

Honesty-Humility, the Big Five, and the Five-Factor Model

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ABSTRACT This study investigated the relations of the proposed sixth factor of personality, Honesty-Humility, with the dimensions of the classic English lexical Big Five and the closely related Five-Factor Model (FFM). Results showed that although Honesty-Humility was largely unrelated to markers of the Big Five factors, it was substantially correlated with the FFM Agreeableness domain. This relation was largely due to the Straightforwardness and Modesty facets of FFM Agreeableness, which were only weakly correlated with the Big Five version of Agreeableness. A realignment of FFM facets to produce separate Honesty-Humility and Agreeableness factors provided better prediction of personality variables that involve deceit without hostility, such as Social Adroitness and Self-Monitoring. Results indicate the importance of assessing Honesty-Humility as a separate factor.

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Since the 1980s, the field of personality research has been dominated by the Five-Factor Model of personality structure (e.g., Costa & McCrae, 1985, 1992; McCrae & Costa, 1985, 1997), a variant of the “Big Five” factor structure found in English-language lexical research (Goldberg, 1983, 1990). Recently, however, cross-cultural evidence has accumulated in support of a six-dimensional framework of personality structure (Ashton, Lee, Perugini, et al., 2004) that is now known as the HEXACO model (Lee & Ashton, 2004). This latter model differs from the Big Five and Five-Factor Model partly in terms of the rotational orientation and defining content of two factors, but also in terms of the inclusion of a sixth factor known as Honesty-Humility. The purposes of the present research are to investigate the relations between Honesty-Humility and the dimensions of the Big Five and Five-Factor Model, and to illustrate the empirical and conceptual advantages of measuring Honesty-Humility separately from the other five factors.

The Lexical Origins of the Five-Factor Model

Perhaps the clearest and most concise history of the Five-Factor Model and its measurement is that provided by McCrae (1989, p. 238). McCrae explained that this model and its operationalization, the NEO Personality Inventory (NEO-PI; Costa & McCrae, 1985),

can be traced indirectly to Allport and Odbert’s (1936) list of English-language trait names. Cattell grouped these terms into synonyms, gathered ratings on the resulting clusters, and factored them as the first step in the development of the Sixteen Personality Factor Questionnaire (16PF; Cattell, Eber, & Tatsuoka, 1970). We in turn (Costa & McCrae, 1980) factored the 16PF scales and identified three broad dimensions or domains of personality: Neuroticism (N), Extraversion (E), and Openness to Experience (O). To operationalize our model, we developed facet scales to measure different aspects of each domain and confirmed the hypothesized three-dimensional structure in both self-reports and spouse ratings (McCrae & Costa, 1983). A few years later, however, we were persuaded by the work of Digman (Digman & Takemoto-Chock, 1981) and Goldberg (1983) that our model was incomplete, and we added scales to measure Agreeableness (A) and Conscientiousness (C) in the published version of the NEO-PI.

Two important points should be taken from this history. First, the original three factors of the NEO model were derived from a questionnaire that was itself ultimately based on Cattell's early lexical studies of personality structure. Second, the remaining two factors that complete the Five-Factor Model were added by Costa and McCrae directly on the basis of the lexical studies of personality structure conducted by Digman and by Goldberg. Taken together, these points force the conclusion that the origins of the Five-Factor Model lie firmly within the lexical tradition of personality structure research.

After Costa and McCrae had adopted the Five-Factor Model as their preferred taxonomy of personality traits, they then went on to relate those five factors to a vast array of other personality variables, most of which are assessed by the scales of structured personality inventories. In fact, although the Five-Factor Model owes its origins to lexical studies of personality structure, it owes much of its popularity to the ability of its factor space to accommodate a wide variety of personality constructs operationalized by other instruments. In a series of studies during the 1980s and 1990s, Costa and McCrae demonstrated that the scales of many personality inventories were substantially associated with the domains of the NEO-PI or its successor, the NEO Personality Inventory—Revised (NEO-PI-R; Costa & McCrae, 1992). The importance of the joint analyses reported by Costa and McCrae was not to illustrate any universal recovery of the five factors—for example, there was no clear counterpart of Agreeableness in the California Psychological Inventory (see McCrae, Costa, & Piedmont, 1993) or in the Guilford-Zimmerman Temperament Survey (see McCrae, 1989). Instead, the value of those studies was to illustrate that the variables assessed by other instruments could largely be accommodated within the space of the Five-Factor Model—the model that was adopted by Costa and McCrae on the basis of findings from lexical studies of personality structure.

Results of Lexical Studies Across Languages: Emergence of the HEX-ACO Model of Personality Structure

As explained above, the Five-Factor Model was derived, directly and indirectly, from lexical studies of personality structure in one language: English. Since the late 1980s, however, similar investigations have been conducted in several other languages. The results of these

studies have provided support for several aspects of the Big-Five factor structure obtained in English. In particular, variants of four of the factors—Extraversion, Agreeableness, Conscientiousness, and Neuroticism (vs. Emotional Stability)—have emerged consistently (De Raad, Perugini, Hrebickova, & Szarota, 1998). However, several studies have failed to recover all five factors in their classic form (see Peabody & De Raad, 2002). Whereas some investigations have recovered an Openness to Experience-like factor—characterized by Intellect-, Imagination-, or Unconventionality-related content—within five-factor solutions, at least two investigations instead recovered a factor defined by Honesty- and Humility-related content.

The most surprising result of these lexical studies of personality structure, however, has been the emergence of a *six*-factor solution that has recurred in similar form across languages (see review by Ashton, Lee, Perugini, et al., 2004). This solution contains factors similar to Extraversion and Conscientiousness and an Openness to Experience-like factor as described above. In addition, however, the Agreeableness and Neuroticism factors emerge in rotated form, such that content related to anger versus even-temper shifts from Neuroticism to the new variant of low Agreeableness, and content related to sensitivity/sentimentality versus toughness shifts from Agreeableness to the new variant of Neuroticism (which we have named Emotionality to reflect this exchange of content). Moreover, a sixth factor interpretable as Honesty-Humility has also been found repeatedly, being defined by terms such as *sincere*, *fair*, and *unassuming* versus *sly*, *greedy*, and *pretentious*.¹ Interestingly, although the discovery of the lexical Honesty-Humility factor was rather recent, this factor is conceptually similar to, and is empirically strongly correlated with, several long-established personality variables, including (at the

1. In two of the languages reviewed by Ashton, Lee, Perugini, et al. (2004)—specifically, Polish and Italian—the Honesty-Humility factor was somewhat broader in content, being defined also by some generosity-related adjectives (e.g., *generous*, *altruistic*, *helpful*) that in other languages had defined the Agreeableness factor. This shifting in the location of generosity-related content suggests that it represents a blend of Honesty-Humility and of the six-dimensional variant of Agreeableness, a situation that is consistent with the theoretical interpretations suggested by Ashton and Lee (2001). This result also contrasts with the five-factor solutions in earlier English-language lexical research (e.g., Goldberg, 1990; Saucier & Goldberg, 1996), in which this content consistently defined a single factor, the classic Big Five Agreeableness.

opposite pole) the “Dark Triad” traits of Machiavellianism, Narcissism, and Primary Psychopathy (Lee & Ashton, 2005).

