TEST REVIEW:
The NEO PI-R
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1. Title: Neuroticism Extraversion Openness Personality Inventory- Revised (NEO PI-R).

2. Authors: Paul T. Costa, Jr., Ph.D. and Robert R. McCrae, Ph.D.

3. Publisher: Psychological Assessment Resources, P.O. Box 998, Odessa, FL 33556-0998. Phone: 1-800-331-8378.

4. Forms: groups to which applicable: There are two forms, which is the self-report version and Form R, which is the rating version of the instrument. Form R questions are identical to Form S except that the items are written in the third person. The instrument is written at the 6th grade reading level overall and is appropriate for use with older adolescents through adults (ages 16+). There is also available a 60-item 'short form', the NEO Five Factor Inventory (NEO FFI), which provides scores for just the five major personality dimensions.

5. Practical features: The NEO PI-R is available in easy to use hand scoring format. Hand scoring answer sheets are two layers, with responses made on the top page being copied to the scoring form underneath. Scoring is merely the summation of responses to items and standard scores can be readily obtained from information presented in the manual.

6. General Type: The NEO PI-R is a general measure of personality based on the five-factor model of personality.


8. Cost: booklets, answer sheets: Form S and Form R reusable booklets are available in packages of 10 at a cost of $25.00 per. Hand scoring answer sheets are available for $21.00 per package of 25. Ancillary materials include Adult (Forms S and R) and College Student Profile forms ($21.00 per package of 25), and summary feedback forms for clients at $15.00 per package of 25.

9. Scoring services available and cost: A professional Report Service is available from PAR. To use, examiners must purchase special computer scorable answer sheets. Packages of ten are available at $79.00 (a bulk discount is available). Individual users can purchase the scoring software for personal use. The cost for the unlimited use NEO Software System is $495.00. This computer program provides an 8-10 page report covering a wide range of functioning. Also available is a three-page report that can be given to the client. Another advantage of the scoring program is that it will allow the user to compare a self-report with an observer rating simultaneously. This can be very helpful in clinical work with couples.
10. Time required: It takes approximately 20-40 minutes for individuals to answer all the items.

11. Purpose for which evaluated: For use in a community counseling context for adults and adolescents.

12. Description of test, items, and scoring: The NEO PI-R contains 240 items that are answered on a five-point Likert scale ranging from strongly agree (1) to strongly disagree (5). Scales are balanced to control for the effects of acquiescence. Items are clearly laid out in the test booklet and the answer sheet is sufficiently spacious to allow for easy recording of responses. Hand scoring is quickly performed by tearing off the top layer of the answer sheet and summing scoring across rows to find total raw scores for each of the 30 facet scales. Standard scores are readily obtained from the information presented in the manual.

13. Authors' purpose and basis for selecting items: The NEO PI-R is a measure designed to capture the dimensions of the five-factor model of personality. Items were selected on the basis of capturing those personological qualities putatively assumed to underlie each of the domains. Factor analyses were performed on multiple samples to determine the factorial validity of the instrument. Items were retained that loaded in the appropriate factor space and evidenced appropriate patterns of convergent and discriminant validity.

14. Adequacy of directions; training required to administer: The NEO PI-R can be easily administered to individuals. The instructions are quite clear and self-explanatory. No particular training is required to present the instrument to subjects. Hand scoring, as noted above, is quite easy and requires no special talents other than basic arithmetic ability. The NEO PI-R is classified by the publisher as a Level B instrument, requiring of the user at least a B.A. degree in Psychology or Counseling and relevant training or coursework in the interpretation of psychological tests and measurement at an accredited college or university.

