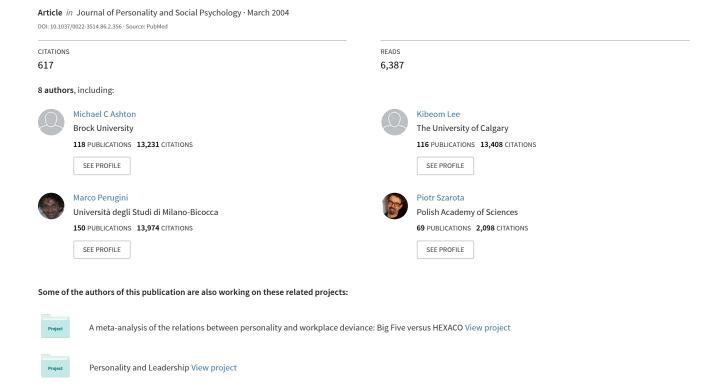
# A Six-Factor Structure of Personality-Descriptive Adjectives: Solutions From Psycholexical Studies in Seven Languages.



# A Six-Factor Structure of Personality-Descriptive Adjectives: Solutions From Psycholexical Studies in Seven Languages

Michael C. Ashton Brock University Kibeom Lee University of Calgary

Marco Perugini University of Essex

Piotr Szarota Institute of Psychology, Polish Academy of Sciences

Reinout E. de Vries University of Amsterdam

Lisa Di Blas University of Trieste

Kathleen Boies University of Western Ontario Boele De Raad University of Groningen

Standard psycholexical studies of personality structure have produced a similar 6-factor solution in 7 languages (Dutch, French, German, Hungarian, Italian, Korean, Polish). The authors report the content of these personality dimensions and interpret them as follows: (a) a variant of Extraversion, defined by sociability and liveliness (though not by bravery and toughness); (b) a variant of Agreeableness, defined by gentleness, patience, and agreeableness (but also including anger and ill temper at its negative pole); (c) Conscientiousness (emphasizing organization and discipline rather than moral conscience); (d) Emotionality (containing anxiety, vulnerability, sentimentality, lack of bravery, and lack of toughness, but not anger or ill temper); (e) Honesty–Humility; (f) Intellect/Imagination/Unconventionality. A potential reorganization of the Big Five factor structure is discussed.

One of the fundamental problems of personality psychology is identifying the major dimensions of personality variation. However, any investigation of the structure of personality characteristics requires a representative sampling of the universe of those variables, and the only strategy that is claimed to provide representative samples is the psycholexical approach to personality structure. According to the assumptions of the lexical hypothesis (e.g., Goldberg, 1990, 1993), a factor analysis of self- or peer ratings on the familiar personality-descriptive adjectives of a given

language should reveal the underlying structure of personality characteristics.

During the past decade, several systematic comparisons of the results of psycholexical studies of personality structure have been published (e.g., De Raad, Perugini, Hrebickova, & Szarota, 1998; De Raad, Perugini, & Szirmak, 1997; Peabody & De Raad, 2002; Saucier & Goldberg, 2001). The common denominator of these comparisons has been their emphasis on the five-factor solutions obtained in various languages. It has recently been noted, however, that there are six factors that have been replicated in several psycholexical studies (Ashton & Lee, 2001). In the past, it has been difficult to evaluate this claim, because the details of six-factor solutions have rarely been reported (for an exception, see Boies, Lee, Ashton, Pascal, & Nicol, 2001). The purpose of the present article, therefore, is to compare the six-factor solutions that have been obtained in several independent psycholexical studies of personality structure conducted in several different languages.

Michael C. Ashton, Department of Psychology, Brock University, St. Catharines, Ontario, Canada; Kibeom Lee, Department of Psychology, University of Calgary, Calgary, Alberta, Canada; Marco Perugini, Department of Psychology, University of Essex, Wivenhoe Park, Colchester, United Kingdom; Piotr Szarota, Institute of Psychology, Polish Academy of Sciences, Warsaw, Poland; Reinout E. de Vries, Department of Communication Science, University of Amsterdam, Amsterdam, the Netherlands; Lisa Di Blas, Department of Psychology, University of Trieste, Trieste, Italy; Kathleen Boies, Department of Psychology, University of Western Ontario, London, Ontario, Canada; Boele De Raad, Department of Psychology, University of Groningen, Groningen, the Netherlands.

Correspondence concerning this article should be addressed to either Michael C. Ashton, Department of Psychology, Brock University, St. Catharines, Ontario, L2S 3A1 Canada, or Kibeom Lee, Department of Psychology, University of Calgary, 2500 University Drive NW, Calgary, Alberta, T2N 1N4 Canada. E-mail: mashton@brocku.ca or kibeom@ucalgary.ca

#### Five- and Six-Factor Solutions

One of the interesting questions regarding the results of any psycholexical study of personality structure involves the extent to which the five-factor solution resembles the classic Big Five structure as obtained in English-language psycholexical studies (e.g., Goldberg, 1990). The Big Five factors are generally known as (I) Extraversion, (II) Agreeableness, (III) Conscientiousness, (IV) Emotional Stability, and (V) Intellect or Imagination.

In several psycholexical studies of personality structure, the authors have claimed that their varimax-rotated five-factor solutions produced factors that broadly resembled the Big Five factors, albeit with some variation in the content of the fifth factor (i.e., Intellect, Imagination, or sometimes Unconventionality) and in the axis locations of the Extraversion, Agreeableness, and Emotional Stability factors. For example, the Italian psycholexical study conducted in Rome (Caprara & Perugini, 1994) obtained rotated variants of Agreeableness and Emotional Stability and a variant of the fifth factor that was interpreted as low *Conventionality*. In addition, the French psycholexical study (Boies et al., 2001) obtained somewhat rotated variants of the Big Five Agreeableness, Emotional Stability, and Extraversion factors; moreover, an Imagination factor obtained in French was defined by terms related to creativity and unconventionality but not by terms related to intellect.