This six-factor structure summarized by Ashton, Lee, Perugini, et al. (2004) has thus far been recovered from the personality lexicons of languages such as Dutch (De Raad, 1992; De Raad, Hendriks, & Hofstee, 1992), French (Boies, Lee, Ashton, Pascal, & Nicol, 2001), German (Angleitner & Ostendorf, 1989; Ostendorf & Angleitner, 1993), Hungarian (De Raad & Szirmak, 1994; Szirmak & De Raad, 1994), Italian (Caprara & Perugini, 1994; Di Blas & Forzi, 1998, 1999; Di Blas & Perugini, 2002), Korean (Hahn, Lee, & Ashton, 1999), and Polish (Szarota, 1995, 1996). Interestingly, however, the “seventh” factors observed in the seven-factor solutions of these lexical studies represent a wide array of diverse personality constructs, including meanness, elegance, creativity, energy, romanticism, and relaxedness (see Ashton, Lee, Perugini, et al., 2004). This suggests that only six personality factors are robustly replicated across languages.

The discovery of a widely replicated six-factor structure raises the question of why that structure does not also characterize the English personality lexicon, which has instead generated the classic Big Five dimensions upon which the Five-Factor Model is based. But this six-dimensional framework has, in fact, been recovered from the English language: recent reanalyses of Goldberg’s (1982) data, involving self-ratings on a set of 1,710 terms—representing nearly the entire population of familiar English personality-descriptive adjectives—reveal a six-factor solution very similar to those of the other languages listed above (Ashton, Lee, & Goldberg, 2004). This solution includes both a variant of the Honesty-Humility factor and also the rotated variants of Agreeableness and Neuroticism (i.e., Emotionality).

We should note that additional lexical investigations of person-descriptive terms have also been carried out in languages such as Filipino or Tagalog (e.g., Church, Katigbak, & Reyes, 1998) and Turkish (Goldberg & Somer, 2000). But because these projects have included non-personality-descriptive terms within their variable sets, such as purely evaluative terms of insult or praise and/or terms describing physical appearance, their results are less directly comparable to those of the other projects described here. Also, a Czech lexical study by Hrebickova (1995) produced a six-factor solution that contained a small factor defined chiefly by non-personality-descriptive terms such as *agile*, *nimble*, and *skillful*. Interestingly,

Hrebickova's (1995) seven-factor solution suggests possible similarities with the six-factor structure observed in other languages, apart from the additional Czech factor describing motor skills.

The set of six factors described above is impressive for the fidelity with which it has been recovered across languages, but also for the diversity of languages in which it has been obtained. The languages listed above include three branches of the Indo-European language family—Germanic, Romance, and Slavic—as well as two other languages—Hungarian and Korean—that represent two additional language families. Given these findings, it seems likely that if researchers had been presented 20 years ago with the extensive cross-language evidence that is known today, they would have adopted a six-factor model rather than the Five-Factor Model that has been so popular ever since.

To summarize, lexical studies of personality structure have suggested the existence of six, not just five, dimensions that replicate widely across languages. These six dimensions, which we have recently called the HEXACO factors (Lee & Ashton, 2004), represent a reorganization of the Five-Factor Model dimensions, with the addition of some new variance. Three of the HEXACO factors—extraversion (X), Conscientiousness (C), and Openness to Experience (O)—are similar to their Five-Factor Model counterparts. Two other HEXACO factors—Emotionality (E) and Agreeableness (A)—roughly represent rotated variants of the Five-Factor Model dimensions of Neuroticism and Agreeableness. The additional HEXACO factor is known as Honesty-Humility (H), and the present article will investigate the relations between Honesty-Humility and the dimensions of the Five-Factor Model and the Big Five.

Honesty-Humility: Relations With the Big Five and the Five-Factor Model?

An interesting question involves the extent to which the Honesty-Humility factor is represented within the Five-Factor Model. In addressing this question, it is useful to distinguish between the classic Big Five factor structure, as operationalized in adjective and questionnaire markers by Goldberg (1992, 1999; also Saucier, 1994), and the Five-Factor Model, as operationalized in questionnaire markers by Costa and McCrae (1985, 1992).

Goldberg's (1992, 1999; Saucier, 1994) marker scales of the Big Five factor structure were developed according to a "cluster sam-

pling” approach (Goldberg, 1992, p. 28) to represent the core aspects of each of the five factors as revealed in his English-language lexical research. Thus, the content of his adjective and questionnaire markers of those factors is generally focused on those elements that most strongly define each factor. For example, in the case of the Big Five Agreeableness dimension, this has meant an emphasis on adjectives and on questionnaire items indicating kindness and pleasantness versus rudeness and harshness. Traits that have been found to be quite weakly associated with this dimension in English lexical research—including (lack of) slyness or (lack of) pretentiousness (e.g., Saucier & Goldberg, 1996)—are not represented by adjectives or items within those marker scales.

Costa and McCrae (1992) operationalized the Five-Factor Model via the NEO Personality Inventory—Revised (NEO-PI-R), a questionnaire that assesses six distinct lower-level “facet” traits within each of the five broad domains. As would be expected of an inventory that is intended to measure a variety of lower-level constructs, the NEO-PI-R domains tend to be somewhat heterogeneous in content and subsume some constructs whose loadings on the five lexical factors are somewhat modest. In the case of the NEO-PI-R Agreeableness domain, two of the six facets assess constructs that are not among those that strongly define the Big Five Agreeableness factor as obtained in earlier English lexical research. However, these same two facets seem likely to correlate strongly with measures of the Honesty-Humility construct, because both facets show a clear conceptual overlap with the content of the lexical Honesty-Humility factor.

First, the Straightforwardness facet scale assesses a tendency to be frank and sincere in dealings with others and to avoid using manipulation, flattery, trickery, and deception. Second, the Modesty facet scale assesses a tendency to be unassuming and self-effacing and to avoid bragging or expressing feelings of superiority. Thus, these two facets of NEO-PI-R Agreeableness are very reminiscent of the Honesty-Humility factor and would be expected to correlate strongly with markers of that factor.

But on the other hand, these two facets correspond to traits that are weakly loaded on the Big Five Agreeableness factor as obtained in the English language (McCrae & Costa, 1985; Saucier & Goldberg, 1996) and would be expected to correlate rather weakly with markers of that factor. For example, McCrae and Costa (1985) found that the adjective pairs *manipulative—straightforward* and

proud—humble loaded .30 and .29, respectively, on a (low) Agreeableness factor. Although these were the highest loadings of these variables within the five-factor solution, these were the weakest primary loadings of any of the 80 variables in that solution. Similarly, terms such as *pretentious* and *sly*, which defined the low pole of the English Honesty-Humility factor (Ashton, Lee, & Goldberg, 2004), showed only low loadings ($-.15$ and $-.33$, respectively) on the Big Five Agreeableness factor in previous analyses of English personality-descriptive adjectives (Saucier & Goldberg, 1996). Interestingly, the adjective *sly*, which was among the highest-loading terms on the low pole of the English Honesty-Humility factor, was also represented in the adjective clusters analyzed by Goldberg (1990). Those clusters—the “dishonesty” cluster of Goldberg’s Table 1 and the “cunning” cluster of his Table 3—loaded $-.39$ and $-.35$, respectively, on the Agreeableness factor obtained from self-ratings (see Goldberg, 1990, Table 2 and Table 4); these values were only about half as large as those of the highest-loading clusters.

