–.43*	.08

Note. N = 182. B5M = Big Five model; PDQ–4+ = Personality Diagnostic Questionnaire–4+; RCS = Rorschach Construct Scale; A = Agreeableness; N = Neuroticism; C = Conscientiousness; E = Extraversion; O = Openness.

[a]Factor score multiplied by –1.0 to reverse the direction of the loadings to be more consistent with the familiar B5M factor name. [b]Factor score multiplied by –1.0 to reverse the direction of the loadings to be consistent with the direction of the item statements.

*$p < .001$.

(5.9), 7.78 (5.6), 4.91 (3.5), 4.11 (2.9), 3.23 (2.3), and 2.98 (2.1), respectively. Parallel analysis revealed that the largest average eigenvalue from the random data sets was 3.37, suggesting that 6 factors should be retained. Applying the Guadagnoli and Velicer (1988) criteria also suggested that 6 factors should be retained in both the varimax and the oblique solution. The oblique and varimax factors were compared and revealed a clear pattern of convergent (i.e., $r > |.96|$) and discriminant (i.e., $r < |.16|$) correlations. Therefore, the varimax solution is reported here. The 6 Joint Model factors explained 50.4% of the variance.

Inspection of the item content suggested that the 6 Joint Model factors were measures of the following: Factor 1 = Self-Centeredly Exploitative, Factor 2 = Poor Ego Resiliency, Factor 3 = Extraversion, Factor 4 = Task Conscientiousness, Factor 5 = Openness to Ideas, and Factor 6 = Emotional and Expressive Constriction. To illustrate these Joint Model factors without presenting the full matrix of 140 item-level loadings,[9] two approaches are used. First, the content of the five highest loading items on each factor is shown in Table 4, along with the name of the instrument and scale from which each item came. This helps the reader see the type of content most strongly associated with each factor. For example, although Factors 3, 4, and 5 in the Joint Model are named identically or similarly to B5M factor names, the content of the factors emphasizes particular B5M facets.

Second, in Table 5 we illustrate the Joint Model factor scores' associations with the B5M factor scores and the domain scales, the PDQ–4+ factor scores, and the RCS factor scores. We show both our B5M factor scores and the regular B5M domain scales to illustrate how each differentially relates to the Joint Model factors. Table 5 indicates that the B5M, PDQ–4+, and RCS each contained factors that strongly contributed ($r > |.80|$) to the first two Joint Model factors (i.e., Self-Centeredly Exploitative and Poor Ego Resiliency). The Joint Model Self-Centeredly Exploitative factor was strongly associated with the B5M A factor (reversed from its regular direction of interpretation); the *DSM–IV* Antisocial and Narcissistic factor; and the Rorschach's Aggression, Dominance, and Narcissism factor. The Joint Model Poor Ego Resiliency factor was strongly associated with the B5M N factor; the *DSM–IV* Neurotic and Dependent factor; and the Rorschach's Coping Problems, Vulnerability, and Distress factor. Finally, the sixth Joint Model factor (Emotional and Expressive Constriction) was defined exclusively by RCS items.

The slightly different nature of some of our observer-rated B5M factors and domain scales can also be seen in Tables 4 and 5. For example, in Table 5, our B5M factor C showed no association with the first Joint Model factor (Self-Centeredly Exploitative) ($r = .01$), although the B5M C domain scale showed a negative association ($r = –.45$). Likewise, the Joint Model factor that we labeled *Task Conscientiousness* had a small negative association with the PDQ–4+ Antisocial and Narcissistic factor ($r = –.26$) and no association with the RCS Aggression, Dominance, and Narcissism factor ($r = .03$). As seen by the top five Joint Model Task Conscientiousness fac-

TABLE 4
Item Content From the Joint Factor Analysis of Observer Ratings of B5M, RCS, and *DSM–IV* PDQ–4+ Constructs

Joint Model Factor Names and Their Five Highest Loading Items

F1. Self-Centeredly Exploitative
1. Gets back at others. (B5M A–Cooperation)
2. Uses others for his own ends. (B5M A–Morality)
3. Doesn't care if others get hurt so long as he gets what he wants. (PDQ–4+ Antisocial)
4. He gets pleasure by having power and control over others. (RCS ADN [Sado-Masochism])
5. Takes advantage of others. (B5M A–Morality)

F2. Poor Ego Resiliency
1. Is often down in the dumps. (B5M N–Depression)
2. Suffers from low self-esteem (PDQ–4+ Avoidant)
3. He feels lonely and has strong wishes for an emotional connection with others. (RCS CPVD [SumT])
4. Dislikes himself. (B5M N–Depression)
5. Feels that he is unable to deal with things. (B5M N–Vulnerability)

F3. Extraversion (reverse-scored factor)
1. Enjoys being part of a group.[a] (B5M E–Gregariousness)
2. Prefers to be alone. (B5M E–Gregariousness)
3. Avoids crowds. (B5M E–Gregariousness)
4. Doesn't like crowded events. (B5M E–Gregariousness)
5. Seeks quiet. (B5M E–Gregariousness)

F4. Task Conscientiousness (reverse-scored factor)
1. Gets to work at once.[a] (B5M C–Self-Discipline)
2. Needs a push to get started. (B5M C–Self-Discipline)
3. Has difficulty starting tasks. (B5M C–Self-Discipline)
4. Starts tasks right away.[a] (B5M C–Self-Discipline)
5. Wastes his time. (B5M C–Self-Discipline)

