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The authors argue that a new six-dimensional framework for personality structure—the HEXACO model—constitutes a viable alternative to the well-known Big Five or five-factor model. The new model is consistent with the cross-culturally replicated finding of a common six-dimensional structure containing the factors Honesty-Humility (H), Emotionality (E), eExtraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O). Also, the HEXACO model predicts several personality phenomena that are not explained within the B5/FFM, including the relations of personality factors with theoretical biologists' constructs of reciprocal and kin altruism and the patterns of sex differences in personality traits. In addition, the HEXACO model accommodates several personality variables that are poorly assimilated within the B5/FFM.

Keywords: *personality structure; individual differences; evolutionary psychology*

An important development in personality psychology during the late 20th century was the emergence of a near consensus regarding the structure of personality characteristics. By the late 1990s, most personality researchers had come to agree that the domain of personality variation could be best summarized in terms of five broad and roughly independent dimensions known as the Big Five factors. These dimensions had originally been discovered in investigations of English-language personality-descriptive adjectives and were later popularized via the five-factor model (FFM) of personality structure and its associated questionnaire instruments.

In recent years, however, considerable evidence has accumulated in favor of an alternative representation of personality structure. This alternative structure, which we have recently named the HEXACO model, consists of six rather than five dimensions. Three of the six HEXACO factors correspond very closely to dimensions of the B5/FFM, whereas the other three HEXACO factors bear a more complex relation with the remaining two dimensions of the B5/FFM. We should emphasize from the beginning that this alternative structure is not the result of any expansion of the definition of the personality domain, nor is it the result of any changes in the methods used to examine personality structure. Instead, the clearest evidence in favor of the HEXACO representation has emerged from investigations that have employed the same strategy of variable selection and measurement as did the investigations that produced the B5/FFM structure.

In the present article, we argue that the HEXACO model of personality structure provides a viable alternative to the B5/FFM framework. This argument is organized into three sections. First, we summarize lexical

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studies of personality structure as conducted in various languages and cultures, showing that those investigations consistently yield a structure containing not just five but six factors and that those factors correspond to those of the HEXACO model. Second, we discuss the theoretical interpretability of the HEXACO and B5/FFM structures, noting that the HEXACO model predicts several personality phenomena that are unexplained by the B5/FFM. Third, we review evidence indicating that the HEXACO model accommodates several important personality constructs that are largely beyond the space of the B5/FFM.

EMPIRICAL INVESTIGATIONS OF PERSONALITY STRUCTURE: LEXICAL STUDIES IN VARIOUS LANGUAGES

The problem of identifying the major dimensions of personality is most directly addressed with the use of the statistical technique of factor analysis. However, in order for factor analysis to produce a faithful rendering of personality structure, it is necessary to analyze variable sets that are representative of the personality domain. The method by which researchers have obtained such variable sets is that of the lexical strategy, whereby the familiar personality-descriptive words (generally adjectives) of a language are selected for the purpose of obtaining self-ratings or peer ratings that can then be factor analyzed. The lexical approach has the important strength that the selected variables are known to represent the full array of subjectively important personality characteristics, as observed and described by generations of people within a given language community. This approach, therefore, avoids the problem of researcher biases in the selection of personality variables (see Ashton & Lee, 2005a, for responses to various criticisms of the lexical approach).

Early Lexical Studies in English: The Emergence of the Big Five

Investigations of personality structure based on the lexical approach were first conducted in the English language. In those early studies (e.g., Cattell, 1947), limitations on computing capacity forced researchers to use rather small variable sets, representing only a small fraction of the English personality lexicon. Nevertheless, these investigations consistently produced a common set of five factors (see Norman, 1963; Tupes & Christal, 1961, 1992) that have collectively been named the Big Five (Goldberg, 1981). These dimensions are generally known as Extraversion (e.g., *talkative, outgoing* vs. *quiet, shy*), Agreeableness (e.g., *gentle, sympathetic* vs. *harsh, cold-hearted*), Conscientiousness (e.g., *organized, disciplined* vs. *sloppy, lazy*), Emotional Stability (e.g., *relaxed* vs. *moody, anxious*), and Intellect/Imagination (e.g., *intellectual, imaginative* vs. *shallow*).

Although the Big Five factors were derived from lexical research, those dimensions have been operationalized and popularized via personality questionnaires, particularly the NEO Personality Inventory–Revised and the NEO Five-Factor Inventory (NEO-PI-R and NEO-FFI; Costa & McCrae, 1992). These instruments assess the dimensions of the FFM, which conceptualizes the five factors in ways that depart slightly from their original Big Five identities but remains very similar overall to the Big Five structure. (One noteworthy departure is that the FFM Openness to Experience factor excludes characteristics that describe intellectual ability, whereas those characteristics are included within the corresponding Big Five factor of Intellect/Imagination.) As a historical note, it is worth remembering that the FFM owes its origins to lexical studies of personality structure (see McCrae, 1989). Three of the five dimensions—Neuroticism (i.e., low Emotional Stability), Extraversion, and Openness to Experience—were identified in analyses of Cattell's personality scales, which had in turn been derived from Cattell's (1947) earlier lexical research. The other two dimensions—Agreeableness and Conscientiousness—were added in response to more recent findings in English-language lexical studies of personality structure (e.g., Digman & Takemoto-Chock, 1981).

During the past decade, the factor structure of the NEO-PI-R has been examined in countries throughout the world, with largely consistent results: Given appropriate rotation of factor axes, the five-factor solution generally corresponds closely to that obtained in samples from the United States. This result supports the validity of the NEO-PI-R as an operationalization of the B5/FFM, but contrary to some suggestions (e.g., McCrae & Costa, 1997, 2003), it does not provide independent evidence that the B5/FFM is the optimal cross-culturally replicated representation of personality structure. To obtain such evidence, it would be necessary to use variable sets that are indigenous to the cultures in question (rather than imported from the culture of the model's developers) and representative of the personality domain (rather than selected as markers of a specified set of factor axes).

Given that the B5/FFM is intended to represent the optimal structural model of personality variation, one would not expect any structure containing more than five factors to be recovered widely from analyses of personality variable sets that do satisfy the above requirements of being culturally indigenous and of being representative of the personality domain. In fact, a central feature of the FFM has been the claim that there exist five and only five factors of personality, a point that is viewed as "an empirical fact, like the fact that there are seven continents or eight American presidents from

Virginia" (McCrae & John, 1992, p. 194). Moreover, the results of some investigations of personality structure based on the English personality lexicon do indeed suggest that only five personality factors can be replicated (e.g., Goldberg, 1990; Saucier & Goldberg, 1996). Thus, from the perspective of the B5/FFM, the predicted result of investigations of personality structure is that the familiar five factors—but no more than five factors—should be replicated when the personality lexicons of various languages are analyzed.

Recent Lexical Studies in Many Languages: Emergence of the Six-Factor Structure

In recent years, lexical studies of personality structure have been undertaken in a variety of languages other than English, using adjective selection criteria that—although varying in some important details that we discuss below—have generally followed the logic of the lexical approach by excluding terms that are not plausible descriptors of personality (e.g., terms that are chiefly evaluative or that describe physical characteristics and abilities; see Ashton & Lee, 2001, 2002). The results of these investigations, which we call "standard" lexical studies, are summarized in Table 1. In most languages, the space of the five-factor solutions has corresponded closely to the space of the Big Five factors as found in English, although the rotational positions of the factor axes have often been rather different. But in a few languages, five-factor solutions have failed to recover the Big Five factor space. Specifically, an Intellect/Imagination dimension has failed to emerge among the first five factors in lexical studies conducted in Italian (Di Blas & Forzi, 1998, 1999), in Hungarian (Szirmak & De Raad, 1994), and in Greek (Saucier, Georgiades, Tsaousis, & Goldberg, 2005; see also reanalysis by Lee & Ashton, 2006b), and a bipolar Extraversion versus Conscientiousness factor appeared in the Filipino (Tagalog) language (Church, Reyes, Katigbak, & Grimm, 1997).

