
Construct Validity of the Rorschach Oral Dependency (ROD) Scale: Relationship of ROD Scores to WAIS-R Scores in a Psychiatric Inpatient Sample



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Three-hundred and two psychiatric inpatients (166 women and 136 men) completed Masling, Rabie, and Blondheim's Rorschach Oral Dependency (ROD) Scale and the Wechsler Adult Intelligence Scale Revised (WAIS-R). As predicted, ROD scale scores were unrelated to WAIS-R scores in subjects of either sex. These findings support the discriminant validity of the ROD scale as a measure of interpersonal dependency, and suggest that deficits in intellectual ability do not underlie the dependency-related behaviors (e.g., suggestibility, conformity, interpersonal yielding) that are associated with high scores on the ROD scale. Implications of these findings for research on the dependency-academic performance relationship are discussed, and suggestions for future studies assessing the convergent and discriminant validity of the ROD scale are offered. © 1997 John Wiley & Sons, Inc.

Masling, Rabie, and Blondheim's (1967) Rorschach Oral Dependency (ROD) scale has been used in more than 50 published studies since the late 1960s (Bornstein, 1992; Masling, 1986), including numerous investigations involving clinical (i.e., psychiatric inpatient and outpatient) subjects. A comprehensive review of research on the etiology, correlates, and consequences of

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dependent personality traits in children, adolescents, and adults revealed that the ROD scale has been the most widely-used projective measure of dependency during the past 50 years (Bornstein, 1993). In fact, more than 70% of all published studies involving projective dependency tests have utilized the ROD scale (Bornstein, 1995).

Given the frequency with which ROD scores have been used to assess level of dependency in clinical and nonclinical subjects, it is not surprising that a number of investigations have assessed the construct validity of the ROD scale as a measure of interpersonal dependency. These studies have demonstrated that ROD scale scores show good retest reliability over 16-, 28-, and 60-week intertest intervals (Bornstein, Rossner, & Hill, 1994), and that ROD scores show adequate internal reliability ($\alpha = .62$; Bornstein, Hill, Robinson, Calabrese & Bowers, 1996). The convergent validity of the ROD scale has been supported by studies which demonstrate that ROD scores are positively correlated with scores on other self-report and projective measures of dependency (Bornstein, Manning, Krukonis, Rossner, & Mastro Simone, 1993; Masling et al., 1967); predict subjects' dependency-related behaviors in laboratory (Masling, Weiss, & Rothschild, 1968; Shilkret & Masling, 1981), clinical (Greenberg & Bornstein, 1989; O'Neill & Bornstein, 1990) and field settings (Bornstein & Kennedy, 1994; Masling, O'Neill, & Jayne, 1981); and are positively correlated with scores on measures that are theoretically (but indirectly) related to dependency (e.g., insecure attachment, anaclitic depression, sensitivity to interpersonal cues; see Duberstein & Talbot, 1993; Masling, Schiffner, & Shenfeld, 1980; O'Neill & Bornstein, 1991).

As is true for most psychological tests, researchers have devoted much more attention to convergent validity issues than to concerns regarding the discriminant validity of the ROD scale. To date, only five investigations have assessed the discriminant validity of the ROD scale. These studies have generally produced encouraging results. For example, Bornstein and Kennedy (1994) found that ROD scores were unrelated to Scholastic Aptitude Test (SAT) scores in members of a mixed-sex college student sample, while Gordon and Tegtemeyer (1983) found that ROD scores were unrelated to Weschler Intelligence Scale for Children-Revised (WISC-R) IQ scores and to locus of control scores in a mixed-sex sample of child subjects. Along slightly different lines, Kertzman (1980) found no relationship between ROD scores and socioeconomic status in a mixed-sex sample of adults, while Bornstein, Bowers, and Bonner (1996) found that ROD scores were unrelated to scores on the Bem (1974) Sex Role Inventory (BSRI) in a mixed-sex sample of college students. Finally, Bornstein et al. (1994) found that ROD scores were unaffected by the number and severity of stressful life events—including interpersonal life events—experienced by college student subjects during 16-, 28-, and 60-week intertest intervals.