15. Mental functions or traits represented in each score: The NEO PI-R measures the five major dimensions of personality: Neuroticism—the tendency to experience negative emotions, such as anxiety, depression; and hostility; Extraversion—the quantity and intensity of one's interpersonal interactions; Openness to Experience—the proactive seeking and appreciation of new experiences; Agreeableness—the quality of one's interpersonal interactions along a continuum from compassion to antagonism; and, Conscientiousness—the persistence, organization, and motivation exhibited in goal directed behaviors. These domains are mutually orthogonal. Each of these domains is comprised of six facet scales that are designed to capture more specific, and nonoverlapping, aspects of the broader construct. Neuroticism is comprised of Anxiety, Hostility, Depression, Self-Consciousness, Impulsiveness, and Vulnerability to Stress. Extraversion contains the facets of Warmth, Gregariousness, Assertiveness, Activity, Excitement Seeking, and Positive Emotions. Openness to Experience contains Fantasy, Aesthetics, Feelings, Actions, Ideas, and Values. Agreeableness comprises the facets of Trust, Straightforwardness, Altruism, Compliance, Modesty, and Tendermindedness.
Finally, Conscientiousness contains the facets of Competence, Order, Dutifulness, Achievement Striving, Self-Discipline, and Deliberation.

16. Comments regarding design of test: The NEO PI-R is well designed, permitting individuals to easily understand and respond to the questions presented. Hand scoring is noncomplex and computer programs for scoring are easily obtainable. The qualities assessed by the NEO PI-R are at the center of personality psychology. The five-factor model has emerged as being an important development in the study of individual differences. These constructs have been shown to be quite robust empirically and have impressive validity. The field of personality assessment is moving rapidly towards the five-factor model as the conceptual framework for most assessment needs. This instrument is the only commercially available tool explicitly designed to capture the dimensions of the five-factor model.

17. Validation against criteria: Numerous studies have evaluated the ability of the NEO PI-R to predict important life outcomes. Piedmont and Weinstein (1994), using a sample of 219 individuals employed in a wide range of occupations, found (low) Neuroticism, (high) Extraversion, and (high) Conscientiousness to be significant predictors of job performance, as rated by immediate supervisors. Piedmont (1993) showed that (high) Neuroticism and (low) Conscientiousness were able to predict longitudinally levels of job burnout in a sample of 42 Occupational Therapists. Miller (1991) demonstrated that levels of Neuroticism, Extraversion, and Conscientiousness were significantly related to psychotherapy outcome. Levels of (low) Agreeableness have been linked longitudinally to coronary heart disease (Dembroski & Costa, 1987).

18. Evidence of construct validity: The dimensions of the NEO-PI-R have been found to emerge over different types of factoring methods and types of samples (Costa, 1996; McCrae, Zonderman, Costa, Bond, & Paunonen, 1996); over self-reports and observer ratings (McCrae 1994; Peidmont, 1994); and even cross-culturally (e.g., Spanish, Korean, Hebrew, Chinese, and German; see McCrae and Costa, 1997 for a review of cross-cultural data). Sufficient data exists documenting the convergent and discriminant validity of the facets themselves, documenting their utility as useful and nonredundant measures of personality (Costa, 1996; Peidmont & Weinstein, 1994; Costa, McCrae, & Dye, 1991). The clinical value of this measure has also been documented. Information from the NEO PI-R has been shown relevant to anticipating psychotherapeutic outcome (Miller, 1991) and for understanding the Axis II personality disorders (Trull, 1992). Costa and McCrae (1992a) outline several strategies for using the NEO in a clinical context.

19. Fairness: There are differences in scores over the five personality factors between men and women as well as between adolescent/young adult and mature adult (over age 30). Some of these differences are theoretically appropriate, for example adolescents are higher on Neuroticism and lower on Agreeableness and Conscientiousness than adults. Thus, as people age they become more emotionally stable and more accepting of traditional values. However these differences in raw scores are removed through separate norms for adolescents and adults, as well as for men and women.
20. Comments regarding validity for particular purpose: Empirically, the NEO PI-R is a sophisticated and well developed personality inventory. Data document the factorial structure of the instrument as well as the utility of the facet scales; intra-domain facets do have sufficient discriminant validity to warrant their interpretive value. Costa and McCrae (1995) provide a useful outline of how the domains and facets are related conceptually. The NEO PI-R is also a flexible instrument, being useful and valid in both normal and clinical contexts.

21. Generalizability: Initial validity data indicated NEO PI-R evaluations are generalizable across various gender, cultural and age groups. However, there is no substitute for local norms in individual application of the instrument.