The most interesting and surprising findings from these investigations, however, are the results obtained in six-factor solutions. Contrary to expectations based on the results of early English-language lexical research—and contrary also to the suggestion that there are five and only five replicable dimensions of personality—a common set of six factors has emerged across at least 12 languages. As reported by Ashton, Lee, Perugini, et al. (2004), the personality lexicons of the Dutch, French, German, Hungarian, Italian, Korean, and Polish languages produced very similar six-factor solutions. More recently, a similar six-dimensional structure has been recovered in reanalyses of archival data based on the English personality lexicon (Ashton, Lee, & Goldberg, 2004) and also of investigations of the personality lexicons of the Greek (Lee & Ashton, 2006b), Croatian (Ashton, Lee, & de Vries, 2005), Turkish (Wasti, Lee, Ashton, & Somer, 2006), and Filipino (Tagalog) languages (Ashton et al., 2006).

The typical defining content of these factors—as observed across these indigenous lexical studies of a dozen languages—is summarized in the second column of Table 2. As seen in that table, two of the factors are very similar to the Extraversion and Conscientiousness dimensions obtained in previous English-language lexical studies of personality structure; for this reason, Ashton, Lee, Perugini, et al. (2004) suggested that the same names be applied to these two factors. In addition, a third factor is similar to the English Intellect/Imagination dimension, but its prominent element of Unconventionality led Ashton, Lee, Perugini, et al. to suggest that this name be amended to Intellect/Imagination/Unconventionality.

For two of the other factors of Table 2, relations with the English lexical Big Five factors are more complex. One factor is somewhat reminiscent of (low) Big Five Emotional Stability but excludes the anger that mainly defines (low) Emotional Stability and includes the sentimentality that mainly defines Big Five Agreeableness (cf. Saucier & Goldberg, 1996, Table 2). Accordingly, Ashton, Lee, Perugini, et al. (2004) labeled this factor as *Emotionality*, a less pejorative term than Emotional Instability or Neuroticism. Conversely, another factor is somewhat reminiscent of Big Five Agreeableness but excludes sentimentality and includes (lack of) anger. Note that the content of this six-dimensional variant (e.g., patience, gentleness, flexibility) is perhaps even more consistent with the name Agreeableness than is the content of the B5/FFM version (e.g., sympathy, gentleness, sentimentality); to differentiate the two variants, we often refer to the six-dimensional version as *Agreeableness (versus Anger)*. In light of the shifts of factor content described above, the Emotionality and Agreeableness (versus Anger) dimensions, thus, can be considered roughly as rotational variants of the B5/FFM dimensions of (low) Emotional Stability and of Agreeableness.

For the remaining factor of Table 2, Ashton, Lee, Perugini, et al. (2004) suggested the name of *Honesty-Humility*, as this label captures most of the content that has been common to the factor across lexical studies. For example, traits such as sincerity and fairness suggest honesty, and traits such as unpretentiousness and (lack of) greed suggest humility. It is the emergence of the above three dimensions—Emotionality, Agreeableness (versus Anger), and Honesty-Humility—that is the key characteristic differentiating the cross-language six-factor structure from the B5/FFM.

It should be noted that the rotational orientations of simple-structure factor axes tend to vary across studies,

TABLE 1: Summary of Five- and Six-Factor Solutions Observed in Lexical Studies of Personality Structure in 12 Languages

Language (and Source)	*Self-Ratings* N	*Adjectives*	*Big Five Space in Five-Factor Solution?*	*HEXACO Space in Six-Factor Solution?*	*Primary Location of "Altruism" Terms (Six-Factor Solution)*	*Comments*
Croatian (Mlacic & Ostendorf, 2005; Ostendorf, Mlacic, Hrebickova, & Szarota, 2004; Ashton, Lee, & de Vries, 2005)	515	483	Yes	Yes	Honesty-Humility	Similar solutions obtained from peer ratings
Dutch (De Raad, 1992; De Raad, Hendriks, & Hofstee, 1992)	400	551	Yes	Yes	Agreeableness	In five-factor solution, "rebellious" version of Intellect/Imagination factor
English (Ashton, Lee, & Goldberg, 2004)	310	1710	Yes	Yes	Agreeableness and Emotionality	In five-factor solution, rebellious version of Intellect/Imagination factor
Filipino (Ashton et al., 2006, reanalysis of Church, Reyes, Katigbak, & Grimm, 1997)	1,529	232	No	Yes	Honesty-Humility and Agreeableness	In five-factor solution, Extraversion and low Conscientiousness merged; in six-factor solution, Conscientiousness factor included religiosity and thriftiness
French (Boies, Lee, Ashton, Pascal, & Nicol, 2001)	418	388	Yes	Yes	Agreeableness	
German (Angleitner & Ostendorf, 1989; Ostendorf & Angleitner, 1993; Ostendorf et al., 2004)	408	430	Yes	Yes	Agreeableness in peer ratings; Honesty-Humility in self-ratings; some on Emotionality	Similar solutions obtained from peer ratings, except for location of altruism terms
Greek (Lee & Ashton, 2006b, reanalysis of Saucier, Georgiades, Tsaousis, & Goldberg, 2005)	991	360	No	Yes	Agreeableness and Honesty-Humility	In five-factor solution, Intellect/Imagination missing
Hungarian (Szirmak & De Raad, 1994; De Raad & Szirmak, 1994)	400	561	No	Yes	Agreeableness	In five-factor solution, Intellect/Imagination missing
Italian (Rome) (Caprara & Perugini, 1994)	577	285	Yes	Yes	Honesty-Humility and Agreeableness	
Italian (Trieste) (Di Blas & Forzi, 1998, 1999)	369	369	No	Yes	Honesty-Humility and Agreeableness	In five-factor solution, Intellect/Imagination missing
Korean (Hahn, Lee, & Ashton, 1999)	435	406	Yes	Yes	Agreeableness	
Polish (Szarota, 1995)	350	290	Yes	Yes	Honesty-Humility	Similar solutions obtained from peer ratings
Turkish (Wasti, Lee, Ashton, & Somer, 2006, reanalysis of Goldberg & Somer, 2000)	662	376	Yes	Yes	Honesty-Humility and Agreeableness	

NOTE: Six-factor solutions of Dutch, French, German, Hungarian, Italian (Rome), Italian (Trieste), Korean, and Polish are summarized in Ashton, Lee, Perugini, et al. (2004).

TABLE 2: Content of Six Factors Observed in Lexical Studies of Personality Structure and Operationalized in HEXACO Personality Inventory (HEXACO-PI) Facet Scales

Factor Name	*Common Defining Adjective (Translated) Across Lexical Studies*	*HEXACO-PI Facet*
Honesty-Humility	Sincere, honest, faithful/loyal, modest/unassuming, fair-minded versus sly, greedy, pretentious, hypocritical, boastful, pompous	Sincerity, Fairness, Greed-Avoidance, Modesty
Emotionality	Emotional, oversensitive, sentimental, fearful, anxious, vulnerable versus brave, tough, independent, self-assured, stable	Fearfulness, Anxiety, Dependence, Sentimentality
Extraversion	Outgoing, lively, extraverted, sociable, talkative, cheerful, active versus shy, passive, withdrawn, introverted, quiet, reserved	Expressiveness, Social Boldness, Sociability, Liveliness
Agreeableness	Patient, tolerant, peaceful, mild, agreeable, lenient, gentle versus ill-tempered, quarrelsome, stubborn, choleric	Forgiveness, Gentleness, Flexibility, Patience
Conscientiousness	Organized, disciplined, diligent, careful, thorough, precise versus sloppy, negligent, reckless, lazy, irresponsible, absent-minded	Organization, Diligence, Perfectionism, Prudence
Openness to Experience[a]	Intellectual, creative, unconventional, innovative, ironic versus shallow, unimaginative, conventional	Aesthetic Appreciation, Inquisitiveness, Creativity, Unconventionality

NOTE: All HEXACO-PI facets are labeled in terms of the positive pole of the factor. Adjectives that frequently divide loadings between Agreeableness and Honesty-Humility (and to a lesser extent, Emotionality) include *sympathetic* versus *cold-hearted* and are operationalized in the HEXACO-PI interstitial facet scale of Altruism versus Antagonism.
a. Usually named Intellect/Imagination/Unconventionality in lexical studies of personality structure.

with corresponding shifts in the core content of each dimension within a given factor space. One example involves the locations of certain Emotionality-related terms, such as those describing fearfulness and sentimentality, within the plane spanned by Emotionality and Extraversion. Depending on small variations in the positions of those two vectors, fearfulness terms may show substantial negative loadings on Extraversion, or sentimentality terms may show substantial positive loadings on Extraversion. But in spite of interesting variations such as this, the factor spaces observed in the various studies remain very similar. Moreover, the factors summarized in Table 2 are those that typically emerge in simple-structure solutions from lexical studies conducted in various languages.

