Journal of Cross-Cultural Psychology
Volume 39 Number 6
November 2008 665-684

10.1177/0022022108323783
http://jccp.sagepub.com
hosted at
http://online.sagepub.com

Six Turkish Personality Factors and the HEXACO Model of Personality Structure

S. Arzu Wasti
Sabanci University
Kibeom Lee
University of Calgary
Michael C. Ashton
Brock University
Oya Somer
Ege University

This article examines the six largest dimensions of the Turkish personality lexicon, as derived from the personality-descriptive terms of Goldberg and Somer's (2000) data set. The six Turkish lexical factors show close correspondences of content to all six dimensions observed in several other languages. In a new data set, the authors then correlate factor scores representing these indigenous Turkish dimensions with the scales of the HEXACO Personality Inventory, which operationalize the six cross-language factors. Results show a pattern of strong convergent and weak discriminant correlations. Overall, findings suggest that the cross-language six-dimensional structure of personality description does generalize to the Turkish lexicon. The Turkish structure also reveals some interesting emic features, particularly with regard to the content of the Openness to Experience factor.

Keywords: *HEXACO model; Big Five; personality structure*

The lexical approach to personality structure has been particularly influential in shaping current conceptions of the basic dimensions of human personality variation. The major strength of this lexical strategy is that it provides an objective way of producing a variable set that approximates the entire personality domain, by identifying the complete set of familiar personality descriptors of a given language (see a detailed discussion by Ashton & Lee, 2005). A factor analysis of ratings on such a variable set can potentially produce a small number of dimensions that would collectively summarize the full range of subjectively important personality traits.

Authors' Note: This project was supported by Social Sciences and Humanities Research Council of Canada Grants 410-2007-0700 and 410-2007-2159. We thank Lewis R. Goldberg for providing helpful comments on an earlier version of this article. We also thank Ozge Can and Evren Yildirim for the translation of the HEXACO Personality Inventory into Turkish. Correspondence concerning this article should be addressed to Kibeom Lee, Department of Psychology, University of Calgary, Calgary, Alberta T2N 1N4 Canada; e-mail: kibeom@ucalgary.ca.

Lexical studies of personality structure were first conducted using the English language, and those investigations repeatedly produced five factors that are collectively called the Big Five (Digman & Takemoto-Chock, 1981; Goldberg, 1990; Saucier & Goldberg, 1996; Tupes & Christal, 1992). The Big Five factors are generally labeled as Extraversion, Agreeableness, Conscientiousness, Emotional Stability (vs. Neuroticism), and Intellect or Imagination. The last-named dimension is known as Openness to Experience within the framework known as the Five-Factor Model, which has its ultimate origins in English-language lexical research (see McCrae, 1989) despite being associated primarily with questionnaire-based assessments (Costa & McCrae, 1992).

After the discovery of the Big Five factor structure in the English personality lexicon, researchers began to conduct lexical studies in a variety of Indo-European and non–Indo-European languages. Several of these investigations recovered the factor space of the Big Five, albeit often with factor axes that represented rotated variants of those dimensions. Two clear exceptions to this pattern, however, were observed in lexical studies conducted in Italian (Di Blas & Forzi, 1998, 1999; also see Di Blas, 2005) and Hungarian (Szirmak & De Raad, 1994) languages. In both of these investigations, the five-factor solutions did not contain an Intellect or Imagination factor, but instead included a factor representing honesty and sincerity. Di Blas and Forzi (1998) labeled the Italian factor as Trustworthiness, and Szirmak and De Raad (1994) labeled the Hungarian factor as Integrity. In both studies, however, an Intellect or Imagination-like factor did emerge in the six-factor solutions, which continued to show an Honesty-like factor in addition to rotated variants of the Big Five.

The above result suggests the possibility that a common six-factor structure might generalize across the personality lexicons of many languages. This possibility has been supported empirically: Ashton, Lee, Perugini, et al. (2004) showed that a common set of six factors does emerge from lexical studies of personality structure in the Dutch, French, German, Hungarian, Italian, Korean, and Polish languages. These six factors were observed again in a recent analysis of archival data involving a very large set of 1,710 English personality-descriptive adjectives (Ashton, Lee, & Goldberg, 2004). In addition, the cross-language six factors have also been recovered in other lexical studies involving the Croatian language (see reanalysis of Mlacic & Ostendorf, 2005, by Ashton, Lee, de Vries, Szarota, et al., 2006), the Greek language (see reanalysis of Saucier, Georgiades, Tsaousis, & Goldberg, 2005, by Lee & Ashton, in press), and the Filipino (Tagalog) language (Ashton, Lee, de Vries, Szarota, et al., 2006).

With regard to the identity of the six cross-language factors, three of these dimensions are very similar to the Extraversion, Conscientiousness, and Intellect or Imagination factors of the classic Big Five framework, although the latter factor frequently contains an additional element of unconventionality-related traits. Two of the remaining factors correspond roughly to rotated variants of two Big Five dimensions: whereas traits of anger and irritability are found on the Big Five Neuroticism (i.e., low Emotional Stability) factor, they are found on the low pole of the cross-language Agreeableness factor. Similarly, whereas traits of sensitivity and sentimentality are found on the Big Five Agreeableness factor, they are found on the cross-language Emotionality factor. (Note that Emotionality is a less pejorative label than is Neuroticism and is also a more accurate description of the content of this cross-language factor.) Finally, the remaining dimension of the cross-language six-factor structure is labeled Honesty–Humility and is characterized by sincerity, fairness, and modesty versus slyness,

greed, hypocrisy, and pretentiousness (also see Ashton & Lee, 2001; Ashton, Lee, & Son, 2000). On the basis of this cross-language structure, a new model of personality structure has been proposed (Ashton & Lee, 2007; Lee & Ashton, 2004). This framework is now called the HEXACO model, using an acronym that suggests the number and names of the constituent factors: Honesty–Humility (H), Emotionality (E), eXtraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O).

As noted above, the six dimensions of the HEXACO model appear to have been recovered rather clearly in the lexical studies of personality structure conducted in diverse languages. However, there have been a few other investigations whose six-factor solutions have not yet been considered with a view to making comparisons with the HEXACO model. One such investigation was that of the Turkish personality lexicon, as examined in some detail in a thorough series of studies by Somer and Goldberg (1999) and by Goldberg and Somer (2000). As shown below, the Turkish results clearly indicated that a Big Five–like structure could be recovered; however, the Turkish investigations were not intended to provide an examination of the extent to which the cross-language six-factor structure would be recovered. In the present research, therefore, we reinvestigated the structure of the Turkish personality lexicon with a particular focus on the content of the six-factor solution, and we then compared the six Turkish lexical factors with prototypes of the cross-language six factors as assessed by the HEXACO Personality Inventory (HEXACO-PI; Lee & Ashton, 2004, 2006).

We should note that the structure of the Turkish personality lexicon is of some considerable interest, given the status of Turkish as one of the few non–Indo-European languages to have been examined systematically in this context. Before describing the present study, however, we begin by providing a brief introduction to the Turkish language and culture (based largely on that of Wasti, 1998) and then by describing findings from the two previous lexical investigations involving the Turkish language (Goldberg & Somer, 2000; Somer & Goldberg, 1999).

