What Is Beyond the Big Five?

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ABSTRACT   Previous investigators have proposed that various kinds of person-descriptive content—such as differences in attitudes or values, in sheer evaluation, in attractiveness, or in height and girth—are not adequately captured by the Big Five Model. We report on a rather exhaustive search for reliable sources of Big Five–independent variation in data from person-descriptive adjectives. Fifty-three candidate clusters were developed in a college sample using diverse approaches and sources. In a nonstudent adult sample, clusters were evaluated with respect to a minimax criterion: minimum multiple correlation with factors from Big Five markers and maximum reliability. The most clearly Big Five–independent clusters referred to Height, Girth, Religiousness, Employment Status, Youthfulness, and Negative Valence (or low-base-rate attributes). Clusters referring to Fashionableness, Sensuality/Seductiveness, Beauty, Masculinity, Frugality, Humor, Wealth, Prejudice, Folksiness, Cunning, and Luck appeared to be *potentially* beyond the Big Five, although each of these clusters demonstrated Big Five multiple correlations of .30 to .45, and at least one correlation of .20 and over with a Big Five factor. Of all these content areas, Religiousness, Negative Valence, and the various aspects of Attractiveness were found to be represented by a substantial number of distinct, common adjectives. Results suggest directions for supplementing the Big Five when one wishes to

extend variable selection outside the domain of personality traits as conventionally defined.

A considerable body of research has demonstrated the summarizing power of five broad orthogonal factors in analyses of English personality trait adjectives, both in self-descriptions and in descriptions of others. For reviews of this research, see Digman (1990), Goldberg (1993), John (1990), and Wiggins and Trapnell (1997). Although this "Big Five" factor structure is not without its critics (e.g., Block, 1995), its usefulness as a hierarchical representation of personality attributes has gained widespread international acceptance.

The most powerful evidence for the generalizability of the model comes from "emic" studies of personality adjectives across an increasingly diverse array of languages. The emergence of similar factors in *exploratory* analyses, in independent studies of the personality lexicons of a variety of cultures provides stronger evidence for the model than do studies using (1) different selections of subjects and/or variables within any one language (e.g., McCrae & Costa, 1985), or (2) studies employing an "etic" importation of variables from one language (e.g., English) into other languages (e.g., Benet & Waller, 1995a), or (3) studies employing confirmatory techniques.

The Big Five Model, which was discovered in analyses of English personality adjectives (e.g., Goldberg, 1990; Saucier & Goldberg, 1996a) has now been supported in emic studies of terms in German (Ostendorf, 1990) and Czech (Hrebickova, Ostendorf, & Angleitner, 1995), and generally also in studies of Dutch (Hofstee & De Raad, 1991), Italian (Caprara & Perugini, 1994), Hungarian (De Raad & Szirmak, 1994; Szirmak & De Raad, 1994), and Filipino (Church, Reyes, Katigbak, & Grimm, 1995; Church, Reyes, Katigbak & Grimm, 1997). The Big Five factors include: Factor I (Extraversion), Factor II (Agreeableness), Factor III (Conscientiousness), Factor IV (Emotional Stability vs. Neuroticism), and Factor V (Intellect or Imagination). In this report we concentrate on analyses of *lexical* adjective data with the *lexical* Big Five as a reference point. The lexical Big Five ought to be distinguished from the "Five Factor Model" that is built around a questionnaire (the NEO-PI-R; Costa & McCrae, 1992), and associated with another set of theoretical formulations (Goldberg & Saucier, 1995; Saucier & Goldberg, 1996b), although the sets of five factors in the two models are quite similar (McCrae & Costa, 1985).

Given the general acceptance of the Big Five structure, there are at least two scientific problems now urgently needing investigation. The first concerns the extension of the model to higher and lower hierarchical levels (e.g., Goldberg, 1996; Saucier, 1997; Saucier & Ostendorf, 1997). The second concerns the *comprehensiveness* of the model, that is, the extent to which it includes *all* important person descriptors. Factor extraction algorithms are designed to account for the maximum possible variance in as few factors as possible, but not all variables are equally represented on these factors. That is, the communalities of personality adjectives within the five personality factors are certainly not equal. Some adjectives demonstrate a high multiple correlation with the Big Five, whereas others appear more peripheral to the model. Such "outlier" descriptors are likely to fit poorly into hierarchical representations of the five factors (e.g., that of Costa & McCrae, 1992). Moreover, investigators who attempt to locate such outlier descriptors on a Big Five map such as the AB5C Model (Hofstee, De Raad, & Goldberg, 1992) are likely to encounter considerable difficulty.

We might expect that the person descriptors most clearly peripheral to the Big Five factors would be those that represent social evaluations (including social role and social effect terms, as well as purely evaluative terms) and overt physical characteristics. Descriptors of these kinds have generally been *excluded* from lexical as well as questionnaire studies of personality, and variables excluded from a factor analysis are unlikely to be well represented by the factors. Tellegen (1993), however, presented reasonable arguments for not excluding these categories of descriptors. It is useful to understand *personality* descriptors within the broader context of *person* descriptors, which also includes physical characteristics and evaluations.

Previous Conjectures Concerning Non–Big Five Dimensions

Several investigators have commented upon the problem of outlier descriptors and dimensions. Buss (1996) noted that individual differences in sexuality, encoded in terms like *coy*, *chaste*, *sexy*, *promiscuous*, and *prudish*, have correlations with the five factors that are quite low, and that some of these terms might form one or more factors orthogonal to the Big Five. Block (1995) lamented the inattention of five-factor enthusiasts to those dimensions in other inventories that are not recoverable in

five-factor inventories (e.g., introspectiveness, narcissism, and forceful-ness in the California Q-Set; see McCrae, Costa & Busch, 1986), pointing to the potential value of these attributes in characterizing a person.

John (1989) examined judges' classifications of the 300 terms in the Adjective Check List (Gough & Heilbrun, 1965) into Big Five categories, and he concluded that "Traditional Values" and "Individuation/Auton-omy" adjectives may lie outside the Big Five; however, he noted that McCrae and Costa's (1997) conception of Openness appears to include content related to both categories. Other clusters of adjectives difficult to classify into the Big Five framework in John's analysis referred to Maturity, Physical Characteristics, and Gender. John (1989) concluded that "attitudes, physical characteristics, and gender roles may need to be addressed outside the Big-Five framework" (p. 269).

Goldberg (1990) searched for additional factors in a set of 75 clusters (aggregated from 1,431 adjectives), and found a number of potential small factors, such as Thrift, Sensuality, and Religiosity. However, none of these additional factors were replicated in other analyses, and most were defined by only one or two clusters.

In Europe, studies by De Raad and his colleagues have been particu-larly relevant to the issue of possible additional factors. Studies of Dutch personality nouns (De Raad & Hoskens, 1990) and Dutch personality-relevant verbs (De Raad, Mulder, Kloosterman, & Hofstee, 1988) suggest that such characteristics as sense of humor and proclivity to suppression and repression might be beyond the Big Five. In a pair of reports, Henss (1996a, 1996b) has presented evidence supporting the thesis that judg-ments of Attractiveness fall outside the Big Five, and that Attractiveness is in fact a sixth factor.