Although several studies have obtained five-factor solutions in which the obtained dimensions can be plausibly interpreted as rotational variants of the Big Five, other studies have revealed results that cannot be easily mapped onto the Big Five space. Interestingly, the Hungarian psycholexical study (De Raad & Szirmak, 1994; Szirmak & De Raad, 1994) and the Italian psycholexical study conducted in Trieste (Di Blas & Forzi, 1998, 1999) revealed five-factor solutions that were very similar to each other but different from the classic Big Five. In both studies, four of the factors were defined by content related to peacefulness, sociability, orderliness, and fearfulness. These four factors can thus be interpreted as variants of the first four of the Big Five. However, both of these studies also revealed a fifth factor that was defined not by terms related to intellect or imagination or unconventionality but instead by terms translated as trustworthy versus greedy/venal, hypocritical, and conceited. The Hungarian fifth factor was named Integrity by its discoverers, and the Italian (Trieste) factor was named Trustworthiness. In both of these languages, it was necessary to extract and rotate six factors in order to obtain an Intellect-related factor and thereby to complete the space of the Big Five dimensions (although not necessarily representing the classic Big Five axis locations).

The finding that a factor interpretable as Integrity or Trustworthiness has twice emerged prior to an Intellect/Imagination/Unconventionality factor raises the possibility that the former dimension might frequently emerge in six-factor solutions along with some roughly recognizable variants of the Big Five. This has indeed been the case in several previous psycholexical studies of personality structure. For example, Angleitner and Ostendorf (1989; Ostendorf & Angleitner, 1993) described the German six-factor solution, in which the sixth factor was defined by terms translated as *sincere* and *truth-loving* versus *boastful*, *grasping*, and *dishonest*. Similarly, De Raad (1992) mentioned the Dutch sixth factor, which he named *Sincerity* versus *Boastfulness*. In addition, the Korean psycholexical study (Hahn, Lee, & Ashton, 1999) revealed a factor interpreted as *Truthfulness*, and the French psycholexical study (Boies et al., 2001) revealed a factor interpreted as *Honesty*.

# Purpose of the Present Study

In this report, we review the six-factor solutions obtained in eight independent psycholexical studies of personality structure from seven different languages. All of these psycholexical studies were conducted according to what we call "standard" criteria; that

is, involving a large number of single, unclustered adjectives that describe normal personality variation and that have been selected according to aggregated ratings of their familiarity or frequency of use, their usefulness for describing personality, or their status as personality disposition terms. In all of these investigations, the authors generally excluded extremely evaluative terms that do not describe a specific pattern of behavior (e.g., terrible, good-fornothing, wonderful, excellent).<sup>1</sup>

The studies whose findings are summarized in this report have revealed six-factor solutions that are very similar, and we have assembled these findings to bring attention to the wide cross-language replication of this six-dimensional structure of personality variation. Although these studies represent a clear majority of the languages in which standard psycholexical studies of personality structure have been conducted to date, there do exist other psycholexical studies whose six-factor solutions are less similar to those described below. We will discuss the findings of those studies in subsequent sections of this article.

#### Method

#### Studies Included in the Summary

The results reported in the present summary were based on the data sets described below. In every case, responses to the adjectives were *ipsatized* (i.e., standardized within subjects) in the original studies in order to remove individual differences in overall elevation and extremity of response. Also, in every case but one (see the description of German data, below), the data analyzed were based on self-ratings only. We relied exclusively on self-ratings in order to maximize comparability between the studies, several of which did not include any collection of peer-rating data. All of the factors described in this study are in fact principal components. For the German and Hungarian data, we relied on published results of the factor analyses; for all other cases, we computed the varimax-rotated six-factor solutions. In two of the cases (discussed below), we rerotated two of the varimax-rotated factors, but in all other cases the results are based on the varimax-rotated solutions.

*Dutch.* The Dutch data used in this study are 400 self-ratings on 551 adjectives (De Raad, 1992; De Raad, Hendriks, & Hofstee, 1992). Varimax-rotated five-factor solutions based on this variable set were reported by De Raad (1992) and by De Raad et al. (1992); in the former study, the sixth factor of the six-factor solution, referred to as *Boastfulness* versus *Sincerity*, was briefly noted.

*French.* The French data used in this study are 418 self-ratings on 388 adjectives (Boies et al., 2001). The varimax-rotated six-factor solution based on a subset of 415 of these ratings was discussed by Boies et al. (2001).

German. The German data used in this study are based on a sample of 408 self-ratings and 394 peer ratings on 430 adjectives. Because the German data set was not available for use in this study, we could not report results for self-ratings only. Moreover, because we did not have access to the full German six-factor solution, we instead report the following results. First, for four of the factors, we report the highest-loading terms of the five-factor solution, as reported by De Raad, Perugini, et al. (1998). For the remaining two factors, we report the highest-loading terms from the six-factor solution, as mentioned by Angleitner and Ostendorf (1989). (Within the German six-factor solution, one of the factors from the five-factor solution—specifically, the factor that was interpreted as Agreeableness—

<sup>&</sup>lt;sup>1</sup> See Ashton and Lee (2001) for a detailed argument as to why the reasons that have been offered for the inclusion of these extremely evaluative terms are inconsistent with the logic of the psycholexical approach to the study of personality structure.

divided into two parts. The remaining four factors remained largely unchanged, as can be seen by comparing the prototypicality indices for the five- and six-factor solutions reported by Ostendorf and Angleitner [1993, Table 4], whose results replicated the findings of the earlier investigation.)

Hungarian. The Hungarian data used in this study are 400 self-ratings on 561 adjectives (De Raad & Szirmak, 1994; Szirmak & De Raad, 1994). In Szirmak and De Raad (1994), the adjectives with the highest loadings on the factors of the five-factor solution were reported. In De Raad and Szirmak (1994), the adjectives with the highest loadings on the sixth factor of the six-factor solution were reported. The full Hungarian six-factor solution was not available for analysis in the present study, but because the factors of the five-factor solution were largely invariant in the six-factor solution, we list here (a) the terms with the highest loadings in the varimax-rotated five-factor solution (Szirmak & De Raad, 1994) plus (b) the terms with the highest loadings on the sixth factor of the varimax-rotated six-factor solution (De Raad & Szirmak, 1994).

Italian (Rome). The Roman Italian data used in this study are based on 577 self-ratings on 285 adjectives (Caprara & Perugini, 1994; see also De Raad, Di Blas, & Perugini, 1998; De Raad, Perugini, et al., 1998). Varimax-rotated five-factor solutions based on this variable set have been reported in the above articles.

