

NEO-FFI scores in college men and women: A view from McDonald's unified treatment of test theory

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Abstract

There is a need for more detailed psychometric data in describing and evaluating the NEO-FFI (Costa & McCrae, 1992), especially in samples of men and women enrolled in Introductory Psychology classes. This article meets that need and in so doing introduces to a new and wide audience procedures recently advocated by McDonald (1999) in his unified treatment of test theory. Results reveal a wide range of strengths and weaknesses in the NEO-FFI at both the item and sum-score levels, as well as sources of concordance and discordance between men and women at both levels. © 2005 Elsevier Inc. All rights reserved.

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1. Introduction

The dominant classification system in current personality research incorporates a set of broad or 2nd-order factors called the *Big Five*. These factors are labeled *Neuroticism* (or its polar opposite, *Emotional Stability*), *Extraversion*, *Openness to Experience* (sometimes referred to as *Culture*, sometimes *Intellect*), *Agreeableness*, and *Conscientiousness*. This system originated with the factor analyses of trait adjectives. Adjectives are still in use today as well as more recently constructed questionnaires designed to assess the Big Five. By far the most well known of these questionnaires

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is the NEO PI-R (Costa & McCrae, 1992). Each broad factor or “domain” in the NEO PI-R is defined by six scales, each measuring a narrow or 1st-order factor referred to as a “facet.” Each facet scale contains eight items. The last two decades have produced a voluminous number of articles on the Big Five. Adherents of the system contend that it represents the basic structure of personality, but it is not without its critics (Block, 1995, 2001; Butcher & Rouse, 1996; Carroll, 2002; Eysenck, 1992; Tellegen, 1993).

The NEO-FFI (Costa & McCrae, 1992) was developed as a short form of the NEO PI-R. For each domain, the 12 items having the highest loadings on their respective factor were selected to form a 60-item inventory. Some substitutions were made to diversify item content and to eliminate items loading nontrivially on more than one factor. All items in the NEO-FFI can be found on corresponding facet scales making up the NEO PI-R. The facets of each domain and their codes, together with the number of items acquired from each facet scale in the NEO PI-R are given in Table 1, to which we shall return when the nature of construct validity is queried. The NEO-FFI has been used rather extensively in research settings, perhaps to a greater extent than its parent, more often utilized in clinical settings. Although the user’s manual contains extensive psychometric data for the NEO PI-R, relatively little is provided for the NEO-FFI. Only one of the three samples used to provide these data for the NEO PI-R (“men and women who participated in a national study of job performance”) is used for estimating means and standard deviations (men and women separately) and coefficient α (combined group only). However, although there is no information in the manual regarding scores on the NEO-FFI beyond what has just been presented, the article that contains the basic information is cited (Costa, McCrae, & Dye, 1991). From there, one finds that 543 men and 996 women comprised the sample. Of the men, three quarters had college degrees and ranged in age from 21 to 63 years with a mean of 32.3. Among the women, one-half had college degrees and ranged in age from 21 to 64 years with a mean of 33.4 years.

Recently, a reassessment of the quality of items in the NEO-FFI was undertaken with the express purpose of identifying items that might be replaced with alternative items in a future revision of the inventory (McCrae & Costa, 2004). The reassessment was based on a number of item factor analyses conducted across a variety of samples. The findings will be compared to ours in due time, the reason for mentioning the reassessment at this point being to underscore the diversity of the samples tested, which included farmers, physicians, clinical referrals, and gifted sixth grade students. Only one of the studies examined used college students but, unfortunately, only women were tested, precluding gender comparisons; further, the students were volunteers from a variety of courses where study participation was not a course requirement, thus inviting results that may not be comparable to those obtained in the typical case involving Introductory Psychology students. Because a substantial number of the participants in studies in which the NEO-FFI is administered are college students enrolled in Introductory Psychology courses where participation in ongoing research is a course requirement, it seems that psychometric data on NEO-FFI scales administered to such participants would be most informative. And because it is not routine in mixed groups of men and women for separate parameter estimates to be made, especially at the item level, data on gender differences would definitely be of value and perhaps crucial for complete comprehension.

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