A group of three lexical studies that took the shorter route of sampling by page from a dictionary, rather than collecting all useful descriptors from every page, has implicated other potential outlier domains. Studies of adjectives in English (Tellegen & Waller, 1987), Spanish (Benet & Waller, 1995b), and Hebrew (Almagor, Tellegen, & Waller, 1995) found factors united by the label "Negative Valence." The Negative Valence factor was characterized by extremely unfavorable descriptors (e.g., Awful, Evil, Wicked, Disgusting). The studies in English and Spanish also found a Positive Valence factor characterized by very favorable but unspecific descriptors (e.g., Outstanding, Excellent, Exceptional); in the Hebrew-language study the factor labeled Positive Valence seemed alternately interpretable as Big Five Intellect (Saucier, 1997). When

Saucier (1997) used similarly wide variable selections in studies of English adjectives chosen on the basis of high frequency of use, rather than page sampling, a factor akin to Negative Valence appeared again. Saucier (1997) noted that this Negative Valence factor was characterized by terms of "invective" (e.g., Evil, Good-for-Nothing), and more generally by attributes that had a low base rate in the sample (e.g., Homeless, Senile). Alongside Negative Valence and the Big Five, Saucier (1997) also found a robust Attractiveness factor; this finding confirmed Henss's (1996a, 1996b) hypothesis as well as that of Buss (1996), given that adjectives like Sexy and Seductive had high loadings on Attractiveness. In Saucier (1997), Positive Valence did not appear, and Positive Valence–type adjectives typically loaded on both the Intellect and Attractiveness factors.

All of this evidence suggests that there may be dimensions of variation that are not subsumable within the Big Five framework. If social-evaluation and physical-characteristic terms are included, Attractiveness and Negative Valence—for which "Low-Base-Rate Attributes" is a competing interpretation—appear to be excellent candidates. Among descriptors that fall better inside the conventional definition of personality, possibilities include religiousness, sexuality or sensuality, introspectiveness, narcissism, forcefulness, traditional values, individuation/autonomy, maturity, gender roles, thrift, humor, and suppression and repression.

How important are these various possible dimensions? The lexical perspective provides a powerful rationale for addressing this question. As Saucier and Goldberg (1996b) elaborate, the lexical rationale postulates that the general importance of the attribute has some correspondence with the degree of representation of an attribute in language. By providing a rough index of relative importance, the lexical perspective provides an unusually strong rationale for the selection of variables in personality research. Unlike the more complex statements found in personality questionnaires, which are nearly infinite in number and range, one can speak of "representativeness" with regard to a selection of single person-descriptive terms (Peabody, 1987).

In the present study, we applied the lexical rationale to the problem of possible dimensions "beyond the Big Five." Using diverse approaches and sources, we developed in college student samples dozens of clusters of adjectives representing potential sources of "beyond Big Five" variation. Then we evaluated these clusters in an adult nonstudent sample, in search of clusters having both substantial reliability and a high degree of

independence from the Big Five. In this report, we will conclude by comparing our findings with the conjectures put forward by previous investigators.

METHOD

Clusters of adjectives beyond the Big Five might be identified by simply rotating more than five factors, within a large sample of self or peer ratings, using as stimuli a broad range of personality-attribute adjectives, and then attempting to replicate the later factors in new samples of subjects. However, there are at least two difficulties with this simple approach: (1) the rotation of subsequent factors may affect the positions of the first five factors, and (2) rather than true outlier dimensions, subsequent factors may turn out to be lower-level subcomponents of the broad Big Five factors—that is, one or more of the Big Five may split into its correlated parts. To solve these difficulties, we opted to index the Big Five with high fidelity, and to examine outliers with respect to this high-fidelity representation. Our criteria for outlier clusters included a *low multiple correlation with the Big Five factors* as generated by published sets of factor markers (Goldberg, 1992; Saucier, 1994a). Of course, low multiple correlations are a predictable product of item clusters having low reliability, since reliability defines a rough upper bound for such multiple correlations. Therefore, our other major criterion for outlier dimensions was evidence of *substantial reliability*.

Derivation of potential outlier adjective clusters was carried out using four data sets, each of which consisted of self- and/or peer ratings by college students using a multipoint (7, 8, or 9) rating scale and an ipsatizing (Z-score) transformation of each participant's ratings. Sample 1 included 320 self-ratings and 316 peer ratings using a set of 540 adjectives (Goldberg, 1982). Sample 2 included 187 self-ratings using an even larger set of 1,710 adjectives (Goldberg, 1982). Sample 3 included 360 self-ratings and 329 peer ratings using a set of 360 adjectives, including most of those that had been proposed as likely to fall outside the Big Five. The terms administered to Samples 1, 2, and 3 were principally adjectives referring to dispositions, including Big Five marker adjectives (Goldberg, 1992). In contrast, the 525 adjectives administered to Sample 4 included a large sampling of familiar social-evaluation and physical-characteristic descriptors alongside familiar descriptors of dispositions and temporary states (Saucier, 1997); among the 525 adjectives were 40 core Big Five marker adjectives (Saucier, 1994a). Sample 4 consisted of 201 peer ratings.

Derivation of the 53 Clusters

In identifying peripheral sources of variance, an intuitive procedure might yield as useful a harvest as a systematic empirical procedure. Desiring to leave no

stone unturned in our search, we used both kinds of procedures. The quite laborious systematic procedures we employed are described in detail in a previous report (Saucier & Goldberg, 1994; available from the first author), and more briefly summarized here. In Sample 1, we partialed all Big Five variance from the 540 adjectives, and examined a hierarchical cluster analysis of the covariance matrix of the residuals. We retained the 100 tightest clusters, and eliminated (1) any clusters *all* of whose adjectives were in the least familiar subset of the 540 (judged by percentage of missing responses), and (2) any clusters having a mean correlation of more than .25 with any Big Five factor. The remaining clusters were factor-analyzed jointly with Big Five markers, rotating as many orthogonal factors as possible without having the marker set for one of the Big Five break into two factors; 18 factors—the Big Five plus 13 outlier factors—appeared to be optimal from this standpoint. Marker adjectives were developed for these 13 outlier factors. We found that two of the factors were unusually highly correlated and combined them. The resulting adjective clusters are numbered 1 through 12 in Table 1.

Clusters 13 through 19 were derived from the same 12 clusters, now using Sample 2, and iteratively adding and subtracting terms, in an attempt to create clusters that would be even more independent of the Big Five. The original 12 clusters were eventually consolidated into only seven clusters, and these seven were further revised using the Sample 3 data set.

The 1,710 adjectives administered to Sample 2 included a substantial number of adjectives that, in some cases because of their unfamiliarity, had relatively low Big Five loadings. Clusters 20 and 21 were derived from a factor analysis of those adjectives administered to Sample 2 that had demonstrated a low communality with the Big Five.