Italian (Trieste). The Triestian Italian data used in this study are based on 369 self-reports on 369 adjectives (Di Blas & Forzi, 1999). The varimax-rotated five- and seven-factor solutions based on this variable set were reported in the above article. The results reported here are based on the loadings of the adjectives on the varimax-rotated six-factor solution, except that two factors have been rerotated. Specifically, the second- and sixth-largest factors of the six-factor solution were rerotated 30° to obtain a clearer version of the Intellect/Imagination factor. Within the varimax-rotated six-factor solution, the Intellect/Imagination factor did not emerge in an especially clear form: The sixth factor combined Intellect/Imagination terms and warmth-related terms (e.g., sweet, romantic), whereas some Intellect/Imagination terms (e.g., original, intellectual) loaded mainly on the second factor.

Korean. The Korean data used in this study are 435 self-ratings on 406 adjectives (Hahn et al., 1999). The varimax-rotated five-factor solution derived from this data set was reported by Hahn et al. (1999), who also described the additional factor of the six-factor solution. Here, we report results from the Korean varimax-rotated six-factor solution, except that two factors have been rerotated: The third and sixth factors of the Korean solution were rotated 30° to obtain a clearer variant of the Intellect/ Imagination factor, which did not emerge in its usual form within the varimax-rotated six-factor solution (see Hahn et al., 1999). Within the varimax-rotated solution, terms related to Intellect/Imagination generally divided their loadings between the third and sixth factors.<sup>2</sup>

*Polish.* The Polish data used in this study are 350 self-ratings on 290 adjectives (Szarota, 1995; see also Szarota, 1996). The five-factor solution derived from this data set was described by Szarota (1995), who also discussed the additional factor that emerged in the six-factor solution.

# Interpreting the Factors

In the following section, we provide lists of the English translations of the highest-loading terms on each pole of each factor to allow the reader to inspect the similarities and differences among those factors. Of course, a quantitative comparison of the factors would also be desirable. One method of providing such a comparison would be to create a set of marker adjectives for each presumed factor and then to correlate those sets of adjectives with the factor of each analysis. Although this method has been widely used (e.g., Boies et al., 2001; De Raad et al., 1997; De Raad, Perugini, et al., 1998; Hahn et al., 1999), it has recently been criticized (Peabody & De Raad, 2002). For the purpose of the present article, we use a qualitative method of factor comparison based on that of Peabody and De Raad (2002). Briefly, their method involved sorting adjectives into subjectively defined categories, each of which was intended to contain a

collection of roughly synonymous terms. In this report, as a method of guiding our interpretation of the meaning of the factors of the six-factor solutions described here, we make frequent reference to the classification proposed by Peabody and De Raad.

In the factor descriptions given below, we refer to six tables in which we have assembled what we believe to be the most closely corresponding factors from each of the eight independent psycholexical studies. For each instance of each factor, we have listed the English translations of the 12 highest-loading terms on each pole of the factor, subject to the constraint that these terms had to have an absolute loading of at least .35 on the factor. We have listed the terms in descending order according to the magnitude of the loadings of terms on each pole. When 2 or more terms had the same English translation, we simply indicated in parentheses the number of times that these synonymous terms appeared within the top 12, and we extended the list until 12 terms having unique English translations had been included. In listing the adjectives belonging to each factor, we chose to include terms that met the above requirements even if they also showed a higher loading on a different factor; however, these terms are indicated with an asterisk in the tables.

#### Results and Discussion

### Descriptions of the Factors

Table 1 factors. The factors described in Table 1 are generally characterized by talkativeness, sociability, cheerfulness, and energy versus quietness, shyness, passivity, and withdrawal. In terms of the classification used by Peabody and De Raad (2002), this factor is dominated by adjectives belonging to the categories of Talk (e.g., talkative vs. quiet), Sociableness (e.g., sociable vs. shy), and Impulse Expression (e.g., lively vs. passive). In general, the versions of these factors are highly similar, although the Polish factor is noteworthy for the lack of terms related to sociability and talkativeness on its positive pole; even in the Polish case, however, the negative pole of this factor is defined by terms related to sociability and talkativeness, such as quiet, shy, reserved, and bashful.

In most of the studies in which the factors of Table 1 were reported, the name *Extraversion* was applied to the factor. For the most part, this name seems appropriate, given that (a) the terms *extraverted* and *introverted* show high opposite loadings on the factor, and (b) the content of the factor corresponds closely to the Extraversion construct as understood in English psycholexical and questionnaire research. An important caution should be noted regarding this interpretation, however: Some conceptualizations of Extraversion (e.g., Peabody & De Raad, 2002) emphasize content related to bravery, self-assurance, and independence, whereas terms describing these traits tended to load chiefly on the factors of Table 4 (interpreted, below, as *Emotionality*). The variant of Extraversion shown in Table 1 is defined somewhat more narrowly, being dominated by terms related to sociability and liveliness.

*Table 2 factors.* The factors summarized in Table 2 are most commonly characterized by gentleness, tolerance, patience, peacefulness, agreeableness, and good-naturedness versus irritability,

<sup>&</sup>lt;sup>2</sup> In both the Italian (Trieste) and Korean cases, our rerotation of factors had little effect on the content of the highest-loading adjectives of the larger factor from the varimax-rotated solution. In both cases, however, the rerotation of the two factors expanded the size and breadth of the smaller factor, causing it to resemble much more closely the corresponding factors obtained in the other lexical studies.

Table 1
Highest-Loading Adjectives on One Factor Obtained in Six-Factor Solutions From Lexical Studies of Personality Structure in Several Languages