F5. Openness to Ideas (reverse-scored factor)
1. Is not interested in theoretical discussions. (B5M O–Intellect)
2. Has difficulty understanding abstract ideas. (B5M O–Intellect)
3. Avoids philosophical discussions. (B5M O–Intellect)
4. Is not interested in abstract ideas. (B5M O–Intellect)
5. Enjoys thinking about things.[a] (B5M O–Intellect)

F6. Emotional and Expressive Constriction
1. He has trouble describing his feelings, thoughts, and reactions. (RCS EEC [R & Lambda])
2. He tightly controls the way he experiences feelings. (RCS EEC [FC:CF + C; WSumC])
3. He is guarded and withholds personal feelings, thoughts, and reactions. (RCS EEC [R & Lambda])
4. He tries not to express problematic feelings and ideas. (RCS EEC [R & Lambda])
5. He withdraws from situations that cause strong feelings in him. (RCS EEC [Affective Ratio])

Note. B5M = Big Five model; RCS = Rorschach Construct Scale; *DSM–IV* = *Diagnostic and Statistical Manual of Mental Disorders–IV*; PDQ–4+ = Personality Diagnostic Questionnaire–4+; A = Agreeableness; N = Neuroticism; C = Conscientiousness; E = Extraversion; O = Openness. ADN = Aggression, Dominance, and Narcissism; CPVD = Coping Problems, Vulnerability, and Distress; EEC = Emotional and Expressive Constriction.
[a]Reverse-scored item.

[9]A copy of the B5M, PDQ–4+, and RCS joint factor solution can be obtained from Joni L. Mihura.

TABLE 5
Pearson Correlations Among the Joint Model Factor Scores and the B5M, PDQ–4+, and RCS Factor Scores

	Joint Model Factors					
Personality Measures	*Self-Centeredly Exploitative*	*Poor Ego Resiliency*	*Extraversion*[a]	*Task Conscientiousness*[a]	*Openness to Ideas*[a]	*Emotional & Expressive Constriction*
Big Five Factors and domain scales						
F1–A[a] (A)	–.91* (–.87*)	–.14 (–.06)	–.08 (.23)	–.09 (.14)	–.05 (.21)	–.10 (–.08)
F2–N (N)	–.15 (.38*)	.88* (.77*)	–.02 (–.32*)	.09 (–.09)	–.10 (–.17)	–.21 (.08)
F3–C (C)	.01 (–.45*)	–.12 (–.25*)	–.07 (.05)	.91* (.77*)	.09 (.26*)	–.17 (.06)
F4–E (E)	–.06 (.05)	–.11 (–.36*)	.91* (.76*)	.01 (.18)	–.01 (.28*)	–.14 (.11)
F5–O (O)	–.02 (–.02)	.04 (.03)	.00 (.22)	–.03 (.12)	.87* (.82*)	–.08 (.17)
PDQ–4+ factors						
F1—Antisocial & Narcissistic	.88*	–.01	.19	–.26*	–.08	–.12
F2—Neurotic & Dependent	–.08	.81*	–.15	–.33*	–.21	–.02
F3—Asocial & Mistrusting	.33*	.13	–.69*	.37*	.06	.14
RCS factors						
F1–Aggression, Dominance, & Narcissism	.89*	.12	–.20	.03	–.02	.04
F2—Thinking & Perceptual Disturbance	.42*	.44*	–.01	–.08	–.33*	.29*
F3—Coping Problems, Vulnerability & Distress	.06	.83*	–.36*	.04	–.03	.00
F4—Emotional & Expressive Constriction[b]	–.18	–.13	–.11	–.14	–.04	.87*
F5—Interpersonal Needs and Dependency	.22	.48*	.51*	–.12	.33*	.11
F6—Effective Functioning	–.08	–.25*	.11	.39*	.48*	.03

Note. $N = 182$. B5M = Big Five model; PDQ–4+ = Personality Diagnostic Questionnaire–4+; RCS = Rorschach Construct Scale; A = Agreeableness; N = Neuroticism; C = Conscientiousness; E = Extraversion; O = Openness.

[a]Factor scores were multiplied by –1.0 to reverse the direction of the loadings to be more consistent with the familiar B5M factor names. [b]Factor score multiplied by –1.0 to reverse the direction of the loadings to be consistent with the direction of the RCS item statements.

*$p < .001$.

tor items in Table 4, this observer-rated factor emphasized content from the self-discipline facet. It did not emphasize superego components of conscientiousness but rather a self-motivated task initiative.

DISCUSSION

The revised RCS has a reading level that is accessible to more raters than its predecessor, the original RRS (Meyer et al., 1999), with a Flesch–Kincaid GL of 7.1 versus 12.5, respectively. The RCS reading difficulty is improved and now in the standard writing range, which appears consistent with findings for other instruments. For example, Schinka and Borum (1993, 1994) found that the GL for many popular personality instruments ranges from 3 to 6.5 (e.g., Personality Assessment Inventory; Morey, 1991; NEO PI–R; Costa & McCrae, 1992), whereas the average reading difficulty for the popular Symptom Checklist–90–R (Derogatis, 1977) and the Dissociative Experiences Scale (Bernstein & Putnam, 1986) ranges from the 10th to 12th GL (Beckman & Lueger, 1997; Paolo, Ryan, Dunn, & Van Fleet, 1993). The original RRS and revised RCS contain many fairly complex psychological constructs used in clinical practice (e.g., projective identification, hypomanic denial). Successfully translating these constructs into terminology that would be familiar to and ratable by the layperson, as was done in the RRS revision, makes the new RCS accessible to significantly more raters than the original RRS.

