Factor analyses of Big Five Markers with the Comrey Personality Scales and the Howarth Personality Tests

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Abstract

The relation of Big Five Marker variables to the Comrey Personality Scales (study 1) and the Howarth Personality Tests (study 2) was investigated. In study one a joint factor analysis of 284 participants (179 females) revealed that seven oblique factors accounted for 40% of the variance in the Big Five Markers and the Comrey Personality Scales. Extraversion, conscientiousness and neuroticism were assessed by roughly parallel scales in both tests. Three factors were defined uniquely by the Comrey Personality Scales (mental toughness, trust and empathy) and one factor was defined uniquely by the Big Five (openness). In study two a joint factor analysis of 197 participants (130 females) revealed that five orthogonal factors accounted for 57% of the variance in the Big Five Markers, the Howarth Personality Questionnaire and the Howarth Additional Personality Factors Inventory. The higher order factor structure of Howarth's tests resembles the Big Five. Eleven of the 20 Howarth scales were very similar to the Big Five. Additionally, six Howarth scales appear to be blends of pairs of Big Five factors. Both studies provide considerable support for the Big Five as an adequate, although perhaps not exhaustive, taxonomy of personality traits. © 1999 Elsevier Science Ltd. All rights reserved.

1. Introduction

A comprehensive taxonomy of traits is one of personality researchers' most important tasks. Until relatively recently, taxonomies containing 10 or more personality traits (e.g. Guilford, Cattell, Gough etc.) were numerous and vigorously championed. However, a growing consensus among many personality researchers is that the scales of most personality tests can be aligned within the Five Factor Model of Personality (e.g. the Big Five).

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The Big Five has been remarkably successful in assimilating a wide variety of personality tests and scales within its dimensions. McCrae (1989) provides a review of the NEO-PI's convergence in joint factor analyses with Goldberg's Big Five Markers, the California Q-Set, the Myers–Briggs Type Indicator, the Guilford Zimmerman Temperament Survey and Wiggin's Interpersonal Circumplex. This body of research points to a general proposition that the Big Five are measured to some extent by almost every personality test and that many test's scales can be "explained" as parallel to the Big Five, a sub-dimension of the Big Five, or some combination of Big Five factors.

This paper presents two studies investigating the relation of the Big Five to the Comrey Personality Scales (Comrey, 1970, 1980, 1994) and the Howarth Personality Inventories (Howarth, 1980a,b,c,d). Both of these tests were developed using factor analytic research programs. However, the two tests were developed using different strategies. Comrey used factorially and conceptually homogeneous clusters of items as the basic unit of analysis. Howarth used individual items as the basic unit of analysis. Both researchers sought to develop taxonomies of the most important personality traits and produced comprehensive tests with extensive empirical support.

While the Big Five has developed extensive empirical support it is initially derived from an *a priori* rational approach, the lexical hypothesis (see Goldberg, 1993 for a review). The lexical hypothesis takes the frequency of trait terms in a language as indicators of personality traits. The most important personality traits will form fairly well defined clusters of trait terms in semantic space. These clusters are the lexical equivalent of personality factors. The purpose of this study is to examine the convergence between the Big Five as defined by common trait terms and the inventories of Comrey and Howarth.

The Comrey Personality Scales are a comprehensive inventory designed to account for many of the factors put forth in the personality trait systems by Guilford, Cattell and Eysenck (Comrey, 1980, p. 5). Comrey's research program consisted of a series of factor analytic studies designed to resolve the differences between these personality trait systems. The end product of this research program was the Comrey Personality Scales (Comrey, 1970, 1980, 1994) which measure eight major bipolar personality traits. The eight factor structure of the Comrey Personality Scales has repeatedly emerged in joint factor analyses of the Comrey Personality Scales with other personality tests, notably with Eysenck's EPI, Cattell's 16PF (Comrey and Duffy, 1968; Noller et al., 1987) and the Guilford Zimmerman Temperament Survey (Comrey et al., 1968). Additionally, the eight factor structure of the Comrey Personality Scales exhibits a high level of cross-cultural generalizability and has been replicated in six languages across nine countries: the English language in the United States (Comrey, 1970), New Zealand (Forbes et al., 1974) and Australia (Noller et al., 1988); Portuguese in Brazil (Rodrigues and Comrey, 1974); Hebrew in Israel (Montag and Comrey, 1982); Russian in the former Soviet Union (Brief and Comrey, 1993); Italian in Italy (Caprarara et al., 1992) and Afrikaners in South Africa (DeBruin, 1995).

Recently, Comrey and his colleagues have been systematically examining the relationship of the Comrey Personality Scales and the NEO-PI (Hahn and Comrey, 1994; Caprarara et al., 1995). These two studies used the original version of the NEO-PI and the Comrey Personality Scales. Nine and eight factors, respectively, rather than five, were found in joint factor analyses of the two tests. In a further study of the Comrey Personality Scales and the NEO-PIR, Hahn