Given the content of the marker variables representing the Big Five and the Five-Factor Model, some predictions can be rather made regarding the relations of those variables with measures of the HEXACO Honesty-Humility domain. First, the Big Five markers, including Agreeableness, would be expected to be rather weakly correlated with Honesty-Humility, which does not overlap with the core content of any of those five dimensions (see also Lee, Gizzarone, & Ashton, 2003). In contrast, the Five-Factor Model marker scales for Agreeableness would be expected to correlate substantially with measures of Honesty-Humility, because two of the NEO-PI-R Agreeableness facets are conceptually similar to aspects of the Honesty-Humility factor. In fact, these two facet scales would be expected to correlate more strongly with Honesty-Humility than with markers of Big Five Agreeableness.

Honesty-Humility in the NEO Personality Inventory—Revised

To the extent that the Honesty-Humility factor is represented within the Straightforwardness and Modesty facets of the NEO-PI-R, the question arises as to whether that inventory could produce an Honesty-Humility factor within a six-factor solution. Thus far, analyses of the NEO-PI-R have not generated any such factor (e.g., McCrae, Zonderman, Costa, Bond, & Paunonen, 1996), but this result is not

surprising: only two of the 30 NEO-PI-R facets are conceptually very similar to Honesty-Humility, and those two facets were not constructed in such a way as to be differentiated from all of the others, but rather to join with the other four facets of the Agreeableness domain on a single factor.

But even though the NEO-PI-R cannot by itself produce a sixth factor corresponding to the Honesty-Humility dimension found in lexical studies, it is likely that such a factor would emerge if a wider variety of Honesty-Humility marker variables were included in the variable set. Moreover, to the extent that the combined Straightforwardness and Modesty facets could provide a reasonable approximation to this sixth factor, it is plausible that a realignment of NEO-PI-R facets in such a way as to produce a separate Honesty-Humility domain would allow improvements in predictive validity and in theoretical understanding of some personality variables. For example, Jackson's (1970) Social Adroitness scale is uncorrelated with markers of the Five-Factor Model (Paunonen & Jackson, 1996) and does not load strongly on any of the Big Five personality factors (Ashton, Jackson, Helmes, & Paunonen, 1998). However, the content of that scale—including the tendency to flatter and pretend—suggests links with low Honesty-Humility, and previous research has indeed shown substantial negative correlations between Social Adroitness and the sixth factor (Ashton, Lee, & Son, 2000). Similarly, Snyder's (1974) Self-Monitoring Scale is highly reminiscent of Social Adroitness, and might also be expected to correlate negatively with those NEO-PI-R Agreeableness facets that are suggestive of Honesty-Humility.² To the extent that the Social Adroitness and Self-Monitoring constructs involve deceit and affectation without involving rudeness and hostility, we would expect them to be more strongly associated with an Honesty-Humility variable derived from NEO-PI-R Agreeableness facets than with the traditional NEO-PI-R Agreeableness domain itself.

2. In addition, the Self-Monitoring scale contains several items suggestive of Extraversion (Briggs, Cheek, & Buss, 1980) and therefore would likely correlate modestly with that factor. A similar relation with Extraversion might also be expected for Social Adroitness, whose item content is broadly similar to that of Self-Monitoring.

METHOD

Participants and Procedure

Participants in this study were residents of Oregon who belonged to the Eugene-Springfield Community Sample and were recruited by mail solicitation beginning in 1993. All participants agreed to complete various personality questionnaires over a period of several years in exchange for pay. The ages of participants at the start of the data collection ranged from 18 to 85 years, with a median of 49; 57% were women. The present data are based on a total of 784 participants, but because some participants did not complete some of the questionnaires, sample sizes for the analyses reported below range from 449 to 659. Participants completed questionnaires at home and returned them in preaddressed, postage-paid envelopes to the Oregon Research Institute.

Materials

Among the questionnaire scales administered to the Eugene-Springfield Community Sample were the variables of interest to the present study, which include the following:

Big Five Mini-Marker scales. We used raw scores on the five 8-item "Mini-Marker" scales developed by Saucier (1994). These scales are abbreviated versions of the longer adjective scales constructed by Goldberg (1992) to measure the Big Five factors as obtained in English lexical studies. In comparison with the original marker scales, these abbreviated scales make less use of unfamiliar or difficult adjectives, show lower interscale correlations, and show higher inter-item correlations. Saucier (1994) reported internal-consistency reliabilities ranging from .78 to .83 for the Mini-Marker scales.

International Personality Item Pool (IPIP) Big Five marker scales. We also used scores on the five 20-item marker scales of the Big Five personality factors developed by Goldberg (1999). These scales, which consist of items from Goldberg's (1999) International Personality Item Pool, have shown high convergent and low discriminant correlations with adjective-based English-language markers of the Big Five factors. In the Eugene-Springfield Community Sample, the internal-consistency reliabilities of these scales ranged from .88 to .91. Convergent correlations between the IPIP Big Five scales and the adjective Big Five Mini-Marker scales (described above) ranged from .69 (both Agreeableness and Emotionality) to .77 (Extraversion) in this sample.

NEO Personality Inventory—Revised (NEO-PI-R). The five domain-level and 30 facet-level constructs assessed by the 240-item NEO-PI-R (Costa & McCrae, 1992) are familiar to personality researchers, and the psychometric properties of the NEO-PI-R facet and domain scales have been reported widely. In the Eugene-Springfield Community Sample, the internal-consistency reliabilities of the NEO-PI-R facet scales ranged from .61 to .85, and those of the NEO-PI-R domain scales ranged from .89 to .93.

HEXACO Personality Inventory (HEXACO-PI). This new 192-item inventory and its psychometric properties have been described in detail by Lee and Ashton (2004). The HEXACO-PI contains six broad domain scales—Honesty (H), Emotionality (E), eXtraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O)—each of which subsumes four constituent facet-level scales. Of particular interest to the present study is the Honesty-Humility domain scale and its four constituent facet-level scales: Sincerity, Fairness, Greed-Avoidance, and Modesty. The definitions of these scales are as follows (Lee & Ashton, 2004, Table 1):

The Sincerity scale assesses a tendency to be genuine in interpersonal relations. Low scorers will flatter others or pretend to like them in order to obtain favors, whereas high scorers are unwilling to manipulate others.

The Fairness scale assesses a tendency to avoid fraud and corruption. Low scorers are willing to gain by cheating or stealing, whereas high scorers are unwilling to take advantage of other individuals or of society at large.

The Greed Avoidance scale assesses a tendency to be uninterested in possessing lavish wealth, luxury goods, and signs of high social status. Low scorers want to enjoy and to display wealth and privilege, whereas high scorers are not especially motivated by monetary or social-status considerations.

The Modesty scale assesses a tendency to be modest and unassuming. Low scorers consider themselves as superior and as entitled to privileges that others do not have, whereas high scorers view themselves as ordinary people without any claim to special treatment.

Within the Eugene-Springfield Community Sample, the internal-consistency reliability of the Honesty-Humility domain scale was .90, and the corresponding values for the four facet scales within that domain ranged from .74 to .81.

Jackson Personality Inventory (JPI) Social Adroitness scale. The JPI Social Adroitness scale (Jackson, 1970) has been renamed Social Astuteness in the Jackson Personality Inventory—Revised (Jackson, 1994), but here we will use the original name. No changes in item content were made in the revision of the scale. As noted in the introduction, the 20 items of this scale describe a style of social interaction that is intended to influence others indirectly, for example by flattering others and by pretending to like things. In the Eugene-Springfield Community Sample, the internal-consistency reliability of the Social Adroitness scale was .66.

The Self-Monitoring scale. The Self-Monitoring scale (Snyder, 1974) contains 25 items that collectively describe social confidence, conformity, and—of particular interest to the present research—a deceptive and affected style of interpersonal interaction, similar to that expressed in the JPI Social Adroitness items, above. In the Eugene-Springfield Community Sample, the internal-consistency reliability of the Self-Monitoring scale was .74.