Exploratory factor analysis of observer ratings revealed a six-factor structure for the RCS. These factors appeared to be measures of (1) Aggression, Dominance, and Narcissism; (2) Thinking and Perceptual Disturbances; (3) Coping Problems, Vulnerability, and Distress; (4) Emotional and Expressive Constriction; (5) Interpersonal Needs and Dependency; and (6) Effective Functioning. The first five factors were similar in content to the original RRS factors. However, different item combinations defined the factors. The sixth factors of the RRS and RCS were the most notably different. The original RRS sixth factor had a large representation of items indicating obsessional and intellectual defenses. The RCS sixth factor included some of these items (e.g., Item 49: "He thinks about things carefully and includes a lot of detail"), yet other items indicated a more global construct of ef-

fective functioning. For example, the RCS sixth factor had marker items that assessed introspection, emotional stability, and interpersonal interest.

It is not clear why the RRS and RCS factors were defined by different patterns of item loadings while largely retaining the same content. Most likely, the item revisions were responsible. Although experts rated the revised items as measuring the same constructs as the original RRS items, wording changes in the revisions could have altered the item loadings. It was also possible that some of the factor analytic differences were due to differences in the RRS and RCS samples. However, this hypothesis was not supported by analyses that examined mean differences on the conceptually derived scales listed in Table 2. Most differences were trivial, with the largest indicating that the RCS sample produced scores that were about .40 *SD* units higher on the Formal Thought Disorder scale.

Similar to the original RRS, the RCS showed good item distributions as well as internal reliability for the factor derived and conceptually derived scales. Interestingly, as with the RRS, the RCS factor derived scales included many items that are not associated with the CS. The two factors with the most non-CS items were Aggression, Dominance, and Narcissism (59%) and Interpersonal Needs and Dependency (50%). The non-CS items on these factors largely consisted of object relations constructs with an emphasis on primitive defenses mainly from the Rorschach Defense scales (Cooper, Perry, & Arnow, 1988), Lerner Defense scales (Lerner & Lerner, 1980), and Psychoanalytic Rorschach Profile (Burke, Friedman, & Gorlitz, 1988). The substantial representation of these items on the RCS factor scales suggests potential utility in adding other object relations and primitive defense scores to the CS. Using a variety of non-Rorschach assessment methods, many studies show that interpersonal variables and defenses are related to important psychotherapy process and outcome variables (e.g., Filak, Abeles, & Norquist, 1986; Ogrodniczuk, Piper, Joyce, & McCallum, 2001; Paivio & Bahr, 1998; Perry, 2001). Regarding the Rorschach in particular, various types of Rorschach interpersonal scores are related to treatment variables such as treatment outcome (e.g., Alpher, Henry, & Strupp, 1990; Blatt & Ford, 1994), therapist–client agreement on treatment goals (Bihlar & Carlsson, 2000, 2001), and dropout (Hilsenroth, Handler, Toman, & Padawer, 1995).

To investigate the extent to which Rorschach-derived personality constructs overlapped with B5M and *DSM* PD constructs, we first conducted exploratory factor analyses on the B5M and *DSM–IV* PD (i.e., PDQ–4+) measures prior to a joint factor analysis using items from all three instruments. Our factor analysis of observer-rated B5M items revealed a five-factor structure that was immediately recognizable as the A, N, C, E, and O domains. Meyer et al. (1999), using similar methods to our own, also found a five-factor structure for the B5M. Although these findings need to be replicated with a clinical sample, they support the replicability of the five-factor structure using observer ratings in samples with psychological difficulties.

Our factor analysis of observer ratings of *DSM–IV* PD items revealed a three-factor structure labeled (1) Antisocial and Narcissistic, (2) Neurotic and Dependent, and (3) Asocial and Mistrusting. Our results are congruent with other factor analytic studies of *DSM* PDs that used clinician interviews or clinician ratings of clinical samples (e.g., Bell & Jackson, 1992; Hyler & Lyons, 1988; Kass et al., 1985; Mulder & Joyce, 1997; Parker et al., 2000; see also O'Connor & Dyce, 1998). These studies have found support for a three-factor PD model, with Cluster B receiving the strongest support as a cohesive dimension. Occasionally, Obsessive–Compulsive PD forms a fourth factor, or, as in our study, is not clearly associated with the factor defined by the other PDs in its cluster. In our study, Obsessive–Compulsive PD was most strongly associated with the PDQ–4+ Asocial and Mistrusting factor, whereas the other Cluster C PDs were most strongly associated with the Neurotic and Dependent factor. Finally, in contrast to our study, these previous studies have factor analyzed the PDs, not the individual PD items as was done here.

When an equal number of marker items for the RCS, IPIP B5M, and PDQ–4+ factors were examined together, the resulting Joint Model had a six-factor structure, which we labeled (1) Self-Centeredly Exploitative, (2) Poor Ego Resiliency, (3) Extraversion, (4) Task Conscientiousness, (5) Openness to Ideas, and (6) Emotional and Expressive Constriction. The first two Joint Model factors had very high correlations with factors from the *DSM–IV* PD, B5M, and Rorschach construct measures, suggesting that these three personality perspectives have a high overlap on the constructs of Self-Centeredly Exploitative and Poor Ego Resiliency. The Joint Model Extraversion factor had the highest association with the B5M E factor, followed by a negative association with the PDQ–4+ Asocial and Mistrusting factor and positive association with the RCS Interpersonal Needs and Dependency factor. The Joint Model Task Conscientiousness and Openness to Ideas factors showed the strongest associations with our B5M factor scores (i.e., C and O), although they also had small to moderate associations with factors from our *DSM–IV* PD and Rorschach construct measures.

