Enthusiasts Contra Pessimists

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Pervin's target article is an excellent and serious criticism of the current status of the trait concept, especially of one increasingly accepted model of trait structure—the Big Five factors of personality. Pervin applauds the progress being made in trait research but criticizes, for example, that "many trait enthusiasts" have equated "progress in trait theory and research ... with a 'consensus' concerning the 'structure' of personality, thereby virtually equating a particular trait model with trait theory and trait theory with the field of personality." He seems to equate the progress being made with a spectacular breakthrough large enough to explain most of the problems that have bothered personality psychology from its beginning. However, is it not going too far to claim that the five-factor model (FFM) of personality should be able to predict single life criteria, should account for the pattern and organization of individual traits, should specify all the factors that account for stability and change in various aspects of personality functioning, and so forth? Consensus is growing only slowly with regard to the very broadest dimensions of personality description—their structure, stability, and global determinants. But, usually, this consensus quickly disappears and gives way to lively debates as soon as the more specific facets or determinants of personality become the focus of discussion.

Contrary to Pervin's assumption, the evidence in support of the heritability of personality seems not to vary "considerably from characteristic to characteristic, being strongest for traits associated with temperament ... and weakest for attitudes and beliefs." Of course, the evidence is strongest for traits if *strong* means the number of studies that have examined the heritability of traits. However, results from studies conducted by Martin et al. (1986) and Waller, Kojetin, Bouchard, Lykken, and Tellegen (1990) have shown that social attitudes, values, and even religious interests may be genetically influenced to a quite similar extent. In a comparison of genetic and environmental effects on Big Five measures, Loehlin (1992) found the largest heritability for a set of Factor V variables that included two interest scales (see also Bergeman et al., 1993). Accepting the above evidence, it seems unrealistic to assume that belief-type variables are generally more changeable than temperament-type variables.

A similar conclusion can be drawn from a comparison of the temporal stability of traits, values, and interests. The stability of general interests (e.g., vocational interests) often exceeds the stability of traits (Strong, 1951; Swanson & Hansen, 1988). Pervin seems to interpret the high stability of individual differences and the importance of genetic factors in the sense that personality change is largely impossible. However, important genetic influences and a high stability of individual differences do not rule out personality development and change. Before searching for relevant factors that cause development and change, it is important to know roughly in which domains most change is taking place. It is one of the strengths of longitudinal genetic studies that they can identify such global domains (e.g., family, adolescence).

More Evidence for the Magic Five

For similar reasons, it would be very useful to use a broad range of personality measures in longitudinal genetic studies. However, instruments measuring the Big Five factors seem to be an economic alternative to such omnibus strategies, because there are good reasons to assume that they cover the common variance of most personality inventories. Nonetheless, Pervin is skeptical about the generalizability of the FFM and notes that there is still considerable debate concerning the correct number of factors and their agreement across comparable and different sources of data. Unfortunately, there is not enough space to present all the evidence obtained from our German studies. Table 1 presents only some details on the convergent and discriminant validity of the German Big Five across data sets (Ostendorf, 1990).

Table 1 shows the correlations among factor scores derived from 179 Big Five marker scales (BFMS) and factor scores derived from a representative set of 430 trait-descriptive adjectives from the German language. The BFMS included most of the Big Five marker scales that were available in the year 1988—for example, the bipolar rating scales proposed by McCrae and Costa (1987), Norman (1963), and Peabody and Goldberg (1989; for details, see Ostendorf, 1990). Only 22% of the 430 trait-descriptive adjectives presented to subjects on unipolar adjective rating scales were also listed in the 179 bipolar scales of the BFMS, which included a total of 371 single terms. Both rating inventories were administered to groups of $n = 401$ (self-ratings) and $n = 383$ (peer ratings) subjects. The monofactor–heteromethod correlations ranged from $r = .64$ to $r =$

Table 1. *Correlations Among Factor Scores Derived From 179 Big Five Marker Scales (BFMS) and Factor Scores Derived From 430 Unipolar Adjective Rating Scales (UARS)*

	BFMS Factors										
	UARS Self-Ratings (SR)[a]						UARS Peer Ratings (PR)[b]				
UARS-SR	I	II	III	IV	V	UARS-PR	I	II	III	IV	V
I	.87	−.19	−.12	.18	.06	I	.86	−.14	−.13	.08	.03
II	.13	.84	.10	−.01	.08	II	.03	.81	−.03	.12	.03
III	.04	−.10	.84	.30	−.15	III	.08	−.04	.80	.19	−.15
IV	.15	.17	−.13	.64	−.19	IV	−.05	−.01	−.00	.67	−.17
V	.08	−.05	.07	.22	.76	V	−.09	−.09	.10	.15	.80

Note: For more information, see Ostendorf (1990, p. 190, Table 59).
[a] n = 383 subjects. [b] n = 401 subjects.