Language	Adjectives	
Dutch (1)	Exuberant, cheerful, spontaneous, frank, merry, open, jovial, joyful (2), enthusiastic, optimistic, lively, sprightly versus introverted, uncommunicative, silent, somber, restrained, unapproachable, withdrawn, reserved, reclusive, dejected, surly, pessimistic	
French (3)	Social, sociable, expressive, talkative, excitable (2), boisterous, high-strung, dynamic, demonstrative, energetic, comical, hyperactive versus introverted, silent, quiet, reserved, withdrawn, shy, solitary, closed, distant, calm, cold, serious	
German	Temperamental, sociable, lively, gregarious, frank, impulsive, hot-blooded, dynamic versus timid, bashful, withdrawn, unspontaneous, untalkative, reserved, silent, introverted	
Hungarian (1)	Talkative, sociable, friendly, laughing, winning, full of life, temperamental, lively, hyperactive, direct versus retiring, wordless tacitum, withdrawn, quiet, distant, aloof, soft, gray	
Italian—Rome (3)	Extraverted, warm-hearted, vivacious, sparkling, sociable, overwhelming/inspiring, communicative, free-and-easy, leader, cheerful, fanciful, dynamic versus taciturn, introverted, asocial, silent, solitary, boring, shy, cold, passive, reserved, colorless, apathetic	
Italian—Trieste (4)	Warm-hearted, extraverted, open, vivacious, sociable, cheerful, chatterbox, exuberant, talkative, dynamic, active, playful versus taciturn, closed, silent, solitary, introverted, shy, reserved, boring, cold, sad, passive, meditative	
Korean (2)	Cheerful, lively, cheery/merry, extraverted, vigorous/lively, vivacious, sociable, energetic, active, merry, pleasant/cheerful, sociable versus introverted (2), internal, gentle/quiet (2), silent, inactive, reserved, shy, curt, timid, lonely, careful, passive	
Polish (2)	Potent, vigorous, active, brisk, resourceful, swift (2), efficient, enterprising, nimble, deft, lively, athletic versus phlegmatic, quiet, passive (2), resourceless, shy, awkward, helpless, secretive, reserved, bashful, slow, clumsy	

*Note.* See text for detailed explanation of adjective lists. All factors are varimax-rotated. Numbers in parentheses following names of languages indicate the position of the factor within the six-factor solution; position of German factors is unknown. Numbers in parentheses following adjectives indicate the number of words with this English translation (if greater than 1) that occurred among the first 12 nonredundant terms.

argumentativeness, aggression, and quick temper (or choler). In terms of Peabody and De Raad's (2002) classification, this factor is characterized by the categories of Peacefulness (e.g., tolerant vs. quarrelsome), Unassertiveness (e.g., flexible vs. opinionated), and (lack of) Irritableness (e.g., even-tempered vs. choleric). In addition, some aspects of Peabody and De Raad's Helpfulness category (e.g., gentle) were represented in nearly all languages' versions of

the factor, and other aspects (e.g., kind, sympathetic) were also included in several cases. Other aspects of low Helpfulness (e.g., greedy) were not represented, however.

In most cases, the factors of Table 2 were named *Agreeableness* by their authors. The word *agreeableness*—in the everyday sense of the term—does describe the content of this factor very well, given the frequent appearance of terms such as *agreeable*, *gentle*,

Table 2
Highest-Loading Adjectives on a Second Factor Obtained in Six-Factor Solutions From Lexical Studies of Personality Structure in Several Languages

Language	Adjectives	
Dutch (2)	Good-natured (3), calm, patient, mild, tolerant, willing, agreeable, soft-hearted, peaceful, gentle, kind-hearted, lenient vers short-tempered, fierce, quick-tempered, hot-tempered, hot-headed, aggressive, mutinous, explosive, stubborn, unreasona bossy, authoritarian	
French (1)	Gentle, nice, warm, friendly, tolerant, agreeable, positive, loving, kind, pleasant, flexible, peaceful versus hurtful, aggressive, brusque, choleric, hard, arrogant, irritable, violent, rough, fierce, authoritarian, provoking	
German	Big-hearted, warm-hearted, considerate, lenient, good-natured versus tyrannical, ruthless, self-opinionated, power-hungry, egoistic	
Hungarian (2)	Humanitarian, benevolent, friendly, gentle, conformable, peaceful, kind-hearted, good-hearted, philanthropic, tactful versus explosive, self-willed, stubborn, headstrong, obstinate, hasty, hot-headed, pitiless, aggressive, hard-headed	
Italian—Rome (2)	Peaceful, calm, mild, sympathetic, conciliatory, patient, tranquil, docile, tolerant, sensible, accommodating, serene versus irritable, aggressive, litigious, authoritarian, choleric, bellicose, overbearing, brusque, oppressive (2), arrogant, intolerant, impatient	
Italian—Trieste (3)	1	
Korean (1)	Mild, warm (2), harmonious, generous, soft, meek (2), affectionate (2), benevolent, magnanimous, friendly (2), amiable, gentle versus dogmatic/opinionated, extremist, cold-hearted, aggressive, heartless, cold, outspoken, dogmatic, harsh/rude, choleric, blunt, touchy/temperamental	
Polish (3)	Self-possessed, gentle, even-tempered, agreeable, tractable, conciliatory, patient, good-natured, nonexcitable, devoid of problems, tolerant versus vehement, quarrelsome, quick-tempered, irascible, disputatious, impetuous, choleric, impulsive, roistering, short-tempered, excitable, hot-headed	

*Note.* See text for detailed explanation of adjective lists. All factors are varimax-rotated. Numbers in parentheses following names of languages indicate the position of the factor within the six-factor solution; position of German factors is unknown. Numbers in parentheses following adjectives indicate the number of words with this English translation (if greater than 1) that occurred among the first 12 nonredundant terms.

Table 3
Highest-Loading Adjectives on a Third Factor Obtained in Six-Factor Solutions From Lexical Studies of Personality Structure in Several Languages

Language	Adjectives	
Dutch (4)	Careful, meticulous, precise, orderly, self-disciplined, industrious, diligent, conscientious, prompt, dutiful, punctual, thorough versus nonchalant, thoughtless, lazy, irresponsible, rash (3), rebellious, indolent, lax, licentious, careless, frivolous, wishy-washy	
French (4)	Tidy/orderly, disciplined, organized, diligent, studious, orderly, perfectionistic, tidy, meticulous (2), elegant, hard-working, graceful versus untidy/disorderly, undisciplined, lazy, negligent, rebellious, languid, delinquent, disobedient, carefree, irresponsible, nonbeliever	
German	Conscientious, purposeful, hard-working, diligent, ambitious, zealous, consequent, firm versus work-shy, scatterbrained, wishy-washy, frivolous, reckless, extravagant, unambitious, unstable	
Hungarian (3)	Diligent, precise, thorough-going, careful, deliberate, orderly, industrious, disciplined, dutiful, thorough versus lax, neglectful, unsystematic, unserious, idle, lazy, inconsiderate, frivolous, irresponsible, happy-go-lucky	
Italian—Rome (1)	Precise, scrupulous, conscientious, diligent, steadfast, provident, rational, disciplined, responsible, well-balanced, methodical, composed versus irresponsible (2), reckless, inconstant, imprecise, imprudent, irrational, rash (2), rambling, unreflecting, undisciplined, disorderly, absent-minded	
Italian—Trieste (1)	Precise, steadfast, organized, orderly, methodical, disciplined, judicious, conscientious, diligent, well-balanced, rational, rigorous versus inconstant, reckless, inconsistent, irrational, absent-minded, imprudent, dissolute, untidy, bungling, chaotic, careless, inaccurate	
Korean (rerotation of 3 and 6)	Precise/faultless, organized, determined, precise, faultless, complete, prudent, thorough, consistent/steady, industrious, meticulous, enduring versus unclear, rash/careless (2), careless, unfaithful/unreliable, lazy, hasty, thoughtless, absent-minded, inattentive, dull/slow, silly, childish	
Polish (1)	Thoughtful, careful, reliable, scrupulous, businesslike, conscientious, precise, dutiful, systematic, sedulous, trustworthy, well-organized versus negligent, inaccurate, chaotic, reckless, irresponsible, inconsiderate, inattentive, disorderly, unwise, inconsequent, hasty, unpersevering	