Investigating Personality Structure in the Turkish Context

Turkish language and culture. The Turkish language is classified as one of the Turkic languages that are considered by some linguists to be a part of a broader Altaic language family. Turkish is spoken by the vast majority of the citizens of Turkey but is also widely spoken by ethnic Turks in many countries of the former Ottoman Empire and in many Western countries to which Turks have emigrated in recent decades. The estimated number of native Turkish speakers is about 60 million, with another 15 million second-language speakers.

Regarding the Turkish culture, large-scale comparative survey studies on cultural values typically classify Turkey as being high on power distance and (in-group) collectivism and low on gender egalitarianism (e.g., Hofstede, 1980; House, Hanges, Javidan, Dorfman, & Gupta, 2004). Indeed, the foundation of the Turkish society is the family. Loyalty to blood and kin is one of the most cherished values in the society and decisions involving trade-offs are made with the interests of the family as the priority. In the family, there is a hierarchy based on gender and generation. Men dominate at all levels, and the father is the most dominant member of the family, especially in families living in rural areas. Although Turkey's

emergent transition (i.e., from a rural, agricultural, traditional, patriarchal society to one that is modern, industrialized, urbanized, and egalitarian) has affected values concerning familial matters, the extended family is still a major source of security and support, in part due to the absence of social institutions that take care of people in sickness, old age, or other social adversities (Kağıtçıbaşı, 1990). The Turkish cultural and religious characteristics thus differ from those of the (mainly Western) cultures in which lexical studies of personality structure have been investigated.

An overview of the Turkish lexical studies. The first investigation of the structure of the Turkish personality lexicon was reported by Somer and Goldberg (1999), who analyzed self and peer ratings on a set of 358 variables derived from familiar, personality-descriptive adjectives of the Turkish language. These 358 variables, which included single adjectives as well as synonym clusters and adjectival phrases, were administered to respondents as 179 bipolar scales that each contrasted a different pair of antonyms. A five-factor solution computed from ratings of evaluatively homogeneous targets (i.e., self-ratings and ratings of liked peers) on these 179 paired variables produced a structure that closely resembled the classic Big Five, with a variant of Intellect or Imagination that emphasized unconventionality and was therefore labeled Openness to Experience by Somer and Goldberg.

Also noted by Somer and Goldberg (1999) was the six-factor solution obtained from this data set. This structure included the Big Five–like factors of the five-factor solution, as well as a dimension that resembled a Values factor described by Peabody and Goldberg (1989). The high-loading variables on this Turkish sixth factor (Lewis R. Goldberg, personal communication, February 9, 1999) included *reliable, trustworthy, faithful,* and *natural* versus *unreliable, inconsistent, stealthy, greedy, ostentatious, artificial,* and *opportunistic.* This content suggests strong similarities with the Honesty–Humility factor observed in several languages, but the resemblance is obscured by the presence of such additional terms as *contented* and *not capricious* versus *unaware* and *inquisitive.*

Additional results reported by Somer and Goldberg (1999) included those based on ratings of evaluatively heterogeneous targets (i.e., self-ratings, ratings of liked peers, and ratings of disliked peers). These additional analyses recovered the Big Five–like structure described above, but six-factor solutions did not recover the corresponding Values factor. One shortcoming of these initial Turkish studies noted by Somer and Goldberg is that the variable set did not consist simply of familiar personality-descriptive adjectives presented as single variables. Therefore, Goldberg and Somer (2000) undertook a new investigation of the Turkish personality lexicon, this time relying on a variable set consisting of 498 single, unclustered person-descriptive adjectives selected from a larger pool of 1,300 terms on the basis of familiarity as rated by university students. For the most part, the eligible terms were descriptors of personality; however, some of these terms were descriptors of physical attractiveness and some were chiefly evaluative rather than descriptive.

In their new investigation of the Turkish personality lexicon, Goldberg and Somer (2000) reported factor analytic results based on a sample of 631 participants who provided self-ratings. From the full set of 498 adjectives, they obtained a varimax-rotated seven-factor solution that contained variants of the Big Five very similar to those of the earlier study by Somer and Goldberg (1999). In addition, the seven-factor solution also included a Negative Valence factor that was defined mainly by highly (negatively) evaluative terms having extremely low

mean self-ratings. The remaining factor of that solution was interpreted as Attractiveness, being defined strongly by terms such as *graceful, attractive,* and *eye-catching.*

Goldberg and Somer (2000) acknowledged that the initial 498-variable set of their study included terms belonging to several categories that fall outside the personality domain as traditionally defined, such as terms related to social effects and physical attractiveness as well as terms that are purely evaluative or pejorative. Therefore, they reported results from a factor analysis based on a smaller variable set after removing 58 nonpersonality-descriptive terms from the 498-variable set. Specifically, they removed 44 terms that have extremely low endorsement means (thereby eliminating terms that associated with negative evaluation or insult) and 14 terms that describe one's physical appearance or one's effects on others. Factor analysis of the remaining 440 adjectives produced five factors that were rather similar to the Big Five, including an Openness to Experience–like dimension whose low pole was defined by traditionalism-related terms.

Although the Big Five factors were thus recovered from the Turkish lexical data of Somer and Goldberg (2000), the question remains as to whether or not the six-factor structure as observed in various languages would also be recovered from the Turkish personality lexicon. In the present investigation, we planned to examine the Turkish lexical six-factor solution and to evaluate its similarity to the cross-language six-factor solution. First, to obtain a set of personality-descriptive adjectives, we decided to identify and exclude nonpersonality-descriptive terms—such as those referring to pure evaluation, insults, physical attractiveness, and social effects—directly on the basis of judgments made by multiple Turkish raters. In this way, we aimed to produce a variable set according to selection criteria that are similar to those adopted in standard lexical studies of other languages. By factor-analyzing such a variable set, we would be able to examine the content of the six largest factors of personality description in the Turkish lexicon. Second, we also wished to examine the empirical relations of the Turkish dimensions derived from this variable set with external markers of the six cross-language factors. We planned to operationalize the latter constructs using a Turkish translation of the HEXACO-PI and to administer that instrument, along with adjective markers of the six indigenous Turkish lexical factors derived from the new variable set, to a new participant sample. We hypothesized that the two sets of six factors (i.e., the indigenous Turkish lexical factors and the imported HEXACO-PI markers of the cross-language structure) would show a pattern of strong convergent and weak discriminant correlations.

Study 1: Reanalyses of the Turkish Personality Lexicon

The Adjective Set Used in the Present Research

Goldberg and Somer's (2000) 498-adjective set. Let us briefly describe how the 498-adjective set was originally compiled by Goldberg and Somer. First, five native Turkish speakers examined all the entries included in three modern abridged Turkish dictionaries and culled 2,200 adjectives that can broadly be considered to describe persons. Second, these terms were further reduced to exclude terms describing (a) physical attractiveness, (b) mere evaluations, (c) social attitudes, (d) special abilities, and (e) terms representing slang words. Finally, 1,300 terms that survived the second stage were rated by 150 undergraduate students in terms of the

familiarity of the terms, and the 498 adjectives with the highest familiarity ratings were selected as the variable set whose structure was to be examined.[1] As pointed out by Goldberg and Somer, however, the criteria used to exclude nonpersonality terms were not as strict as those used in other standard lexical studies. Thus, the 498-adjective set includes some terms that are not traditionally regarded as personality descriptors.