Clusters 22 and 23 consisted of adjectives used by Waller and Zavala (1993) to represent Negative Valence and Positive Valence. Using data from Sample 3, we found these four-adjective clusters to possess sufficient reliability (alpha over .60) to merit further study.

Clusters 24 and 25 were based on the same data set employed by Saucier and Goldberg (1996a), but involved rotating 12 rather than 5 factors. Two of these 12 factors were relatively distinct from those described earlier, and a set of marker adjectives for these two candidate factors was found to possess sufficient reliability in Sample 3.

Cluster 26 was intended to reflect a Values factor, which in Peabody's (1987) study had appeared to be outside the Big Five.

The 23 clusters numbered from 27 through 49 in Table 1 were derived intuitively. Sixty-one potential Big-Five independent clusters were generated from among the 525 adjectives administered to Sample 4, and revised to improve their reliabilities. Those with relatively high reliability and low Big Five multiple correlation were retained. To be inclusive, several versions of some of the most

Table 1
Candidate Outlier Clusters

1. moral, principled, ethical, prudish
2. conventional, traditional, conservative, unprogressive *versus* progressive, liberal, unconventional, nonconforming
3. cultured, eloquent, dignified, refined, cosmopolitan, sophisticated, worldly, poised, extravagant *versus* uncouth, crude, unsophisticated
4. thrifty, miserly *versus* impulsive, indulgent, compulsive
5. tough, rough, surly *versus* theatrical, animated, dramatic
6. tactful, diplomatic, humorous, witty *versus* tactless, humorless
7. sexy, attractive, sensual, passionate *versus* unattractive
8. curious, inquisitive *versus* uninquisitive
9. religious, reverent *versus* nonreligious, irreverent
10. folksy, down-to-earth, homespun, informal, casual, natural
11. versatile, adaptable, independent, individualistic, opportunistic *versus* helpless
12. sly, crafty, cunning, manipulative
13. prejudiced, biased, bigoted *versus* unbigoted, unbiased, prejudiceless
14. religious, devout, reverent *versus* irreverent, undevout, nonreligious
15. sensual, lustful, passionate, erotic, sexy *versus* unsexual
16. frugal, thrifty *versus* unfrugal, unthrifty
17. weariless, untiring, fatigueless *versus* sleepy, tired, exhaustible
18. sly, cunning, slick, scheming *versus* undeceptive
19. lavish, worldly, extravagant, eloquent, cosmopolitan *versus* unworldly, unextravagant
20. reverent, devout, pious, straitlaced, moral, conservative, old-fashioned *versus* nonreligious, undevout, irreverent, impious
21. slick, scheming, crafty, deceitful, manipulative, deceptive *versus* undeceptive, unextravagant, unbigoted
22. cruel, devious, vicious, wicked
23. excellent, flawless, impressive, outstanding
24. rough, tough, masculine, brave, coarse, callous, combative, competitive *versus* feminine, cowardly, gullible, animated
25. sophisticated, refined, formal, cultured, eloquent, dignified, extravagant, poised, sexy, snobbish, worldly *versus* unsophisticated, informal, down-to-earth, casual, inarticulate, earthy
26. honest, fair, dishonest, unfair
27. skinny, slender, slim, thin *versus* fat, chubby
28. tiny, little, short *versus* tall
29. employed *versus* unemployed
30. gorgeous, sexy, beautiful, cute, glamorous, seductive, good-looking, adorable, desirable, attractive, pretty, lovely

Table 1
Continued

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31. gorgeous, sexy, beautiful, cute, glamorous, seductive, good-looking, adorable, desirable, attractive, pretty, lovely, appealing, pleasing, fashionable, stylish *versus* unattractive
32. gorgeous, sexy, seductive, good-looking, adorable, desirable, attractive, appealing, pleasing, handsome *versus* unattractive
33. seductive, sexy
34. fashionable, glamorous, stylish
35. masculine *versus* feminine
36. elderly, old, middle-aged *versus* young, youthful
37. young, youthful *versus* middle-aged
38. young, youthful *versus* elderly, old
39. old, elderly, senile
40. prosperous, rich, wealthy, well-to-do *versus* poor
41. conservative, traditional, old-fashioned
42. thankful, grateful
43. educated *versus* uneducated
44. amusing, comical, hilarious, humorous, witty
45. busy, overworked, rushed
46. stuck-up, snobbish, conceited, egotistical
47. fortunate, lucky *versus* unlucky
48. distinguished, famous, well-known, prominent
49. athletic, muscular, strong *versus* weak
50. violent, cruel, awful, dangerous, mean, disgusting, insane, crazy, evil, disturbed
51. admirable, excellent, exceptional, gifted, important, impressive, influential, outstanding, powerful, remarkable, skilled, talented *versus* average, ordinary
52. evil, awful, incompetent, retarded, stupid, dangerous, terrible, violent, abusive, disgusting, insane, disabled, good-for-nothing, homeless, senile, dumb, handicapped, elderly, old, unfriendly
53. homeless, evil, good-for-nothing, corrupt, dumb, insane, retarded, abusive, unfaithful, violent, stupid, cruel, undependable, bad, unreliable, phony, senile, dishonest, dangerous, pathetic

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promising clusters (e.g., age, attractiveness), based on variant rationales, were kept.

Clusters 50 and 51 consisted of those adjectives, among those included in the set of 525 adjectives administered to Sample 4, identified with Negative Valence and Positive Valence, respectively, in previous Spanish-language (Benet & Waller,

1995b; using their translations) and English-language (Tellegen & Waller, 1987) studies.

Cluster 52 included the 20 adjectives with the lowest mean response in Sample 4 (peer ratings). Cluster 53 included the least frequently endorsed adjectives in the cross-validation sample. Clusters 52 and 53 enabled an initial check on a competing interpretation of the factor labeled Negative Valence: Would a set of adjectives referring to low-base-rate attributes meet "beyond the Big Five" criteria, in either self or peer rating data sets, better than those previously identified with Negative Valence?

The Cross-Validation Sample

The adjectives composing the 53 clusters were administered to a sample of 694 adult residents of a medium-sized metropolitan area in the Pacific Northwest. Approximately 57% of the participants were women, and the average age was approximately 50.

The adjectives were administered in two installments. The first installment included all of the adjectives included in clusters 1 through 25, as part of the same set of adjectives that was administered to the college students of Sample 3; self-ratings were collected on a 9-point rating scale. The second installment included all of the adjectives included in clusters 26 through 53, as part of the same set of adjectives that was administered to the college students of Sample 4; self-ratings were collected on a 7-point rating scale. Each participant's ratings were ipsatized (Z-scored) to remove individual differences in the use of the rating scales.