*Note.* See text for detailed explanation of adjective lists. All factors are varimax-rotated unless indicated otherwise; in case of factor rerotation, see text for details. Numbers in parentheses following names of languages indicate the position of the factor within the six-factor solution; position of German factors is unknown. Numbers in parentheses following adjectives indicate the number of words with this English translation (if greater than 1) that occurred among the first 12 nonredundant terms.

good-natured, tolerant, and patient. However, it should be noted that the (low) Irritableness aspect of this factor is often viewed, in English-language personality research, as an aspect of Emotional Stability that has only a secondary association with Agreeableness. Moreover, some terms that are often viewed as belonging to the Agreeableness factor tended to divide their loadings between the factors of Table 2 and some other factor. For example, generous sometimes loaded on the factors of Table 5 (interpreted, below, as Honesty-Humility), and sensitive usually loaded on the factors of Table 4 (interpreted, below, as *Emotionality*). Thus, if the factor of Table 2 is to be referred to as Agreeableness, it should be understood that this factor most consistently involves content related to the Peabody and De Raad (2002) categories of Peacefulness, Unassertiveness, and low Irritableness and therefore deviates somewhat from the classic Big Five version of this factor. As such, the factors of Table 2 can be said to represent Agreeableness in the everyday sense of the term, suggesting primarily gentleness, tolerance, and patience.

Table 3 factors. The factors listed in Table 3 are mainly defined by orderliness, precision, diligence, carefulness, and discipline versus disorganization, laziness, negligence, recklessness, and irresponsibility. The content of these factors corresponds closely to Peabody and De Raad's (2002) categories of Impulse Control (e.g., careful vs. reckless), Responsibleness (e.g., reliable vs. irresponsible), Orderliness (e.g., precise vs. negligent), and Work (e.g., diligent vs. lazy), all of which they subsumed within a broader Conscientiousness group.

The factors of Table 3 were generally called *Conscientiousness* by their respective discoverers, and indeed this factor does corre-

spond very closely to the traditional conceptualization of Conscientiousness. Therefore, *Conscientiousness* would seem to be an appropriate name for this dimension. It should be understood, however, that many terms suggesting a specifically moral conscience load mainly on the factors of Table 5 (interpreted as *Honesty–Humility*), discussed below.

Table 4 factors. The factors shown in Table 4 are generally defined by anxiety, fearfulness, vulnerability, fragility, emotionality, sensitivity, and sentimentality versus fearlessness, strength, courage, toughness/resistance, independence, and self-assurance. With regard to Peabody and De Raad's (2002) categories, the predominant elements of these factors are Fearfulness (e.g., anxious, vulnerable vs. fearless); low Stability (e.g., emotional vs. stable); and (at the negative pole) the three parts of the broad Assertiveness group, namely Confidence (e.g., self-assured), Boldness (e.g., brave), and Forcefulness (e.g., independent). There is also a widespread element of certain aspects of Helpfulness, specifically sensitive and sentimental.<sup>3</sup>

At first glance, the heavy representation of terms related to Fearfulness and low Stability suggests that the name *Emotional Instability* would be appropriate for the factors of Table 4. However, this interpretation may be less than ideal, for several reasons.

<sup>&</sup>lt;sup>3</sup> The adjective *sentimental* was not explicitly listed in Peabody and De Raad's (2002) classification. This term, in addition to being among the highest-loading terms on the Dutch, German, Polish, and Korean factors of Table 4, also showed its highest loading on the French, Italian (Rome), and Italian (Trieste) versions of this factor.

Table 4
Highest-Loading Adjectives on a Fourth Factor Obtained in Six-Factor Solutions From Lexical Studies of Personality Structure in Several Languages

Language	Adjectives		
Dutch (3)	Oversensitive, vulnerable, unstable (3), hypersensitive, insecure, emotional, panicky, worrying, nervous (2), indecisive, jumpy, sentimental versus stable, self-assured, steady, determined, sober, decisive, hard (3), resolute, cool-headed, imperturbable, independent (2), rational		
French (2)	Anxious, fearful (2), fragile, emotional, anxious (2), depressive, nervous, hung-up, sensitive, negative, indecisive, vulnerable versus courageous, confident (2), sturdy, assured, strong, brave, enterprising, well-balanced, adventurous optimist, positive, stable		
German	Vulnerable, touchy, sensitive, moody, self-doubting, obstinate, sentimental, uncontrolled versus insensitive, poised, steady, solid, hard-boiled, imperturbable, acrobatic, slippery		
Hungarian (4)	Oversensitive, easily hurt, anxious, vulnerable, self-condemning, whining, worrying, self-convicting, complaining, easily frightened versus "nerves of steel," self-assured, crafty, well-balanced, sober-minded, wily, cunning, calm, optimistic, bold		
Italian—Rome (4)	Emotional, full of complexes, anxious, suggestible, depressive, fragile, hesitating, melancholic, vulnerable, hypersensitive, "victim," nostalgic versus secure/self-assured, resolute, courageous, strong, serene*, imperturbable, energetic*, determined, independent, enterprising*, dynamic*, combative		
Italian—Trieste (rerotation of 2 and 6)			
Korean (4)	Feminine (2), sensitive (2), charming/sweet (2), possessive, tidy, weak*, jealous, romantic, sentimental, considerate/careful, delicate, clean versus masculine/manly (3), firm, brave/virile, strong, tough, "strong silent type" (2), rugged/violent		
Polish (5)	Faint-hearted, cowardly (2), timorous, timid, sentimental (2), melancholic, mawkish, sensitive, delicate, submissive, emotional, dreamy versus courageous (2), fearless, tough, resistant (2), intrepid, relentless, firm, stolid, strongminded, bold, brave, inured		

*Note.* See text for detailed explanation of adjective lists. All factors are varimax-rotated unless indicated otherwise; in case of factor rerotation, see text for details. Numbers in parentheses following names of languages indicate the position of the factor within the six-factor solution; position of German factors is unknown. Numbers in parentheses following adjectives indicate the number of words with this English translation (if greater than 1) that occurred among the first 12 nonredundant terms. An asterisk indicates that the adjective had its highest loading on a factor other than that for which it is listed.