Identifying nonpersonality-descriptive adjectives from the 498-adjective set. To eliminate the terms that are traditionally considered to belong to the nonpersonality-descriptive categories mentioned by Goldberg and Somer (2000), we instructed nine Turkish graduate students (five men and four women) to examine all of these 498 Turkish adjectives and to decide, for each adjective, whether that adjective should be classified into any of the following categories: (a) social effect terms (e.g., *influential*), (b) physical attractiveness or physical characteristic terms (e.g., *eye-catching*), (c) insulting or pejorative terms (e.g., *foolish, vulgar*), and (e) pure evaluation and social reputation terms (e.g., *unlovable, respected*). We excluded a term from the variable set if it was classified into one of these four categories by five or more of the nine judges. On the basis of this criterion, 64 of the 498 adjectives were designated as nonpersonality-descriptive terms and were excluded from further analysis. The factor analysis results reported below are therefore based on the set of 434 adjectives that were retained in this stage.

Factor Analyses of the Reduced Set of Adjectives

As noted above, the purpose of our first study was to examine the structure of the Turkish personality lexicon, using adjective selection procedures that are more similar to those of most standard lexical studies of personality structure. Therefore, using Goldberg and Somer's (2000) data set, we factor-analyzed self-ratings on the set of 434 adjectives that was selected by the procedure described above. As described in the original report by Goldberg and Somer, this data set consisted of self-ratings obtained from 631 undergraduate students (63% women) on the 498 Turkish adjectives. The responses were ipsatized within participants across the 498 adjectives, and we used these within-subject standardized responses in the factor analyses reported below.

We factor-analyzed the set of 434 personality-descriptive adjectives using the method of principal components. The eigenvalues of the first 10 factors (i.e., components) were 45.4, 25.4, 14.7, 12.3, 9.1, 6.3, 5.9, 5.4, 4.6, 4.3, 4.1, 4.1, and 4.0, thus showing that the first major increase appears between the sixth and fifth factors. Because the primary purpose of the present study is to investigate whether the Turkish six-factor solution is similar to the six-factor structure obtained in diverse other languages, we focus chiefly on the features of the varimax-rotated six-factor solution before summarizing briefly the five-factor and seven-factor solutions.

Table 1 lists the terms that loaded most strongly on each of the varimax-rotated six factors. The first factor was primarily defined by such terms as *energetic*, *vivacious*, *enterprising*, *dynamic*, *merry*, and *active* versus *dull, silent,* and *unenergetic*; and the second factor was strongly defined by terms such as *self-disciplined*, *tidy*, *methodical*, *systematic*, *organized*, and *neat* versus *disorderly*, *undisciplined*, *unsystematic*, *unorganized*, and *untidy.* Therefore, these two factors can be easily interpreted as Extraversion and

Table 1
Loadings of Salient Adjectives in Six-Factor Solution Derived From 434 Turkish Adjectives ($N = 626$)

Turkish Adjectives	English Translations	Factor Loadings
1. Extraversion		
canlı	energetic[a]	0.69
hareketli	vivacious[a]	0.67
girişken	enterprising[a]	0.67
durgun	dull[a]	–0.65
enerjik	energetic[a]	0.64
dinamik	dynamic[a]	0.64
şen	merry[a]	0.63
aktif	active[a]	0.63
coşkulu	exuberant[a]	0.63
atılgan	audacious[a]	0.63
suskun	silent[a]	–0.62
cansız	unenergetic[a]	–0.62
atak	rash[a]	0.62
karamsar	pessimistic	–0.60
bezgin	weary[a]	–0.60
konuşkan	talkative[a]	0.60
atılımcı	dashing[a]	0.60
atik	agile	0.59
faal	active[a]	0.59
sessiz	quiet[a]	–0.59
2. Conscientiousness		
disiplinli	self-disciplined[a]	0.72
düzenli	tidy[a]	0.70
programlı	methodical[a]	0.70
sistemli	systematic[a]	0.70
planlı	organized[a]	0.69
düzensiz	disorderly[a]	–0.67
disiplinsiz	undisciplined[a]	–0.66
programsız	unsystematic[a]	–0.66
tertipli	neat[a]	0.66
tertipsiz	disorderly[a]	–0.65
plansız	unorganized[a]	–0.63
dağınık	untidy[a]	–0.61
çalışkan	hard-working[a]	0.60
itinalı	assiduous[a]	0.59
prensipli	principled[a]	0.56
pasaklı	slovenly[a]	–0.55
titiz	particular[a]	0.55
savruk	inattentive[a]	–0.54
tutumlu	thrifty[a]	0.53
özenli	attentive[a]	0.51
3. Agreeableness		
kavgacı	quarrelsome[a]	–0.52
hırçın	ill-tempered[a]	–0.52
ılımlı	temperate[a]	0.51
yumuşak	soft[a]	0.51

(continued)

Table 1 (continued)

Turkish Adjectives	English Translations	Factor Loadings
geçimli	easy-going[a]	0.51
uysal	acquiescent[a]	0.49
asabi	irritable[a]	–0.49
bağışlayıcı	forgiving[a]	0.49
hoşgörülü	tolerant[a]	0.49
katı	tough[a]	–0.48
uyumlu	agreeable[a]	0.47
saldırgan	aggressive[a]	–0.46
aksi	peevish[a]	–0.46
dikbaşlı	obstinate[a]	–0.46
sinirli	choleric[a]	–0.46
kırıcı	hurtful[a]	–0.45
asi[–2]	rebellious[a]	–0.44
barışçı[4]	peace-loving[a]	0.44
soğukkanl[5]	calm[a]	0.43
kızgın	angry	–0.43
4. Honesty–Humility		
dolandırıcı	swindler[a]	–0.49
merhametsiz	merciless[a]	–0.49
rüşvetçi	giving/taking bribe[a]	–0.48
çıkarcı	opportunistic[a]	–0.48
nankör	ungrateful[a]	–0.47
vicdansız	unscrupulous[a]	–0.46
hain	disloyal[a]	–0.45
bedavacı	freeloader[a]	–0.44
vicdanlı[3]	scrupulous[a]	0.44
iyiliksever	benevolent[a]	0.43
yardımsever	philanthropic[a]	0.43
güvenilir	reliable[a]	0.43
fedakar[3]	self-sacrificing[a]	0.42
nezaketsiz	impolite[a]	–0.42
vefalı	faithful[a]	0.41
duygulu	sensitive[a]	0.40
menfaatçi	self-seeking[a]	–0.40
dürüst	honest[a]	0.39
insafsız	unmerciful	–0.37
yüzsüz	brazen	–0.37
5. Emotionality (–)		
telaşlı	agitated[a]	–0.56
telaısız	unhurried[a]	0.50
evhamlı	anxious[a]	–0.46
soşukkanlı	calm[a]	0.45
dirençli	resistant[a]	0.43
endişeli[–1]	anxious[a]	–0.42
heyecanlı	emotional[a]	–0.41
emin[1]	trustworthy[a]	0.41
serinkanlı	cool[a]	0.40
güçlü[1]	strong[a]	0.39
kararsız[–1]	hesitant[a]	–0.38

(continued)

Table 1 (continued)