Given the relative lack of attention that has been paid to assessing the discriminant validity of the ROD scale, coupled with researchers' frequent use of the ROD scale as a measure of dependency in clinical and nonclinical subjects, further research in this area is clearly warranted. The purpose of this study was to assess one important—and heretofore unexplored—aspect of the discriminant validity of the ROD scale: the relationship of ROD scores to level of intelligence in adults. To investigate this issue, we examined the relationship between ROD scores and Weschler Adult Intelligence Scale-Revised (WAIS-R) scores in a large, mixed-sex sample of psychiatric inpatients. Based on Gordon and Tegtemeyer's (1983) finding that ROD scores were unrelated to WISC-R scores in child subjects, and on the mixed and inconclusive results that have emerged in studies of the relationship between level of dependency and subjects' scores on measures of creativity, concept formation, divergent thinking, and problem-solving ability (Blatt, Allison, & Fierstein, 1969; Holt, 1966; Von Holt, Sengstake, Senada, & Draper, 1960), we hypothesized that ROD scores would be unrelated to WAIS-R scores in our mixed-sex sample of psychiatric inpatient subjects.

METHOD

Subjects

Subjects were 302 psychiatric inpatients (166 women and 136 men) referred to the Psychology Service for psychological testing. All patients were voluntary admissions to the psychiatric unit of a large university hospital. All patients who were administered the WAIS-R and Rorschach Inkblot Test during the time in which data collection was taking place were screened for inclusion in the sample. Only patients who produced unscorable WAIS-R or Rorschach data, or who showed significant neurological/organic involvement, were excluded from the study. Patients in the final sample ranged in age from 16 to 69 years, with a mean age of 31.44 ($SD = 11.10$).

Procedure

ROD scores were derived from Rorschach protocols that were administered to each patient following the patient's admission to the psychiatric unit. All Rorschach protocols were collected by psychology interns or doctoral level members of the Psychology Department staff. Clinicians who collected Rorschach data were blind to the purposes of the study at the time that these data were collected.

ROD scoring followed Masling et al.'s (1967) system (see also Masling, 1986). In this scoring system, subjects receive one point for each oral dependent Rorschach response. The number of oral responses in a subject's Rorschach protocol is then divided by the total number of responses in that protocol (i.e., R), to control for response productivity (Bornstein, 1993; Masling, 1986). A detailed scoring manual provided by Masling (1986) included the following categories: food and drinks; food sources; food objects; food providers; passive food receivers; begging and praying; food organs; oral instruments; nurturers; gifts and gift-givers; good luck symbols; oral activity; passivity and helplessness; pregnancy and reproductive anatomy; "baby talk" responses; and negations of oral dependent percepts (e.g., "not pregnant," "man with no mouth").

All 302 Rorschach protocols were scored for oral dependent content by the second author. Reliability in ROD scoring was determined by having the first author, blind to all information regarding individual subjects, rescore a sample of 20 Rorschach protocols containing a total of 419 responses. The two raters agreed on the scoring of 409 responses (98%). A Pearson correlation coefficient calculated between the two sets of scores was .98. These reliability coefficients are comparable to those reported in previous studies involving the ROD scale (e.g., Bornstein et al., 1993, 1994, to appear; O'Neill & Bornstein, 1990, 1991).

WAIS-R data were collected by psychology interns or doctoral level members of the Psychology Department staff, all of whom were blind to the purposes of this study at the time that WAIS-R data were collected. WAIS-R protocols were scored in the standard manner, and age-corrected Verbal, Performance and Full-scale IQs were then calculated for each subject.

RESULTS

Mean ROD score obtained by women in our sample was 2.23 ($SD = 2.11$), whereas the mean ROD score obtained by men was 2.46 ($SD = 2.14$). A t -test comparing the mean ROD scores obtained by men and women confirmed that these scores did not differ, $t(300) = 0.78$, ns. Similarly, women and men in our sample did not differ with respect to Verbal IQ ($M = 104.97$, $SD = 14.49$ for men and $M = 100.33$, $SD = 14.00$ for women), Performance IQ ($M = 101.00$, $SD = 14.71$ for men and $M = 97.33$, $SD = 13.38$ for women), or Full-scale IQ ($M = 102.58$, $SD = 14.10$ for men and $M = 98.89$, $SD = 13.51$ for women). All t 's were less than 1.20 in these comparisons (all p 's $> .40$).

