BRIEF REPORT

Millennial Contrarianism: The Five-Factor Approach to Personality Description 5 Years Later

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Some recent developments with regard to the five-factor approach are reported. Some inconsistencies seem to arise, as reported by a number of investigators. Especially to be noted is the finding that five factors do not encompass wider scans of the inventory domain. Further, the recent introduction of higher order factor analyses suggests that it is possible and conceptually attractive to reduce the five factors to only two broader factors. Finally, a new theoretical offering for the five-factor approach is argued as not intrinsically unique to the five-factor approach but applies instead to almost any personality orientation.

A SHORT HISTORY OF A STILL-UNSETTLED APPROACH

A currently popular pursuit, vigorously, resourcefully, and encompassingly advanced, has proposed that all of what we call personality can be well and sufficiently expressed by means of self-report questionnaires. These questionnaires, differently based, have been submitted to variants of factor analysis, the analyses themselves being interpreted as manifesting five robust orthogonal factors.

The five orthogonal factors widely proposed have been named Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. This set of factors has been christened by Costa and McCrae as “the five-factor model.” Alternatively, and confusing, there is the psycholexical Big Five of Goldberg (1993). It has been said that the model’s five factors “are both necessary and reasonably sufficient for describing at
a global level the major features of personality” (McCrae & Costa, 1986); “the five-factor model developed in studies of normal personality is fully adequate to account for the dimensions of abnormal personality as well” (Costa & McCrae, 1992a, p. 347).

Why are there five and only five factors? Five factor protagonists say: “We believe it is an empirical fact, like the fact that there are seven continents on earth or eight American Presidents from Virginia” (McCrae, 1992 No. 379, p. 194). The contention is that, via the mathematical method of factor analysis, the basic dimensions of personality have been “discovered.”

Recent chapters favorably recounting the background of the five-factor model are to be found in John and Srivastava (John & Srivastava, 1999) and McCrae and Costa (McCrae & Costa, 1999). A less favorable telling of the history and logic of the five-factor approach was presented some years ago in Block (1995). A chapter by Butcher and Rouse (1996) considers insufficiencies of the five-factor model when used in clinical assessment.

Taking a historical view, Digman and Takemoto-Chock (Digman & Takemoto-Chock, 1981) early remarked that the five-factor approach only represents “domains of research effort and theoretical concern which have long been of interest to psychologists” (p. 149). In recent years, given the vogue of the five-factor model conveniently exemplified by its questionnaire expressions, it is frequently used by many individuals far from the field of personality psychology. If only because it is an unthinking research task, the personality inventories designed for the five given factors have been related to any available criterion. Accordingly, a plethora of dissertations, minor research, and perhaps some useful research under the five-factor banner now floods the literature with correlates. Looking (in February 2000) at the most recent 50 PsychInfo references to the five-factor model, 25 prove to be doctoral dissertations; and 21 are studies of the five-factor model in relation to such topics as compulsive buying, media use, computer stress, the Rorschach, exercise, multiple sclerosis, personnel selection, degree of intellectual engagement, spinal injury, expatriate selection, and so on. This is a hodgepodge of reports, signifying almost nothing of central importance to the study of personality. Four references are to substantial efforts, the two 1999 chapters already mentioned and two Journal of Personality and Social Psychology articles.

Unresolved Issues

Leaving aside historical matters, some earlier noted problems still besetting the five-factor approach but not yet answered require mention here.

In the method of factor analysis, many procedures and criteria conventionally used at various steps in the factoring sequence produce questionable results (Fabrigar, Wegener, MacCallum, & Strahan, 1999). Inspection of the five-factor literature, “‘rooted’” (McCrae & Costa, 1989) in factor analysis,
indicates many of the reported findings have been less than methodologically adequate. As Meehl (1992, p. 152) has remarked, “No statistical procedure should be treated as a mechanical truth generator.” Psychological results always require a psychological interpretation; they do not exist by themselves. It is widely accepted that “the ‘true’ number of dimensions of human personality is a metaphysical rather than a scientific question” (Costa & McCrae, 1980, p. 69).