Turkish Adjectives	English Translations	Factor Loadings
dayanıklı	tough[a]	0.37
saplantılı$^{-1}$	obsessive[a]	–0.37
korkusuz	fearless[a]	0.37
aceleci	impatient[a]	–0.36
mızmız	fussy[a]	–0.35
çocuksu	childish[a]	–0.35
şaşkın	confused[a]	–0.35
olgun^{2}	mature	0.35
nazlı	coquettish[a]	–0.34
hayalperest	fanciful[a]	–0.34
6. Openness to Experience		
geleneksel	traditional[a]	–0.51
gelenekçi	traditionalistic[a]	–0.50
entellektüel	intellectual[a]	0.47
dargörüşlü	narrow-minded[a]	–0.46
kaderci	fatalistic[a]	–0.44
çaşdaş	contemporary[a]	0.44
uygar	civilized[a]	0.43
kültürlü	cultured[a]	0.42
özgürlükçü	freedom loving[a]	0.41
yaratıcı	creative[a]	0.40
bilgili	knowledgeable	0.39
özgün	original[a]	0.38
medeni	civilized	0.38
sıradan^{-1}	ordinary[a]	–0.38
kültürsüz	uncultured	–0.38
değişik	unusual[a]	0.37
ilerici	progressive[a]	0.36
modern	modern	0.36
bağımsız	independent[a]	0.36
özgür	autonomous[a]	0.35
inançlı^{2}	believer[a]	–0.35

Note: Terms having a secondary loading whose absolute value exceeds .30 are noted with a number superscript that indicates the factor and the direction of the loading. For example, barışçı^{4} indicates that barışçı had a positive secondary loading of at least .30 on Factor 4.
a. Adjectives included in Study 2.

Conscientiousness, respectively. The features of these two Turkish factors appear to be very similar to those of the corresponding factors observed in the six-factor solutions of other languages (see Ashton, Lee, Perugini, et al., 2004).

The terms that most strongly defined the third factor included *temperate, soft, easy-going, acquiescent, forgiving*, *tolerant,* and *agreeable* versus *quarrelsome, ill-tempered*, *irritable, tough, aggressive, peevish*, and *obstinate*. Note that terms such as *irritable* and *ill-tempered* also loaded squarely on this factor, which therefore shows a strong resemblance to the cross-language Agreeableness factor but not to the Big Five variant of Agreeableness. That is, the presence of the irritability and temperamentalness content differentiates this

factor from the classic Big Five Agreeableness factor observed in early English lexical studies, which lacks such content (e.g., Saucier & Goldberg, 1996; but see Ashton, Lee, & Goldberg, 2004, for the English lexical structure derived from a larger variable set).

The fourth factor showed strong loadings for such adjectives as *scrupulous, benevolent*, *philanthropic, reliable, self-sacrificing, faithful*, and versus *swindler, merciless*, *giving/taking bribes, opportunistic, ungrateful, unscrupulous, disloyal*, and *freeloader*. This content is therefore highly similar to that of the indigenous Honesty–Humility factor as obtained in other languages (see Table 5 of Ashton, Lee, Perugini, et al., 2004). One interesting observation regarding this Turkish factor is that some adjectives representing an overall altruism construct (e.g., benevolent, philanthropic vs. merciless) loaded primarily on this factor and secondarily on the Agreeableness factor. Therefore, the Turkish version of the Honesty–Humility factor especially resembles corresponding factors previously observed in such languages as Italian (Caprara & Perugini, 1994), Polish (Szarota, 1995), Greek (Saucier et al., 2005), and (for self-ratings only) German (Angleitner & Ostendorf, 1989; see discussion in Ashton & Lee, 2007).

The fifth factor was defined most strongly by terms such as *unhurried, calm, resistant*, *trustworthy, cool, strong*, and *fearless* versus *agitated, anxious, emotional, hesitant*, and *obsessive*. As such, this factor strongly resembles the indigenous Emotionality factor that has been observed in several diverse languages (see Ashton, Lee, Perugini, et al., 2004). Recall that this Emotionality factor differs from the classic Big Five Neuroticism (vs. Emotional Stability), which is strongly defined by irritability content; instead, the indigenous Emotionality factor of most languages is more suggestive of femininity versus masculinity (see, e.g., Ashton, Lee, & Goldberg, 2004, for English; Hahn, Lee, & Ashton, 1999, for Korean; Szarota, 1995, for Polish) and of (low) self-assurance (see, e.g., Church, Katigbak, & Reyes, 1998, for Filipino). Taken together, the content of the third and fifth factors in this Turkish investigation suggested a close alignment with the two corresponding factors observed in the cross-language six-factor solutions (Ashton, Lee, & Goldberg, 2004; Ashton, Lee, Perugini, et al., 2004).

The sixth factor was most strongly defined by terms such as *intellectual, contemporary*, *civilized, cultured, freedom-loving, creative, knowledgeable*, and *original* versus *traditionalistic, traditional, narrow-minded, fatalistic, ordinary*, and *uncultured*. This dimension was very similar to the factor that Somer and Goldberg (1999; Goldberg & Somer, 2000) interpreted as Openness to Experience. It was interesting that this factor was strongly defined by a contrast between modernization and traditionalism, which is also measured by an indigenous personality inventory developed in China (Chinese Personality Assessment Inventory; Cheung et al., 1996).

In summary, the six factors observed from the analysis of the 434 Turkish personality-descriptive adjective set appear to be very similar in content to those that have been widely replicated in the six-factor solutions in previous lexical studies of personality structure (e.g., Ashton, Lee, & Goldberg, 2004; Ashton, Lee, Perugini, et al., 2004).[2]

Five-Factor and Seven-Factor Solutions

Although our primary aim was to examine the six-factor solution, we also investigated the five-factor and seven-factor solutions derived from the 434-adjective variable set. In the

five-factor solution, four of the factors were nearly identical to the Conscientiousness, Extraversion, Agreeableness, and Emotionality dimensions of the six-factor solution, with factor score correlations of .89 or higher. The remaining dimension of the five-factor solution was correlated about equally with Honesty–Humility of the six-factor solution ($r = .70$) and Openness to Experience factor of that solution ($r = -.65$). Therefore, the five-factor solution contained five factors that are similar to variants of the Big Five factors, except that the fifth factor represented a blend of Honesty–Humility and low Openness to Experience.

In the seven-factor solution, the dimensions of the six-factor solution emerged largely unchanged, and a small new factor was added to these dimensions. This seventh factor was defined by *happy*, *relaxed*, and *untroubled* versus *troubled*, *pained*, *peculiar*, and *odd.* This seventh factor was rather small; of the terms that loaded most strongly on this factor, only 9 terms had absolute loadings of .30 or above. This result is consistent with the findings of previous research insofar as there has not been any seventh factor that has emerged across the majority of languages in which lexical studies have been conducted (see Ashton, Lee, Perugini, et al., 2004).

Comparison With the Six-Factor Solution From the 440-Adjective Set of Goldberg and Somer (2000)

As mentioned previously, Goldberg and Somer (2000) reported results based on a variable set from which terms having very low self-rating means had been removed in an effort to exclude terms associated with negative evaluation and insult. Although such low base-rate terms are likely to belong to this nonpersonality-descriptive category, it is possible that some rarely endorsed terms are legitimate personality descriptors. For this reason, we chose to remove nonpersonality descriptors on the basis of judgments made by multiple Turkish judges.