Finally, the Rorschach construct measure contributed an Emotional and Expressive Constriction factor to the Joint Model that was independent of the B5M and *DSM–IV* PD measures and consisted of RCS (i.e., Rorschach construct) items indicating constricted emotional experiencing as well as constricted verbal and affective expressiveness. Interestingly, Schroeder et al. (1992) found a factor with similar content that had a high loading from their Restricted Expression measure when using factor analysis of self-ratings in a general population sample to jointly examine B5M and *DSM–III–R* PD dimensional constructs (i.e., DAPP–BQ, which has dimensions

that span the PDs as individual entities and is supplemented by personality constructs from the literature).

As with Meyer et al.'s (1999) joint factor analysis of B5M and RRS items, we did not find a separate factor indicative of psychotic processes in our joint analysis. This finding has relevance to the neurotic-borderline-psychotic dimension of personality in psychoanalytic theory (e.g., Kernberg, 1984; McWilliams, 1994) as well as the inclusion of Schizotypal as a *DSM* PD. However, the item content used in our Joint Model was likely insufficient to investigate psychotic-like thinking and perceptions as a personality trait. Our Joint Model analysis contained few items addressing psychotic content—and it is impossible for factors to emerge in an analysis without a sufficient number of suitable marker items. The RCS was the only scale that contributed psychotic items to the Joint Model factor analysis. Specifically, 10 marker items from the RCS Thinking and Perceptual Disturbances factor—five of which assessed overt psychotic symptoms—contributed to the total pool of 140 items in the Joint Model analysis.

Overall, our joint analysis of observer-rated B5M, *DSM–IV* PD, and Rorschach constructs resulted in interesting factors that seem clinically relevant. The Joint Model Self-Centeredly Exploitative factor suggests highly problematic object relations pathology in a person's everyday life as well as a key personality style related to poor treatment alliance and prognosis. On the other hand, a moderate level of Poor Ego Resiliency might indicate that the person is amenable to a variety of psychotherapies, with higher levels indicating a need for more directive and supportive interventions. These first two factors also capture externalizing and internalizing symptoms, respectively. Our Joint Model's Extraversion factor (reverse scored) mainly focused on social isolation and avoidance, which can lead to the development or exacerbation of many psychological disorders. Our Joint Model Task Conscientiousness factor (reverse scored) focused on self-initiative regarding work tasks, which potentially bodes well for a client initiating prescribed therapeutic tasks outside of therapy. Our Joint Model Openness to Ideas factor (reverse scored) may indicate a client's predilection for exploratory therapies that use analogy and metaphor such as psychoanalytically oriented therapies. Finally, high scores on the Emotional and Expressive Constriction factor suggests that the person will have difficulty with emotional and verbal expression in psychotherapy.

Although there are many considerations that make it difficult to compare our study to previous studies, we summarize a few similarities and differences here. Our results are consistent with other studies that suggest (a) in clinical samples or those suspected of pathology, the B5M N and A domains overlap highly with major *DSM* PD and Rorschach personality constructs (e.g., Blais, 1997; Meyer et al., 1999; Trull, 1992), and (b) quasi-psychotic thinking and perceptions and restricted expression are not strongly associated with the B5M (e.g., Lynam & Widiger, 2001; Meyer et al., 1999; Reynolds & Clark, 2001; Schroeder et al., 1992; Trull, 1992).

Contrary to Meyer et al.'s (1999) study with the original RRS, we did not find an RCS obsessive character factor. Because neither the RCS nor the PDQ–4+ included a factor related to obsessive–compulsive traits, we could not draw any conclusions about its relationship to the B5M. Additionally, we did not find a dependency-specific factor with any instrument, which limited direct comparisons with other dependency-B5M findings. However, the relationships in Table 3 among B5M factors and the RCS and PDQ–4+ factors that included dependency (i.e., RCS Interpersonal Needs and Dependency; PDQ–4+ Neurotic and Dependent) were consistent with a meta-analysis that found dependency measures had their strongest association with N ($r = .38$, $N = 4{,}516$) but an unexpectedly small association with A ($r = .08$, $N = 4{,}443$; Bornstein & Cecero, 2000).

When assessing pathological personality traits and the PDs, future clinical studies might use pathological B5M statements such as Haigler and Widiger's (2001) modified NEO PI–R items or Trull et al.'s (1998) structured interview for the Five-factor model, which allows assessment for dysfunctional aspects of these traits. Using self-report measures and a clinical sample, Haigler and Widiger's modified pathology-oriented NEO PI–R showed significantly higher associations between Schizotypal PD and O, Obsessive–Compulsive PD and C, and Dependent PD and A, than with the respective standard NEO PI–R domain scales.

Regarding critiques of our study, the first is our use of nonclinician observer raters. As Westen (1995) suggested, the layperson is unlikely to be as skilled in conceptualizing or understanding personality as trained clinicians. As a simple example, in the case of psychosis, it is unlikely that most people have had sufficient experience observing psychotic-like phenomena to develop the requisite lexicon to describe these characteristics in a differentiated manner. Thus, it would be valuable for future research to compare factor structures for pathology ratings obtained from naïve raters and expert raters. A second study limitation is the absence of clinical information that characterizes the target participants in our sample. This lack of clinical information limits comparison to other samples, particularly in terms of Axis I diagnoses and current or past treatment status.

A third potential limitation for our study concerns the scope of characteristics that could or should be considered indicative of personality. We did not attempt to define personality and include all constructs falling within that definition but rather examined three commonly used approaches to assessing personality. Given this, one could reasonably point out (as a reviewer did) that this leads to some "mismatching" of constructs across approaches. For example, although the Rorschach is considered to be a personality test, the constructs derived from it are not confined to those

found with *DSM* Axis II constructs. Instead, some Rorschach constructs in the RCS more closely parallel *DSM* Axis I disorders or symptoms (e.g., reality testing and thought disorder items). The same is true for some B5M constructs. For instance, IPIP B5M items assessing depression and anxiety correspond more directly to *DSM* Axis I disorders than to Axis II disorders. In this study, we made no effort to ensure that *DSM* Axis I symptomatology was systematically excluded from the RCS and IPIP B5M or, conversely, we made no effort to ensure that Axis I constructs were included in a pool of personality items that reflected *DSM* content.