.87 (mean r = .80), and the heterofactor–heteromethod coefficients ranged from r = .00 to r = .30 (absolute mean r = .11). Note that the factors were independently extracted and varimax rotated in each sample (i.e., no target rotations were performed maximizing the similarity of the factors across instruments or groups of judges). In spite of important individual differences, such results should encourage optimism or enthusiasm rather than pessimism.

Although four of the Big Five factors are usually correlated with evaluation (the exception is Factor I), we did not find any evidence for an evaluation factor if two or more factors were extracted and rotated. Moreover, we could rule out an interpretation of the factors in terms of Evaluation, Potency, and Activity (Osgood, 1962); Psychoticism (H. J. Eysenck & S. B. G. Eysenck, 1976); Dominance, Gregariousness, Ambitiousness, and so forth (Wiggins, 1979); and Social Desirability by correlating the resulting factor patterns with prototypicality ratings of the adjectives for all these constructs.

Human Constants?

Do the Big Five generalize across cultures? We suggest that this hypothesis should be examined more systematically than has been done in most former studies. Today, the general results are still inconclusive, primarily because many studies differed in methodology.

For example, some taxonomers carried out their studies in the tradition of the lexical approach; others let their subjects generate the sample of personality-descriptive terms under study (frequency approach). Still others examined the structure of *trait*-descriptive terms (temperament, character, and ability terms), whereas their colleagues factored pools of *personality*-descriptive terms (including terms that refer to attitudes, states, social roles, etc.). In addition, some teams excluded terms that were highly evaluative in nature, whereas others did not. (Nevertheless, the last ones did not find an evaluation factor among the first five factors; e.g., De Raad, 1992.) On the other hand, the lexical approach and the frequency approach may lead to different results because the vocabulary that ordinary people actually use in their daily interactions will probably differ in size from the vocabulary that they could potentially use. It is more likely that studies in which personality-descriptive terms are selected by their frequency of use will uncover folk concepts rather than the Big Five.

We suspect that the most explicit Big Five structures can be found in studies of prototypical trait-descriptive terms. This has been the case, for example, in Goldberg's studies, in the German taxonomy (Angleitner, Ostendorf, & John, 1990; Ostendorf, 1990), and also in a new taxonomy of a Slavic language, which was recently carried out by Szarota (1992). As in the former taxonomies, the Big Five emerged in Szarota's factor analysis of a representative set of Polish trait-descriptive terms (P. Szarota, personal communication, October 22, 1993). Some discrepancies were found in studies that used more lenient criteria for selecting personality-descriptive terms (e.g., trait and "other" personality-descriptive terms; personality-"relevant" terms)—for example, in the taxonomies of the Hungarian language (Szirmák & De Raad, 1993) and the Italian language (Caprara & Perugini, 1993). In European languages, probably the largest discrepancy resulted in the Hungarian taxonomy, a non–Indo-European language belonging to the Finno-Ugric branch of Uralic (Szirmák & De Raad, 1993). In this study, no evidence was found for a fifth factor—a result that may be attributed to the fact that only 2.5% of the adjectives that passed the selection criteria referred to the meaning of Factor V. Does this really mean that individual differences in Intellect (Factor V) have no significance in the Hungarian culture? Nevertheless, that some studies found only abridged versions or variants that differed slightly in rotation is less important than the fact that, until now, no evidence has been found for com-

pletely new broad trait-domains or factors that must be added to the spectrum of individual differences already covered by the FFM.