However, to investigate the extent to which our criterion for excluding nonpersonality-descriptive adjectives might have affected the observed factor structure, we compared the six factors obtained from Goldberg and Somer's (2000) reduced 440-adjective set with those observed in the 434-adjective set of this investigation. Specifically, we calculated correlations between the two sets of six factors within the data set of Goldberg and Somer. As seen in Table 2, four of the factors from the 440-adjective set corresponded almost isomorphically to the factors from the 434-adjecitve set that we interpreted as Conscientiousness, Extraversion, Emotionality, and Openness to Experience, with all convergent correlations exceeding .94. The remaining two factors from the 440-variable set corresponded to the bisectors of the Agreeableness and Honesty–Humility factors from the 434-variable set; that is, a 45-degree rotation of these two factors in the 440-variable set six-factor solution produced new factor axes that mapped isomorphically to Agreeableness and Honesty–Humility of the 434-variable set, showing convergent correlations of .96 and .91, respectively. The content of the rerotated factors from the 440-variable set was also consistent with this interpretation: One factor was defined by the terms *soft*, *forgiving*, *acquiescent*, *temperate*, *tolerant*, *peace-loving*, and *easy-going* versus *brawling*, *tough*, *aggressive*, *ill-tempered*, and *sarcastic*, and the other factor was defined by the terms *self-respecting*, *dignified*, *honest*, *scrupulous*, and *reliable* versus *ungrateful*, *impolite*, *opportunistic*, and *imitating*.

Table 2
Comparison of Six-Factor Solutions From the 434-Adjective and 440-Adjective Sets ($N = 626$)

Factors From the 434-Adjective Set	Factors From the 440-Adjective Set							
	1	2	3	4	5	6	3'	6'
Factor 1 (Extraversion)	**.97**	.03	–.05	.08	.04	.19	–.17	.10
Factor 2 (Conscientiousness)	–.02	**.99**	.04	.03	–.05	.01	.02	.04
Factor 3 (Agreeableness)	.15	–.03	**.67**	.20	–.05	**–.69**	**.96**	–.01
Factor 4 (Honesty–Humility)	–.07	.00	**.72**	–.21	.10	**.57**	.11	**.91**
Factor 5 (Emotionality)	–.13	–.03	.03	**.94**	.03	.25	–.16	.20
Factor 6 (Openness to Experience)	–.01	.03	–.02	.03	**.94**	–.05	.02	–.04

Note: Correlations with absolute values of .50 or greater are in boldface. Names of factors derived from the 434-adjective set correspond to the interpretations described in the text. For each variable set, factor numbers indicate the ranking of factors in terms of size (i.e., sum of squared factor loadings); therefore, convergent factors from the two variable sets do not necessarily share the same factor number. For the 440-adjective set, factors 3' and 6' are axes resulting from a 45-degree rerotation of varimax-rotated factors 3 and 6 of that variable set. All other factors are varimax rotated.

The above results indicate that, even in the 440-adjective variable set of Goldberg and Somer, the six-dimensional space formed by the first six factors matches very closely the six-factor space derived from the reduced set of 434 personality-descriptive adjectives. In general, the results summarized in this section suggest that the six factors reported in the present research are likely to be rather robust and not unduly influenced by the particular features of the current variable-selection methodology.

Study 2: The Six Turkish Lexical Factors and the Dimensions of the HEXACO Model

In Study 1, we found that the structure of the Turkish personality lexicon is in fact more similar than had previously been realized (e.g., Ashton & Lee, 2001) to the structures that have been observed in other lexical studies. In Study 2, we planned to evaluate quantitatively the similarity between the Turkish six factors and the cross-language six factors as described in Ashton, Lee, Perugini, et al., (2004). As mentioned earlier, the cross-language six factors are the major personality dimensions in a new model of personality variation called the HEXACO model (Ashton, Lee, Perugini, et al., 2004; Lee & Ashton, 2004) and operationalized using the HEXACO-PI (Lee & Ashton, 2004, 2006). In this investigation, we translated the HEXACO-PI into the Turkish language and correlated self-reports on the six HEXACO factor scales (i.e., imported measures of the cross-language lexical factors) with self-ratings on the six indigenous Turkish factor scales consisting of adjectives selected directly on the basis of the factor analysis results described in Study 1.

In an earlier report, Ashton, Lee, de Vries, Perugini, et al. (2006) conducted similar analyses based on the findings from lexical studies of the Dutch, English, and Italian languages. Specifically, Ashton et al. constructed indigenous adjective factor scales on the

basis of the factor analytic results obtained from the previous psycholexical studies (De Raad, Hendriks, & Hofstee, 1992, for the Dutch study; Ashton, Lee, & Goldberg, 2004, for the English study; Di Blas & Perugini, 2002, for the Italian study). In each language, they correlated these indigenous adjective factor scales with the imported six HEXACO-PI scales. Across the three languages, the result showed a clear pattern of strong convergent and weak discriminant correlations between the indigenous and imported scales. It is difficult to explain this finding of close correspondences between the indigenous lexical factors and the HEXACO variables except by concluding that the latter dimensions represent a cross-culturally generalizable structure of personality description.

The present research provides an empirical investigation analogous to those reported by Ashton, Lee, de Vries, Perugini, et al. (2006) for the Italian, Dutch, and English languages. This investigation is of particular interest because, as was the case for the Dutch and English investigations, the nature of the Turkish six-factor solution was not known during the development of the HEXACO-PI.

Method

Participants

Participants in this study was 306 undergraduate and graduate students who were taking courses in the business school of Sabanci University in Istanbul, Turkey. The mean age of participants was 21.1 years (SD = 1.94) and 39% of participants were women. The students provided self-ratings on the adjective markers of indigenous factor scales and self-reports on the items of the Turkish version of the HEXACO-PI. Both of these instruments are described below. Sample sizes involving subsequent analyses ranged from 283 to 301 because some participants completed only one of the two instruments (see below).

Measures

Adjectives representing Turkish indigenous lexical factors. To measure the six Turkish lexical factors observed in Study 1, a total of 113 adjectives (17 to 20 adjectives per factor) that showed strong loadings on each of the six factors were administered (see Table 1 for the list of the adjectives included). A 7-point response scale was used for obtaining self-ratings on all adjectives. To approximate the Turkish lexical factors observed in Study 1 as closely as possible, ipsatized scores on the 113 adjectives were factor analyzed and the first six factors were rotated to maximize the correspondence with the factor loadings of these terms as observed in Study 1 (see Table 1) using targeted orthogonal Procrustes rotations (Paunonen, 1997). Factor scores on the resulting six vectors derived from the target rotated solution were then used to quantify the Turkish indigenous lexical personality factors.

In this study, the half-length version of the HEXACO-PI (Lee & Ashton, 2004, 2006) was used; this 104-item version is useful when researchers are primarily interested in the assessment of the higher order factors. For the present research, the English version of the HEXACO-PI was translated into the Turkish language by a fluently bilingual person, and

the Turkish version was translated back to the English language by another fluently bilingual person. The back-translated version was reviewed by three of the authors. All HEXACO-PI items were administered using a 5-point response scale.