RESULTS

Honesty-Humility, the Big Five, and the Five-Factor Model

Table 1 shows the correlations of the HEXACO-PI Honesty-Humility domain and its facets with the Big Five Mini-Marker scales, the IPIP Big Five scales, and the NEO-PI-R domain scales. With regard to the Big Five Mini-Marker and IPIP Big Five variables, Honesty-Humility was almost independent, as even its strongest correlations only reached the .20s ($r = .26$ for Big Five Mini-Marker Agreeableness, $r = .28$ for IPIP Big Five Agreeableness). The multiple correlation of all Big Five scales with Honesty-Humility was also rather modest ($R = .35$ for Mini-Markers, $R = .44$ for IPIP), being only slightly higher than some of the zero-order correlations among the Big Five markers in this sample (e.g., $r = .32$ for Mini-Marker Agreeableness and Emotional Stability, $r = .40$ for IPIP Extraversion and Intellect/Imagination). Correlations of the facets of Honesty-Humility with these Big Five variables were also small, although Fairness correlated .28 and .37, respectively, with the Mini-Marker and IPIP versions of Agreeableness, and Modesty correlated $-.30$ and $-.31$, respectively, with the Mini-Marker and IPIP versions of Intellect/Imagination.

Table 1
Correlations of HEXACO-PI Honesty-Humility Domain and Facet Scales With IPIP Big Five Scales and NEO-PI-R Domain Scales

	<i>HEXACO-PI Domain and Facets</i>				
	Honesty-Humility	Sincerity	Fairness	Greed-Avoidance	Modesty
<i>Big Five Mini-Markers</i>					
Extraversion	-.09	-.07	.06	-.10	-.16
Agreeableness	.26	.11	.28	.17	.24
Conscientiousness	.04	.04	.16	-.01	-.05
Emotional Stability	.22	.20	.18	.19	.09
Intellect/Imagination	-.12	-.07	-.04	.02	-.30
<i>R</i>	.35	.24	.33	.25	.43
<i>IPIP Big Five</i>					
Extraversion	-.17	-.13	.04	-.14	-.28
Agreeableness	.28	.17	.37	.16	.19
Conscientiousness	.06	.09	.17	-.05	-.01
Emotional Stability	.14	.13	.14	.12	.03
Intellect/Imagination	-.12	-.04	.02	-.04	-.31
<i>R</i>	.44	.31	.41	.30	.49
<i>NEO-PI-R Domain</i>					
Neuroticism	-.12	-.16	-.17	-.10	.04
Extraversion	-.18	-.16	.03	-.23	-.18
Openness to Experience	-.07	-.03	-.06	.01	-.13
Agreeableness	.54	.35	.43	.36	.51
Conscientiousness	.11	.11	.29	.03	-.06
<i>R</i>	.58	.42	.49	.45	.57

Note. $N = 620$ for Big Five Mini-Markers, $N = 449$ for IPIP Big Five, $N = 655$ for NEO-PI-R.

With regard to the NEO-PI-R domains, Honesty-Humility was clearly not orthogonal, correlating .54 with Agreeableness and having a multiple correlation of .58 with all five NEO-PI-R domains. The four Honesty-Humility facets all correlated significantly with NEO-PI-R Agreeableness, with values ranging from .35 (Sincerity) to .51 (Modesty).

Thus, the above results show that Honesty-Humility is rather weakly correlated with the Big Five factors—including Agreeableness—as conceptualized directly on the basis of earlier English-lan-

guage lexical studies of personality structure (see also Lee et al., 2003). However, Honesty-Humility is substantially correlated with the Five-Factor Model, which was conceptualized on a more indirect basis from those lexical findings. The Five-Factor Model variant of Agreeableness apparently incorporates a large element of Honesty-Humility variance, despite the weak and peripheral representation of such variance within the classic Big Five version of Agreeableness.

Honesty-Humility, Big Five Agreeableness, and Facets of NEO-PI-R Agreeableness

Given the substantial association between the HEXACO-PI Honesty-Humility domain and facets and the NEO-PI-R Agreeableness domain, the question arises as to which facets of NEO-PI-R Agreeableness are responsible for that correlation. Table 2 shows the correlations of the HEXACO-PI Honesty-Humility domain and facet scales with the six NEO-PI-R Agreeableness facet scales. As seen in Table 2, the strongest relations were those involving Straightforwardness, which showed correlations of .55 with the Honesty-Humility domain, and correlations ranging from .34 (Greed-Avoidance) to .49 (Sincerity) with the four Honesty-Humility facets. The next strongest correlate of Honesty-Humility was Modesty ($r = .42$), which was strongly related to the HEXACO-PI Modesty scale ($r = .55$). Other NEO-PI-R facets showed more modest associations with the Honesty-Humility domain, ranging in size from the low .20s to the mid .30s.

The relations of the NEO-PI-R facets with the Big Five Agreeableness markers were much different: Modesty and Straightforwardness showed the weakest correlations with the Mini-Marker and the IPIP measures of Big Five Agreeableness, with values below .20 for Modesty and in the low .30s for Straightforwardness. In contrast, the other NEO-PI-R facets showed stronger correlations with the two Big Five Agreeableness scales, with values ranging from the mid .30s to the mid .60s. Thus, whereas Modesty and Straightforwardness correlated more strongly with Honesty-Humility than with Big Five Agreeableness, the other NEO-PI-R facets correlated more strongly with Big Five Agreeableness than with Honesty-Humility.

These results indicate that some Honesty-Humility variance is represented throughout the NEO-PI-R Agreeableness domain, but that this variance is most strongly concentrated within the Straight-

Table 2
Correlations of HEXACO-PI Honesty-Humility Domain and Facet Scales With NEO-PI-R Agreeableness Facet Scales

	<i>Agreeableness</i>		<i>HEXACO-PI Domain and Facets</i>					
	<i>Mini-Marker</i>	<i>IPIP</i>	<i>Honesty-Humility</i>	<i>Sincerity</i>	<i>Fairness</i>	<i>Greed-Avoidance</i>	<i>Modesty</i>	
<i>NEO-PI-R Facet</i>								
Trust	.39	.44	.23	.13	.26	.15	.17	
Straightforwardness	.33	.31	.55	.49	.47	.34	.41	
Altruism	.58	.64	.32	.16	.35	.19	.28	
Compliance	.43	.35	.35	.22	.29	.27	.29	
Modesty	.16	.18	.42	.27	.18	.27	.55	
Tender-Mindedness	.40	.43	.27	.10	.16	.22	.33	
<i>R</i>	.60	.69	.64	.58	.51	.44	.60	

Note. *N* = 624 for Mini-Marker Agreeableness scale, *N* = 481 for IPIP Agreeableness scale, *N* = 655 for HEXACO-PI Honesty-Humility scales.

forwardness facet and, to a lesser extent, the Modesty facet. Similarly, much Big Five Agreeableness variance is also represented throughout the NEO-PI-R Agreeableness domain, but to a lesser extent within the Straightforwardness and Modesty facets than within the other four facets. As we will explain in the Discussion section, the NEO-PI-R Agreeableness domain thus corresponds to a blend of the two roughly independent constructs of Honesty-Humility and Big Five Agreeableness.