First, Irritableness, an important aspect of Emotional Instability, is nearly absent from the factors of Table 4 (for a similar observation regarding five-factor solutions, see Peabody and De Raad, 2002); instead, these anger-related terms loaded on the negative pole of the Table 2 factors (interpreted, above, as a variant of Agreeableness). Second, the elements of sensitivity and sentimentality that are seen in several parts of Table 4 have generally been viewed mainly as an element of Agreeableness, with only a secondary element of low Emotional Stability. Third, the elements of bravery, self-assurance, and toughness, all of which are also widespread in Table 4, have not traditionally been viewed unequivocally as part of Emotional Stability. Instead, these terms have tended to divide their loadings between Emotional Stability and Extraversion or between Emotional Stability and low Agreeableness.<sup>4</sup> For example, in Saucier and Goldberg (1996), brave loaded .30 on Extraversion and .35 on Emotional Stability, assured loaded .42 on Extraversion and .31 on Emotional Stability, and tough loaded -.33 on Agreeableness and .24 on Emotional Stability.

Given the above concerns, an alternative name may be warranted. Rather than calling this factor *Emotional Instability*, a better name might be *Emotional Vulnerability*, or simply *Emotionality*. Whichever name is preferred, it should be understood that the "unemotional" pole of this factor emphasizes fearlessness, self-assurance, and toughness rather than the even temper that is traditionally included within an Emotional Stability factor.

Table 5 factors. The factors summarized in Table 5 are typically characterized by honesty, sincerity, fairness, loyalty/faithfulness, and (to some extent) modesty versus deceit, hypocrisy, conceit, slyness, pretentiousness, and greed. In terms of the classian

sification of Peabody and De Raad (2002), these factors are dominated by adjectives belonging to Integrity Values (e.g., *sincere* vs. *dishonest*) and low Conceitedness (e.g., *haughty*). In addition, the low poles of these factors were frequently defined by terms such as *sly* (classified within a Cleverness category by Peabody & De Raad, 2002) and *greedy* (classified within a (low) Helpfulness category by Peabody & De Raad, 2002). In the Polish and Italian cases, the factors of Table 5 are rather broad in content and include some additional Helpfulness-related content (e.g., *generous, altruistic, helpful*) that in other cases was associated with the factors of Table 2 (interpreted as a variant of *Agreeableness*). The shifting of this Helpfulness content between the two factors suggests that it may represent a mixture of those dimensions.

Elsewhere, two of us have suggested that the factors described in the present Table 5 would be best named *Honesty* (Ashton, Lee, & Son, 2000). However, one might object to this name on the grounds that the term *honesty* does not, for some people, immediately suggest the lack of conceit, lack of pretentiousness, and lack of greed that also characterize this factor rather consistently. One useful remedy would be to call the factor *Honesty–Humility*. It should be understood, however, that the adoption of such a name would not represent a reconceptualization of the factor, because terms related to lack of humility (e.g., *conceited, pretentious, greedy*) have long been known

<sup>&</sup>lt;sup>4</sup> In fact, some researchers (e.g., Peabody & De Raad, 2002) have explicitly placed these terms squarely within the Extraversion factor (or, in the case of *tough*, within a Persistence category between the Extraversion and Conscientiousness factors).

Table 5
Highest-Loading Adjectives on a Fifth Factor Obtained in Six-Factor Solutions From Lexical Studies of Personality Structure in Several Languages

Language	Adjectives		
Dutch (6)	Sincere, loyal/faithful, modest*, totally honest, honest versus boasting (3), swaggering (2), conceited, snobbish, ostentatious, complacent, haughty (2), arrogant (2), greedy, sly, cunning, smug		
French (5)	True/genuine, sincere, honest, just/fair, loyal/faithful, frank, provident versus dishonest, false/not genuine, lying/untruthful, hypocritical, unjust/unfair, immature, treacherous, impolite, pretentious, easily influenced, thoughtless, mean		
German	Honest, sincere, humane, truth-loving, faithful, modest, just/fair versus dishonest, corrupt, boastful, grasping, arrogant		
Hungarian (5)	Veracious, just, trustworthy, secret-keeping versus hypocritical, swollen-headed, greedy, overbearing, show-off, power-mad, pompous, conceited, pretending, haughty		
Italian—Rome (6)	Honest, loyal, generous, altruistic, sensitive versus dishonest, stingy, deceiving, insincere, miserly, greedy, "couldn't care less," hypocritical, avaricious, calculating, disloyal		
Italian—Trieste (5)	Sincere, trustworthy, loyal, generous, available, natural, altruistic, faithful, discreet, sensitive versus lying, untruthful, hypocritical, self-conceited, egoist, venal, conceited, calculating, self-important, gossipy, malicious, megalomaniac		
Korean (5)	Truthful, frank, morally conscientious, honest, unassuming, not pretending versus cunning, sly, calculating (3), hypocritical, pompous, pretending/two-faced, conceited, betraying, boasting, flattering, pretentious		
Polish (4)	Helpful, unselfish, honest, compassionate, magnanimous, sincere, generous, noble, truthful, trusting, hospitable, self-sacrificing versus mercenary (2), greedy (2), cunning, sly, crafty, vindictive, selfish, stingy, suspicious, dishonest, egoistic, envious		

*Note.* See text for detailed explanation of adjective lists. All factors are varimax-rotated. Numbers in parentheses following names of languages indicate the position of the factor within the six-factor solution; position of German factors is unknown. Numbers in parentheses following adjectives indicate the number of words with this English translation (if greater than 1) that occurred among the first 12 nonredundant terms. An asterisk indicates that the adjective had its highest loading on a factor other than that for which it is listed.

to be prevalent at the low pole of this factor (e.g., Ashton et al., 2000). Alternatively, names such as *Morality, Sincerity*, or *Integrity* might also be appropriate labels for this factor.