Coefficient alpha reliabilities of the half-length form of the Turkish HEXACO-PI scales were very similar to those observed in North American samples: In the present Turkish sample, the reliabilities were .86 for Extraversion, .84 for Honesty–Humility, and .82 for each of the other four factors. Furthermore, when we factor-analyzed the 24 HEXACO-PI facets using the method of principal components and rotated six factors to the varimax solution, all of the 24 facet scales had their highest loadings (all exceeding .55) on their intended factor, with generally small secondary loadings (none reaching .35) on the other factors. Taken together, these results suggest that the structural framework operationalized by the HEXACO-PI scales was preserved in this Turkish context.[3]

Results

Factor Analyses of the Selected 113 Adjectives

As briefly mentioned in the Method section, we first factor-analyzed ipsatized ratings on the 113 adjectives that had been selected based on their loadings on the six factors observed in Study 1. It was not surprising that the scree plot of the eigenvalues suggested that there were six relatively large factors. The first six factors were rotated such that the loadings of the adjectives were matched as closely as possible with those found in the original factor analysis involving 434 adjectives (see Hofstee, Kiers, De Raad, Goldberg, & Ostendorf, 1997, for a similar procedure). These orthogonal target-rotated factors obtained in this sample were found to be very similar to the varimax-rotated factors observed in the original factor analysis shown in Table 1. Specifically, congruence coefficients of factor loadings between the two corresponding factors were .96 for Extraversion, .94 for Conscientiousness, .93 for Agreeableness, .91 for Emotionality, .88 for Openness to Experience, and .85 for Honesty–Humility. Given that only a subset of adjectives was included in the second variable set, these levels of congruence can be considered strong. Moreover, when we derived factor scores in the Study 1 sample using the target-rotated factor solution and correlated them with the original factor scores, the convergent correlations were all rather high: .95 for Extraversion, .93 for Conscientiousness, .90 for Agreeableness, .86 for Emotionality, .89 for Honesty–Humility, and .85 for Openness to Experiences. Thus, the Turkish indigenous lexical factors observed in Study 1 were faithfully reproduced by the target-rotated factors derived from the adjectives selected in Study 2.[4] Below, we describe the correlations between the target-rotated factor scores (hereafter, the Turkish lexical factor scores) and the HEXACO-PI scale scores.

Correlations of the Turkish Lexical Factor Scores With the HEXACO-PI Scales

Table 3 shows the correlations between the HEXACO-PI factor scales and the Turkish lexical factor scores.[5] The correlations of the Turkish lexical factor scores with the HEXACO-PI factor scales showed a quite clear pattern of strong convergent and weak

Table 3
Correlations of the Targeted Factor Scores Representing Turkish Lexical Factors With HEXACO-PI Scales ($N = 283$)

	Targeted Orthogonal Factor Scores Based on the 113 Marker Adjectives					
HEXACO-PI Scales	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Extraversion	**0.81**	0.02	0.00	0.03	–0.10	0.17
Conscientiousness	0.18	**0.78**	–0.07	0.00	–0.02	0.15
Agreeableness	–0.04	0.03	**0.68**	0.14	0.07	0.07
Honesty–Humility	0.02	0.11	0.24	**0.52**	0.04	0.05
Emotionality	–0.08	0.08	0.13	0.25	**–0.62**	–0.21
Openness to Experience	0.11	0.02	0.00	0.05	0.03	**0.46**

Note: Absolute correlations of .40 or greater are printed in boldface.

discriminant correlations. Convergent correlations were particularly strong for Extraversion ($r = .81$) and Conscientiousness ($r = .78$) but were also very strong for Agreeableness ($r = .68$) and Emotionality ($r = .62$) and were moderately strong for Honesty–Humility ($r = .52$) and Openness to Experience ($r = .46$). All of the convergent correlations were much higher than the largest absolute discriminant correlations ($r = .25$ between HEXACO-PI Emotionality and Turkish lexical Honesty–Humility). In sum, the pattern and size of convergent and discriminant correlations are very similar to those found in other languages such as Dutch, English, and Italian (Ashton, Lee, de Vries, Perugini, et al., 2006), supporting the notion that the six Turkish lexical factors correspond almost isomorphically to cross-language six factors operationalized by the HEXACO-PI.

Discussion

In this study, we investigated the factor structure Turkish personality lexicon using a subset of the 498-adjective set of Goldberg and Somer (2000), by removing those terms that refer to social effects, that refer to physical attractiveness or physical characteristics, or that are chiefly evaluative or extremely pejorative. From these analyses, it was found that the Turkish six factors were similar in content to the cross-language-replicated set of six factors described by Ashton, Lee, Perugini, et al., 2004. In a second study based on a new participant sample, the correlations of the Turkish factor scores with the imported measures of the cross-language six factors (i.e., the HEXACO-PI) were largely consistent with these similarities of content.

The Nature of the Turkish Lexical Personality Factors

The larger Turkish adjective factors—those interpreted as Extraversion, Conscientiousness, and Agreeableness—were very strongly correlated with the imported measures of their corresponding factors. As discussed in Ashton, Lee, de Vries, Perugini, et al. (2006), these factors tend to be defined by greater numbers of adjectives, and therefore the features of these factors

tend to be robust regardless of minor methodological idiosyncrasies (e.g., adjective selection criteria, characteristics of participant samples, etc.) that are specific to each individual study. In contrast, the remaining factors, which are usually smaller in size, are likely to be more sensitive to such idiosyncrasies, showing some variation in their features from study to study, which tends to result in somewhat smaller convergent correlations with measures of the cross-language personality dimensions. This tendency was more salient for Honesty–Humility and Openness to Experience than for Emotionality in the present research.

It is worthwhile to note some features of the Turkish Honesty–Humility factor. The adjectives defining the Turkish Honesty–Humility factor suggest that this factor strongly resembles the corresponding factors observed in the six-factor solutions of other lexical studies (Ashton, Lee, & Goldberg, 2004; Ashton, Lee, Perugini, et al., 2004). This similarity of content is consistent with the convergent correlation of this Turkish lexical factor scores with the HEXACO-PI Honesty–Humility scale scores. Note that, in addition to containing adjectives representing honesty and modesty versus pretentiousness and greed, this factor was also defined by a small number of altruism-related adjectives, such as *philanthropic* and *benevolent* versus *merciless.* In many previous lexical studies, including those of the Dutch, French, German (peer ratings), Hungarian, and Korean languages, these altruism-related terms have instead loaded alongside terms suggesting tolerance, patience, and ill temper, thereby forming a broad variant of the Agreeableness factor. In other lexical investigations, however, these altruism-related terms have loaded on the Honesty–Humility factor, a result similar to that observed in the present study: As noted by Ashton, Lee, Perugini, et al. (2004) and Ashton and Lee (2007), such results were observed in the Croatian, Filipino, German (self-ratings), Greek, Italian, and Polish lexical studies. We suggest that future lexical researchers should pay attention to this phenomenon in interpreting the dimensions of six-factor solutions.

The Big Five and the HEXACO Model

It is worthwhile to recall the links between the factor spaces of the Big Five and of the HEXACO frameworks. In our view, one useful feature of the latter model is that it preserves the crucial features of the former: Three of the HEXACO factors are very similar to dimensions of the Big Five, two other HEXACO dimensions roughly represent rerotated Big Five axes, and the remaining HEXACO axis adds much new variance, in addition to absorbing some variance associated with Big Five factors. Thus, the HEXACO framework can be seen as a reorganization of the Big Five (Goldberg, 2001) in which the expansion to a six-factor space contributes some important additional variance. One advantage of this six-dimensional framework is that it allows the Big Five factor space to be "rescued" even in those cases in which five-factor solutions did not recover the Big Five: As noted above, lexical studies of Hungarian, Italian, and Greek produced five-factor spaces in which an Intellect or Imagination or Openness to Experience factor did not emerge; in each study, however, that dimension was recovered within six-factor solutions, whose spaces corresponded to the HEXACO framework. Another advantage is that of theoretical interpretability: For example, the Honesty–Humility and Agreeableness factors—some of whose defining terms jointly load on the same broad factor in solutions involving fewer

dimensions—can be viewed as complementary aspects of reciprocal altruism (Ashton & Lee, 2001, 2007).