Despite this recognition, analyses sometimes and in an unacknowledged way have shaped the supposed findings because of a precommitment to a particular number and particular structure of factors. Thus, in an analysis by McCrae, Costa, and Busch (1986), the scree test used as a guide to the number of factors indicated that seven or nine factors exist but the authors settled on eight “along with versions (italics added)” of the five they emphasized. The tenor of their article and subsequent references to it is that only five confirming factors resulted.

It is widely recognized, and also acknowledged by five-factor propagators (e.g., Costa & McCrae, 1992b; Goldberg, 1993), that there is a crucial influence in factor solutions of the particular set of measures used, a problem not yet sufficiently faced. It is also the case that the nature of the sample used and various matters influencing the computed correlation coefficients subsequently factor-analyzed affect the results subsequently achieved. The “downstream findings” issued by factor analysis thus may be fundamentally affected by often unevaluated “upstream influences.”

Also remaining to be settled is the substantive meaning of the always five factors; the sense of the factors differs according to the investigator. Thus, for example, one principal interpretation places impulsivity under Extraversion, another principal interpretation places it under Neuroticism conjoined with anxiety and depression. There is agreement on the number of factors but not what they psychologically mean.

Moreover, it is also not clear how the five-factor approach would be progressively scientifically improved upon. Has our science achieved a final and absolute way of looking at personality or is there a way to further improve on our conceptualization? In the article by Costa and McCrae foretelling the NEO changes to be expected in the new millennium, they anticipate there will be only minor wording modifications and some simplification for those of lower reading levels (Costa & McCrae, 1997). So, it looks as if the five-factor approach is viewed by its protagonists as a final or almost-final achievement.

Some Recent Five-Factor Findings

In the time elapsed since the last worried review of the five-factor approach, further problems have emerged. An admittedly incomplete and unsystematic sampling of some developments over the past 5 or 6 years may
cast some additional light on the conceptual and empirical basis of the approach.

Among those depending on the method of factor analysis, research on broad item pools often finds it necessary to consider factors beyond those contained in the five-factor model (e.g., Ashton, Jackson, Helmes, & Paunonen, 1998; Benet-Martinez & Waller, 1997; Caprara, Barbaranelli, & Comrey, 1995; Church & Burke, 1994; Jackson, Paunonen, Fraboni, & Goffin, 1996; Paunonen & Jackson, 1996; Waller & Zavala, 1993; Yik & Bond, 1993). These findings are of a kind and number requiring consideration; they may not be ignored.

Ashton, Jackson, Paunonen, Helmes, and Rothstein (1998) report that the five factor scales, acknowledged to be broad and sweeping, are substantially less incisively valid than their constituent facet scales. This point previously has been made by Costa and McCrae (1995), McAdams (1992), and Wiggins (1992).

In regard to the personality disorders covered by the Diagnostic Statistical Manual-III-R, Coolidge, Becker, DiRito, Durham, Kinlaw, and Philbrick (1994) demonstrate the limited discriminatory value of the five-factor approach in the clinical field, its assignment incorrectly of equal explanatory weight to each factor, although it is Neuroticism and Extraversion that contribute the most to understanding personality disorders, and also note that more than five factors are required for describing psychiatric symptoms (see also Livesley, Jackson, & Schroeder, 1992; Livesley, Jakson, & Schroeder, 1989; Schroeder, Wormworth, & John, 1992).

It has been noted that the fifth factor of Openness to Experience often is confused and confusing and too often does not reliably emerge (De Raad, 1998).

Paunonen and Jackson (1996) have contended the Conscientious factor lacks coherence and is better partitioned into three separate dimensions: methodical and orderly (e.g., Adolf Eichmann), dependable and reliable (e.g., Jimmy Carter), and ambitious and driven (e.g., Richard Nixon). Loevinger (1994) further argues the Conscientious factor, as operationalized, no longer reflects a moral nature.

Although Costa and McCrae consider the five-factor model to apply uniformly to all adult ages, Mroczek, Ozer, Spiro, and Kaiser (1998) find substantial differences between the structures emerging from older men as compared undergraduate students.