Analyses

Each of the two adjective sets administered to the cross-validation sample included a subset of markers for the Big Five factors. The first subset included all 100 unipolar adjective Big Five markers (Goldberg, 1992), whereas the second subset included 40 core Big Five marker adjectives from among the 100—these "mini-markers" having been shown to produce essentially the same factors as the full set of 100 (Saucier, 1994a). Because the two adjective sets were administered nearly 2 years apart, and a single set of Big Five factor scores was desired, we employed the following procedure. In the data set using the first installment of adjectives, five principal components were extracted from the 100 marker adjectives and rotated by varimax, generating one set of Big Five factor scores. In the data set using the second installment of adjectives, five principal components were extracted from the 40 mini-marker adjectives and rotated by varimax, generating a second set of Big Five factor scores computed across the same subjects. These two sets of Big Five factor scores were then jointly

factor-analyzed, by principal components and varimax procedures, yielding a single set of Big Five factor scores, and without a bias toward either time of administration. Each of the Big Five factor scores from either adjective set loaded .80 and higher with a corresponding factor among these more reliable composites.

Reliability coefficients were computed for each of the 53 clusters. If deletion of one or more adjectives would raise the alpha coefficient in the present sample, an alternate reliability-maximizing version of the cluster was developed. Multiple correlations with the Big Five factor scores were calculated for each cluster.

For determining the extent to which a cluster was peripheral to the Big Five, a "minimax" criterion was employed: minimum multiple correlation with the Big Five factors, and maximum reliability. For such a criterion, a scatterplot of reliability coefficients and Big Five multiple correlations provides a simple graphical index. Multiple correlation coefficients corrected for attenuation due to imperfect reliability provided another useful index, albeit one that ought to be applied with some caution: alpha coefficients are lower-bound estimates of reliability, and corrections of *five* correlations might generate some inflation in the corrected multiple correlation coefficients.

To examine the generalizability of our findings to a *nonlexical* model of five factors, we also examined the correlations of the candidate clusters with five factors derived, by principal components and varimax rotation, from the 30 NEO-PI-R (Costa & McCrae, 1992) facet scales. The NEO-PI-R was completed by 651 of the participants at a point in time between that of administration of the two installments of adjectives.

RESULTS

General Findings

Table 2 presents the performance indices for the 53 clusters, and the reliability-maximizing revisions of these clusters. The table includes the number of adjectives, alpha and mean interitem correlation, Big Five multiple R and corrected multiple R, and correlations with the Big Five factors. The clusters in Table 2 are ordered by their corrected multiple correlations with the Big Five. Figure 1 provides the scatterplot of all the clusters, plotted by reliability and uncorrected Big Five multiple correlation. Because a number of the clusters have substantial overlap in their items, clusters having higher multiple correlations than other clusters with which they have content overlap are not labeled in the figure. It should be noted that the proximity of any two points in Figure 1 does not indicate

that they are similar in content, but rather that they are similar in how relatively independent they are of the Big Five.

Are there clusters of lexical person descriptors that are outliers to the Big Five? The single strongest candidate is a cluster of adjectival descriptors referring to perceptions of height, especially when revised to include only the two adjectives Short and Tall, which were correlated –.71 in the cross-validation sample. These are clearly not personality descriptors. Neither are the next two best clusters in terms of the minimax criterion: One (Busy-Rushed-Overworked) seems to describe a temporary condition of environmental stress, whereas the other (Employed-Unemployed) can be considered an economic indicator.

Proceeding from the top downward in Figure 1, the Religious-Nonreligious cluster is the first that has significant personality relevance, although many might classify this cluster as reflecting individual differences in attitudes or ideology, rather than personality. At any rate, its high position in the table and the figure suggests that if Religiousness is considered a sixth factor alongside the Big Five, it will be fairly orthogonal to them. Including a number of marker terms for Religiousness would generate a sixth factor that would be little affected by, and have little effect on, the original positions of the Big Five. Going downward in Figure 1, the next two clusters are either age-related (Young-Youthful) or descriptive of overt physical characteristics (Slim-Slender). Both of these clusters contained adjectives that were moderately associated with Saucier's (1997) Attractiveness factor—more so than with any other broad factor. If we accept uncorrected multiple correlations of about .30 as indicating that a cluster is beyond the Big Five, additional clusters might be selected. These include Negative Valence (or Low-Base-Rate Attributes), Folksy–Down-to-Earth, and Seductive-Sexy, the latter confirming suppositions of Buss (1996), as well as being additional constituents of an Attractiveness factor (Saucier, 1997). By "beyond Big Five" criteria, the Low-Base-Rate Attributes clusters generally (especially cluster 53) outperformed the other Negative Valence clusters, though only by a small degree. The Lucky-Unlucky cluster might be related to external-locus-of-control attributions.

In the lower third of Figure 1 there are a number of personality-relevant clusters, including Thrifty-Frugal, Cunning-Sly, Masculine-Feminine, Prejudiced-Bigoted, Erotic-Sensual, Humorous-Comical, Stuck-Up–Egotistical, Principled-Ethical, Traditional-Conservative, and Sophisticated-Unsophisticated. Two clusters in this part of the figure—

Table 2
Reliability and Big-Five Multiple Correlations of Potential Outlier Clusters

Exemplar Adjectives	Cluster No.	# Adjs.	Alpha	r̄	Big Five Multiple R	R'	Correlations with Big Five Factors I	II	III	IV	V
Short-*Tall*	28r	2	**.83**	.71	**.09**	**.10**	.02	.04	−.06	.00	−.06
Short-*Tall*	28	4	**.78**	.48	**.14**	**.15**	.01	.05	.01	.07	−.10
Busy-Overworked	45	3	**.60**	.35	**.16**	**.21**	.06	.01	.11	−.11	−.01
Employed-*Unemployed*	29	2	**.78**	.65	**.18**	**.21**	.06	−.11	.12	−.01	.06
Religious-*Nonreligious*	9r	2	**.87**	.78	**.21**	**.22**	.04	.17	.06	−.02	−.10
Slim-Slender	27	6	**.94**	.71	**.24**	**.25**	−.01	.01	.16	.17	−.07
Young-Youthful	37r	2	**.68**	.51	**.23**	**.28**	**.20**	.02	.10	.00	.04
Religious-*Nonreligious*	14	6	**.89**	.58	**.26**	**.28**	.04	.19	.12	−.01	−.11
Religious-*Nonreligious*	9	4	**.84**	.58	**.27**	**.29**	.03	**.20**	.12	.01	−.13
Old-Elderly	38	4	**.82**	.53	**.28**	**.31**	**−.20**	.02	−.10	.14	−.08
Evil–Good-for-nothing [LBRA]	53	20	**.85**	.22	**.29**	**.31**	−.06	−.13	−.12	.11	−.19
Good-for-nothing–Dumb [LBRA]	52r	17	**.82**	.22	**.29**	**.32**	−.03	−.08	−.13	.10	**−.22**
Reverent-*Undevout*	20	11	**.85**	.34	**.30**	**.32**	−.03	.16	**.20**	.01	−.16
Elderly-Old	39r	2	**.85**	.73	**.31**	**.33**	−.16	.04	−.08	**.23**	−.10
Old-*Young*	36	5	**.68**	.31	**.29**	**.35**	**−.22**	.01	−.11	.13	−.07
Seductive-Sexy	33	2	**.74**	.58	**.30**	**.35**	**.26**	.05	.08	.03	.13
Folksy–Down-to-earth	10	7	**.71**	.26	**.30**	**.36**	−.01	**.28**	−.04	.12	.00