Generalizability of Findings Across Languages

Finally, one noteworthy aspect of the present investigation involves the phylogeny of the Turkish language. Because Turkish is a non–Indo-European language, the results of this study are especially suggestive of a widespread cross-cultural generalizability of the six-dimensional structure of personality variation. Previous lexical studies of personality structure have been conducted in languages representing several branches of the Indo-European family, including Romance (Italian, French), Germanic (Dutch, English, and German), Slavic (Polish, Croatian), and Hellenic (Greek). Given the relative diversity of the above branches, the emergence of the six HEXACO factors from the personality lexicons of these various languages does suggest a substantial degree of cross-cultural generalizability for the HEXACO model. But an even wider generalizability across cultures is indicated by the recovery of the six dimensions from the personality lexicons of several mutually unrelated non–Indo-European languages, including Hungarian, Korean, and Filipino. The results of the present investigation indicate that the Turkish language can also be added to this list.

Links Between Personality Dimensions and Cultural Dimensions?

One potential limitation of the present study is that we did not administer any measures of cultural variation, such as individualism or collectivism, power distance, and many others. The examination of such variables was beyond the scope of the present research, whose aim was to investigate the crucial question of cross-cultural similarities or differences in the structure of the within-culture, individual-level variation in personality. However, the present results do provide evidence of important emic features of personality structure; moreover, these findings raise some interesting questions for future research on the links between the dimensions of personality observed here and the dimensions of cultural variation that have been examined in many previous studies. For example, will individual differences in the Turkish Openness to Experience factor—which was defined strongly by progressiveness and modernism versus traditionalism—be strongly associated with individual-level measures of horizontal versus vertical collectivism, which distinguish between relational interdependence versus subordination to in-groups (Triandis & Gelfand, 1998)? Or will these relations be more complex, as would be implied by recent discussions of the link between Westernization and modernization (Kağıtçıbaşı, 2005)?

Cultural Differences in the Manifestation of Personality Dimensions

Despite the importance of establishing a cross-culturally generalizable structure of personality variation, we should not underestimate the possible roles that culture can play in influencing the manifestations even of universal personality dimensions. For example, in the present research, content involving modernism versus traditionalism was much more prominent in the Turkish Openness to Experience factor than in other language versions of that factor. This result is evidence of a noteworthy emic feature of personality structure in the Turkish context; in fact,

this highly progressive version of Openness to Experience might be specific to the Turkish setting, which combines a rapid process of modernization is taking place within a society that has maintained a strong traditional culture (see Somer & Goldberg, 1999; and Wasti, 1998, regarding the transitional status of contemporary Turkey). During such periods of cultural transition and evolution, the Openness to Experience factor may well be manifested in the form of modernization versus traditionalism.

The different manifestations of the personality dimensions have also been observed for other factors and in other cultures. For example, the Filipino Conscientiousness factor was defined not only by the typical content of that factor (e.g., discipline, organization, etc.) but also by religiosity and frugality (Church et al., 1998), a finding that might reflect socialization practices within the Filipino culture. We believe that findings such as this have important implications for cross-cultural investigations of personality structure. It should be kept in mind that the ways in which cross-culturally universal personality factors are manifested can be different depending on the cultural context, and investigating this indigenous aspect of the personality dimensions is itself an important agenda for future research.

Notes

1. We should note that alternative methods of generating personality-descriptive adjectives are often used in research on indigenous personality constructs. These methods—involving focus groups, in-depth interviews, semantic networks, or free associations—are efficient methods of producing lists of familiar adjectives. However, in standard lexical studies of personality, the use of dictionaries is necessary for the purpose of generating exhaustive lists of the familiar personality-descriptive adjectives of a language, so that the personality domain can be represented fully. The use of familiarity ratings as a criterion for screening dictionary-listed adjectives tends to ensure that the studied terms are widely understood rather than being known only to highly educated persons.

2. When we used an oblique rotation instead (promax, with kappa = 4), the factors were highly similar to those of the varimax-rotated solution, with all convergent correlations exceeding .93. The highest correlations among the promax-rotated factors both involved (low) Emotionality (r = .38 with Extraversion; r = .36 with Conscientiousness); none of the other correlations had absolute values exceeding .30.

3. We conducted exploratory factor analysis instead of confirmatory factor analysis, because of the difficulties of the latter analysis in fitting data that show considerable departure from simple structure, which is a characteristic feature of variable sets taken from the personality domain (see McCrae, Zonderman, Costa, Bond, & Paunonen, 1996, for a detailed discussion on this issue).

4. The complete results of the factor analysis are available upon request from the authors.

5. The correlations between the HEXACO-PI scales were all reasonably low, with the highest value being that between Honesty–Humility and Agreeableness (r = .36, N = 301).

References

Angleitner, A., & Ostendorf, F. (1989, July). *Personality factors via self- and peer-ratings based on a representative sample of German trait descriptive terms.* Paper presented at the First European Congress of Psychology, Amsterdam.

Ashton, M. C., & Lee, K. (2001). A theoretical basis for the major dimensions of personality. *European Journal of Personality, 15,* 327-353.

Ashton, M. C., & Lee, K. (2005). A defence of the lexical approach to the study of personality structure. *European Journal of Personality, 19,* 5-24.

Ashton, M. C., & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and Social Psychology Review, 11,* 150-166.

Ashton, M. C., Lee, K., de Vries, R. E., Perugini, M., Gnisci, A., & Sergi, I. (2006). The HEXACO Model of personality structure and indigenous lexical personality dimensions in Italian, Dutch, and English. *Journal of Research in Personality, 40,* 851-875.

Ashton, M. C., Lee, K., de Vries, R. E., Szarota, P., Marcus, B., Wasti, S. A., et al. (2006, July). *Lexical studies of personality structure: An examination of six-factor solutions.* Paper presented at the 13th European Conference of Personality, Athens, Greece.

Ashton, M. C., Lee, K., & Goldberg, L. R. (2004). A hierarchical analysis of 1,710 English personality-descriptive adjectives. *Journal of Personality and Social Psychology, 87,* 707-721.

Ashton, M. C., Lee, K., Perugini, M., Szarota, P., de Vries, R. E., Di Blas, L., et al. (2004). A six-factor structure of personality-descriptive adjectives: Solutions from psycholexical studies in seven languages. *Journal of Personality and Social Psychology, 86,* 356-366.

Ashton, M. C., Lee, K., & Son, C. (2000). Honesty as the sixth factor of personality: Correlations with Machiavellianism, primary psychopathy, and social adroitness. *European Journal of Personality, 14,* 359-368.

Caprara, G. V., & Perugini, M. (1994). Personality described by adjectives: Generalizability of the Big Five to the Italian lexical context. *European Journal of Personality, 8,* 357-369.