Table 1. Relationship of ROD Scale Scores to WAIS-R Scores

WAIS-R Score	Correlation With ROD Scale Score	
	Women (<i>n</i> = 166)	Men (<i>n</i> = 136)
Verbal Subscales:		
Information	.10	.15
Digit Span	.12	.20*
Vocabulary	.21*	.21*
Arithmetic	.01	.17
Comprehension	.18*	.05
Similarities	.10	.21*
Performance Subscales:		
Picture Completion	.14	-.12
Picture Arrangement	.12	.04
Block Design	.10	.10
Object Assembly	.07	.06
Digit Symbol	-.10	-.01
Age-Corrected IQ Scores:		
Verbal IQ	.14	.14
Performance IQ	.05	.04
Full Scale IQ	.11	.12

Note.—**p* < .05.

The central results of this study are summarized in Table 1. This table lists Pearson correlation coefficients assessing the relationships between ROD scores and WAIS-R subscale and whole-scale scores in men and women. As Table 1 shows, ROD scores generally showed only small correlations with WAIS-R subscale scores in subjects of both sexes (*r*'s ranged from $-.10$ to $.21$ in women and from $-.12$ to $.21$ in men). Moreover, the majority of these correlations (i.e., 9 out of 11 correlations in women and 8 out of 11 correlations in men) were nonsignificant. The mean ROD score–WAIS-R subscale correlation was $.09$ in women and $.10$ in men.

Similar findings were obtained when the relationships between ROD scores and WAIS-R Verbal, Performance, and Full-scale IQ scores were examined. As Table 1 shows, ROD scores were unrelated to IQ scores in women (*r*'s ranged from $.05$ to $.14$) and in men (*r*'s ranged from $.04$ to $.14$). These results suggest that WAIS-R scores can account for—at most—about 2% of the variance in ROD scores in psychiatric inpatient subjects.

DISCUSSION AND CONCLUSIONS

The present findings support the construct validity of Masling et al.'s (1967) ROD scale as a measure of interpersonal dependency, and represent the first published findings demonstrating that ROD scores are unrelated to IQ score in adults (see Gordon and Tegtemeyer [1983] for information regarding the ROD score—IQ score relationship in children). Our results, therefore, provide important data regarding the discriminant validity of ROD scale scores and indicate that differences in intellectual ability cannot account for observed differences in ROD scores in adults. This finding is particularly important because a number of traits and behaviors that are associated with high ROD scores in laboratory, clinical, and field settings (e.g., sug-

gestibility, help-seeking, conformity, compliance, interpersonal yielding) could potentially be attributed to lower intellectual ability in dependent than nondependent subjects (see Bornstein [1993] for a detailed discussion of this issue). The present results indicate, however, that differences in dependent and nondependent subjects' performance in these (and other) areas cannot be due to differential intellectual ability in these two groups of subjects.

Our findings also help to explain why studies of the dependency–academic performance relationship have tended to produce inconsistent, inconclusive results. To date, there have been four published studies in this area. While Lao (1980) and Tesser and Blusciewicz (1987) both found that dependent high school students showed poorer academic performance than matched nondependent students, Bornstein and Kennedy (1994) obtained precisely the opposite results, finding that dependent high school students actually showed better academic performance than nondependent students with similar socioeconomic and educational backgrounds. Moreover, Sansanwal, Jariel, and Dandel (1982) found no relationship whatsoever between level of dependency and academic performance in a large sample of female junior high school students.