Table 2
Continued

Exemplar Adjectives	Cluster No.	# Adjs.	Alpha	r̄	Big Five Multiple R	R'	Correlations with Big Five Factors				
							I	II	III	IV	V
Lucky-*Unlucky*	47r	2	**.73**	.58	**.32**	**.37**	.17	.15	.04	**.21**	.06
Thrifty-Frugal	16	4	**.84**	.58	**.34**	**.37**	−.17	.05	**.29**	.03	−.00
Cruel-Dangerous [NVAL]	50	10	**.73**	.23	**.32**	**.38**	−.01	**−.28**	−.12	−.09	−.05
Cruel-Dangerous [NVAL]	50r	9	**.74**	.25	**.33**	**.38**	−.04	**−.30**	−.08	−.07	−.08
Young-Youthful	37	3	.39	.19	**.24**	**.39**	**.22**	.03	.10	.00	.02
Lucky-*Unlucky*	47	3	**.70**	.44	**.32**	**.39**	.15	.17	.05	**.22**	.03
Cunning-Sly	12r	3	**.69**	.43	**.33**	**.39**	.14	**−.25**	.03	−.08	.13
Sly-Scheming	18r	4	**.71**	.38	**.33**	**.39**	.12	**−.29**	−.04	−.07	.07
Masculine-*Feminine*	35	2	**.86**	.76	**.36**	**.39**	−.03	**−.32**	.01	.08	.14
Humorous-Comical	44	5	**.86**	.56	**.36**	**.39**	**.33**	.05	−.08	.02	.12
Fair-*Dishonest* [Values]	26	4	.39	.15	**.25**	**.40**	−.03	.17	.12	.14	−.01
Elderly-Old	39	3	**.70**	.42	**.33**	**.40**	−.16	.05	−.10	**.24**	−.12
Prejudiced-Bigoted	13	6	**.78**	.38	**.35**	**.40**	.05	**−.23**	.03	**−.25**	.08
Erotic-Sensual	15	6	**.81**	.42	**.36**	**.40**	.25	.05	−.03	−.12	**.22**
Good-for-nothing–Senile [LBRA]	52	20	**.78**	.18	**.36**	**.40**	−.12	−.10	−.14	.17	**−.23**
Vicious-Cruel [NVAL]	22	4	**.61**	.30	**.32**	**.41**	.06	**−.25**	−.06	−.10	−.15
Sly-Scheming	18	5	**.66**	.29	**.33**	**.41**	.11	**−.29**	−.04	−.11	.02

Table 2
Continued

Exemplar Adjectives	Cluster No.	# Adjs.	Alpha	r̄	Big Five Multiple R	R'	Correlations with Big Five Factors				
							I	II	III	IV	V
Fashionable-Stylish	34r	2	**.87**	.77	**.38**	**.41**	**.23**	.18	**.24**	.02	−.04
Moral-Principled	1	4	.56	.29	**.33**	**.44**	−.16	**.20**	.13	.15	−.06
Wealthy–Well-to-do	40	5	**.84**	.51	**.41**	**.44**	**.20**	−.02	**.24**	**.26**	.03
Wealthy–Well-to-do	40r	4	**.85**	.58	**.41**	**.44**	.18	−.03	**.23**	**.28**	.02
Cunning-Sly	12	4	**.67**	.34	**.37**	**.45**	.17	**−.25**	−.00	−.14	.15
Scheming-Deceptive	21r	8	**.67**	.21	**.38**	**.46**	.18	**−.21**	−.10	**−.22**	.07
Grateful-Thankful	42	2	**.76**	.61	**.40**	**.46**	−.01	**.31**	.02	.06	**−.24**
Fashionable-Stylish	34	3	**.84**	.63	**.42**	**.46**	**.25**	.19	**.26**	.06	−.04
Beautiful-Gorgeous	30	12	**.90**	.43	**.44**	**.46**	**.31**	**.20**	.18	.12	.10
Stuck-up–Egotistical	46	4	**.73**	.40	**.40**	**.47**	.11	**−.33**	.01	−.05	.18
Sexy-Sensual	7	5	**.75**	.37	**.41**	**.47**	**.30**	.17	.06	−.01	.21
Principled-Ethical	1r	3	**.70**	.44	**.40**	**.48**	−.09	**.27**	.16	**.24**	.03
Muscular-Athletic	49	4	**.68**	.35	**.40**	**.49**	**.23**	−.09	.17	**.21**	.18
Sophisticated-*Unsophisticated*	25	16	**.76**	.17	**.43**	**.49**	**.21**	.01	.19	.09	**.31**
Good-looking–Attractive	32	11	**.88**	.38	**.46**	**.49**	**.30**	.17	.18	.16	.16
Scheming-Deceptive	21	9	**.66**	.19	**.40**	**.50**	.19	**−.22**	−.08	**−.26**	.05
Traditional-Conservative	41	3	**.70**	.46	**.42**	**.50**	**−.22**	−.03	**.21**	.03	**−.28**

Table 2
Continued

Exemplar Adjectives	Cluster No.	# Adjs.	Alpha	r̄	Big Five Multiple R	R'	I	II	III	IV	V
							Correlations with Big Five Factors				
Attractive-Beautiful	31	17	**.91**	.38	**.48**	**.51**	**.33**	**.24**	**.22**	.12	.08
Conservative-Traditional	2	8	**.78**	.30	**.46**	**.52**	−.14	.02	**.27**	−.02	**−.34**
Sophisticated-*Unsophisticated*	25r	15	**.78**	.19	**.46**	**.52**	**.22**	.03	.18	.09	**.34**
Fatigueless-Weariless	17	6	**.80**	.41	**.48**	**.53**	**.30**	−.06	**.23**	**.27**	.10
Thrifty-*Impulsive*	4	5	.59	.23	**.41**	**.54**	**−.27**	.01	**.25**	.14	−.13
Impulsive-Compulsive	4r	4	**.60**	.27	**.42**	**.54**	**.23**	−.07	**−.27**	−.19	.12
Dramatic-Theatrical	5r	2	**.78**	.64	**.49**	**.55**	**.37**	.06	−.10	−.16	**.24**
Educated-*Uneducated*	43	2	.57	.42	**.42**	**.56**	.06	−.00	.07	.12	**.39**
Worldly-*Unworldly*	19	7	**.68**	.23	**.46**	**.56**	**.29**	.03	−.05	.01	**.35**
Sophisticated-Cultured	3	12	**.78**	.23	**.49**	**.56**	.16	.16	.18	.18	**.36**
Sophisticated-Cultured	3r	11	**.79**	.26	**.50**	**.57**	.12	.16	**.21**	.19	**.37**
Famous-Well-known	48	4	**.78**	.46	**.50**	**.57**	**.36**	.05	.14	**.26**	.17
Inquisitive-Curious	8	3	**.78**	.55	**.53**	**.60**	.12	.02	−.07	.02	**.51**
Masculine-*Feminine*	24	12	**.73**	.18	**.52**	**.61**	.12	**−.49**	.05	.03	.14
Dramatic-Theatrical	5	6	.52	.15	**.45**	**.62**	**.24**	**.34**	−.08	−.02	.15
Outstanding-Excellent [PVAL]	23r	2	**.67**	.51	**.51**	**.62**	**.24**	.06	**.25**	**.24**	**.29**
Masculine-*Feminine*	24r	11	**.75**	.21	**.54**	**.62**	.18	**−.47**	.05	.03	.17