22. Reliability: Alphas for the domain range from .86 to .92 for Form S, and from .89 to .95 for Form R. Internal consistency estimates for the facets from Form S range from .56 to .81. For the Form R facets, these values range from .60 to .90 (Costa & McRae, 1992b). Six-year retest reliabilities for the Neuroticism, Extraversion, and Openness domains ranged from .68 to .83 in both self-reports and observer ratings. Three-year retest coefficients between .63 and .79 were found for the domains of Agreeableness and Conscientiousness (Costa & McCrae, 1992b).

23. Norms: Normative information for Form S is based on a sample of 500 men and 500 women screened from a larger pool of 2,273 individuals. These 1000 individuals were selected demographically in order to match U.S. Census projections for 1995. Form R norms were obtained from 143 ratings of 73 men and 134 ratings of 69 women. These ratings were obtained from both spouses and multiple peer ratings (Costa & McCrae, 1992b).

24. Comments regarding adequacy of norms: Although not based on numerically large samples, the demographic representativeness of the norms provides confidence in their accuracy and appropriateness for use with a relatively wide range of interest groups. Nonetheless, the absolute size of the norm group is relatively small and hopefully over time, the authors can add substantially to this database. More information is still needed concerning the retest reliability of the facet scales for Agreeableness and Conscientiousness. Because these scales have only recently been added to the inventory (Costa & McCrae, 1992b), some additional time is necessary before that information can become available. The alphas for some of the facets are low, but it should be kept in mind that: a) these facet scales are only based on eight items; and, b) internal consistency was not a criterion for item selection-items were selected on their patterns of convergent and discriminant correlations with external criteria.

25. Aids to users: The manual does provide several case histories for assistance in developing interpretive efficacy with the instrument. These examples were drawn from diverse clinical environments and relevant clinical implications are drawn out. Also provided is an example of using the rater form in the assessment process. Some advantages for collecting observer information are outlined. The manual also provides a section devoted to specific applications of the NEO PI-R (e.g., in counseling, behavioral medicine, vocational and educational research). Also available with the manual is an
extensive bibliography of published research using the NEO PI-R in a number of contexts. This can facilitate literature reviews in specific areas so that users can obtain the most recent and relevant information about the usefulness of the inventory.

26. Comments of reviewers: Botwin (1995) concluded, "These scales should be considered a standard set of useful tools for personality assessment and may provide a useful bridge between basic research in personality psychology and applied psychology" (p. 863). Juni (1995) has some reservations about the items that were selected for the instrument. Confusion in wording, the use of compound sentences, use of historical statements, and the use of a small set of specific examples are issues that seem problematic. Juni contends that this may pose validity problems as the instrument attempts to expand into new areas of application. Nonetheless, Juni concluded, "Validation studies are well constructed, plentiful, and impressive, yielding an instrument that represents a comprehensive operational translation of the Five Factor Model of personality" (p. 867).

27. General evaluation of the test: Overall there is much to commend this inventory for use in both research and applied contexts. The empirical basis to this instrument provides a sound, robust internal structure and scales that are meaningfully related to a wide range of psychologically salient outcomes. The current data suggest that the NEO PI-R is off to a good start in establishing itself a rich pool of validity evidence. However, given the relative newness of the scale, much more information is necessary. Specifically, a larger norms group which is demographically representative would be helpful in giving users more confidence in generalizing the instrument to various ethnic populations. It would also be useful to collect clinical norms on the various domains and facet scales because patients tend to "hit the ceiling" on the current norms, especially for the Neuroticism domain. Further, more information is needed on the facet scales and what unique contribution they make to understanding people. From a counseling perspective, the NEO PI-R can provide a personological context within which to evaluate the presenting problem of clients. The NEO PI-R can also be useful for anticipating treatment outcome and for establishing appropriate treatment goals, to name but two useful applications. Interpretively the information obtained from the NEO PI-R is quite rich, providing insights into coping strategies, interpersonal style, needs and motives, and characterological functioning. The NEO PI-R can be a useful adjunct to any assessment battery. As Miller (1991, p. 432) noted, "...the five-factor model can relate patient personality, presenting complaint, treatment plan, and treatment outcome to each other in a reasonable, systematic way, without loss of empathy or compassion for the patient."

References