Cheung, F. M., Leung, K., Fan, R. M., Song, W.-Z., Zhang, J.-X., & Zhang, J.-P. (1996). Development of the Chinese Personality Assessment Inventory. *Journal of Cross-Cultural Psychology, 27,* 181-199.

Church, A. T., Katigbak, M. S., & Reyes, J. A. S. (1998). Further exploration of Filipino personality structure using the lexical approach: Do the Big Five or Big Seven dimensions emerge? *European Journal of Personality, 12,* 249-269.

Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory and NEO Five-Factor Inventory professional manual.* Odessa, FL: Psychological Assessment Resources.

De Raad, B., Hendriks, A. A. J., & Hofstee, W. K. B. (1992). Towards a refined structure of personality traits. *European Journal of Personality, 6,* 301-319.

Di Blas, L. (2005). Personality-relevant attribute-nouns: A taxonomic study in the Italian language. *European Journal of Personality, 19,* 537-557.

Di Blas, L., & Forzi, M. (1998). An alternative taxonomic study of personality-descriptive adjectives in the Italian language. *European Journal of Personality, 12,* 75-101.

Di Blas, L., & Forzi, M. (1999). Refining a descriptive structure of personality attributes in the Italian language. *Journal of Personality and Social Psychology, 76,* 451-481.

Di Blas, L., & Perugini, M. (2002). L'approccio psicolessicale nella lingua italiana: Due studi tassonomici a confronto [The psycholexical approach in the Italian language: A comparison of two taxonomic studies]. *Giornale Italiano di Psicologia, 29,* 67-93 (in Italian).

Digman, J. M., & Takemoto-Chock, N. K. (1981). Factors in the natural language of personality: Re-analysis, comparison, and interpretation of six major studies. *Multivariate Behavioral Research, 16,* 149-170.

Goldberg, L. R. (1990). An alternative "Description of personality": The Big-Five factor structure. *Journal of Personality and Social Psychology, 59,* 1216-1229.

Goldberg, L. R. (2001). Analyses of Digman's child-personality data: Derivation of Big-Five factor scores from each of six samples. *Journal of Personality, 69,* 709-743.

Goldberg, L. R., & Somer, O. (2000). The hierarchical structure of common Turkish person-descriptive adjectives. *European Journal of Personality, 14,* 497-531.

Hahn, D.-W., Lee, K., & Ashton, M. C. (1999). A factor analysis of the most frequently used Korean personality-descriptive adjectives. *European Journal of Personality, 13,* 261-282.

Hofstede, G. (1980). *Culture's consequences.* Beverly Hills, CA: Sage.

Hofstee, W. K. B., Kiers, H. A. L., De Raad, B., Goldberg, L. R., & Ostendorf, F. (1997). A comparison of Big-Five structures of personality traits in Dutch, English and German. *European Journal of Personality, 11*, 15-31.

House, R. J., Hanges, P. W., Javidan, M., Dorfman, P., & Gupta, V. (Eds.). (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies*. Thousand Oaks, CA: Sage.

Kağıtçıbaşı, Ç. (1990). *İnsan, aile, kültür* [Humans, family, culture]. Istanbul, Turkey: Remzi Kitabevi.

Kağıtçıbaşı, Ç. (2005). Modernization does not mean Westernization: Emergence of a different pattern. In W. Friedlmeier, P. Chakkarath, & B. Schwarz (Eds.), *Culture and human development: The importance of cross-cultural research for the social sciences* (pp. 255-272). Hove, UK: Psychology Press.

Lee, K., & Ashton, M. C. (2004). Psychometric properties of the HEXACO Personality Inventory. *Multivariate Behavioral Research, 39,* 329-358.

Lee, K., & Ashton, M. C. (2006). Further assessment of the HEXACO Personality Inventory: Two new facet scales and an observer report form. *Psychological Assessment, 18,* 182-191.

Lee, K., & Ashton, M. C. (in press). Re-analysis of the structure of the Greek personality lexicon. *Journal of Cross-Cultural Psychology*.

McCrae, R. R. (1989). Why I advocate the five-factor model: Joint analyses of the NEO-PI with other instruments. In D. M. Buss & N. Cantor (Eds.), *Personality psychology: Recent trends and emerging directions* (pp. 237-245). New York: Springer-Verlag.

McCrae, R. R., Zonderman, A. B., Costa, P. T., Jr., Bond, M. H., & Paunonen, S. V. (1996). Evaluating replicability of factors on the revised NEO personality inventory: Confirmatory factor analysis versus procrustes rotation. *Journal of Personality and Social Psychology, 70,* 552-566.

Mlacic, B., & Ostendorf, F. (2005). Taxonomy and structure of Croatian personality-descriptive adjectives. *European Journal of Personality, 19,* 117-152.

Paunonen, S. V. (1997). On chance and factor congruence following orthogonal procrustes rotation. *Educational and Psychological Measurement, 57,* 33-59.

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

Saucier, G., Georgiades, S., Tsaousis, I., & Goldberg, L. R. (2005). The factor structure of Greek personality adjectives. *Journal of Personality and Social Psychology, 88,* 856-875.

Saucier, G., & Goldberg, L. R. (1996). Evidence for the Big Five in analyses of familiar English personality adjectives. *European Journal of Personality, 10,* 61-77.

Somer, O., & Goldberg, L. R. (1999). The structure of Turkish trait-descriptive adjectives. *Journal of Personality and Social Psychology, 76,* 431-450.

Szarota, P. (1995). *Taxonomy and structure of Polish personality-relevant adjectives.* Unpublished doctoral dissertation, University of Warsaw, Poland.

Szirmak, Z., & De Raad, B. (1994). Taxonomy and structure of Hungarian personality traits. *European Journal of Personality, 8,* 95-117.

Triandis, H. C., & Gelfand, M. J. (1998). Converging measurement of horizontal and vertical individualism and collectivism. *Journal of Personality and Social Psychology, 74,* 118-128.

Tupes, E. C., & Christal, R. E. (1992). Recurrent personality factors based on trait ratings. *Journal of Personality, 60,* 225-251.

Wasti, S. A. (1998). Cultural barriers in the transferability of Japanese and American human resources practices to developing countries: the Turkish case. *The International Journal of Human Resources Management, 9,* 608-631.

S. Arzu Wasti is an associate professor of management and organization at the Faculty of Management, Sabanci University, Istanbul, Turkey. She completed her PhD at the University of Illinois, Urbana–Champaign. Her research includes cultural issues in human resources management and organizational behavior. She is a member of the Academy of Management, the International Association for Cross-Cultural Psychology, the International Academy for Intercultural Relations, and the International Association for Applied Psychology. She is also an editorial consultant for *Applied Psychology: An International Review* and *International Journal of Cross-Cultural Management*.

Kibeom Lee is an associate professor in the Department of Psychology, University of Calgary, Canada. He received his PhD from University of Western Ontario in 2000. His main research interests include the structure and measurement of personality characteristics as well as attitudes and behaviors in the workplace.

Michael C. Ashton is professor of psychology at Brock University. He received his PhD from the University of Western Ontario in 1998. His research interests include the structure and measurement of personality characteristics and related individual differences.

Oya Somer is a professor of psychology at Ege University of Turkey. Her main research interests are psychometric theory, item response theory, differential item-test functioning, and personality scale development.