Finally, we emphasize that our *DSM,* B5M, and Rorschach measures of personality were derived from observer ratings of their predominant constructs, not the formal assessment methods that are typically used to assess these constructs. In formal assessment procedures, the B5M is typically assessed by self-report questionnaires, the *DSM* PDs by clinical interview, and the Rorschach by a performance method. Given the impact of method-specific variance in assessment scores (Meyer, 1996b, 1997; Meyer et al., 2001), it is unlikely that data derived from these different methods would produce the same joint factor structure as was found in our study. Relatedly, the RCS psychometric data and factor-derived scales are relevant to the RCS observer-rating formats, whereas the psychometric data and factor structure for the RCS self-rating format awaits future research.

In conclusion, the RCS is more readable and understandable and affords greater access to more raters than the original RRS (Meyer, 1996a; Meyer et al., 1999). Researchers can use the RCS items and scales for observer-rating criteria. Rorschach instructors can use the RCS statements that correspond to each Rorschach scale to help beginning students understand the constructs. Clinicians might use the RCS statements when developing assessment feedback for their clients. Our joint analysis of observer ratings of B5M, *DSM–IV* PD, and Rorschach constructs resulted in a six-factor model. The first five factors were strongly associated with the B5M A, N, E, C, and O domains, although each factor was somewhat unique in its combination of items from other instruments and/or focus on specific B5M facets. The sixth factor—Emotional and Expressive Constriction—was comprised of Rorschach constructs and was largely independent of the B5M and *DSM–IV* PD constructs. The personality constructs emphasized in these factors appeared to have potential for clinical utility. The replicability of our findings should be explored using clinician raters with a clinical sample.

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APPENDIX
First 187 Items From the Rorschach Construct Scale[10] and the Rorschach Score(s) Each Item Was Designed to Measure

Self-Concept

1. He has a healthy and positive sense of self-confidence. [Egocentricity Index]
2. His view of himself is realistic. It is not made up of imagined or fantasized qualities. [H:(H) + Hd + (Hd) ratio]
3. He feels damaged, flawed, or hurt by life. [Morbid; Aggression-Past: GM–AG]
4. He feels inferior to others. [Egocentricity Index]
5. Even though he may not be aware of it, he is a harsh judge of himself and this leads to painful feelings. [Sum V]
6. At a core level, he feels vulnerable or fragile. [An + Xy]
7. He strives to feel important, unique, or special. He may do this to make up for his inferiority feelings. [Fr + rF]
8. His view of himself is based on fantasy. He thinks that he has either ideal, superhuman traits or devalued, subhuman traits. [H:(H) + Hd + (Hd) ratio; Object Relations-Animation-Quasi-human; PRP]
9. He identifies with fantasy characters from popular culture. They might be from music, movies, books, or sports. They do not have to be "positive" characters. [H:(H) + Hd + (Hd) ratio; Object Relations-Animation-Quasi-human; PRP]
10. He sees himself in black and white terms. This is usually as either all "good" or all "bad." For example, he may quickly change from feeling strong to feeling weak or from feeling important to feeling worthless. [Splitting: LDS or RDS]
11. His sense of himself is rigid and he does not adjust flexibly to the challenges in daily life. [Ego Structure-Boundary: PRP]

Emotional Experiences

12. He is able to notice many nuances and subtle aspects of his feelings. [Lambda; Blends]
13. He can feel anxiety or distress in a way that is healthy and does not overwhelm him. [FY:YF + Y ratio; Factor 4]
14. He is able to have a wide range of emotions. When he has uncomfortable feelings, he is able to keep his thoughts organized and clear. [Factor 4]
15. He does not have strong or sustained emotions. [WSumC]
16. He avoids things that stir up his emotions. [Affective Ratio]
17. He withdraws from situations that cause strong feelings in him. [Affective Ratio]
18. He tightly controls the way he experiences feelings. [FC:CF + C ratio; WSumC]
19. He is spontaneous and free with his emotions. [EB, FC:CF + C ratio; Factor 3]
20. He responds a lot to emotional situations. [Affective Ratio]
21. His feelings shift rapidly and don't affect him deeply. [Impressionistic Response; Gacono]
22. He sometimes reacts with strong feelings that are poorly controlled. [Pure C]
23. He has emotional experiences that he finds confusing. For example, he often has both positive and negative feelings about the same thing. [Color-Shading Blends]
24. He is bothered by distress or irritation that comes from holding in his feelings. [Sum C']
25. He often "bites his tongue" and does not say what he feels. [Sum C']
26. Current stress is making him feel anxious or tense. [Y + m; D score]
27. He feels distant or isolated from others. [Isolation Index]
28. He fears losing control or exploding. [Explosion content]
29. He feels aggressive urges and is anxious about expressing them. [AG]
30. He often feels like acting in an aggressive way with others. [AG]
31. He feels strong anger and likes to imagine destroying the person or thing that made him angry. [Impulses-Oral Aggressive: PRP]

Problem Solving and Coping

32. He is flexible and has many ways of coping with stress. [Complexity Index with EII]
33. He has the internal capacity to cope in some way with the day-to-day events of life. [EA with D score]
34. He has coping strategies that are not easily disrupted by stress. [D score]
35. He is economical in his approach to tasks. It is rare for him to get engrossed or emotionally caught up in an activity. [R with Lambda; Factor 1; Factor 2a]
36. He strives to achieve goals that may exceed his abilities. [W:M ratio]
37. He does not have a consistent coping style. He often shifts strategies, reverses judgments, or cannot reach a firm decision. [EB (ambitent)]

[10]This version of the RCS corresponds to the 5th edition of the Comprehensive System workbook variables (Exner, 2001). There are two extra items in this updated RCS version compared to the original RRS and the RCS items noted in the body of this article. Items 92 and 113 were added. Therefore, the RCS item numbers indicated here are the same for items 1 to 91, have increased by one item number for 93 to 112, and increased by two item numbers for 114 to 187.