Another interesting feature of the six-factor structure involves the locations of a group of related terms describing sympathy, soft-heartedness, generosity, and associated characteristics. Within the six-dimensional framework, these terms apparently represent blends of factors rather than manifestations of any one factor alone, as evidenced by their tendency to show substantial secondary loadings and to "migrate" between factors across studies (see the sixth column of Table 1; see also Ashton, Lee, Perugini, et al., 2004). In several investigations, most sympathy-related terms have shown their strongest loadings on the Agreeableness (versus Anger) factor; in several other investigations, most sympathy-related terms have instead shown their strongest loadings on the Honesty-Humility factor. Also, in a few other studies, several sympathy-related terms have shown substantial loadings on an Emotionality factor; for example, terms such as *pitiless*, *unsympathetic*, and *cold-hearted* showed their strongest loadings on the low pole of the English Emotionality factor (Ashton, Lee, & Goldberg, 2004). Taken together, these results indicate that sympathy-related content is a blend of the Agreeableness (versus Anger), Honesty-Humility, and (to a lesser extent) Emotionality factors of the cross-language six-dimensional structure. As we discuss in a later section of this article, the status of these sympathy-related characteristics as a blend of those factors is of some importance in interpreting the meaning of these three factors.

Before ending this section, we should discuss the extent to which solutions involving more than six factors have been replicated across languages in standard lexical studies of personality structure, as based on personality-descriptive terms only. As we have discussed elsewhere (Ashton, Lee, Perugini, et al., 2004), there is evidence from a few studies that seven-factor solutions produce a separate factor for intellectual ability, which defines a factor different than that defined by intellectual openness (i.e., creativity, unconventionality, etc.). In addition, there is evidence from a few studies for a separation of two aspects of Emotionality—specifically, fearfulness and sentimentality—onto two separate dimensions within seven-factor solutions; we note this result again later in this article in the context of the theoretical interpretation of the Emotionality factor. And finally, some of the investigations that have included descriptors of religiosity have produced a factor defined by those terms. This suggests that religiosity or spirituality represents an additional dimension beyond the B5/FFM (e.g., Piedmont, 1999), but for reasons described elsewhere (e.g., Ashton, Lee, & Goldberg, 2004; Lee, Ogunfowora, & Ashton, 2005), we consider religiosity to be located outside the domain of personality proper.

Summary

To summarize the above review, lexical studies of personality structure have consistently produced a common set of six dimensions. Three of these dimensions are interpretable as Extraversion, Conscientiousness, and Intellect/Imagination/Unconventionality and are very similar to the English lexical Big Five factors of these names. One of the remaining factors is interpretable as Honesty-Humility, and the other two are interpretable as Emotionality and Agreeableness (versus Anger), although the latter two factors differ in important respects from B5/FFM (low) Emotional Stability and B5/FFM Agreeableness. An interesting phenomenon observed in these studies has been the ambiguous location of terms describing sympathy and soft-heartedness, which represent blends of Honesty-Humility, Agreeableness (versus Anger), and (to a lesser extent) Emotionality.

The finding of a six-dimensional structure having such widespread generality is of some significance for our understanding of personality structure, as it contradicts the expectation that only five factors of personality description would be found to replicate widely across cultures. In fact, as seen in Table 1, the six-factor solution is apparently somewhat more widely replicated than is the B5/FFM, as the latter structure has failed to emerge in four languages that recovered the HEXACO dimensions, whereas there are apparently no languages in which lexical studies based solely on personality-descriptive terms have failed to recover the HEXACO dimensions in the six-factor solution.[1] This result is particularly striking in light of the fact that it has been obtained in investigations that have been based on the same strategy of variable selection as that which originally produced the B5/FFM structure. In addition, the recurrent emergence of the six-dimensional structure across diverse cultures and languages, from variable sets that are both indigenous and representative of the personality domain, gives this model a wider basis of independent empirical support than that which had led to the adoption of the B5/FFM during the late 20th century.

We recently have operationalized the six-dimensional structure described above by constructing the HEXACO Personality Inventory (HEXACO-PI; Lee & Ashton, 2004), and we have referred to the six-factor framework itself as the HEXACO model of personality structure. The name of this model reflects both the number of factors (i.e., the Greek *hexa*, six) and also their names: Honesty-Humility (H), Emotionality (E), eXtraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O).

Note that although the HEXACO model uses the name Openness to Experience rather than Intellect/Imagination/Unconventionality, this model and its associated instrument were both developed on the basis of results from lexical investigations of personality structure. However, we have explicitly excluded traits of intellectual ability from the Openness to Experience factor, in spite of their obvious prominence on some variants of the lexical Intellect/Imagination/Unconventionality factor. This decision is based on our view that the personality domain subsumes typical behavioral tendencies, but not abilities; on this basis, intellectual orientation is properly part of a model of personality structure, but intellectual capacity is not. Such a decision was also reached independently by researchers in the Dutch and Italian (Rome) lexical investigations.

THEORETICAL INTERPRETATION

Overview

As summarized above, investigations of the personality lexicons of diverse languages have recovered a common six-dimensional structure that is the basis of the HEXACO framework. Thus, an important strength of the HEXACO model is its derivation from cross-culturally replicated findings based on analyses of variable sets that are culturally indigenous and representative of the personality domain. But in addition to the close correspondence of the HEXACO framework to the empirically observed structure of personality variation, an advantage of this model is its theoretical interpretability. As we suggest below, the six HEXACO factors can be readily interpreted in terms of constructs from theoretical biology, and can be understood in terms of some simple unifying concepts that identify previously unnoticed parallels among those factors. Moreover, these interpretations can explain and predict several important personality phenomena that would not otherwise be understood.

As described in the following sections, the theoretical framework associated with the HEXACO model involves two broad concepts. First, the Honesty-Humility, Agreeableness (versus Anger), and Emotionality factors are explained in terms of biologists' constructs of reciprocal and kin altruism. Second, the Extraversion, Conscientiousness, and Openness to Experience factors are explained as three conceptually parallel dimensions, each describing engagement or investment within a different area or variety of endeavor. We briefly summarize our interpretations of each of the six factors in the paragraphs below and in Table 3, with particular attention to the probable adaptive trade-offs associated with high and low levels of each dimension (see also Ashton & Lee, 2001; Lee & Ashton, 2004).

TABLE 3: Summary of Theoretical Interpretations of HEXACO Factors

Factor	*Interpretation*	*Example Traits*	*Benefits of High Levels?*	*Costs of High Levels?*
Honesty-Humility	Reciprocal altruism (fairness)	Fairness, sincerity, (low) entitlement	Gains from cooperation (mutual help and nonaggression)	Loss of potential gains that would result from exploitation of others
Agreeableness (versus Anger)	Reciprocal altruism (tolerance)	Tolerance, forgiveness, (low) quarrelsomeness	Gains from cooperation (mutual help and nonaggression)	Losses because of being exploited by others
Emotionality	Kin altruism	Empathy/attachment, harm-avoidance, help-seeking	Survival of kin (especially offspring); personal survival (especially as favors kin survival)	Loss of potential gains associated with risks to self and kin
Extraversion	Engagement in social endeavors	Sociability, leadership, exhibition	Social gains (friends, mates, allies)	Energy and time; risks from social environment
Conscientiousness	Engagement in task-related endeavors	Diligence, organization, planfulness	Material gains (improved use of resources), reduced risk	Energy and time
Openness to Experience	Engagement in idea-related endeavors	Curiosity, imaginativeness, depth	Material and social gains (resulting from discovery)	Energy and time; risks from social and natural environment

NOTE: See explanation in text and in Ashton and Lee (2001), Ashton, Lee, and Paunonen (2002), and Lee and Ashton (2004).