Table 2
Continued

Exemplar Adjectives	Cluster No.	# Adjs.	Alpha	$\bar{r}$	Big Five Multiple R	R'	Correlations with Big Five Factors I	II	III	IV	V
Diplomatic-Humorous	6	6	**.63**	.23	**.51**	**.64**	.11	**.40**	.06	.15	**.24**
Independent-Adaptable	11r	5	.52	.18	**.47**	**.65**	.16	−.02	.06	**.25**	**.36**
Outstanding-Excellent [PVAL]	23	4	**.63**	.31	**.54**	**.67**	**.30**	.04	**.31**	**.24**	**.21**
Exceptional-Remarkable [PVAL]	51r	14	**.88**	.34	**.66**	**.71**	**.33**	−.01	.12	**.25**	**.50**
Exceptional-Remarkable [PVAL]	51	15	**.87**	.33	**.67**	**.72**	**.33**	−.02	.10	**.24**	**.52**
Independent-Versatile	11	6	.45	.13	**.49**	**.73**	**.24**	−.08	.07	**.23**	**.34**

Note. $N = 694$. Exemplar adjectives are those two terms with the highest item-total correlation in the present sample. Letter "r" on end of cluster number signifies revision made by deleting items in order to optimize reliability within the present data set. Alpha coefficients of .60 and higher, and Big Five factor loadings of .20 and higher, are printed in boldface type; all Big Five multiple correlations are in boldface type. Adjectives marking the negative pole of a cluster are printed in italics. LBRA = Low-Base-Rate Attributes. NVAL = Negative Valence. PVAL = Positive Valence.
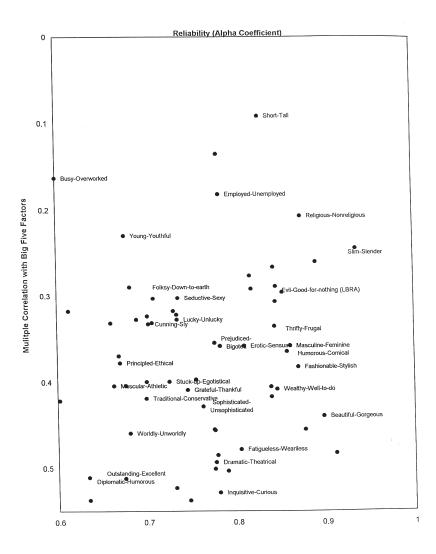
Figure 1
Scatterplot of reliabilities and Big Five multiple correlations for 53
outlier clusters.

Fashionable-Stylish and Beautiful-Gorgeous—are constituents of At-
tractiveness (Saucier, 1997). Certain of these clusters are reminiscent of
the proposals of Buss (Erotic-Sensual), De Raad et al. (Humorous-Comical),
John (Principled-Ethical, Traditional-Conservative), and Block (Stuck-
Up–Egotistical), as to what might lie outside the Big Five. What if any
of these adjective clusters were expanded into full-scale factors by an
increased representation of terms? In this case, an orthogonal factor
based on a cluster with multiple correlations of this magnitude would be
expected to perturb, or be perturbed by, the positions of the original Big
Five.

Do the same patterns found for Big Five adjective scales hold for the
NEO-PI-R five factors? The 30 facet scales of the NEO-PI-R yielded an
acceptable five-factor representation, with each of the scales loading
most highly on that factor with which its label associates it—six on each
factor. Moreover, these five factors were associated in the expected
manner with the *lexical* Big Five factors, with correlations between
matched factors ranging in magnitude from .57 (V with Openness) and
.58 (II with Agreeableness) to .73 (IV with Neuroticism, the latter
reflected to make the correlation positive). The multiple correlations of
the 75 original and revised clusters with the NEO-PI-R factors was
generally similar to that depicted in Table 2: 61 of the 75 clusters had a
NEO factor multiple correlations within .10 of its Big Five multiple
correlations,[1] indicating that our lexical findings have a high degree of
generalization to a questionnaire five-factor measure. The correlations
and multiple correlations for the remaining 14 clusters are presented in
Table 4. The most obvious patterns are that (1) Religiousness and Con-
servatism clusters had higher multiple correlations with the NEO factors,
due in large part to their stronger (negative) association with an Openness
than with an Intellect factor (cf. Saucier, 1994b; Trapnell, 1994), and
(2) clusters related to Negative Valence had lower multiple correlations
with the NEO factors, due in large part to their lower correlation with
NEO-PI-R Agreeableness as opposed to Big Five Agreeableness.

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1. About half (37) of the clusters had a multiple correlation with the questionnaire factors
within .05 of that for the Big Five. A table of correlations of all 75 clusters with the
NEO-PI-R factors is available from the first author.

Will the Real Outliers Please Stand Out?

How low a multiple correlation (after correcting for reliability) qualifies an adjective cluster as a Big Five outlier? Clearly cluster 28r (Short-Tall), with a multiple correlation of .09, *is* an outlier, and surely cluster 51 (Exceptional-Remarkable [Positive Valence]), with a multiple correlation of .67, is *not* an outlier. In between these extremes, it is something of a problem to decide what should be the multiple correlation "cutting score," below which are outliers, above which are not outliers. Rather than arguing for a single solution to the problem, we present a few alternatives. One could employ a cutting score of .30 corresponding to a figure frequently used in the factor-analytic literature. Zwick and Velicer (1982) noted that loadings below .30 or .40 are usually ignored in applications of principal components analysis. Drawing the line at a *corrected* multiple correlation of .30, six clusters (Short-Tall, Busy-Overworked, Employed-Unemployed, Religious-Nonreligious, Young-Youthful, and Slim-Slender) would qualify. Using *uncorrected* multiple correlations with a cutting score of .30, one additional cluster (#53: Low-Base-Rate Attributes) would qualify.

Alternatively, one could base a solution on an examination of Figure 1: Which clusters *stand out* from the others? That is, which clusters turn out to be outliers in graphical presentations of the Big Five multiple correlations of peripheral clusters? By this criterion, one might consider six clusters to be meaningfully beyond the Big Five, *the same six* as were accepted by looking for corrected multiple correlations under .30.