38. He oversimplifies things as a basic way of coping. [Lambda]
39. He copes by letting feelings and intuitions guide his actions and decisions. [EB (extratensive)]
40. His way of solving problems is by trial-and-error. [EB (extratensive)]
41. To cope with a problem, he first thinks through the circumstances and then decides from his options. [EB (introversive)]
42. He has frequently traveled to the Antarctic in the last year. [Random responding]
43. When problem solving, he tends to consider a lot of information before he acts or makes a judgment. [Zd]
44. He is alert to his surroundings and tries to integrate lots of information to make sense of things. [Zf]
45. When completing a task, he works hard to organize all of the information. [Zf]
46. He has a chronic problem with being able to cope. [EA; Adjusted D score]
47. He cannot function well right now because of some temporary stress in his life. [D score]

Cognitive Style

48. He often focuses on small or uncommon details. [Dd]
49. He thinks about things carefully and includes a lot of detail. [Zd]
50. He jumps to conclusions with not enough information to go on. [Zd]
51. He thinks about, perceives, and recalls events in a diffuse or vague way. [DQv + DQv/+]
52. His style of thinking is based on global impressions and is lacking in detail. [Impressionistic Response: Gacono; Factor 3]
53. He quickly gets absorbed in experiences. This includes his own feelings and ideas, as well as external events and activities. [Lambda; Blends]
54. His decisions and actions are guided by both feeling and logic. [Total Impulse: PRP; EB (ambitent/nonpervasive)]
55. His feelings do not have much impact on his decisions and judgments. [EB (Introversive)]
56. He understands himself and his surroundings in a basic or simple way. [Lambda]
57. He has problems shifting his attention or seeing things from more than one perspective. [a:p ratio (imbalanced); PSV]
58. He thinks about and understands things in a rigid, inflexible way. [a:p ratio (imbalanced)]
59. He often seems driven to talk about things in great detail. [R with Lambda; Factor 1]
60. He describes events in a very exact and detailed way. [FQ+]

Internal Dynamics and Defensive Operations

61. He has healthy strategies to deal with pain or conflict. That is, he tends to think about his circumstances, assert himself, use humor, or put energy into other activities. [Higher Level Denial; RDS]
62. He tries not to express problematic feelings and ideas. [R with and Lambda; Factor 1]
63. He focuses on abstract ideas to reduce feelings of distress. [Intellectualization Index; Intellectualization: RDS]
64. He relies on logic, facts, and being objective in order to avoid feelings. [Intellectualization Index; Intellectualization: RDS]
65. To reduce feelings of conflict or stress, he comes up with reasons that place how he thinks, feels, or acts in the best possible light. [Rationalization: RDS]
66. He uses socially acceptable reasons to make how he thinks, feels or acts seem more okay. [Rationalization: RDS]
67. To cope with unpleasant ideas, he disconnects his feelings from them. [Isolation: RDS]
68. He tends not to be conscious of the feelings that go with painful or troubling events. However, he is still able to discuss the "facts" related to these events. [Isolation: RDS]
69. To not feel the pain of a troubling experience, he tries to think of it as positive, ideal, or hopeful. [Color Projection; Reaction Formation: RDS]
70. He often puts positive feelings in the place of ones that he finds unpleasant. [Reaction Formation: RDS; Color Projection]
71. To keep a cheerful view of life, he ignores conflict or negative things. As a result, he may "see the world through rose colored glasses." [Pollyanish Denial: RDS]
72. He relies on his fantasies or daydreams for comfort or to keep from dealing with real problems in life. [Ma:Mp ratio]
73. When he is not comfortable with certain thoughts or feelings, he claims to strongly think or feel the exact opposite. [Reaction Formation: RDS]
74. He has specific experiences that he does not want to think about or discuss. [Denial: LDS]
75. When talking about experiences, he leaves out important parts and is not aware that he did. [Denial: LDS]
76. His past, as he tells it to others, has big gaps. This is because he does not recall important events or long periods of his life. [Denial: LDS]
77. He has strong needs to avoid emotional pain. As a result, he is driven to deny things about himself that are not optimal. [Hypomanic Denial: RDS]
78. There are very big gaps in his understanding of himself or other people. These gaps are widespread but they don't seem to bother him [Massive or Bland Denial: RDS]
79. He deals with emotional conflict or stress by splitting up experiences on the basis of how they feel. Although he can be aware of different feelings at different times, he is not able to feel positive and negative emotions at the same time. As a result, he does not see the full picture of himself and others. [Splitting: LDS or RDS]
80. He sees negative things in other people that he does not see in himself. [Projection: RDS]
81. He puts others down in order to feel better about himself. [Depreciation: LDS; Devaluation: RDS]
82. He is able to breathe underwater. [Random responding]
83. He is self-righteous. He acts like an authority on matters as a way to keep from feeling insecure. [PER]
84. He tries to feel aggressive or powerful so he doesn't feel vulnerable. [Aggressive Potential: GM–AG]
85. He likes to think of himself as great, special, or important so he doesn't feel weak or worthless. [Omnipotence: RDS; Fr + rF]

