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Identification and measurement of a more comprehensive set of person-descriptive trait markers from the English lexicon

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ABSTRACT

We suggest some refinements to earlier approaches to generating "comprehensive" personality inventories and address some methodological concerns that accompany their use. By applying cluster analysis to Saucier's (1997) list of the 504 most frequently used trait adjectives, we identified 61 clusters that can be used to represent the lower-order structure of individual differences found in the lexicon. We show that very short measures of these clusters have acceptable reliabilities, that single items can regularly be identified that correlate with standard measures of Big Five dimensions above .70, and finally, using gender and life satisfaction as examples, illustrate how comprehensive inventories can reveal relationships between personality and variables of interest that are masked by the use of Big Five scales alone.

1. Introduction

The most common approach to the development of individual difference measures in contemporary personality psychology can be labeled the *superfactor* approach, in which investigators search for a small number of broad factors underlying a set of personality-relevant descriptors (e.g., Ashton, Lee, & Goldberg, 2004; Goldberg, 1990; Tellegen & Waller, 1987). Although attempts to measure the broad dimensions identified in factor analysis represent the most common means of developing personality measures, a smaller tradition exists which can be labeled the *comprehensive* approach, in which investigators attempt to create measures to assess all important aspects of personality (e.g., Block, 1961; Peabody, 1987; Westen & Shedler, 2007). Unlike superfactor inventories, the primary goal of such inventories is not to measure the *major* ways that people vary, but to measure the *many* ways that people vary.

Investigators who use comprehensive inventories have done so in large part due to recognition of certain disadvantages of superfactor measures. Factor analysis proceeds by finding factors that can explain the largest amount of covariation between different traits ratings, and consequently a number of more distinctive dimensions that people regularly find useful in the description of themselves and others are frequently not represented in the factors that are extracted. For instance, some of these characteristics that have been considered to be largely uncaptured by the Big Five factors include deceptiveness, honesty, sexuality, masculinity and femininity, frugality, religiosity, arrogance, humor, and physical dimensions such as height, weight, and attractiveness (Paunonen & Jackson, 2000; Saucier & Goldberg, 1998).

Another limitation of superfactor measures concerns how they are typically used. For instance, the domain of conscientiousness is described as covering a diverse array of content related to orderliness, conventionality, industriousness, and dependability. However, when these distinct elements are aggregated to form a single "broad" measure, or when only the "core" of the superfactor is measured, it is often unclear which distinguishable aspect of the measure is most related to the variable of interest. Although the Big Five and other superfactor solutions have been related to an enormous range of important outcomes (e.g., Ozer & Benet-Martinez, 2006; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007), the frequent failure to examine how the narrower aspects of these superfactors differentially relate to these outcomes has slowed the accumulation of knowledge about the processes linking personality and behavior. In particular, we expect that distinguishable traits within a particular superfactor domain will generally vary in their associations with variables of interest – even frequently being associated in opposite directions – leading investigators to conclude that the relationship between the trait and the variable is large, small, positive, negative, or zero depending on the somewhat arbitrary content emphases of the scale (Paunonen, Rothstein, & Jackson, 1999; Saucier & Ostendorf, 1999). Indeed, differences in

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the content emphases of personality scales appear to have produced opposite conclusions regarding how traits are related to variables of interest in some investigations. For instance, the Feingold (1994) and Lynn and Martin (1997) meta-analyses of personality traits and gender both found gender differences on extraversion measures, but in opposite directions. As women have been found to score higher on the sociability aspects of extraversion than men but lower on assertiveness aspects, it seems likely that these discrepancies were produced by meta-analyzing scales with different content emphases in the domain of extraversion (Costa, Terracciano, & McCrae, 2001).

As we detail below, these problems can be circumvented by approaches that construct the lower-order structure of personality without reference to the Big Five or other superfactor structures. In the current studies, we delineate procedures that may be employed for the development and use of comprehensive personality assessments, and then present empirical demonstrations for why it may generally be beneficial to use such inventories in basic personality research. We begin by outlining procedures described by Block (1961) and Peabody (1987) in their attempts to develop a comprehensive taxonomy of individual differences, and then suggest some improvements.