Definitions and Concepts

Basic conceptual issues are often overlooked during times of considerable empirical progress and research activity. Nonetheless, research would not be stimulated if all personality psychologists were to conceptualize their constructs in more similar ways. Even a brief glance at the textbooks of personality psychology reveals that the productivity and variety of our research seem to depend on the number and heterogeneity of many competing paradigms. However, a second glance shows that most personality traits can be classified within the framework of the FFM, and it is easy to find a lot of well-examined constructs like Anxiety, Altruism, and Achievement Motivation—which are essential parts of the Big Five.

Although the study of textbooks leads only to rough ideas, factor analyses of large samples of personality questionnaire items and scales have supported the assumption that the five factors seem to be the right candidates for a comprehensive taxonomy (Amelang & Borkenau, 1982; Angleitner & Ostendorf, in press; Borkenau & Ostendorf, 1989; Ostendorf & Angleitner, 1992). For example, in the questionnaire studies of Angleitner and Ostendorf (in press) and Ostendorf and Angleitner (1992), the factors emerged from factor analyses of about 400 and 600 items collected from various personality and temperament inventories. Both studies included appropriate marker variables to provide an empirical check on the interpretation of the factors.

But if there is such a high correspondence between the structure of natural-language constructs and scientific-psychological constructs, one may ask why the latter can already be found in an analysis of the natural language. One obvious reason may be that both experts and laypeople use the same common language, which is the constituent element of most psychological measurements. Whether through self-reports or other reports, questionnaires, interviews, ratings, or behavior observations, most of our empirical data are based on verbal descriptions. On the other hand, one may expect quite different, although mostly uninterpretable personality structures in the domain of objective test data (T data), as long as one struggles with the problem of assigning psychological (i.e., verbal) meaning to these data.

Need for [... Trait ...]

Although traits may be conceptualized as categories or trends of behavioral acts, they are, of course, accompanied by a large range of internal states that cannot be observed directly by external judges. Otherwise, the frequent use of self-reports would be rather superfluous. In the German taxonomy of personality-descriptive terms, we followed Allport and Odbert (1936), Guilford (1959), Norman (1967), and Wiggins (1979) in distinguishing, for example, between temperament and character traits; ability traits; experiential, physical, and behavioral states; attitudes; values and interests; anatomy; and appearance.

However, it turned out that a distinction between needs and traits could not be very meaningful because most traits (e.g., Activity, Dominance, Order) can be conceptualized as needs (Need for Order, etc.), and vice versa—that needs (e.g., Need for Affiliation) have trait-characteristic features (e.g., stability and consistency). Like Murray (1938), we "have not found that any confusion arises when we use 'need' ... to refer to a more or less consistent trait of personality" (p. 61). It is also true for traits that they might not generally be manifest in overt behavior (e.g., Courage). Traits are directed toward goals (e.g., Sociability) and are conceivable as goal-derived categories (Borkenau, 1990); they are energizing (e.g., Impulsivity), they may combine in complex ways, and they may be in conflict with one another (e.g., high Sociability vs. high Ambitiousness). The study of dynamic characteristics of traits, which may be a neglected area, could already improve without the development of new methodologies. For example, not the factor-analytic model, as Pervin suggests, but the way of its conventional use (the almost exclusive use of the R technique; Cattell, 1957), is responsible for the current dominance of a static concept of personality. Much could be said in reply to some other fundamental questions raised by Pervin. We refer to Angleitner (1991), who addressed some of these questions.

Notes

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References

Allport, G. W., & Odbert, H. S. (1936). Trait-names: A psycho-lexical study. *Psychological Monographs, 47*(Whole No. 211).

Amelang, M., & Borkenau, P. (1982). Über die faktorielle Struktur und externe Validität einiger Fragebogen-Skalen zur Erfassung von Dimensionen der Extraversion und emotionalen Labilität [On the factor structure and external validity of some questionnaire scales measuring dimensions of extraversion and emotional lability]. *Zeitschrift für Differentielle und Diagnostische*

Psychologie, 3, 119–146.

Angleitner, A. (1991). Personality psychology: Trends and developments. *European Journal of Psychology, 5,* 185–198.

Angleitner, A., & Ostendorf, F. (in press). Temperament and the Big-Five factors of personality. In C. F. Halverson, G. A. Kohnstamm, & R. P. Martin (Eds.), *The developing structure of temperament and personality from infancy to adulthood.* Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Angleitner, A., Ostendorf, F., & John, O. P. (1990). Towards a taxonomy of personality descriptors in German: A psycho-lexical study. *European Journal of Personality, 4,* 89–118.