To begin, we have proposed that the Honesty-Humility and Agreeableness factors represent two complementary aspects of the construct of reciprocal altruism (Trivers, 1971). Honesty-Humility represents the tendency to be fair and genuine in dealing with others, in the sense of cooperating with others even when one might exploit them without suffering retaliation. Agreeableness represents the tendency to be forgiving and tolerant of others, in the sense of cooperating with others even when one might be suffering exploitation by them. (For a discussion of two broadly similar, although not identical, constructs, see Perugini, Gallucci, Presaghi, & Ercolani, 2003.) Presumably, high levels of Honesty-Humility are associated with decreased opportunities for personal gains from the exploitation of others but also with decreased risks of losses from withdrawal of cooperation by others. In a similar manner, high levels of Agreeableness are associated with increased opportunities for personal gains from long-run reciprocal cooperation with others, as well as with increased risks of losses from exploitation by others. (Note that we use the term *altruism* in terms of a dimension of altruistic versus antagonistic tendency, which involves both a willingness to help or provide benefits to others and an *unwillingness to harm or impose costs* on others.)[2]

In addition, we have proposed that Emotionality represents tendencies relevant to the construct of kin altruism (Hamilton, 1964), including not only empathic concern and emotional attachment toward close others (who tend to be one's kin) but also the harm-avoidant and help-seeking behaviors that are associated with investment in kin (see also Lee & Ashton, 2004). Presumably, high levels of Emotionality are associated with increased likelihood of personal and kin survival, as well as with decreased opportunities for gains that are often associated with risks to personal and kin survival.[3]

With regard to the three remaining personality dimensions, we have proposed that the Extraversion, Conscientiousness, and Openness to Experience factors represent tendencies to become engaged in three independent areas or varieties of endeavor. Specifically, Extraversion corresponds to engagement in social endeavors (such as socializing, leading, or entertaining), Conscientiousness corresponds to engagement in task-related endeavors (such as working, planning, and organizing), and Openness to Experience corresponds to engagement in idea-related endeavors (such as learning, imagining, and thinking). Presumably, high levels of any of these three dimensions are associated with increased opportunities for gains resulting from the investment of one's energy and time in those areas. Depending on the social and ecological circumstances, high Extraversion may promote gains of a social nature (i.e., access to friends, allies, and mates), high Conscientiousness may promote gains of a material or economic nature as well as improved health and safety, and high Openness to Experience may promote social and material gains via new discoveries. Also, however, high levels of any of these dimensions would be associated with increased costs in terms of expended energy and time and, in some cases, of risks from the natural and social environment.

The above interpretations of Extraversion, Conscientiousness, and Openness to Experience as dimensions of engagement or endeavor suggest links with certain constructs from theoretical biology. As noted elsewhere (Ashton, Lee, & Paunonen, 2002), the social endeavor

interprtion of Extraversion is similar to the concept of social attention–holding power (e.g., Gilbert, 1989, 1992), a variant of resource-holding potential (Chance & Jolly, 1970). In a similar manner, the task-related endeavor interpretation of Conscientiousness is similar to some of the (nonaltruistic) aspects of the r versus K continuum, particularly the consistent exploitation of resources (Wilson, 1975). In addition, the idea-related endeavor interpretation of Openness to Experience is similar to the contrast between individual learning and imitation (Kameda & Nakanishi, 2002).

The theoretical framework outlined above has an important strength insofar as it parsimoniously explains the existence of three separate factors relevant to altruism. That is, the recurrent emergence of the Honesty-Humility, Agreeableness (versus Anger), and Emotionality factors is immediately understood when these are explained as tendencies associated with the two aspects of reciprocal altruism and with kin altruism. In contrast, the repeated recovery of these three factors is inexplicable in terms of any interpretations proposed for the B5/FFM framework, within which this three-dimensional space is reduced to a plane spanned by the B5/FFM Neuroticism and Agreeableness factors. Below, we describe the advantages of the theoretical interpretations associated with the HEXACO model by discussing in turn (a) the content of Honesty-Humility and Agreeableness (versus Anger) in relation to the two aspects of reciprocal altruism; (b) the location of sympathy and soft-heartedness terms, which describe an "overall altruism versus antagonism" construct that represents a blend of the three factors; and (c) the content of the Emotionality factor in relation to sex differences in Emotionality-related traits, with examination of the relevance of this phenomenon to kin altruism. Finally, we also discuss (d) the interpretation of the remaining three factors—Extraversion, Conscientiousness, and Openness to Experience—as dimensions of engagement within different areas of endeavor.

We should emphasize that the B5/FFM dimensions can also be interpreted from the perspective of theoretical biology or evolutionary psychology; in fact, plausible and coherent interpretations of each B5/FFM construct have previously been proposed (Buss, 1996; Hogan, 1996; MacDonald, 1995, 1998). Our point instead, as described in detail below, is that interpretations based on the HEXACO framework can identify conceptual parallels among factors and can predict other personality-related phenomena that are not explained by interpretations based on the B5/FFM. In contrast, because the space of the B5/FFM is subsumed entirely within the HEXACO space, there is no phenomenon associated with the former model that cannot be accommodated within the theoretical framework associated with the latter.[4]

The Content of the Honesty-Humility and Agreeableness (Versus Anger) Factors

Long-run mutual cooperation, or reciprocal altruism, is beneficial to both parties involved. However, there are two reasons why this reciprocal altruism is potentially unstable: First, there is the perception that one might successfully exploit the other party; second, there is the perception that one might be being exploited by the other party. We suggest that the content of the Honesty-Humility and Agreeableness (versus Anger) factors describes individual differences in reactions to the first and second perceptions, respectively. These links are readily apparent on casual inspection of the defining terms of the two factors, or of the content of questionnaire scales that are collinear with those lexically derived factors, but they are also consistent with previous interpretations of those personality descriptors.

With regard to the Honesty-Humility factor, several researchers have interpreted its common defining traits in terms of responses to the opportunity to exploit others. For example, Frank (1988, pp. 16-19, pp. 92-95) discussed *honesty* and *sincerity* in terms of an intrinsic motivation to cooperate even in circumstances in which defection would not be punished and *opportunism* as an inclination to defect under those same circumstances of impunity. In addition, some researchers have defined *greed* as "the temptation to gain the extra benefit of unilateral noncooperation over mutual cooperation" (Hwang & Burgers, 1997, p. 70), and others have interpreted *slyness* and related traits as indicators of "exploitation" (Wiggins, 1979, Table 2), the same term that is used to describe defection against an unconditional cooperator (Nowak & Sigmund, 1993).

In a similar manner, the common defining traits of the Agreeableness (versus Anger) factor have been interpreted by several researchers in terms of responses to the perception of being exploited by others. For example, Chen and Bachrach (2003) described *tolerance* within the context of public-goods dilemmas as the willingness to continue cooperating even in response to others' defection, and Nowak and Sigmund (1993) used the term *tolerant* to describe the same tendency within two-person interactions. Conversely, Fehr and Gächter (2002) described *anger* as the emotion that tends to be elicited by others' cheating. Moreover, in simulations of reciprocal altruism between two persons, a *provocable* decision rule prescribes defection in response to defection, and a *forgiving* decision rule prescribes cooperation in response to renewed cooperation (see Axelrod & Hamilton, 1981).