Factor Analysis of NEO-PI-R Facets and Honesty-Humility Markers

The differential association of the various NEO-PI-R Agreeableness facets with HEXACO-PI Honesty-Humility raises the possibility that the NEO-PI-R would produce a six-factor solution containing a clear counterpart of Honesty-Humility. However, given that there are only two facets strongly associated with Honesty-Humility, it is unlikely that such a factor would emerge. In the present data set, a factor analysis of the 30 NEO-PI-R facets showed a clear break in eigenvalues after five factors and did not reveal an Honesty-Humility-like factor within the six-factor solution; instead, the Warmth and Positive Emotions facets of Extraversion joined with the Openness to Actions facet on a small sixth factor. In order to recover the Honesty-Humility factor from the NEO-PI-R, it would be necessary to include additional markers of that factor, such that Honesty-Humility content is represented to an extent similar to that of the other five factors.

To increase the representation of Honesty-Humility in the NEO-PI-R variable set, we added the four HEXACO-PI Honesty-Humility facets to the 30 NEO-PI-R facets. In addition, because two of the NEO-PI-R Agreeableness facets were likely to behave as markers of Honesty-Humility rather than of Big Five Agreeableness, we also added the Mini-Marker Agreeableness scale to help maintain the representation of Big Five Agreeableness within the variable set. When we factor-analyzed the resulting set of 35 scales via principal components analysis, the first ten eigenvalues were 6.6, 4.7, 4.2, 2.4, 2.0, 1.5, 1.0, 0.9, 0.9, and 0.8, thus revealing a clear break between the sixth and seventh eigenvalues.

Table 3 shows the loadings of the 35 scales in the varimax-rotated six-factor solution. In that solution, five of the factors corresponded clearly to the Big Five, except that two of the six Extraversion facets loaded slightly more highly on Agreeableness than on Extraversion,

suggesting a slight rotation of the usual axes within this plane (cf. McCrae et al., 1996). In addition, an Honesty-Humility factor was defined by the four HEXACO-PI facets representing that dimension and also by the Straightforwardness and Modesty facets of NEO-PI-R Agreeableness. The other four Agreeableness facets all loaded on an Agreeableness factor, along with the Mini-Marker Agreeableness scale and two of the Extraversion facets (specifically, Warmth and Positive Emotions). Thus, the six-factor solution obtained here recovers the traditional Big Five factors but also contains a clear Honesty-Humility factor, which—as expected—absorbs the Straightforwardness and Modesty facets of NEO-PI-R Agreeableness.

We should emphasize to readers that the above analysis is intended as an illustration of a six-factor structure—and especially of the location of NEO-PI-R Agreeableness facets within it—and is not intended as evidence of the replicability of that structure. Such evidence can only be forthcoming from analysis of representative samples of the domain of personality variables, which are provided not by collections of questionnaire scales, but rather by appropriate selections of personality-descriptive adjectives of various languages.

For the sake of interest, we also conducted several supplementary analyses. First, because it might be argued that the Honesty-Humility dimension of Table 3 is merely a “bloated specific” factor defined by redundant facet scales, we examined the correlations among those scales. The highest correlation among the scales that defined the Honesty-Humility factor was .55 (between the NEO-PI-R Modesty scale and the HEXACO-PI Modesty scale),³ and this value is actually much lower than the correlations among several NEO-PI-R facet scales, the highest of which equaled .68 (between Anxiety and Vulnerability, and also between Anxiety and Depression). Moreover, when we conducted a new factor analysis after removing the HEXACO-PI Modesty scale, the solution was virtually unchanged and NEO-PI-R Modesty continued to show its highest loading on the Honesty-Humility factor.

Second, to examine the possibility of a uniquely large correlation between Agreeableness and Honesty-Humility, we also performed

3. Note that although HEXACO-PI Modesty is similar in definition to NEO-PI-R Modesty, the two constructs are not defined identically: the low pole of the former construct tends to emphasize a sense of entitlement, whereas the low pole of the latter construct tends to emphasize bragging.

Table 3
 Factor Analysis of NEO-PI-R Facet Scales, HEXACO-PI Honesty-Humility
 Facet Scales, and the Mini-Marker Agreeableness Scale

Facet Scale	Factor					
	Neuro	Agree	Consc	H-H	Openn	Extra
Anxiety	.85	.01	-.03	-.07	.02	-.02
Depression	.84	-.13	-.21	.01	.02	-.03
Vulnerability	.77	-.02	-.33	.04	-.05	-.07
Self-Consciousness	.75	-.02	-.13	-.02	-.12	-.17
Angry Hostility	.62	-.49	-.03	-.06	.02	.31
Altruism	-.10	.76	.24	.21	.04	.07
M-M Agreeableness	.01	.75	.01	.16	.13	-.03
Warmth	-.10	.71	.09	.04	.14	.45
Compliance	-.19	.62	-.03	.19	-.04	-.47
Tender-Mindedness	.19	.60	-.04	.17	.14	-.09
Trust	-.41	.60	.02	.12	.04	.02
Positive Emotions	-.27	.50	.04	-.02	.25	.48
Self-Discipline	-.31	.04	.76	.05	-.11	.06
Achievement Striving	-.09	-.07	.74	-.07	.11	.25
Dutifulness	-.12	.16	.71	.19	-.15	-.08
Order	.03	-.03	.69	.00	-.21	.04
Competence	-.49	.06	.66	-.01	.13	.06
Deliberation	-.20	.12	.59	.01	-.10	-.45
Impulsiveness	.43	-.14	-.44	-.02	.09	.38
H-H Sincerity	-.13	-.03	.04	.83	.01	-.05
H-H Greed Avoidance	-.08	.05	-.03	.74	.11	-.17
H-H Modesty	.10	.28	-.15	.68	-.18	-.08
H-H Fairness	-.04	.25	.27	.66	-.05	.04
Straightforwardness	-.01	.40	.11	.57	-.08	-.31
Modesty	.34	.27	-.16	.46	-.21	-.14
Aesthetics	.10	.21	-.01	.04	.78	.00
Ideas	-.14	-.10	.19	-.07	.76	.00
Fantasy	.05	-.02	-.27	-.08	.69	.13
Actions	-.11	.09	-.14	.08	.60	.21
Values	-.13	.13	-.18	-.20	.58	-.10
Feelings	.26	.29	.11	.10	.57	.42
Assertiveness	-.31	-.06	.29	-.16	.17	.62
Activity	-.11	.04	.46	-.08	.14	.55
Excitement-Seeking	.01	-.02	-.13	-.35	.00	.54
Gregariousness	-.07	.47	-.05	-.28	-.05	.47

Note. $N = 566$. Absolute loadings greater than .40 are in bold type. Factor names: Neuro = Neuroticism; Agree = Agreeableness; Consc = Conscientiousness; H-H = Honesty-Humility; Openn = Openness to Experience; Extra = Extraversion. Variables indicated with H-H are from the HEXACO-PI Honesty-Humility domain, and M-M Agreeableness is Mini-Marker Agreeableness scale; all other variables are NEO-PI-R facet scales.

an oblique rotation on the set of all 35 variables. But the result, using a promax rotation ($\kappa = 4$), showed sizable correlations among three pairs of factors: Neuroticism and Conscientiousness correlated $-.42$, Agreeableness and Honesty-Humility correlated $.33$, and Openness to Experience and Extraversion correlated $.33$.⁴ Finally, we also examined a varimax-rotated five-factor solution based on all 35 scales. In this solution, the Extraversion factor disappeared: the Activity facet loaded on Conscientiousness; the Gregariousness, Warmth, and Positive Emotions facets loaded on Agreeableness; the Excitement-Seeking facet loaded on low Honesty-Humility; and the Assertiveness facet divided its loadings about equally between Conscientiousness and low Honesty-Humility.