Table 6 factors. The factors described in Table 6 are defined by terms suggesting creativity, intellect, philosophicalness, talent, education, wit or irony, and unconventionality versus their opposites. In terms of the classification proposed by Peabody and De Raad (2002), all of the Intellect-related categories are included: Cleverness (e.g., *sharp*), Imaginativeness (e.g., *original*), Reflec-

tiveness (e.g., philosophical), Culture/Sophistication (e.g., intellectual), and Talent (e.g., gifted). In addition, the category of low Conventionalness (e.g., progressive, rebellious vs. conservative, prudish) is widely represented, as are (at the negative pole) some aspects of Unassertiveness or low Forcefulness (e.g., submissive, docile, slavish, obedient); however, these latter terms were also related to other factors, particularly those of Table 4 (interpreted as Emotionality) and Table 2 (interpreted as a variant of Agreeableness).

Table 6
Highest-Loading Adjectives on a Sixth Factor Obtained in Six-Factor Solutions From Lexical Studies of Personality Structure in Several Languages

Language	Adjectives	
Dutch (5)	Deep, original, philosophical (2), sharp (2), witty, artistic, critical, creative, ironic, inventive, versatile versus uncritical, superficial, bourgeois, meek, prudish, docile, unimaginative, narrow-minded (2), extremely shy, timid, conservative, conventional	
French (6)	Artistic (2), creative (2), imaginative, inventive, original, eccentric, marginal, revolutionary, witty, rebellious (2), passionate versus conventional, obedient, conservative, reasonable	
German	Ingenious, intelligent, knowledgeable, clever, gifted, talented, intellectual, educated versus untalented, uneducated, unintelligent, incompetent, ignorant, uninformed, unimaginative, stupid	
Hungarian (6)	Bright, clever, intelligent, teachable, smart, sharp-witted, receptive, intellectual, perspicacious versus malicious, unpolished, bashful, shifty	
Italian—Rome (5)	Progressive, eclectic, innovative, analytical, ironic, transgressor*, sharp, critical, original, receptive versus devout, traditional, puritanical, servile, religious, conservative, obedient, backward, observant, conventional*, bigoted	
Italian—Trieste (rerotation of 6 and 2)	Cultured, intelligent, gifted, sharp, capable, original, intellectual, educated, erudite, ironic, astute versus entirely dominated, uncultured, submissive (2), obtuse, incompetent, ignorant, "gives up easily," unsophisticated, weak*, inept, backward, yielding	
Korean (rerotation of 6 and 3)	Bright, creative, intellectual, smart, relaxed, original, wise, clever versus lacking individuality, faithful, impatient	
Polish (6)	Gifted, creative, intelligent, talented, receptive, wise, clever, acute, well-read, sharp, sagacious, thinking versus unintelligent, unperspicacious, unintelligent, dense, uneducated, silly, slow-witted	

Note. See text for detailed explanation of adjective lists. All factors are varimax-rotated unless indicated otherwise; in case of factor rerotation, see text for details. Numbers in parentheses following names of languages indicate the position of the factor within the six-factor solution; position of German factors is unknown. Numbers in parentheses following adjectives indicate the number of words with this English translation (if greater than 1) that occurred among the first 12 nonredundant terms. An asterisk indicates that the adjective had its highest loading on a factor other than that for which it is listed.

Several points should be noted regarding the interpretation of the Table 6 factors. First, the low pole of the factor is not always coherently defined, as can be seen in the Hungarian and Korean cases. Second, as noted above, it was necessary in two cases—Italian (Trieste) and Korean—to rerotate factors in order to obtain a factor similar to those of the other psycholexical studies. Third, there is considerable variation in the content that is emphasized by the factor; for example, the French factor contains no Cleverness or Reflectiveness terms, whereas the Hungarian factor contains no Imaginativeness or low Conventionalness terms. These variations may be a consequence, in part, of different methods used to select the initial lists of adjectives. In cases such as German, Polish, and Italian (Trieste), ability-related terms were generally included, whereas in the Dutch and Italian (Rome) cases, most ability-related terms were excluded.

Given the somewhat mixed nature of this factor, the name *Intellect/Imagination* would seem to be an appropriate compromise. One possible amendment is that the name *Unconventionality* might also be appended, given the importance of this element of content in several versions of the factor of Table 6.

# Summary of the Six-Factor Solutions

To summarize, the factors shown in Tables 1–6 suggest the existence of six personality-descriptive factors that are replicated across several diverse languages:

- 1. A factor emphasizing sociability, talkativeness, and liveliness. This factor might be interpreted as *Extraversion*, but such an interpretation must be subject to the understanding that content related to bravery, self-assurance, and toughness is usually not primarily a part of this factor.
- 2. A factor emphasizing gentleness, good-naturedness, agreeableness, tolerance, and patience. The content of this factor is therefore consistent with the name *Agreeableness*, in the everyday sense of the term. However, it should be noted that this variant of Agreeableness departs from the traditional Agreeableness factor by including content related to even temper and lack of irritability.
- 3. A factor emphasizing orderliness, work effort, and impulse control. This factor is interpretable as *Conscientiousness* but usually without the specifically moral content suggested by that term.
- 4. A factor emphasizing anxiety, emotional reactivity, sentimentality, and lack of courage. This factor departs from the traditional Emotional Instability factor insofar as the factor reported here usually (a) lacks irritability-related terms; (b) contains sentimentality-related terms; and (c) contains terms related to lack of bravery, lack of self-assurance, and lack of toughness. Given the differences between this factor and the classic Emotional Instability dimension, a better name might be *Emotionality* or *Emotional Vulnerability*.
- 5. A factor emphasizing trustworthiness, modesty, lack of greed, and lack of slyness. This factor is interpretable as *Honesty–Humility*, or perhaps as *Morality*, *Sincerity*, or *Integrity*.
- 6. A factor emphasizing intellectuality, imagination, and unconventionality. This factor might be named *Intellect/Imagination/Unconventionality* so as to incorporate all of these somewhat disparate elements.