Some empirical studies of personality and behavior in simulated game situations are also relevant to these interpretations. For example, Gunnthorsdottir, McCabe, and Smith (2002) examined the relations

between Machiavellianism—a construct associated with low Honesty-Humility (e.g., Lee & Ashton, 2005)—and behavior in a one-trial "ultimatum" game in which each participant could either divide a sum of money fairly with another individual or keep all of it for oneself. As predicted by Gunnthorsdottir et al., higher Machiavellianism scores were found to be associated with a considerably higher probability of (unprovoked) defection in this situation. In an earlier study, Ashton, Paunonen, Helmes, and Jackson (1998) examined the relations between Forgiveness—a construct associated with high Agreeableness (versus Anger)—and a money allocation decision involving the participant and a hypothetical individual described as having behaved uncooperatively toward the participant. As predicted, higher Forgiveness scores were found to be associated with greater likelihood of making an altruistic money allocation involving the offending individual. Thus, these results are consistent with the proposed interpretations, despite the potentially weak external validity of laboratory game tasks as indicators of personality (see Gunnthorsdottir et al., 2002).

The interpretations proposed above are especially applicable to the HEXACO-PI Honesty-Humility and Agreeableness domain scales, which have shown clear convergent and discriminant correlations with adjective markers of the corresponding lexical factors (see Ashton et al., in press). Specifically, the Honesty-Humility domain is defined by facets that assess the tendency to exploit others by subtle manipulation (low Sincerity) or by more direct fraud (low Fairness) and to feel entitled and motivated to profit by exploiting others (low Modesty and low Greed-Avoidance). In a similar manner, the Agreeableness domain is defined by facets that assess reactions to the perception that one is being exploited by others, where those reactions may be immediate (low Patience) or ongoing (low Forgiveness), and may be expressed as a defensive posture during negotiations (low Flexibility) and as a low threshold for evaluating others' actions negatively or critically (low Gentleness). Thus, given that the theoretical interpretations of these lexically derived personality dimensions are operationalized within the questionnaire scales described above, the pattern of correlations between those scales and markers of the lexical dimensions tends to support those interpretations.

Therefore, the content of the Honesty-Humility and Agreeableness (versus Anger) factors is consistent with the theoretical interpretation provided by the HEXACO model, in which those dimensions represent complementary tendencies underlying reciprocal altruism. In contrast, interpretations associated with the B5/FFM are unable to explain or to predict the identity and content of these dimensions. (In fact, because the B5/FFM is predicated on the claim that only five personality dimensions are broadly replicable, that model is actually incompatible with the phenomenon of separate Honesty-Humility and Agreeableness [versus Anger] factors within a repeatedly recovered six-dimensional space.) Therefore, an important advantage of the HEXACO model as compared to the B5/FFM is the unique ability of the former to make sense of the widespread emergence—and, crucially, the content—of the Honesty-Humility and Agreeableness (versus Anger) factors.

The Location of Terms Describing Overall Altruism Versus Antagonism

The interpretation of the Honesty-Humility, Agreeableness (versus Anger), and Emotionality factors as tendencies underlying reciprocal and kin altruism is supported by the behavior of variables associated with what could be described as an overall altruistic versus antagonistic tendency. It is interesting that the personality lexicons of most languages contain many terms that describe such a tendency (e.g., *sympathetic, softhearted, generous* versus *uncompassionate, hard-hearted*) by suggesting a general prosocial versus antisocial orientation rather than the more circumscribed tendencies not to exploit others (e.g., *fair-minded, unassuming*), not to react sharply to perceived exploitation (e.g., *patient, forgiving*), and not to be detached or unempathic (e.g., *unemotional, feelingless*). According to the theoretical interpretation that we have proposed, the locations within the personality factor space of terms that describe this general altruistic versus antagonistic orientation should be rather ambiguous, tending to divide their loadings among the three altruism-related factors and to show their strongest loadings on different factors across investigations.

This interpretation is supported by the results of lexical studies of personality structure, which we have summarized earlier in this article. In the many languages studied to date, terms describing Honesty-Humility, Agreeableness (versus Anger), and Emotionality define separate factors, but terms describing overall altruism versus antagonism tend to migrate between those factors. As described above, the latter terms have in several investigations loaded together on the factor defined by Honesty-Humility terms, but in several other investigations have loaded together on the factor defined by Agreeableness (versus Anger) terms. Also as noted previously, a few studies have found many altruism-related terms to load on the factor defined by Emotionality terms.[5]

These results from lexical studies of personality structure are consistent with those derived from the recently developed Altruism versus Antagonism scale of the HEXACO-PI (Lee & Ashton, 2006a). This new facet-level scale was developed to assess the overall

altruism versus antagonism construct as described above and contains items describing sympathy, softheartedness, and generosity versus their opposites. (Note, however, that this scale does not represent a broad, higher order construct. That is, it subsumes only the foregoing traits, which are viewed as blends of Honesty-Humility, Agreeableness, and Emotionality, but does not subsume any of the content that is associated univocally with any of these separate factors.) As would be expected based on the theoretical perspective considered here, the Altruism versus Antagonism scale shows moderately high and similar correlations (*r*s in the .40s and .50s) with the HEXACO-PI Honesty-Humility, Agreeableness, and Emotionality domain scales but only weak correlations with the remaining three HEXACO-PI domains (*r*s below .20).

Again, the above patterns of results are predicted by the theoretical interpretations proposed for the HEXACO model but cannot be explained by the B5/FFM. Lexical studies of personality structure not only produce three factors whose content is consistent with the interpretations that these factors correspond to the three varieties of altruistic tendency, but also reveal that content describing overall altruism tends to be jointly related to all three of these factors. It is difficult to explain this phenomenon except in terms of the theoretical framework that we have proposed.

Emotionality, Kin Altruism, and Sex Differences

Another phenomenon that is explained parsimoniously by the theoretical framework proposed for the HEXACO model is that of sex differences in personality, especially in the diverse traits that define the Emotionality factor. A consistent finding of previous research, both lexical and questionnaire based, has been a higher mean level of Emotionality-related traits among women than among men, with the size of the difference approximating or even exceeding 1 standard deviation (e.g., Ashton et al., in press; Lee & Ashton, 2004). These results have been obtained not only in English-speaking countries—Australia, the United States, and Canada—but also in Korea, where the sex difference in Emotionality also approaches 1 full standard deviation (Yoo, Lee, & Ashton, 2004). Of the six factors, Emotionality has shown by far the largest and most consistent sex differences, and in lexical studies, it is generally the Emotionality factor that is defined most strongly by terms describing femininity versus masculinity.

We have argued that the sex difference in Emotionality can be understood in terms of the interpretation of that factor as a dimension underlying kin-altruistic tendencies (see also Ashton et al., 1998). The expectation of a higher level of kin-altruistic tendencies among women than among men follows from the fact that women, compared with men, make a greater biological investment in reproduction (due to pregnancy and lactation) and also have a greater certainty of parenthood of any children who are ostensibly their own offspring. As we discuss below, previous researchers have argued that the observed sex differences in various traits—the same traits as those that define the Emotionality factor—can be explained in terms of their relevance to kin altruism.

Taking the Emotionality-related traits described above, consider such traits as empathic concern and emotional attachment (as operationalized, for example, in the HEXACO-PI Sentimentality facet). MacDonald (1995) suggested that a "human affectional system" underlies parental investment and family relationships and that this system directly involves these sentimental traits:

> Intimate relationships and the nurturance of objects of affection are pleasurable, and such relationships are sought out by those high on this system. The termination of intimate relationships is met with disappointment and grief, while there is eager anticipation of reunion with a loved one. (p. 546)

With regard to sex differences, MacDonald argued that "if indeed the main evolutionary impetus for the development of the human affectional system is the need for high-investment parenting, females are expected to have a greater elaboration of mechanisms related to parental investment than males" (p. 547). To summarize, the human affectional system described by MacDonald is characterized by sentimentality-related traits, which function to promote kin-altruistic tendencies. These same traits also define the Emotionality factor and are associated with substantial sex differences.