One study (Sneed, McCrae, & Funder, 1998) reports that the five-factor model is imbedded in the associative memories of undergraduates, but another study (Dabady, Bell, & Kihlstrom, 1999) finds that undergraduates do not organize their associative memories as five-factor clusters.

Viswesvaran and Ones (1999) report that the status of individuals on each of the five factors readily can be faked.
Higher Order Factor Analysis of the Five Factors

Deeper analyses of the five-factor approach have begun. Theoretically, factors exist at different hierarchical levels. Besides the efforts demonstrating or arguing for dimensions at a more specific, narrower level of understanding, there have been efforts going the other way—to create higher order, more abstract factors. Some higher order analyses of the five factors by Digman (1997), separately extended by Carroll (in press), are of special interest and warrant presentation here.

Digman recognized that the supposed orthogonality for the five factors was apparent rather than real; such orthogonality had been imposed by the use of a particular method of factor analysis and rotation. Factor dimensions ordinarily are not orthogonal and they should not truly be expected to be. If extracted by a mathematical, psychologically innocent method, orthogonality may be assured but it is quickly lost when the mathematical abstractions are given psychological content, typically implemented by item summations selected to represent the factors. Although factor dimensional scores have to be conceptually separable, empirically they often are not.

It is not surprising to find empirically that each five-factor dimension is correlationally linked to other five-factor dimensions. This condition immediately suggests the relevance and perhaps usefulness of a higher order factor analysis.

Digman took 14 correlation matrices all showing five-factor solutions. In various, reasonably natural ways, he allowed the five factors of each matrix to be nonorthogonal (i.e., correlated): sometimes he computed factor scores by factor loading weightings, sometimes he took the intercosines of axes from a nonorthogonal (promax) rotational solution, often he took the correlations among trait scales designed to reflect the five factors, and so on. The data he used were diverse; sometimes trait ratings by teachers of children and sometimes self-report or peer-reports on differently authored scales intended to reflect the five factors; the samples were of different ages and culture.

Digman’s analysis of these 14 correlation matrices—each one based on the correlations among the five nonorthogonal factors—was interpreted by him as suggesting the existence of two robust higher order factors. His results repay consideration.

His first higher order factor is suggested as representing the socialization process and is interpreted as concerned with impulse restraint (versus its absence), conscientiousness, and the reduction of aggression in socially unapproved ways.

Digman interprets his second higher order factor in more uncertain, groping terms: personal growth, Tellegen’s Positive Emotionality, a venturesome encountering of life, and surgent imaginativeness. Other characterizations of this factor are also provided.
A severe problem with Digman’s interesting and only partially successful effort to seek higher order factors is that he was limited to analysis of the already-created five-factor matrices. He was unable to return to bedrock data—the characteristics of the individuals subsequently scoring differentially on his higher order factors.

Carroll, a well-respected, technically versed factor analyst, recently worked through a hierarchical analysis of a data set containing individual personality characteristics. His analysis is therefore especially implicative to consider here. The analytical approach of Carroll was superior to that of Digman methodologically and, most important, it permits identification of the personality characteristics associated with the resultant higher order factors.

Carroll used teacher ratings provided by Digman and Inouye of 43 characteristics rated on 499 early adolescents and submitted the data to hierarchical analysis (via the Schmid–Leiman procedure). This set of data apparently was not included in the Digman higher order analyses. In Carroll’s analysis of these data, the initial, first-order personality characteristics of the subjects became five second-order but not orthogonal factors and these five factors in turn warranted going on to two higher order “superfactors.”

Interestingly, these “superfactors” explained far more common factor variance than the “standard” five factors together with their constituent items (.74 versus .26). Further, the nature of these two orthogonal superfactors can clearly be seen by inspecting the characteristics of individuals scoring high on each superfactor.

The first half-dozen attributes defining one superfactor are “not impulsive,” “not restless,” “not rude,” “not fidgety,” “not spiteful,” and “not outspoken.” The attributes associated with this superfactor would appear to suggest something akin to the construct of overcontrol (as compared to undercontrol) and is like the first higher order factor of self-restraint and socialization interpreted earlier by Digman.