Although differences in the results obtained in these four investigations may be due in part to the different dependency measures used in different studies in this area (Bornstein & Kennedy, 1994), the inconsistent findings obtained in studies of the dependency–academic performance relationship may also reflect that fact that—contrary to the hypotheses of Lao (1980), Sansanwal et al. (1982) and others—dependent and nondependent subjects do not differ with respect to overall academic ability. In fact, it appears that a primary determinant of the academic performance of the dependent high school student is his or her relationship with parents and teachers (Bornstein, 1993). Specifically, to the extent that a dependent student is highly motivated to please parents and teachers by performing well academically, he or she is likely to work particularly hard on school-related tasks. However, to the extent that a dependent student believes that a useful way to strengthen ties to parents and teachers is to perform poorly in the academic arena, he or she is likely to engage in behaviors that undermine his or her performance in this area (Bornstein & Kennedy, 1994).

Findings regarding the dependency–academic performance relationship notwithstanding, it is clear that additional research assessing the convergent and discriminant validity of the ROD scale is needed. With respect to convergent validity issues, two important concerns remain unaddressed. First, greater attention must be paid to the predictive validity of ROD scale scores. Most convergent validity studies involving the ROD scale have utilized experimental designs wherein subjects' ROD scores and their dependency-related behaviors were assessed concurrently, and very few studies in this area have used ROD scores to predict some aspect of dependency-related behavior assessed at a future date (cf, Greenberg & Bornstein, 1989).

Second, no studies have assessed the relationship between ROD scores and dependent personality disorder (DPD) symptoms and diagnoses (American Psychiatric Association, 1994). Thus far, studies of the ROD scale–psychopathology relationships have been limited to the study of Axis I disorders (Bornstein, 1992, 1993). Given clinicians and researchers' interest in the dependency-related dynamics associated with various Axis II disorders (Millon, 1981), research in this area will not only provide information regarding the construct validity of the ROD scale, but may also provide information regarding the role that underlying dependency needs may play in the dynamics of various forms of Axis II psychopathology.

With respect to discriminant validity issues, researchers must examine more fully the relationship of ROD scale scores to scores on tests which tap dimensions of functioning that are theoretically unrelated to dependency (e.g., obsessiveness, impulsivity, paranoia). To the extent that researchers are able to demonstrate that no relationships exist between ROD scores and scores on measures of these traits, the discriminant validity of the ROD scale will be more firmly established. Along slightly different lines, studies assessing the links between subjects' mood states and their scores on the ROD scale would be very useful. Because the ROD scale is

intended to assess trait (rather than state) dependency, it is important to demonstrate that situational variables (e.g., subjects' mood states, the manner in which the test is presented to the subjects) are unrelated to ROD scores. Although studies of the retest reliability of ROD scores have provided preliminary information regarding this issue (see Bornstein et al., 1994), continued research assessing the effects of situational variables on subjects' ROD scores will provide important discriminant validity data for this important, widely-used personality measure.