Next, consider traits such as harm-avoidance and help-seeking (as operationalized, for example, in the HEXACO-PI Fearfulness and Dependence facets). For these traits, the link with kin altruism is more subtle than is the case for the traits of empathic concern or emotional attachment as described above. However, the relevance of these traits to kin altruism, and the associated sex differences in these traits, have previously been explained in some detail. For example, Campbell (1999) suggested that the substantial observed sex differences in physical harm-avoidance had evolved because of the tendency for offspring survival to be more strongly correlated with maternal survival than with paternal survival:

> Biological factors, infant dependence, and male reproductive strategies mean that the mother is more critical to the offspring's survival than is the father. If a mother wants her children to survive, then she must be equally concerned with her own survival. Because of this, we

> should expect that women would have evolved a psychology in which the costs of physical danger would have been weighted higher than that of a male. (p. 205)

In a similar manner, Taylor et al. (2000) reviewed the large sex differences in help-seeking behaviors—more precisely, in the tendency to seek and use social support in response to stress (i.e., the "tend-and-befriend" response). Taylor et al. (pp. 411-412) explained this sex difference by noting that "by virtue of differential parental investment, female stress responses have selectively evolved to maximize the survival of self and offspring" and that the tendency to affiliate in response to stress "maximizes the likelihood that multiple group members will protect both them and their offspring" (pp. 411-412). Therefore, although the conceptual link between kin altruism and traits such as fearfulness and dependence is perhaps not immediately obvious, this link can be understood by considering the role of those traits in promoting personal survival and, thereby, in promoting offspring survival. In this way, the tendency of those traits to define the Emotionality factor alongside traits whose conceptual links with kin altruism are more readily apparent (e.g., sentimentality) is explained parsimoniously, as are the consistent sex differences in those traits.

Thus, the robust finding of sex differences in Emotionality fits neatly within the theoretical interpretation of Emotionality as a dimension underlying kin altruism. In contrast, however, it is difficult to generate an elegant or complete explanation of this pattern of sex differences with reference to the B5/FFM framework. As would be expected on the basis of relations between the B5/FFM and HEXACO dimensions, the largest sex differences within the B5/FFM are found on the Neuroticism and Agreeableness factors, both of which show higher mean levels for women than for men (e.g., Costa & McCrae, 1992). But interpretations of the B5/FFM do not provide any compelling a priori reason as to why the largest sex differences within the B5/FFM space should be located along the bisector of the Neuroticism and Agreeableness axes. Nor does the B5/FFM provide any parsimonious explanation as to why such superficially diverse traits as sentimentality, fearfulness, and dependence should show a similar and consistent pattern of sex differences or why those same traits should jointly define an Emotionality factor (even when respondent sex is statistically controlled; see, e.g., Ashton, Lee, & Goldberg, 2004). Thus, an important advantage of the HEXACO framework is that it can simultaneously account for the diverse content of the Emotionality factor, for the theoretical links between the various Emotionality-related traits and kin altruism, and for the empirically observed sex differences in Emotionality-related traits.

The Three Dimensions of Engagement and Endeavor

In the sections above, we have discussed the theoretical interpretation of the three altruism-related HEXACO factors: Honesty-Humility, Agreeableness (versus Anger), and Emotionality. But the theoretical framework that we have proposed is also applied to the other three factors—Extraversion, Conscientiousness, and Openness to Experience—which are interpreted as dimensions underlying the tendencies to become engaged within social endeavors, task-related endeavors, and idea-related endeavors, respectively. We believe that these interpretations are applicable even in the cases of traits that define the factors strongly but that might not immediately appear to involve any active "engagement" relevant to the proposed area of endeavor. Below, we consider the most prominent such cases for each factor in turn.

One example involves the Extraversion factor, which is defined not only by traits that clearly suggest social endeavor (e.g., sociability, talkativeness) but also by traits that might superficially appear less relevant to that concept (e.g., liveliness, enthusiasm) in spite of their strong empirical associations with socially active tendencies. However, as we have noted elsewhere (Ashton et al., 2002), traits suggestive of positive emotions are linked to social endeavor by both (a) motivating one to engage in social interactions and (b) making one an attractive partner for social interactions.

Another example involves the Conscientiousness factor, which is defined not only by traits that clearly suggest task-related endeavor (e.g., industriousness, organization) but also by traits that might superficially appear less relevant to that concept (e.g., at the opposite pole, impulsiveness). However, as we have previously noted (Ashton & Lee, 2001), the inhibition of impulses is itself a "task" involving self-control and planning. The active, effortful nature of this impulse control can be seen with reference to the items of markers of Conscientiousness such as the NEO-PI-R Deliberation facet scale (Costa & McCrae, 1992) or at the opposite pole, the dysfunctional impulsivity scale (Dickman, 1990).

A final example involves the Openness to Experience factor, which is defined not only by traits that clearly suggest idea-related endeavor (e.g., creativity, intellectual curiosity) but also by traits that might superficially appear less relevant to that concept (e.g., aesthetic appreciation, fantasy proneness). However, as we have noted (Ashton & Lee, 2001), these latter traits of "absorption" have been defined in terms of a "*full commitment of available perceptual, motoric, imaginative, and ideational resources to a unified representation of the attentional object*" (Tellegen & Atkinson, 1974, p. 274, italics in original).

Thus, the defining content of the Extraversion, Conscientiousness, and Openness to Experience factors

suggests strong parallels among those three dimensions. For each factor, a higher level of the defining traits is associated with a greater investment of time and of physical or mental energy within its own broad area of endeavor, whether social, task-related, or idea-related. In other words, the "high" pole of each factor represents greater engagement or greater activation within a given variety of endeavor, whereas the "low" pole represents the relative absence of such engagement or activation. Note that this parallel does not apply to the other three HEXACO factors considered earlier: In the case of Honesty-Humility and of Agreeableness (versus Anger), the high pole facilitates cooperation with others but also inhibits defection against others; in the case of Emotionality, the high pole facilitates investment in kin but also inhibits investment in activities that entail risks to oneself and one's kin. That is, for each of the latter three factors, the opposing poles are roughly equal with respect to their associated overall level of engagement but are opposite with respect to the interpersonal valence of that engagement.

The parallels among the Extraversion, Conscientiousness, and Openness to Experience factors had never been apparent to researchers who work in the tradition of the B5/FFM, presumably because there had been no reason to consider the interpretation of those factors jointly but separately from the remainder of the personality space. In a sense, then, one incidental advantage of the altruism-based interpretation of Honesty-Humility, Agreeableness (versus Anger), and Emotionality is that the conceptual links among the remaining three factors are brought sharply into relief.

PRACTICAL VALUE: ACCOMMODATING VARIABLES WITHIN THE FACTOR SPACE

In the previous sections of this article, we have argued that the HEXACO model of personality structure possesses some important strengths, with regard to both the empirical results of lexical studies of personality structure and the theoretical interpretability of the several factor axes. This leaves open the question, however, of practical consequences: Does the larger space of the HEXACO model allow any improvement beyond the B5/FFM in accommodating personality traits and important criterion variables? Such an improvement would be expected, insofar as some variables associated with the three-dimensional space of the HEXACO Honesty-Humility, Agreeableness (versus Anger), and Emotionality factors may be less thoroughly accommodated within the two-dimensional space of B5/FFM Agreeableness and Emotional Stability/Neuroticism. Below, we give a brief summary of several previous investigations that have investigated the ability of the HEXACO model and the B5/FFM to capture a variety of personality traits and related criteria. In addition, we suggest some likely avenues for future research aimed at examining the criterion validity of the two models.