The first half-dozen attributes defining the other superfactor are “socially confident,” “adaptable,” “perceptive,” “verbal,” “original,” and “sensible.” The attributes associated with this superfactor would appear to connote something much like the dynamic construct of ego-resiliency (as compared to ego-brittleness), of being adaptively tuned to the surrounding world.

These higher order analyses of the five ordained factors open up the possibility for future research along these lines, to see better what the several levels of personality abstraction are and to compare their relative conceptual and empirical fruitfulness. Certainly, other relevant correlation matrices should be more deeply evaluated to see how the five factors place within this higher order context.
The Five-Factor Model as the Five-Factor Theory

Recently, the five-factor model has been further formulated as a theory (McCrae & Costa, 1999). Sixteen five-factor theory postulates, arranged in six groups, are offered (see their Table 5.2). For space-saving reasons here, only the first postulate from each of the six postulate groups is presented. Because these postulates are often abstractly phrased, I present a suggested translation of the postulate into a more concrete language.

Postulate 1a (Individuality): All adults can be characterized by their differential standing on a series of personality traits that influence patterns of thoughts, feelings, and actions.

Translation: There are individual differences in personality.

Postulate 2a (Adaptation): Over time, individuals react to their environments by evolving patterns of thoughts, feelings, and behaviors that are consistent with their personality traits and earlier adaptations.

Translation: Individuals seek to adapt in any way they can.

Postulate 3a (Multiple Determination): Action and experience at any given moment are complex functions of all those characteristic adaptations that are evoked by the situation.

Translation: The perceptions and behavior of individuals are multiply influenced.

Postulate 4a (Self-Schema): Individuals maintain a cognitive-affective view of themselves that is accessible to consciousness.

Translation: Individuals have a sense of self.

Postulate 5a (External Influences): Interaction; the social and physical environment interacts with personality dispositions to shape characteristic adaptations and with characteristic adaptations to regulate the flow of behavior.

Translation: Individuals are influenced in their behavior by their situations in conjunction with their predispositions and, subsequently, these influences affect their behavior.

Postulate 6a (Universal Dynamics): The ongoing functioning of the individual in creating adaptations and expressing them in thoughts, feelings, and behaviors is regulated in part by universal cognitive, affective, and volitional mechanisms.

Translation: The functioning of a person reflects in part a universal human nature.

This set of five-factor theory postulates, as illustrated here but also in its entirety, impresses me as inclusive of widespread, certainly not wrong, broad recognitions. There is no serious approach to the study of personality and development that would not subscribe to these backgrounding tenets. How-
ever, in this age of psychological science, it should be recognized that these orienting ‘‘postulates’’ do not function as a committed, implicative theory. No specific theoretical consequences are entailed by the five factor postulates; no sense is provided of the specific dynamics of personality. It is not a theory in the sense of ‘‘an interpreted deductive system.’’ If these postulates apply everywhere, then they offer no help in directing efforts at understanding.

An observation by Johnson (1997) is relevant here: ‘‘(M)ost psychologists regard outer (behavioral) traits as descriptions that need explanation and they assume that inner (emotional and cognitive) traits generate and therefore explain outer traits. Behavioral traits or consistencies may be determined by the interaction of several emotional or cognitive traits’’ (p. 79). The five-factor descriptive model, relying necessarily on frankness of self-report or lay-report of behaviors, does not appear to attempt a dynamic elucidation of the inner motivations sequentially influencing perception and behavior.

Although little truly new conceptual information may as yet been fostered by the five-factor approach, it does not follow that the approach has not been, in its way, beneficial to the inchoate personality field. The widespread use of the same (or almost the same) questionnaire in a variety of contexts has permitted the linking, in commensurate terms, of a host of empirical findings. However, all in all, it seems to me wisest still to be ambivalent about the current five-factor fashion as the way to study personality until its definitional and empirical perplexities are resolved.

REFERENCES