Realignment of NEO-PI-R Agreeableness Facets, and Relations With Social Adroitness and Self-Monitoring

On the basis of the above results, we would recommend that users of the NEO-PI-R who wish to approximate the Honesty-Humility factor should use the combined Straightforwardness and Modesty facet scales. When treated as a single scale, this NEO-PI-R variant of Honesty-Humility correlated $.59$ with the HEXACO-PI Honesty-Humility domain scale. The remaining four NEO-PI-R Agreeableness facet scales could then be used to approximate the Big Five Agreeableness factor. Interestingly, this version of NEO-PI-R Agreeableness correlated only $.39$ with HEXACO-PI Honesty-Humility, a value that is slightly weaker than the $-.45$ correlation between the Neuroticism and Conscientiousness domain scales in the

4. Because the NEO-PI-R and HEXACO-PI were administered on different occasions, the loadings of the NEO-PI-R variables on the Honesty-Humility factor are likely to be somewhat underestimated, as are the correlations between Honesty-Humility and other factors in the rotated solution. However, this effect is likely to be small, because participants' personalities showed a high degree of stability across occasions, as evidenced by strong correlations between conceptually analogous NEO-PI-R and HEXACO-PI facet scales. For example, NEO-PI-R Order and HEXACO-PI Organization (facets belonging to the Conscientiousness factors of the two inventories) correlated $.71$, or $.88$ after correction for unreliability; six other analogous pairs of scales also showed corrected correlations of $.80$ or above. Given this very high lower-bound level of stability (see also Costa & McCrae, 1988), it is unlikely that the different occasions of measurement have contributed in any important degree to the separation of the Honesty-Humility and Agreeableness factors as shown in Table 3.

same participant sample. These alternative alignments of the NEO-PI-R facets are likely to be of interest to researchers who are interested in relating all six of the proposed major dimensions of personality with some external variables, but who have measured personality with the NEO-PI-R rather than with the HEXACO-PI or any other markers of those six factors.

As an illustration of the usefulness of the alternative alignment of the NEO-PI-R facets, consider the correlations of those variables with the Social Adroitness and Self-Monitoring scales, which inter-correlated .47 in this sample. Table 4 shows the correlations of these two scales, plus the sum of standardized scores on the two variables, with the six NEO-PI-R Agreeableness facets, the five NEO-PI-R domains, the new realigned NEO-PI-R domains for Honesty-Humility and Agreeableness, and the HEXACO-PI Honesty-Humility facets and domain. Note that the realigned NEO-PI-R Honesty-Humility domain scale consists only of the NEO-PI-R Straightforwardness and Modesty facet scales; none of the HEXACO-PI facet scales are included in that composite.

As seen in Table 4, the Social Adroitness and Self-Monitoring scales both correlated appreciably with the Straightforwardness and Modesty facets but not with the other Agreeableness facets. These patterns are thus reflected in the correlations of the Social Adroitness and Self-Monitoring scales with the NEO-PI-R-derived measures of Honesty-Humility and of Big Five Agreeableness: both were associated substantially with low Honesty-Humility, but were nearly uncorrelated with Agreeableness. (In fact, Social Adroitness and Self-Monitoring correlated about as strongly with the NEO-PI-R Honesty-Humility-related variables as with the HEXACO-PI Honesty-Humility domain and facets.) In contrast, when considered with reference to the original NEO-PI-R configuration, both Self-Monitoring and Social Adroitness showed only modest negative correlations with the Agreeableness domain.

The zero-order correlations shown in Table 4 suggest that the realignment of NEO-PI-R facet scales to produce separate Honesty-Humility and Big Five Agreeableness scores should provide some predictive advantage with regard to the Social Adroitness and Self-Monitoring scales. Multiple regression analyses confirmed this: when the five original NEO-PI-R domain scales were used to predict the combined Social Adroitness/Self-Monitoring scale, the multiple correlation was .48. When, instead, the six realigned NEO-PI-R domain

Table 4
 Correlations of Social Adroitness and Self-Monitoring Scales and Their Sum With Selected NEO-PI-R and HEXACO-PI Variables

	Social Adroitness	Self-Monitoring	Sum
<i>NEO-PI-R Agreeableness Facet Scales</i>			
Trust	-.01	-.03	-.03
Straightforwardness	-.38	-.37	-.44
Altruism	.02	-.12	-.06
Compliance	-.08	-.15	-.13
Modesty	-.20	-.32	-.30
Tender-Mindedness	-.02	-.06	-.04
<i>NEO-PI-R Domain Scales</i>			
Neuroticism	.02	.10	.07
Extraversion	.30	.30	.35
Openness to Experience	.19	.25	.24
Agreeableness	-.19	-.27	-.26
Conscientiousness	.00	-.14	-.09
<i>Realigned NEO-PI-R Domain Scales</i>			
Agreeableness	-.04	-.12	-.09
Honesty-Humility*	-.35	-.42	-.44
<i>HEXACO-PI Honesty-Humility Facet and Domain Scales</i>			
Sincerity	-.39	-.41	-.46
Fairness	-.14	-.25	-.24
Greed-Avoidance	-.28	-.31	-.35
Modesty	-.27	-.32	-.34
Honesty-Humility	-.35	-.42	-.45

Note. For NEO-PI-R, $N = 642$ for Social Adroitness, $N = 659$ for Self-Monitoring, $N = 603$ for Sum. For HEXACO-PI, $N = 658$ for Social Adroitness, $N = 652$ for Self-Monitoring, $N = 613$ for Sum. Sum is calculated as sum of standardized scores on Social Adroitness and Self-Monitoring.

*Derived only from NEO-PI-R Straightforwardness and Modesty facets; see text for full explanation of re-aligned NEO-PI-R domain scales.

scales were used to predict that criterion, the multiple correlation was .56. This predictive superiority indicates that the correlations achieved by Straightforwardness and Modesty cannot be attributed merely to any secondary associations of those facets with the various NEO-PI-R domains. Thus, the separation of Straightforwardness and Modesty from the other four NEO-PI-R Agreeableness facets did, in fact, improve the prediction of Social Adroitness and Self-

Monitoring, two variables that are conceptually linked to low Honesty-Humility, but not to low Big Five Agreeableness.

DISCUSSION

The results of the present study can be summarized as follows: First, the proposed sixth factor of personality—as operationalized by the Honesty-Humility facets of the HEXACO-PI—is only modestly correlated with markers of the classic Big Five factor structure, but is correlated substantially with the Agreeableness domain of the Five-Factor Model, as operationalized by the NEO-PI-R. Second, the inclusion of additional facets of Honesty-Humility allows the NEO-PI-R to produce a sixth factor that is defined by the NEO-PI-R Straightforwardness and Modesty facets, and these two facet scales can serve adequately as NEO-PI-R substitute markers of Honesty-Humility. Third, the realignment of the NEO-PI-R facets to assess Honesty-Humility allows improved prediction and understanding of personality variables such as Social Adroitness and Self-Monitoring, which are associated with low Honesty-Humility but not with low Agreeableness. The implications of these results are discussed below.

Honesty-Humility and the Big Five and Five-Factor Model Variants of Agreeableness

The finding that the Honesty-Humility factor is only modestly correlated with the Big Five factors, yet correlated substantially with the Five-Factor Model Agreeableness factor, is at first glance somewhat puzzling. Agreeableness (along with Conscientiousness) was added to the original three “NEO” factors on the basis of the same lexical findings that produced the Big Five Agreeableness factor, so a more similar pattern of relations with Honesty-Humility might have been expected. As mentioned in the introduction, however, one plausible explanation for the discrepancy involves the way in which the constructs were operationalized.