The traits associated with the HEXACO Honesty-Humility factor tend either to be weakly represented within measures of the B5/FFM structure or to be subsumed within a very broad version of B5/FFM Agreeableness (see Ashton & Lee, 2005b). As a result, one would expect that variables showing a strong association with Honesty-Humility, but only modest associations with other aspects of personality, would be better accommodated by the HEXACO model than by the B5/FFM. This has indeed been found to be the case: The HEXACO model, by virtue of its inclusion of the Honesty-Humility factor, has outperformed the B5/FFM in predicting several variables of practical importance. For example, workplace delinquency showed a multiple correlation of .63 with short versions of the HEXACO-PI scales, versus .47 with the scales of the NEO-FFI (see Lee, Ashton, & de Vries, 2005). In a similar manner, Likelihood to Sexually Harass (Pryor, 1987) yielded a multiple correlation of .34 for the International Personality Item Pool Big Five scales, a value that increased to .54 when a short form of HEXACO-PI Honesty-Humility was added (see Lee, Gizzarone, & Ashton, 2003); the predictive advantage of Honesty-Humility was also observed when peer reports were used to measure personality. In addition, the "dark triad" combination of primary psychopathy, Machiavellianism, and narcissism (Paulhus & Williams, 2002) produced a multiple correlation of .81 with short HEXACO-PI scales, versus .48 with the scales of the Big Five Inventory (see Lee & Ashton, 2005).

The practical usefulness of the Honesty-Humility factor has also been demonstrated in the context of the NEO-PI-R (Costa & McCrae, 1992), a very widely used instrument that assesses several narrow traits or facets within each of the B5/FFM domains. Ashton and Lee (2005b) showed that two facets of NEO-PI-R Agreeableness—specifically, Straightforwardness and Modesty—are associated with HEXACO Honesty-Humility rather than with the English lexical Big Five version of Agreeableness, and that these same two facets were strong predictors of two personality variables involving insincerity—namely, (low) Self-Monitoring and (low) Social Adroitness. By treating those two NEO-PI-R facets as the constituents of a somewhat truncated Honesty-Humility factor, the ability of that inventory to accommodate the two criterion variables was improved substantially beyond that observed when the two facets were treated simply as parts of a broad B5/FFM Agreeableness factor. For example, the ad hoc NEO-PI-R "Honesty-Humility" domain correlated –.44 with the sum of those two criteria, whereas the original NEO-PI-R

Agreeableness domain correlated only –.26 with that sum. (Note, however, that the Straightforwardness and Modesty facets do not span the full range of Honesty-Humility content and, thus, are unlikely to be optimal predictors of some other constructs related to that factor, such as [at the negative pole] materialism or corruption.)

The HEXACO and B5/FFM structures have also been compared in terms of their ability to accommodate a range of variables that have been suggested to fall "beyond the Big Five"—specifically, the scales of the Supernumerary Personality Inventory (Paunonen, Haddock, Forsterling, & Keinonen, 2003). Lee, Ogunfowora, & Ashton (2005) found that the HEXACO-PI scales outpredicted the International Personality Item Pool Big Five variables with regard to several variables (Integrity, low Manipulativeness, low Egotism, and low Seductiveness) that are conceptually similar to Honesty-Humility. (The modest multiple correlations obtained by the International Personality Item Pool scales in that study were similar to those reported by Paunonen et al., 2003, for the NEO-FFI scales, suggesting that these results would generalize across various domain-level measures of the B5/FFM.) Also reported by Lee et al., was a substantial predictive advantage of the HEXACO variables compared to those of the B5/FFM in predicting two Supernumerary Personality Inventory scales that are conceptually related to Emotionality—specifically, Femininity and low Risk Taking. This suggests that the predictive advantages associated with the HEXACO model may not be restricted to Honesty-Humility, but instead, may also extend to the Emotionality domain. Some of the traits within that domain, such as femininity and harm-avoidance, are typically not included within measures of any B5/FFM dimension.

Two important comments are in order in evaluating the predictive utility of the HEXACO model from the evidence outlined above. First, the predictive advantage of the HEXACO variables as compared to those of the B5/FFM is not attributable to any differences in the lengths of the scales used to measure the respective constructs of those models. For example, some of the studies mentioned above (e.g., Lee & Ashton, 2005; Lee, Ashton, et al., 2005) used 10-item versions of the HEXACO scales, which are no longer than the brief measures of the B5/FFM used in those investigations. (In a similar manner, when Lee, Ogunfowora, et al., 2005, repeated their analyses using the 10-item versions of the HEXACO-PI scales, the pattern of results remained largely intact.)

Second, although most of the studies outlined above were based exclusively on self-reports, results derived from peer reports have largely been similar, for example, the findings for Likelihood to Sexually Harass generalized across self-reports and peer reports (see Lee et al., 2003). In another recent study, Lee, Ashton, Morrison, Cordery, and Dunlop (2006) found that both self-reports and observer reports of Honesty-Humility outpredicted all five self-report NEO-FFI scales with respect to an overt integrity test and a business ethical dilemmas task. That is, the cross-source correlations between the outcome variables and Honesty-Humility exceeded all of the within-source correlations between the outcome variables and the NEO-FFI variables. This result supports the notion that strong correlations previously observed between Honesty-Humility and outcome variables are attributable to actual behavioral co-occurrence rather than to artifactual covariation produced by common rating source method effects.

Although we believe that many future validity studies are still warranted, we also believe that the results of comparisons conducted so far have already demonstrated some advantage of the HEXACO model as opposed to the B5/FFM in accommodating several important personality variables. As summarized above, several personality traits and personality-related constructs that are strongly associated with the HEXACO Honesty-Humility and Emotionality factors are apparently much less well assimilated within the space of the B5/FFM. This suggests an important practical advantage of the HEXACO model of personality structure compared to the B5/FFM.

OBJECTIONS AND RESPONSES

It may be useful to address some objections that are commonly raised in response to the proposal that the HEXACO framework represents a viable model of personality structure that has some advantages in comparison with the B5/FFM.

The B5/FFM and Personality Questionnaires

The B5/FFM might be advocated on the grounds that (a) the B5/FFM has been recovered widely in analyses of various personality questionnaires and in cross-cultural studies of the NEO-PI-R, and (b) all of the HEXACO factors (including Honesty-Humility) are at least partly represented within at least some questionnaire measures of the B5/FFM. Below, we briefly point out the difficulties associated with these arguments (see Ashton & Lee, 2005b, for a more detailed discussion).

First, analyses of questionnaire scales suffer from the fatal shortcoming that the variable sets cannot be claimed to be representative of the personality domain; instead, the composition of those variable sets will tend to reflect the preferences of the personality psychologists who constructed them. But in any case, the recovery of the B5/FFM from questionnaire variable sets is not as

strong as is sometimes supposed. Several inventories have failed to recover the B5/FFM structure—for example, the California Psychological Inventory lacks any clear markers of Agreeableness (see McCrae, Costa, & Piedmont, 1993). Other inventories can recover the full, canonical B5/FFM structure only when external B5/FFM markers are included in the analysis (e.g., the Personality Research Form; see Costa & McCrae, 1988). With regard to cross-cultural investigations of the NEO-PI-R, we have noted earlier in this article that such investigations do not constitute truly independent tests of the structure of the personality domain because the NEO-PI-R variables are imported markers of a hypothesized set of factor axes, rather than indigenous indicators representing the personality domain more broadly.

Second, the incorporation of some aspects of Honesty-Humility within the NEO-PI-R variant of B5/FFM Agreeableness does not undermine the fact that Honesty-Humility emerges as a separate factor in analyses of variable sets that are more representative of the personality domain. The most important evidence of this is observed in lexical studies of personality structure in various languages, but the same result is also obtained in analyses of questionnaire variable sets in which Honesty-Humility facets are sampled broadly (see Ashton & Lee, 2005b). Moreover, measures of the HEXACO Honesty-Humility and Agreeableness (versus Anger) factors are no more strongly intercorrelated than are the Neuroticism and (low) Conscientiousness factors of the NEO-PI-R. For example, in a sample of 655 adults who completed self-reports on both the HEXACO-PI and the NEO-PI-R (see Ashton & Lee, 2005b), the former pair of scales correlated .36, whereas the latter pair correlated .45.