Bergeman, C. S., Chipuer, H. M., Plomin, R., Pedersen, N. L., McClearn, G. E., Nesselroade, J. R., Costa, P. T., Jr., & McCrae, R. R. (1993). Genetic and environmental effects on openness to experience, agreeableness, and conscientiousness: an adoption/twin study. *Journal of Personality, 61,* 159–179.

Borkenau, P. (1990). Traits as ideal-based and goal-derived social categories. *Journal of Personality and Social Psychology, 58,* 381–396.

Borkenau, P., & Ostendorf, F. (1989). Descriptive consistency and social desirability in self- and peer reports. *European Journal of Personality, 3,* 31–45.

Caprara, G. V., & Perugini, M. (1993). *Personality described by adjectives: Generalizability of the "Big Five" to the Italian context.* Unpublished manuscript, University of Rome, La Sapienza, Rome.

Cattell, R. B. (1957). *Personality and motivation: Structure and measurement.* New York: World Book.

De Raad, B. (1992). The replicability of the Big Five personality dimensions in three word-classes of the Dutch language. *European Journal of Personality, 6,* 15–29.

Eysenck, H. J., & Eysenck, S. B. G. (1976). *Psychoticism as a dimension of personality.* London: Hodder & Stroughton.

Guilford, J. P. (1959). *Personality.* New York: McGraw-Hill.

Loehlin, J. C. (1992). *Genes and environment in personality development.* Newbury Park, CA: Sage.

Martin, N. G., Eaves, L. J., Heath, A. C., Jardine, R., Feingold, L. M., & Eysenck, H. J. (1986). Transmission of social attitudes. *Proceedings of the National Academy of Sciences, USA, 83,* 4364–4368.

McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52,* 81–90.

Murray, H. A. (1938). *Explorations in personality.* New York: Oxford University Press.

Norman, W. T. (1963). Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. *Journal of Abnormal and Social Psychology, 66,* 574–583.

Norman, W. T. (1967). *2800 personality trait descriptors: Normative operating characteristics for a university population.* University of Michigan, Department of Psychology, Ann Arbor.

Osgood, C. E. (1962). Studies on the generality of affective meaning systems. *American Psychologist, 17,* 10–28.

Ostendorf, F. (1990). *Sprache und Persönlichkeitsstruktur: Zur Validität des Fünf-Faktoren-Modells der Persönlichkeit* [Language and personality structure: On the structural validity of the five factor model of personality]. Regensburg, Germany: Roderer.

Ostendorf, F., & Angleitner, A. (1992). On the generality and comprehensiveness of the five-factor model of personality. Evidence for five robust factors in questionnaire data. In G. V. Caprara & G. van Heck (Eds.), *Modern personality psychology: Critical reviews and new directions* (pp. 73–109). New York: Harvester Wheatsheaf.

Peabody, D., & Goldberg, L. R. (1989). Some determinants of factor structures from personality-trait descriptors. *Journal of Personality and Social Psychology, 57,* 552–567.

Strong, E. K., Jr. (1951). Permanence of interest scores over 22 years. *Journal of Applied Psychology, 25,* 89–91.

Swanson, J. L., & Hansen, J. I. C. (1988). The stability of vocational interests over 4-year, 8-year, and 12-year intervals. *Journal of Vocational Behavior, 33,* 185–202.

Szarota, P. (1992). *Classifying words into person descriptive categories.* Unpublished research report, University of Bielefeld, Germany.

Szirmák, Z., & De Raad, B. (1993, March). *A taxonomy of Hungarian personality descriptors.* University of Groningen, Groningen, The Netherlands.

Waller, N. G., Kojetin, B. A., Bouchard, T. J., Lykken, D. T., & Tellegen, A. (1990). Genetic and environmental influences on religious interests, attitudes, and values: A study of twins reared apart and together. *Psychological Science, 1,* 1–5.

Wiggins, J. S. (1979). A psychological taxonomy of trait-descriptive terms: The interpersonal domain. *Journal of Personality and Social Psychology, 37,* 395–412.