2. Considerations in the development of more comprehensive personality assessments

Both Block (1961) and Peabody (1987) were interested in the development of comprehensive personality tools. Block's efforts to develop comprehensive assessment devices resulted in the development of the California Adult Q-Sort (CAQ; Block, 1961) and later the California Child Q-Set (Block & Block, 1980), both of which were designed to measure an individual's standing on as wide a range of attributes as possible. As described by Block (1961):

> "The purpose of the [CAQ] is to provide a "Basic English" for clinical psychologists, psychiatrists, and personologists to use in their formulations of individual personalities. Ideally – and the set is not the ideal – the items should permit the portrayal of any kind of psychopathology and of any kind of normality... To the extent the set fails in this aspiration, to the extent that it is deemed unable to reflect the discriminations and integrations of the observer, the method is to be judged deficient. (pp. 37–38)."

In an departure from the principal goal of factor analytic work on personality structure, which could be described as trying to locate a small number of the most important personality dimensions, Block evaluated the worth of his instrument by the extent to which it was able to capture all of the important discriminations people make about one another. Other investigators have cited comprehensiveness as a central goal in the development of similar instruments. For instance, Peabody (1987) argued that a thorough trait taxonomy should be able to describe "all perceptual variations in performance and appearance between persons or within individuals over time" (p. 59), and the Shedler–Westen Assessment Procedure (SWAP; Westen & Shedler, 1999) for assessing psychopathology was developed using procedures adapted from Block with the goal of allowing clinicians to be able to "describe everything considered psychologically important about their patients" (Westen & Shedler, 2007, p. 812).

Although Block and Peabody appeared to outline their procedures for constructing comprehensive taxonomies independently, both arrived at a similar set of considerations that must be addressed to accomplish this task (see also Stephenson, 1953). First, the researcher needs to provide a defensible pool of items that could be used to define or represent the universe of content within the domain. Second, if the complete set of items is large, then the researcher would need to use a method to represent the content found in the complete pool in a smaller number of items in order to make a practical assessment device.

Block's long-standing skepticism about the ability to define the universe of content related to personality and individual differences using an atheoretical method (Block, 1961; Block, 1995; in press) led him instead to enlist the help of psychologist and psychiatrist "experts" to assist in identifying the important content of personality. His procedures in developing the CAQ have subsequently served as the primary guide for the development of other tools aspiring to comprehensiveness in other domains, such as the Riverside Behavioral Q-Sort (RBQ; Funder, Furr, & Colvin, 2000), and the SWAP (Westen & Shedler, 1999). In contrast, Peabody (1987) suggested that a comprehensive inventory could be developed through a relatively atheoretical rationale. In particular, Peabody's (1987) strategy for creating a comprehensive framework involved a two-step process of first classifying adjectives contained within a lexical pool into narrow groupings "according to their similarity in meaning," which apparently involved Peabody's own discriminations, followed by the selection of terms within these larger clusters that could be used to represent the overall group.

3. The current approach to developing a comprehensive inventory

Inventories such as the CAQ, SWAP, and RBQ are used by a number of researchers to achieve comprehensive assessments of individual differences. However, there are some limitations to the construction of these instruments which may limit their use for this goal. For instance, it has been suggested that the reliance on psychiatrists to select content for the CAQ likely resulted in an over-representation of clinical terms (Bem & Funder, 1978; Block, 1961). More generally, we suspect that the generation of items primarily through the subjective decisions of subject matter experts will tend to result in instruments that over-represent certain aspects of personality and under-represent others. In keeping with a lexical tradition, we argue that it is preferable to adopt an approach to delineating the structure of traits which minimizes the number of subjective decisions researchers must make concerning the particular content that should be considered to exist within a pool. Although some of these decisions may ultimately be unavoidable, we propose a modified approach which aims to minimize these decisions. Following Peabody, we depart from Block (1961) in our consideration that certain methods of sampling terms from the lexicon (such as those used by Saucier (1997), Tellegen and Waller (1987)) serve as a reasonable means of generating item pools that represent the range of content associated with personality and individual differences.

An additional place where subjectivity should to be removed is through the secondary classification of the larger set of terms into a smaller set of homogenous categories or groups, which has almost invariably followed from intuitive considerations in the development of past comprehensive inventories (Block, 1961; Peabody, 1987; Westen & Shedler, 2007). We argue here that cluster analysis may be employed to accomplish this goal. Cluster analysis is designed to group similar items into a smaller set of clusters by optimizing the grouping of highly-correlated items with one another (Cattell, 1944). Due to this optimizing function, cluster analysis may be well suited for identifying the large number of distinguishable dimensions of individual differences that are indicated by several terms in language. This aim may be operationalized concretely as a decision to consider a dimension "well-represented" in the lexicon if there are a specified number of terms that show average or minimum inter-correlations above some specified magnitude. In essence, we can apply a standard criterion used for identifying a cluster