Reality Testing

86. He sees things in an unconventional or unique way. [Xu%]
87. When he is angry he sees people or things much less accurately. [S–]
88. When he has any strong feeling, he sees people or things much less accurately. [X – % to Chromatic Cards]
89. The more he thinks about a situation, the more he comes up with faulty beliefs or a distorted view of things. [M–]
90. He does not see things that seem obvious to others. [Popular]
91. His view of external events is often really distorted. [X – %]
92. Even when he is in an obvious situation, he has a very distorted view of things. [WDA%]
93. He does not understand people in an accurate way. [M–]

Thought Process

94. When he does not have clear structure, his thoughts become illogical or mixed together. [FAB + INC]

95. When he has strong feelings or no clear structure, his thinking is loose, off-target, or flighty. [DR]
96. His thought processes are disrupted. This may be seen in several ways. For example, one idea may be connected to another in a loose or odd way, his reasoning may not be logical, or he may use words in a strange way. [WSum6]
97. Ideas or feelings distract him so much that he is not able to concentrate or relax. [FM + m]
98. He tends to justify what he does or thinks with very concrete and simplistic logic. [ALOG]

Thought Content and Preoccupations

99. Machines, gadgets, or computers interest him a lot. [Object Relations-Animation-Thing: PRP]
100. He admires aggressive people or things that seem strong and powerful. [Aggressive content: GM–AG]
101. He often thinks about food. [Object Relations-Animation-Food: PRP]
102. He often wants someone to care for him and give him lots of attention. [Impulses-Oral Receptive: PRP]
103. He often thinks about his body and physical health. [An + Xy]
104. He often thinks about his bowel function or going to the bathroom. [Impulses-Anal: PRP]
105. Sexual matters are often on his mind. [Sex content]
106. He makes a lot of comments about sex. [Impulses-Phallic: PRP]
107. He focuses on small details related to how people look or behave. [Object Relations-Animation-Human Detail: PRP]
108. His personal needs and experiences are on his mind a lot. [Egocentricity Index]
109. He often thinks or talks about graphic and "primitive" ideas. These ideas may have themes that are aggressive, sexual, needy, sad, or gross. [EII Depressed Content]
110. It is hard for him to keep disturbing thoughts or images out of his mind. [EII Depressed Contents]

Interpersonal Behaviors

111. He has a sturdy ability to relate to others. He feels autonomous and supports the autonomy of others. He notices when other people have different interests and needs than he does. [MOA]
112. He has relationships that are meaningful and stable. [EII Human Response Variable]
113. He has an accurate view of others and his interactions with them. [EII Human Response Variable]
114. He enjoys social interactions. He believes they can be friendly, supportive, and fun. [COP; COP:AG ratio]
115. He is interested in people and very aware of them. [All H content]
116. He passively relies on others to direct him and make him feel secure. [a:p ratio]
117. He generally complies with what others want or with what he believes that they want. [ROD; R; Factor 1]
118. His self-esteem depends on positive input from others. Therefore, he tries to be with people who admire him and make him feel important. [Object Relations-Mutuality: PRP; Fr + rF]
119. He constantly searches for an ideal friend or partner. However, he always ends up disappointed with his relationships. [Idealization: LDS; Primitive Idealization: RDS]
120. He is guarded and withholds personal feelings, thoughts, and reactions. [R with Lambda; Factor 1]
121. He does not seek out others for affection or to be emotionally close. [Sum T]
122. Keeping his independence and personal space is a big concern to him. [S]
123. He finds it hard to make compromises with others. [S; Fr + rF]
124. He tends to oppose others and is contrary or resistant. [S]
125. He often feels like acting in an aggressive way with others. [Item 30, repeated]
126. He often expresses veiled aggression. He does this through sarcasm, gossip, or by common sayings that have an aggressive literal meaning. An example of the latter would be someone who gets angry but jokingly says, "I wanted to bite his head off." [Impulses-Oral Aggressive: PRP]
127. He holds other people responsible for the way he feels. [Projection: RDS]
128. The way he acts toward other people is often the opposite of his real feelings. For example, he may be kind to someone when he really feels angry at them. [Reaction Formation: RDS]
129. He has not slept at all during the past three months. [Random responding]
130. His relationships are not consistent. He goes back and forth between wanting closeness and angrily pushing people away. [Splitting: LDS or RDS]
131. He forms relationships that have a merged quality. He seems to lose touch with other people's unique identity and their own personal motives. [Object Relations-Differentiation: PRP; POR]