On the one hand, Goldberg’s (1999) IPIP Big Five scales and Saucier’s (1994) Big Five Mini-Markers were intended to map as closely as possible onto the adjective-based factors of lexical research in the English language, and so the operationalizations of Big Five Agreeableness are dominated by content describing kindness and warmth versus harshness and rudeness and not by content unique to

the Honesty-Humility domain. On the other hand, the Five-Factor Model version of Agreeableness appears to have been delineated much more broadly; for example, McCrae and Costa (1985) used the adjective pair *manipulative—straightforward* as an Agreeableness marker, even though these terms were weakly loaded on that factor, both in their study and in other English lexical investigations. Thus, whereas the Big Five version of Agreeableness may be said to represent the core elements of the Agreeableness factor that was obtained in early English-language research, the Five-Factor Model version of Agreeableness may be said to combine elements related to Big Five Agreeableness with other elements that are very peripheral to that factor but that are related to Honesty-Humility. It is especially interesting that the facets of Five-Factor Model Agreeableness that are most weakly related to Big Five Agreeableness—specifically, Straightforwardness and Modesty—are the same facets that are most strongly associated with Honesty-Humility. Thus, the Five-Factor Model does contain much variance associated with Honesty-Humility, but it combines that factor and the Big Five Agreeableness factor into a single domain.

Honesty-Humility Within the Facets of NEO-PI-R Agreeableness

The finding that Straightforwardness and Modesty are the Agreeableness facets most strongly associated with Honesty-Humility is not surprising given the content of those two scales. Inspection of the scale definitions and the item content of both variables reveals clear similarities with many aspects of the Honesty-Humility factor. In combination, these scales provide a reasonably close approximation to Honesty-Humility, albeit one that is rather narrow in scope. The fact that the NEO-PI-R can provide a fairly good measure of the broad Honesty-Humility factor should be somewhat encouraging to researchers who would like to assess the specific set of facet-level variables included within that inventory, but who would also like to assess all six of the proposed major dimensions of personality.

Some important cautions should be noted regarding the use of the NEO-PI-R in assessing Honesty-Humility, however. Even though the NEO-PI-R Straightforwardness and Modesty scales are likely to be very good predictors of some Honesty-Humility-related variables—including, as shown in the present study, the Social Adroitness and Self-Monitoring scales—these NEO-PI-R facets do not directly

tap all aspects of Honesty-Humility. Therefore, the approximation of Honesty-Humility that is provided by the NEO-PI-R is unlikely to be optimally predictive of all criteria that are associated with Honesty-Humility. For example, the NEO-PI-R does not contain any facets that directly assess greed and status-seeking, nor does it contain any facets that directly assess dishonest tendencies of the kind measured by overt integrity tests (e.g., Ryan & Sackett, 1987). Consequently, there are some variables whose prediction would probably require a broader assessment of the Honesty-Humility factor than can be provided by the NEO-PI-R.

In addition to the somewhat limited range of Honesty-Humility-related content in the NEO-PI-R, there is also the issue of briefer measures of the Five-Factor Model constructs, especially the NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992). Given the weak representation of Honesty-Humility-related content within the NEO-FFI Agreeableness scale, the NEO-FFI is unlikely to provide a close approximation of the Honesty-Humility factor, which would therefore need to be assessed by some other marker variables. One consequence of the lack of a distinct Honesty-Humility variable within the NEO-FFI can be seen in the results of Paunonen and Jackson (1996), who found that NEO-FFI Agreeableness correlated only $-.20$ with JPI Social Adroitness, despite being the strongest NEO-FFI correlate of that scale. Another illustration is provided by a recent study by Lee, Ashton, and de Vries (2005), who found that a workplace delinquency criterion was more strongly predicted by a short version of HEXACO-PI Honesty-Humility than by Agreeableness as assessed by the NEO-FFI and other measures.

The Status of Honesty-Humility as a Major Dimension of Personality

The finding that Social Adroitness and Self-Monitoring were correlated with the NEO-PI-R facets associated with Honesty-Humility, but not with the NEO-PI-R facets associated with Big Five Agreeableness, is particularly interesting. Apparently, even though persons who are high in Social Adroitness and Self-Monitoring are deceptive and affected in their interpersonal style, they are not particularly rude or harsh. This pattern of relations therefore illustrates the construct validity of the distinction between the personality dimensions of Honesty-Humility and classic Big Five Agreeableness, both of which are represented within the NEO-PI-R Agreeableness domain.

Honesty-Humility as facet or factor? Some proponents of the Five-Factor Model might object to the separation of Honesty-Humility-related facets from the Five-Factor Model Agreeableness domain by arguing that the emergence of an Honesty-Humility factor in the analysis reported in Table 3 is merely an artificial consequence of the inclusion of too many Honesty-Humility marker variables. According to this view, the predictive advantage that results from this realignment of the NEO-PI-R facets to approximate the Honesty-Humility factor would merely represent a case of narrow facets adding to the predictive validity of broad factors (e.g., Paunonen & Ashton, 2001).

Our response to the latter part of this objection is that the Honesty-Humility factor, unlike the facets or narrow traits that define the Five-Factor Model domains, repeatedly emerges as a broad factor in analyses of the representative sets of personality variables that are provided by lexical studies of personality structure in various languages. But more generally, the objection that Honesty-Humility content is overrepresented in the analysis of Table 3 begs the question of the structure of personality characteristics by assuming that the NEO-PI-R variable set somehow constitutes a representative sampling of the personality domain. Recall that the Five-Factor Model is derived ultimately from lexical studies of personality structure, which alone can claim to provide representative samples of the universe of personality characteristics. However, standard lexical studies have now been conducted in several diverse languages—including Dutch, French, German, Hungarian, Italian, Korean, Polish, and English—and have repeatedly produced a six-factor solution containing an Honesty-Humility factor. Thus, our response to the above objection is that the representativeness of the NEO-PI-R variable set is enhanced, not distorted, by the inclusion of a wider variety of Honesty-Humility markers. It is only with the addition of those markers that the NEO-PI-R can produce a six-factor *space* that is similar to the space recovered in lexical studies of personality structure—the same line of research that was the foundation of the Five-Factor Model.

Related to the above objection, it might be argued that the extraction of a sixth factor is unnecessary, because Honesty-Humility-related variables often show substantial loadings in lexical five-factor solutions, sometimes defining a factor jointly with Agreeableness-related variables. However, such an argument ignores the substantial amount of Honesty-Humility-related variance that is consistently

added by the extraction of a sixth factor. This variance allows the emergence of Honesty-Humility as a separate factor and contributes not only to the theoretical interpretability of factors, as discussed below (see also Ashton & Lee, 2001), but also to predictive validity, as illustrated in Table 4 (see also Lee, Gizzarone, & Ashton, 2003; Lee et al., 2005).⁵

Thus, rather than representing merely a facet of an extremely broad Agreeableness factor, the Honesty-Humility factor is a broad dimension in its own right and one that is distinct from other factors, including Agreeableness. (Recall that the Agreeableness factor obtained in lexical studies of personality structure in most languages, unlike the Big Five or Five-Factor Model variants of Agreeableness, is defined strongly by content related to patience versus quick temper.) A full discussion of the theoretical basis of these factors (Ashton & Lee, 2001; Lee & Ashton, 2004) is beyond the scope of this article, but it can be summarized briefly as follows: The Honesty-Humility and Agreeableness dimensions of the HEXACO model represent individual differences in two aspects of reciprocal altruism, which correspond to the tendencies to cooperate with another even (a) when one could get away with defecting, and (b) when reciprocation has not been forthcoming, respectively.⁶