Identity of Higher Order Factors

One potential criticism of the theoretical interpretations that we have proposed might be raised on the grounds that the most widely observed two-dimensional structure of personality characteristics—a plane somewhat similar to that of Digman (1997)—does not correspond to a distinction between altruistic (versus antagonistic) and endeavor- (or engagement-) related characteristics. In Digman's model, the B5/FFM Agreeableness, Conscientiousness, and Emotional Stability factors define one broad higher order factor ("Alpha"), whereas B5/FFM Extraversion and Openness to Experience define another ("Beta"). Although the two-factor solutions obtained in lexical studies of personality structure correspond only roughly to the framework described by Digman (see, e.g., Ashton, Lee, & Goldberg, 2004), it is equally clear that those solutions do not correspond to the two conceptual groupings that we have identified. For example, Conscientiousness-related traits tend to align with Honesty-Humility and Agreeableness (versus Anger) traits on one broad factor, and some Emotionality-related traits (e.g., fearfulness) align opposite Extraversion-related traits on another; Openness to Experience–related traits tend to not have strong loadings within two-factor solutions.

However, as we have stated elsewhere (Ashton & Lee, 2001), the conceptual grouping of the six dimensions as delineated in our theoretical framework does not suggest the existence of higher order altruism and endeavor factors. With regard to the three endeavor-related dimensions, one might imagine that a common element of invested energy and time could produce positive correlations among those dimensions. But equally, one might imagine that competition among the three domains of endeavor (social, task related, and idea related) would tend to produce negative intercorrelations. The framework that we have proposed does not permit any precise prediction as to the relative strength of these countervailing forces. In a similar manner, with regard to the altruism-related dimensions, there is no particular reason to expect that kin-altruistic tendencies should be correlated with reciprocal-altruistic tendencies (see Ashton & Lee, 2001).

Usefulness of B5/FFM Agreeableness and Emotional Stability/Neuroticism Axes

A rather different objection to the HEXACO model is that the proposed axes of Honesty-Humility, Agreeableness (versus Anger), and Emotionality, despite their widespread recovery, are less important for many purposes than are the B5/FFM axes of Agreeableness and Emotional Stability/Neuroticism (see, e.g., Ashton, Lee, & Goldberg, 2004). For example, the broad B5/FFM Agreeableness factor is interpretable in terms of the interpersonal circle and is known to be highly predictive of a wide array of prosocial versus antisocial behaviors. Also, the B5/FFM Neuroticism factor corresponds to a dimension of negative affect and is known to be highly predictive of a wide array of clinically relevant outcomes, including personality disorders. For these reasons, some researchers might prefer these two factor axes as opposed to the corresponding three vectors of the HEXACO space.

There are two responses to this objection. First, it should be kept in mind the B5/FFM Agreeableness and Emotional Stability/Neuroticism vectors can be represented simply as combinations of the HEXACO factor axes. Therefore, researchers who are interested in predicting a variable that is strongly associated with those B5/FFM vectors can simply use appropriate combinations of HEXACO factor axes to achieve the same predictive accuracy. This can be implemented in practice by, for example, calculating appropriate combinations

of HEXACO domain and/or facet scales according to their conceptual and empirical associations with aspects of the B5/FFM Agreeableness and Emotional Stability/Neuroticism domains.

Second, the adoption of B5/FFM Agreeableness and Emotional Stability/Neuroticism as the preferred factor axes would mean that the observed three-dimensional space associated with the HEXACO Honesty-Humility, Agreeableness, and Emotionality factors would be reduced to a two-dimensional space. This sacrifice would have all of the unfortunate consequences that have been described throughout this article: a loss of empirical accuracy in matching the observed structure of personality, a loss of theoretical interpretability in understanding the personality domain, and a loss of practical utility in accommodating some important personality traits and related criteria. For these reasons, we suggest that the HEXACO model of personality structure provides some important improvements on the B5/FFM.

NOTES

1. A lexical study of personality structure in the Czech language (Hrebickova, 1995) produced a five-factor solution that recovered the Big Five structure within the five-factor solution. The six-factor solution added a factor whose 15 highest loading terms describe motor skill and manual dexterity (e.g., *nimble, agile, dexterous* versus *clumsy*) rather than any dimension of personality. The inclusion of these nonpersonality-descriptive terms undermines comparisons of six-factor solutions between the Czech study and the investigations of other languages. It is interesting, however, that Hrebickova (1995) listed the defining terms of the Czech *seventh* factor from the same data set as "*calm, composed, harmonious vs. easily excitable, irritable, angry, contentious*" (Table 8). This content is strongly suggestive of HEXACO Agreeableness and raises the possibility that the Czech six-factor structure as derived from personality-descriptive terms would resemble that observed in the other languages of Table 1.

Several lexical studies of personality structure in the English language did not recover the six-factor solution described here (e.g., Goldberg, 1990; Saucier & Goldberg, 1996). However, those studies were not based on analyses of the full and unclustered set of 1,710 personality-descriptive adjectives that was analyzed by Ashton, Lee, and Goldberg (2004), but instead, on analyses of subjectively constructed clusters of adjectives, or of subsets of unclustered adjectives, derived from the full variable set.

2. Of course, in an important sense, the pattern of reciprocal long-run cooperation is not altruism at all, insofar as each individual ultimately benefits from this interaction. However, we use the term *reciprocal altruism* both for the sake of convention and to emphasize that this cooperative behavior is altruistic at least in the short term. Related to this point, an individual who ceases cooperation in response to provocation would be said to be behaving nonaltruistically in the sense that we use this term, even though he or she may behave altruistically whenever not provoked. Note also that the term *exploitation* as used here can refer to not only direct exploitation, whereby one gains directly at the expense of another, but also indirect exploitation, whereby one harms another in pursuit of goals that are not inherently contrary to the other's interests.

3. As described in Lee and Ashton (2004), the Emotionality factor is defined both by traits that facilitate kin altruism directly (e.g., empathic concern, emotional attachment) and by traits that facilitate kin altruism indirectly (e.g., harm-avoidance, help-seeking). This raises the question of whether these traits might separate into two distinct factors in lexical studies of personality structure when seven or more factors are rotated. Results available thus far in some languages (e.g., Italian, Polish; see review by Ashton, Lee, Perugini, et al., 2004) suggest that this is at least a possibility. However, it is also possible that the separation of these two factors is attributable to the differing evaluative levels of the two factors; that is, it may largely reflect a division between socially desirable (e.g., *sentimental*) and undesirable (e.g., *fearful*) aspects of Emotionality.

4. Two examples involve two rather different theoretical interpretations of pairs of B5/FFM dimensions. First, the B5/FFM Agreeableness and Extraversion dimensions are sometimes interpreted in terms of the interpersonal circle, which is spanned by axes that represent the "intensity" of social behavior and the "valence" of social behavior. The interpretation of the first axis in terms of Extraversion can apply to both the B5/FFM and HEXACO models; in a similar manner, the latter axis can be interpreted in terms of B5/FFM Agreeableness but also in terms of a blend of the three altruism-related dimensions of the HEXACO model (Ashton & Lee, 2001). Second, the B5/FFM Neuroticism and Extraversion dimensions are sometimes interpreted as dimensions of negative and positive affect, although the relations of the affect dimensions with the B5/FFM axes are perhaps not so straightforward. In any case, the two affect dimensions can be viewed as "general behavioral energizers" (MacDonald, 1995, p. 540) that are relevant to several dimensions of the HEXACO model (see also Ashton & Lee, 2001): Negative affect tends to facilitate behaviors associated with the HEXACO factors of Emotionality, (low) Agreeableness, and (low) Extraversion, whereas positive affect tends to facilitate behaviors associated mainly with the HEXACO Extraversion factor.

5. In the case of Emotionality, we are not aware of any studies in which nearly all altruism-related terms have defined this factor. This seems likely to be in part because of the fact (see Note 4) that each pole of Emotionality contains a blend of socially desirable and undesirable terms (e.g., *sensitive, cowardly* vs. *unfeeling, fearless*), whereas the Honesty-Humility and Agreeableness (versus Anger) factors (like the construct of overall altruism vs. antagonism) tend to involve a clearer contrast between desirable and undesirable characteristics. That is, the social desirability of traits such as sympathy and soft-heartedness presumably limits their associations with the socially undesirable aspects of the Emotionality factor.

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