Interpersonal Beliefs, Representations, and Expectations

132. He expects to enjoy and be satisfied with his close relationships. [Sum T; COP:AG ratio]
133. He expects that relationships will be mutually satisfying. He believes that each person's needs will be met by the other person. [Object Relations-Mutuality: COP; COP:AG ratio]
134. He sees himself as powerless and weak. He thinks that others are stronger and have more control of how situations turn out. [ROD]
135. He feels inferior to others. [Item 4, repeated]
136. He needs to see others as special, important, or powerful. [Idealization: LDS; Primitive Idealization: RDS]
137. He tends to put people on a pedestal. He magnifies their positive qualities and does not notice the negatives. [Idealization: LDS; Primitive Idealization: RDS]
138. He is self-absorbed. He uses others mainly as a source of attention or admiration. [POR]
139. He expects to be treated as special or privileged. [Omnipotence: RDS; Fr + rF]
140. He sees relationships as needy and dependent. He believes that both parties lack the ability to stand on their own two feet. [MOA]
141. He is tuned in to potential danger around him. He believes that interactions with others are full of conflict. [AG]
142. On some level, he thinks that he will lose himself in relationships and that they will end up being destructive. [POR; MOA]
143. He sees relationships as harmful, cruel, and destructive. [POR; MOA]
144. He has a one-sided view of other people. He sees the negative, but not the positive in them. [Depreciation: LDS; Devaluation: RDS]
145. He looks down on other people and views them with contempt and disdain. [Depreciation: LDS; Devaluation: RDS]
146. He thinks of other people in terms of the functions that they provide to him. [Object Relations-Animation-Human Detail: PRP]
147. He tends to view people in unrealistic ways. He sees them based on his imagination or fantasy. This is in contrast to a complex understanding of their actual qualities. [H:(H) + Hd + (Hd) ratio]
148. He sees others in black and white terms. This is usually as either all "good" or all "bad." For example, he may quickly change from seeing them as strong to weak or from important to worthless. [Splitting: LDS or RDS]
149. He relates to other people on the basis of how well they can meet his needs. Others are seen as either totally satisfying or totally frustrating. [Splitting: LDS or RDS]

150. In important relationships he thinks that one party will have most of the power and control. [Object Relations-Mutuality: PRP]

Interpersonal Experiences and Feelings

151. He feels free to interact closely with others. He can do so without fear that he will lose his identity or that others will be too intrusive. [Object Relations-Differentiation: PRP]
152. He loses a clear sense of his identity when he starts to get close to others. [POR]
153. He lacks a clear sense of psychological boundaries. He experiences his thoughts and feelings as obvious to others and subject to their control. [Ego Structure-Boundary: PRP]
154. He has a hard time separating how he is feeling from how others are feeling. Without knowing it, he gets others to experience feelings he is not comfortable with. He then believes they have caused him to feel the way he does. [Projective Identification: LDS or RDS]
155. He feels like he is controlled by others or like he needs to control them. [POR; MOA]
156. He has a desire for close and intimate relationships. [Sum T]
157. He has strong needs for support and nurturance. [Food]
158. He often seeks out guidance, approval, and support from other people. [ROD]
159. He feels lonely and has strong wishes for an emotional connection with others. [Sum T]
160. He feels distant or isolated from others. [Item 27, repeated]
161. He feels that he has been attacked, criticized, or hurt. [Aggression-Past: GM–AG]
162. He gets pleasure out of the suffering of others. [Sadomasochistic response: GM–AG]
163. He gets pleasure by having power and control over others. [Sadomasochistic response: GM–AG]
164. He does not communicate many of his feelings in words, but instead, stirs up those feelings in others. [Projective Identification: LDS or RDS]
165. When others are with him, they find themselves with feelings that are unusual and do not seem to be their own. [Projective Identification: LDS or RDS]

Other Personality Characteristics

166. His thoughts and emotions are rich and varied. (However, they may not be adaptive or realistic.) [Factor 1; R with Lambda; Complexity Index]
167. He is resilient. He knows that even when upset he will regain his emotional stability. [Ego Structure-Stability: PRP]
168. He can mentally take a step back to get perspective on his experience. [FD]
169. He tries to understand himself by looking inside. [FD]
170. He is concerned with how others view him and so he often monitors his actions. [FD]
171. He tends to get anxious and fearful when he has to function on his own. This is especially true when others will evaluate him. [ROD]
172. He has never felt anger at any time in his life. [Random responding]
173. The way he thinks or acts is very conventional. [Popular]
174. He has trouble describing his feelings, thoughts, and reactions. [R with Lambda; Factor 1]
175. He has an energetic style in relating to other people or his work. However, he does not get deeply engaged in these interactions or tasks. [Factor 2]
176. He is the type of person whose style of thinking is based on global impressions. He is very affected by emotions and acts in a spontaneous or dramatic way. [Factor 3]
177. He has strong emotions that color how he views events, himself, and the world. [EB (Extratensive)]
178. He relies on logic, facts, and being objective in order to avoid feelings. [Item 64, repeated]
179. He has the sense that he is "falling apart" when he feels emotionally distressed. [Ego Structure-Stability: PRP]
180. He makes spur-of-the-moment decisions based on his feelings. [Total Impulse: PRP]
181. Internal pressure and stress make him act in an impulsive way. [D score]
182. He quickly reacts when he feels any sense of irritation or need. [FM]
183. He is focused on being nurtured. He might show this by an interest in food, a love of toys or other childhood things, or being passive and dependent in relationships. [Impulses-Oral Receptive; PRP]
184. He has a lot of psychological problems. [EII]
185. He feels anxious when things are disordered, messy, or unclean. [Impulses-Anal: PRP]
186. His sexual interest is expressed in an indirect way. It might be shown by a keen focus on physical attractiveness, a need to be admired, or showing off. [Impulses-Phallic: PRP]
187. He relies on his fantasies or daydreams for comfort or to keep from dealing with real problems in life. [Item 72, repeated]

The bracketed variables with each RCS item refer to Comprehensive System (CS) variables unless otherwise noted. Non-CS variables are GM–AG = Gacono and Meloy's Extended Aggression Scores; LDS = Lerner and Lerner's (1980) Defense scales; MOA = Urist's Mutuality of Autonomy Scale; POR = Kwawer's Primitive Object Relations Scale; PRP = Burke, Friedman, and Gorlitz's (1988) Psychoanalytic Rorschach Profile; ROD = Masling and Bornstein's Oral Dependence Scale; and RDS = Cooper, Perry, and Arnow's (1988) Rorschach Defense Scales.

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