REFERENCES

- AMERICAN PSYCHIATRIC ASSOCIATION. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- BEM, S. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*, 155–162.
- BLATT, S.J., ALLISON, J., & FEIRSTEIN, A. (1969). The capacity to cope with cognitive complexity. *Journal of Personality, 37*, 269–288.
- BORNSTEIN, R.F. (1992). The dependent personality: Developmental, social and clinical perspectives. *Psychological Bulletin, 112*, 3–23.
- BORNSTEIN, R.F. (1993). *The dependent personality*. New York: Guilford Press.
- BORNSTEIN, R.F. (1995). Sex differences in objective and projective dependency tests: A meta-analytic review. *Assessment, 2*, 319–331.
- BORNSTEIN, R.F., BOWERS, K.S., & BONNER, S. (1996). Relationships of objective and projective dependency scores to sex role orientation in college students. *Journal of Personality Assessment, 66*, 555–568.
- BORNSTEIN, R.F., HILL, E.R., ROBINSON, K.J., CALABRESE, C., & BOWERS, K.S. (1996). Internal reliability of Rorschach Oral Dependency Scale scores. *Educational and Psychological Measurement, 56*, 145–153.
- BORNSTEIN, R.F., & KENNEDY, T.D. (1994). Interpersonal dependency and academic performance. *Journal of Personality Disorders, 8*, 240–248.
- BORNSTEIN, R.F., MANNING, K.A., KRUKONIS, A.B., ROSSNER, S.C., & MASTROSIMONE, C.C. (1993). Sex differences in dependency: A comparison of objective and projective measures. *Journal of Personality Assessment, 61*, 169–181.
- BORNSTEIN, R.F., ROSSNER, S.C., & HILL, E.L. (1994). Retest reliability of scores on objective and projective measures of dependency: Relationship to life events and intertest interval. *Journal of Personality Assessment, 62*, 398–415.
- DUBERSTEIN, P.R., & TALBOT, N.L. (1993). Rorschach oral imagery, attachment style, and interpersonal relatedness. *Journal of Personality Assessment, 61*, 294–310.
- GORDON, M., & TEGTEMEYER, P.F. (1983). Oral dependent content in children's Rorschach protocols. *Perceptual and Motor Skills, 57*, 1163–1168.
- GREENBERG, R.P., & BORNSTEIN, R.F. (1989). Length of psychiatric hospitalization and oral dependency. *Journal of Personality Disorders, 3*, 199–204.
- HOLT, R.R. (1966). Measuring libidinal and aggressive motives and their controls by means of the Rorschach test. In D. Levine (Ed.), *Nebraska symposium on motivation*. (Vol. 14, pp. 1–47). Lincoln, NE: University of Nebraska Press.
- KERTZMAN, D. (1980). *Dependency, frustration tolerance and impulse control in child abusers*. Saratoga, CA: Century Twenty-One.
- LAO, R.C. (1980). Differential factors affecting male and female academic performance in high school. *Journal of Psychology, 104*, 119–127.
- MASLING, J.M. (1986). Orality, pathology and interpersonal behavior. In J. Masling (Ed.), *Empirical studies of psychoanalytic theories*. (Vol. 2, pp. 73–106). Hillsdale, NJ: Erlbaum.

- MASLING, J.M., O'NEILL, R.M., & JAYNE, C. (1981). Orality and latency of volunteering to serve as experimental subjects. *Journal of Personality Assessment*, 45, 20–22.
- MASLING, J.M., RABIE, L., & BLONDHEIM, S.H. (1967). Obesity, level of aspiration, and Rorschach and TAT measures of oral dependence. *Journal of Consulting Psychology*, 31, 233–239.
- MASLING, J.M., SCHIFFNER, J., & SHENFELD, M. (1980). Client perception of the therapist, orality, and sex of client and therapist. *Journal of Counseling Psychology*, 27, 294–298.
- MASLING, J.M., WEISS, L.R., & ROTHCHILD, B. (1968). Relationships of oral imagery to yielding behavior and birth order. *Journal of Consulting and Clinical Psychology*, 32, 89–91.
- MILLON, T. (1981). *Disorders of personality*. New York: Wiley.
- O'NEILL, R.M., & BORNSTEIN, R.F. (1990). Oral dependence and gender: Factors in help-seeking response set and self-reported psychopathology in psychiatric inpatients. *Journal of Personality Assessment*, 55, 28–40.
- O'NEILL, R.M., & BORNSTEIN, R.F. (1991). Orality and depression in psychiatric inpatients. *Journal of Personality Disorders*, 5, 1–7.
- SANSANWAL, D.N., JARIAL, D.S., & DANDEL, R. (1982). An experimental study of the effect of dependency and adjustment on the achievement of students studying through programmed learning material using different response modes. *Indian Educational Review*, 17, 140–146.
- SHILKRET, C.J., & MASLING, J.M. (1981). Oral dependence and dependent behavior. *Journal of Personality Assessment*, 45, 125–129.
- TESSER, A., & BLUSIEWICZ, C.O. (1987). Dependency conflict and underachievement. *Journal of Social and Clinical Psychology*, 5, 378–390.
- VON HOLT, H.W., SENGSTAKE, C.B., SANADA, B.C., & DRAPER, W.A. (1960). Orality, image fusion, and concept formation. *Journal of Projective Techniques*, 24, 194–198.