A third alternative would place greater emphasis on the *number* of adjectives in a cluster. By a corollary of the lexical hypothesis (Saucier & Goldberg, 1996b), the importance of an attribute will have some correspondence with the representation of an attribute in the natural language. Following this rationale, we ought to pay less attention to clusters having few adjectives, especially if the few adjectives are not in heavy use in everyday discourse. The six clusters with multiple correlations under .30 would probably still qualify under this interpretation. Short-Tall, Busy-Overworked, Employed-Unemployed, Young-Youthful, and Slim-Slender involve only a few terms, but terms that are probably among the most heavily used of person-descriptive adjectives. The Religious-Nonreligious distinction is a moderately rich node in the semantic network—consider adjectives like *spiritual*, *prayerful*, *mystical*, *worshipful*, *devout*, *pious*, *orthodox*, *godly*, *born-again*, *heretical*, *irreverent*, and *agnostic*—and so might qualify as a factor of some

salience in the language. Among clusters found lower in Figure 1, two stand out as having high lexical representation: Negative Valence (or by a competing interpretation, Low-Base-Rate Attributes [LBRA]) and the various aspects of Attractiveness. The best-performing of the Negative Valence clusters was number 53, with 20 adjectives. As for Attractiveness, substantial lexical representation is indicated by the number of adjectives in Attractiveness clusters—as many as 17 for cluster 31 alone—as well as their forming a separate rather large factor in previous studies.

Synthesizing these alternatives, we can conclude that six adjective clusters—Short-Tall, Busy-Overworked, Employed-Unemployed, Religious-Nonreligious, Young-Youthful, and Slim-Slender—are clearly outliers to the Big Five. Negative Valence (or Low-Base-Rate Attributes) could readily be added to this group. Some aspects of Attractiveness are clearly outliers to the Big Five, others only moderately so.

These findings can be generalized to the NEO-PI-R factors: The same sort of content appears to fall outside the "Five Factor Model," the possible exception being Religiousness, as Table 3 suggests. Indeed, Negative Valence seems to fall more decidedly outside of the NEO-PI-R version of the five factors (cf. McCrae & Costa, 1995).

Table 4 presents the intercorrelations among the seven prime outlier clusters, as well as additional clusters associated with Attractiveness and Negative Valence. Only two of the correlations among the prime outlier clusters exceed .20, and none are greater than .38. Thus the outlier clusters seem largely mutually independent.[2]

Attractiveness, Negative Valence, and Other Outlier Content

As one would expect, the clusters associated with Attractiveness are intercorrelated in Table 4, though Slim-Slender had lower intercorrelations than the other clusters. Beauty, Fashionableness, Seductiveness, Youthfulness, and Slimness are also aspects of this factor in Saucier (1997), but Youthfulness and Slimness had lower correlations with the factor than did the first three. However, in the present study Youthfulness

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2. There is some evidence that the Busy-Overworked cluster could be consolidated with the Employed-Unemployed cluster ($r = .38$); perhaps the unemployed but overworked individual is a rare bird.

Table 3
Multiple Correlations of Fourteen Clusters with Five Factors from NEO-PI-R Facet Scales

Exemplar Adjectives	Cluster No.	# Adjs.	Alpha	r̄	NEO-PI-R Multiple R	R'	Correlations With Questionnaire Factors E	A	C	N	O
Clusters With a Much Lower NEO-PI-R Multiple R Than Big Five Multiple R:											
Vicious-Cruel (NVAL)	22	4	**.61**	.30	**.14**	**.17**	.08	−.04	.01	.11	.00
Evil–Good-for-nothing (LBRA)	53	20	**.85**	.22	**.16**	**.18**	−.09	.13	.00	−.04	.00
Cruel-Dangerous (NVAL)	50	10	**.73**	.23	**.17**	**.20**	−.09	−.07	.00	.11	.05
Cruel-Dangerous (NVAL)	50r	9	**.74**	.25	**.18**	**.21**	−.12	−.08	.04	.10	.02
Educated-*Uneducated*	43	2	**.57**	.42	**.30**	**.40**	−.01	−.08	.04	−.13	**.25**
Diplomatic-Humorous	6	6	**.63**	.23	**.36**	**.46**	**.22**	.13	.03	−.15	**.22**
Clusters With a Much Higher NEO-PI-R Multiple R Than Big Five Multiple R:											
Busy-Overworked	45	3	**.60**	.35	**.27**	**.34**	.13	.00	**.21**	.12	−.03
Religious-*Nonreligious*	9r	2	**.87**	.78	**.40**	**.43**	.14	**.26**	.14	.12	−.19
Religious-*Nonreligious*	14	6	**.89**	.58	**.44**	**.47**	.15	**.28**	.18	.11	**−.22**
Religious-*Nonreligious*	9	4	**.84**	.58	**.45**	**.49**	.15	**.29**	.18	.12	**−.23**
Masculine-*Feminine*	35	2	**.86**	.76	**.46**	**.49**	−.14	**−.41**	−.01	−.14	−.09
Reverent-*Undevout*	20	11	**.85**	.34	**.48**	**.52**	.08	**.24**	**.23**	.08	**−.33**
Traditional-Conservative	41	3	**.70**	.46	**.53**	**.63**	−.17	.09	.14	.06	**−.46**
Conservative-Traditional	2	8	**.78**	.30	**.56**	**.63**	−.05	.08	.17	.04	**−.52**

Note. $N = 694$. Exemplar adjectives are those two terms with the highest item-total correlation in the present sample. Letter "r" on end of cluster number signifies revision made by deleting items in order to optimize reliability within the present data set. Alpha coefficients of .60 and higher, and Big Five factor loadings of .20 and higher, are printed in boldface type; all Big Five multiple correlations are in boldface type. Adjectives marking the negative pole of a cluster are printed in italics. LBRA = Low-Base-Rate Attributes. NVAL = Negative Valence.

Table 4
Intercorrelations Among Prime Outlier Clusters and Additional Negative Valence and Attractiveness Clusters

	28r	45	29	9r	37r	27	53	50	33	15	34r	30
Short-*Tall* (28r)												
Busy-Overworked (45)	.04											
Employed-*Unemployed* (29)	–.08	**.38**										
Religious-*Nonreligious* (9r)	.06	.04	–.08									
Young-Youthful (37r)	–.06	.13	.29	–.06								
Slim-Slender (27)	–.19	.01	.07	–.01	.19							
Evil–Good-for-nothing [LBRA] (53)	.10	–.14	–.15	.03	–.06	–.04						
Cruel-Dangerous [NVAL] (50)	.10	–.09	–.08	–.05	.00	–.06	**.76**					
Seductive-Sexy (33)	–.07	.01	.14	–.09	.29	.18	–.18	–.14				
Erotic-Sensual (15)	–.07	.00	.18	–.17	.23	.06	–.14	–.06	**.57**			
Fashionable-Stylish (34r)	.00	.02	–.01	.09	.19	.22	–.06	–.14	**.33**	.11		
Beautiful-Gorgeous (30)	–.05	.02	.13	.00	**.40**	.26	–.17	–.19	**.74**	**.37**	**.52**	

Note. N = 694. Coefficients of .30 and greater in magnitude are printed in boldface type. LBRA = Low-Base-Rate Attributes. NVAL = Negative Valence. Correlations between LBRA and NVAL are boxed in with dotted lines; correlations between the clusters associated with Attractiveness are boxed in with solid lines.