However, many variables are associated with an overall reciprocal altruism tendency that combines both of the above; therefore, the confounding of the two underlying factors, such as that which characterizes the Five-Factor Model Agreeableness domain, is frequently

5. Moreover, if carried to its logical conclusion, such an argument would also lead us to discard other factors. To take the NEO-PI-R variable set as an example, we have computed a three-factor solution based on the normative sample correlations among the 30 facet scales as reported by Costa and McCrae (1992). This solution aligns Neuroticism and (low) Conscientiousness facets together on one factor and also aligns Extraversion and Openness to Experience facets together on another factor. Yet even though all facets have substantial loadings within this three-dimensional space, it would be unwise to extract only three factors, because this would discard much of the variance associated with many facets and would reduce the ability to predict criteria associated with, say, Neuroticism but not Conscientiousness, or Extraversion but not Openness to Experience.

6. Also relevant to these theoretical interpretations is the Emotionality factor of the HEXACO model, which incorporates traits related to empathic concern and emotional attachment and is relevant to kin altruism and to avoidance of threats to one's inclusive fitness more generally (Ashton & Lee, 2001; Lee & Ashton, 2004).

not a problem for predictive validity. Of course, when predicting criteria that are associated with both of these tendencies, the realigned Honesty-Humility and Agreeableness variables can both be used as predictors without any loss of predictive validity relative to that provided by the Five-Factor Model Agreeableness domain. But when predicting criteria that are associated with only one of these two tendencies, the practical and conceptual disadvantages of combining the two factors within a single domain become apparent.

Why no sixth factor in the NEO-PI-R? A related objection to the proposal of separate Agreeableness and Honesty-Humility factors may be raised on the grounds that the NEO-PI-R Agreeableness facets form a coherent and cohesive factor that does not break apart to form separate factors within six-factor solutions. But this fact simply reflects the competent construction of the NEO-PI-R Agreeableness facets, whose items were developed and selected with the express aim of producing a set of correlated facet scales. The result is a set of facets whose patterns of external correlations suggest that each represents a blend of Honesty-Humility and of Big Five Agreeableness: two of the facets mainly represent Honesty-Humility (flavored somewhat by Big Five Agreeableness), whereas the other four facets mainly represent Big Five Agreeableness (flavored somewhat by Honesty-Humility). But all six facets are located not very far from the bisector of the Honesty-Humility and the Big Five Agreeableness axes.

One way to understand the above point is to consider the following counterfactual analogy. Imagine that the NEO-PI-R had been developed to measure only four dimensions, with Neuroticism and (low) Conscientiousness combined into one factor. (Recall that these two domains correlated $-.53$ in the NEO-PI-R normative sample; Costa & McCrae, 1992.) A set of six facets located close to the bisector of Neuroticism and (low) Conscientiousness can easily be selected in such a way as to produce a single, coherent factor that does not divide into two separate factors within five-factor solutions.⁷ An

7. For example, if Anxiety, Angry Hostility, Self-Consciousness, Order, Dutifulness, and Achievement Striving are omitted from the NEO-PI-R variable set, analysis of the remaining 24 facets yields a four-factor solution in which one factor is a Neuroticism versus Conscientiousness dimension, defined by Depression, Impulsiveness, and Vulnerability versus Competence, Self-Discipline, and Deliberation. In the five-factor solution, these facets do *not* divide into two separate

advocate of this fictional “Four-Factor Model” could then object to arguments favoring the separation of Neuroticism and (low) Conscientiousness on the grounds that those factors are merely subsets of facets that tightly define a single dimension. However, this objection would fail to explain the fact that Neuroticism and low Conscientiousness form separate factors when analyses are performed on variable sets representative of the personality domain (i.e., the personality lexicons of various languages). Moreover, it would also fail to explain the fact that relatively independent markers of Neuroticism and Conscientiousness can be constructed and can show quite distinct patterns of external correlations.

Honesty-Humility and personality inventories. Some proponents of the Five-Factor Model might also object to the separation of Honesty-Humility-related facets from the Five-Factor Model Agreeableness domain on the grounds that there are few personality variables that would show the pattern of relations exhibited by Social Adroitness and Self-Monitoring. Furthermore, it could also be argued that the Honesty-Humility factor is rarely recovered in factor analyses of personality inventories and that, in this regard, the sixth factor lacks the broad replicability of the Five-Factor Model dimensions in questionnaire research.

We respond as follows to these objections: First, the fact that personality traits associated with Honesty-Humility have generally been neglected by personality researchers—with the notable exceptions of Jackson and of Snyder, and also of Costa and McCrae—does not diminish the importance of those traits. Certainly, variables such as Social Adroitness and Self-Monitoring are of theoretical and practical significance, and so too are variables such as greed, status-seeking, integrity, and fairness, despite the near absence of these variables from the personality psychology literature.

Second, in considering this objection to the HEXACO structure, it should also be remembered that when Costa and McCrae undertook to relate the dimensions of the Five-Factor Model to the variables of various inventories, they did not purport to be testing the Five-Factor Model in the sense of investigating whether or not all five

factors, either within the NEO-PI-R normative sample or within the Eugene-Springfield Community Sample used in the present study.

factors would be universally recovered across instruments.⁸ On the contrary, they viewed their investigations as examinations, in part, of the comprehensiveness of the other instruments. As McCrae (1989, p. 239) put it, “How adequately do other instruments measure the full range of personality traits, as defined by the five-factor model, and what is the nature of the omissions, if any?” This perspective can be seen, for example, in the investigation of the California Psychological Inventory (CPI) by McCrae et al. (1993). When no clear marker of the Agreeableness could be found in the CPI, McCrae et al. did not consider this as evidence against the Five-Factor Model, but instead interpreted it—correctly, in our view—as evidence of a lack of comprehensiveness in the CPI. Similarly, the finding that none of the scales of the Guilford-Zimmerman Temperament Survey showed its highest loading on Agreeableness (McCrae, 1989) was not interpreted as a threat to the validity of the Five-Factor Model. Instead, Costa and McCrae continued to support the Five-Factor Model, which, as explained above, was derived from the results of lexical studies of personality structure, both directly (through the findings of Digman and of Goldberg) and indirectly (through analyses of Cattell’s 16PF inventory).

CONCLUSIONS

The results of the present study show that the proposed sixth factor of personality, Honesty-Humility, is only modestly correlated with the classic Big Five factors, but is substantially correlated with the Agreeableness domain of the Five-Factor Model. This relation is largely due to the Straightforwardness and Modesty facets of that domain, and these two facets can together provide a fairly close approximation to the Honesty-Humility factor. The relations of these facets with variables such as Social Adroitness and Self-Monitoring illustrate the importance of assessing Honesty-Humility as a factor in its own right.

8. In fact, in their early work on the Five-Factor Model, McCrae and Costa (1985, p. 713) noted that, “With a few exceptions (e.g., Wiggins, 1979), agreeableness is rarely represented in personality questionnaires.” This assessment may have been too pessimistic, because Agreeableness factors subsequently have been recovered from some inventories. But the important point is that McCrae and Costa did not view the potential absence of the Agreeableness factor from personality inventories as a threat to the viability of the Five-Factor Model.

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