and Slimness were the *most* orthogonal to the Big Five. It may be that the addition of these latter aspects to core aspects like Beauty helps the Attractiveness factor achieve its status as a broad factor *independent* of the Big Five. The methodology of this study led to a splitting rather than a lumping together of these aspects of Attractiveness. The splitting usefully underlines the multifaceted nature of this non-Big-Five factor, which appears to comprise a number of attributes *associated with the intensity and frequency with which an individual evokes courtship behaviors*; one might evoke courtship behaviors either by attracting overtures (because one is perceived as Gorgeous, Fashionable, or Youthful) or by facilitating overtures (because one is Sensual or Seductive). The substantial representation of Attractiveness in the natural language helps account for its appearance as a factor additional to the Big Five in other studies (e.g., Henss, 1996a, 1996b; Saucier, 1997; cf. Lanning, 1994), despite the nontrivial multiple correlation with the Big Five of *some* of its subcomponents (Table 2 and Figure 1). The person-descriptive importance of Attractiveness is indicated by the large body of personality-relevant research addressed to it (Eagly, Ashmore, Makhijani, & Longo, 1991; Feingold, 1992).

How did other conjectures fare, regarding what is beyond the Big Five? Predictably, the observer who fared best is the one who bet on the widest array of horses: John (1989) predicted that physical characteristics would fall outside the Big Five, and they certainly did so in this study. However, John's other bets (e.g., Individuation/Autonomy, Maturity) did not fare as well. Goldberg's (1990) empirically derived suggestions were generally borne out here: Religiousness was a fairly clear Big Five outlier, and both Thrift and Sensuality fell into the borderline category. Buss's (1996) suggestions about individual differences in sexual behavior were moderately supported, with a "Seductive-Sexy" cluster falling at the high end of the borderline category. Henss's (1996a, 1996b) suggestions regarding the outlier status of Attractiveness were supported, providing that we recognize that some aspects of Attractiveness are more orthogonal to the Big Five than are others. The Humorous-Comical cluster fell in the borderline category, giving some support to suggestions of De Raad (De Raad & Hoskens, 1990; De Raad et al., 1988). One of Block's (1995) conjectures (Narcissism) may be reflected in one of the lower borderline clusters (Stuck-Up–Egotistical).

The hypothesis of Big Seven proponents (e.g., Tellegen & Waller, 1987) regarding Positive Valence was certainly *not* supported. Big Five

multiple correlations for all Positive Valence clusters were .51 and higher (corrected, .62 and higher). Big Five multiple correlations for all of the Attractiveness clusters was substantially lower than those for the various Positive Valence (PVAL) clusters.

There was support for Negative Valence. However, our results suggest that Negative Valence has tremendous overlap ($r = .76$; Table 4) with a scale defined by Low-Base-Rate Attributes, which is *at least* as Big Five–independent as Negative Valence. Thus, our results raise questions as to the substantive interpretation of Negative Valence.

Waller (in press) states that scores on Negative Valence differentiate individuals with respect to self-perceptions of evil or awfulness. In other words, the self-ascription of these attributes is taken to be a genuine attempt at honest self-characterization. However, two rival interpretations have not yet been eliminated. According to one, high scorers on Negative Valence are careless responders, for example, individuals who failed to note (or to care) that the item they were endorsing as self-applicable was "evil" or "good-for-nothing." According to the other rival interpretation, high scorers on Negative Valence are "faking bad," for example, describing themselves as "evil" or "good-for-nothing" to achieve a certain effect; this interpretation seems less plausible than the first, since our subjects would have no readily apparent motivation to "fake bad." Another possibility, of course, is that all three interpretations are correct to varying degrees, and that high scorers on Negative Valence represent a heterogeneous mixture of individuals who (1) truly believe they are good-for-nothing and evil; (2) are not paying attention to the task, probably in order to complete it rapidly; and (3) are falsely responding in order to create a negative impression. Interestingly, much the same can be said about high scorers on the well-known F (Infrequency) scale of the MMPI; perhaps Negative Valence could function as a validity indicator from the natural language.

Resolution of these issues falls outside the scope of the present study, but suggests fertile areas for future research. Relevant data would include not only Negative Valence and substantive person-description variables like the Big Five factors, but also a wider range of low-base-rate descriptors than was included here,[3] as well as scales measuring impression management and those based on an infrequency rationale.

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3. Some further examples of low-base-rate descriptors would be Green-eyed, Hemophiliac, Paraplegic, Centagenarian, Unconscious, Communist, Castrated, and Cloned. These attributes appear to have nothing in common but their low base rate.

FINAL CONSIDERATIONS

The present study makes a contribution complementary to that provided by typical lexical studies, in which large numbers of descriptors are factor-analyzed in search of a few broad dimensions. In such studies with many variables but few factors, peripheral sources of variance are inevitably ignored. Nevertheless, in some contexts or in some research programs, such peripheral elements could be of considerable importance. As an analogy, chemistry's periodic table does not restrict itself to the most commonly found elements (e.g., hydrogen, oxygen, and carbon), but includes rare elements as well.

The prime outlier clusters might be thought of as *beside* the Big Five in a hierarchy, and generally covering content not conventionally defined in terms of *personality* traits. These conventions are, however, a matter of debate among scientists. Some personologists clearly consider Negative Valence (Waller, in press) and Religiousness (Cloninger, Svrakic, & Przybeck, 1993) to be within the personality domain. It would be difficult to argue that individual-differences variables like Attractiveness, Height and Girth, and Religiousness are entirely irrelevant to the study of personality. However, because the clusters that are clearly beyond the Big Five cannot easily be termed "personality," we find here indirect evidence of the comprehensiveness of the Big Five for describing personality *as personality is most conventionally understood*.

Attention should probably not be restricted entirely to the prime outlier clusters identified in this study. Many useful individual-difference distinctions are found among the adjective clusters with multiple correlations of .30 to .45 with the Big Five. These clusters deserve further attention with regard to at least three research questions. First, will our findings generalize to other samples? Second, do these "borderline" clusters become more peripheral to the Big Five when another Big Five measure is used?[4] And third, what specific aspects of these clusters are most and least related to the Big Five?

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4. Of course, exactly how peripheral these clusters are to the Big Five depends to some extent on one's measure of the Big Five. If a Big Five measure were constructed by a strategy designed to maximize bandwidth (at some inevitable cost to reliability), many of these clusters might even be incorporated into marker sets for one or another of the factors. For example, Cunning-Sly, Masculine-Feminine, Prejudiced-Bigoted, and Stuck-Up–Egotistical could be thought of as some of the farther-flung subcomponents of low Big Five Agreeableness, and might be thought of as potential Big Five marker adjectives.

In this study, some conjectures of prior observers were confirmed, but the success of these conjectures depended largely on their degree of extension into attributes conventionally outside the pale of personality psychology. This pattern suggests an overall conclusion that can be derived from our study. If one desires to venture "beyond the Big Five," the surest destinations will be outside those familiar territories of description that personality psychology has settled into and cultivated. Indeed, ventures into these more "exotic" domains could be quite illuminating and useful.

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