#### Seven-Factor Solutions

The existence of a similar set of six personality-descriptive factors across such a wide variety of languages might well lead readers to wonder if there could exist additional factors of similar breadth. Given that this six-factor structure had not been noticed for many years, the possibility of a seven-factor structure seems plausible. To investigate this possibility, we investigated the seven-factor solutions in seven of the eight studies considered here (the Hungarian solution was not available). These solutions are discussed below.

In the Dutch study (De Raad, 1992; De Raad et al., 1992), the seven-factor solution added a small and unipolar seventh factor that was defined most strongly by the terms very stingy, insensitive, violent, and brutal. In the French study (see Boies et al., 2001), the seven-factor solution added a seventh factor that was defined most strongly by the terms elegant, graceful, and sophisticated. In the German study (see Angleitner & Ostendorf, 1989; Ostendorf & Angleitner, 1993), separate factors were revealed for creativity- and intellect-related content when seven factors were rotated. In the Italian (Rome) study, the seven-factor solution was characterized by the addition of a small new factor defined by terms related to hard work and energy versus laziness. In the Italian (Trieste) study, the seven-factor solution saw the division of the sixth factor (i.e., the sixth factor of the six-factor varimaxrotated solution) into two separate factors, one emphasizing romanticism and the other emphasizing intelligence. In the Korean study (Hahn et al., 1999), the seven-factor solution revealed a seventh factor that was defined most strongly by the terms relaxed, easy-going/carefree, and optimistic. In the Polish study, the Table 4 factor of the six-factor solution (see above) divided into two parts when seven factors were rotated: a bipolar factor emphasizing courage versus cowardliness and a nearly unipolar factor emphasizing sensitivity and romanticism.

Thus, these results suggest that there is rather little consistency overall in the seven-factor solutions obtained in these psycholexical studies. In the case of one pair of studies—Italian (Trieste) and Polish—there are seven similar factors, among which are separate factors defined by fearlessness, by romanticism, and by intelligence. In addition, the division of intellect- and creativity-related variance that was observed in the German seven-factor solution has also occurred in the six-factor solution of a Czech psycholexical study (described below) that was not among the studies included in Tables 1–6.

To summarize, the evidence for a broadly replicated seven-factor structure of personality-descriptive terms is—at least so far—rather weak. There is some evidence of a tendency for two different aspects of an Emotionality factor to emerge in seven-factor solutions, and there is also some evidence for a division of Intellect and Creativity. However, neither of these results has yet approached the generality of the six-factor solution displayed in Tables 1–6.

#### Other Psycholexical Studies of Personality Structure

Although the six-factor solution described in this article has emerged in psycholexical studies of several diverse languages, there are two languages—Czech and English—in which investigators used the "standard" adjective selection procedures described above but in which that six-factor structure did not emerge.

In the Czech psycholexical study of personality structure (Hrebickova, 1995), the six-factor solution contained variants of the classic Big Five factors as well as a small sixth factor that separated from the Intellect factor of the five-factor solution. This small additional factor was defined by terms translated as *nimble*, *skill-ful*, *agile*, and *inventive* versus *unskillful*, *slow*, and *uncreative*. Interestingly, this separation of creativity-related content from the rest of the Intellect factor is similar to that which occurred in the German seven-factor solution, as noted above. However, the Czech factor contains several terms that seem to describe motor skill rather than creativity, and it would be interesting to investigate the results that would be obtained in Czech if the former terms were excluded.

Many psycholexical studies of personality structure have been conducted in the English language, but only that of Saucier and Goldberg (1996) used an adjective-selection procedure that closely resembles those of the studies discussed in Tables 1-6 of the present article. This English psycholexical study used 435 adjectives that were chosen on the basis of rated frequency of use from a pool of 492 adjectives that had themselves been selected according to subjective criteria, including redundancy, from a larger 1,710-adjective set. The 435 English adjectives produced a classic Big Five structure, and solutions with six or more factors did not contain clear counterparts of the factors represented in Table 4 (Emotionality) and Table 5 (Honesty-Humility) of the present article.<sup>5</sup> Given that English is a Germanic language that has been massively influenced by the vocabulary of Romance languages, the failure of the English studies to produce a six-factor solution similar to that of Dutch, German, French, and Italian is quite surprising. This suggests that a new English psycholexical study of the factor structure of personality-descriptive terms would be of some interest.

### General Discussion

# Generality of the Six-Factor Solution

This review has shown that a similar six-factor solution has emerged from self-ratings on the familiar personality-descriptive adjectives in eight independent studies representing seven different languages. This six-factor solution has occurred in languages belonging to three different branches of the Indo-European language family (Germanic, Romance, and Slavic) and also in two non-Indo-European languages (Hungarian and Korean). The fact that a similar solution has occurred so many times, in such highly diverse languages, makes it inconceivable that this pattern is merely due to chance. Instead, the solution observed in these studies is very likely a real reflection of an underlying structure of the human personality lexicon.

The strong similarity of the six-factor solutions shown in Tables 1–6 is particularly impressive when one considers the various sources of error that can influence the results of psycholexical studies of personality structure. For example, even minor differences in the criteria used for selecting adjectives might be expected to result in considerable differences in the obtained factor structures; this can be seen very clearly by comparing the two Italian studies, which produced rather different variants of the factor shown in Table 6. Had the studies discussed in this article used identical procedures for selecting adjectives, the resemblance

among the obtained factors would presumably be even greater. In addition to the issue of adjective selection, it should be recalled that small variations in the rotational positions and sizes of the factors might also obscure their underlying similarity by changing the content of the highest-loading terms on each factor. If targeted rotations were used, the factors would become even more similar.

# Cautions Regarding the Six-Factor Solution

Despite the widespread emergence of the six-factor structure of personality characteristics that has been reported here, several cautions should be noted regarding this structure. First, this six-factor solution might not represent the "last word" on the topic of personality structure. Instead, it is possible that results of future psycholexical studies, conducted in many other, diverse languages, will suggest revisions to this model. For example, a reorganization of Emotionality and of Intellect/Imagination/Unconventionality into three separate dimensions (see above) may recur with enough frequency in future investigations to recommend changes to the structure proposed here.

In addition, it is of course likely that the six-factor solution reported here will not be recovered with high fidelity in psycholexical studies that use different criteria for the selection of adjectives. For example, investigations that include extremely evaluative, low base-rate terms may obtain a "negative valence" factor, such as those that emerged in the very rigorous studies of Filipino/Tagalog (e.g., Church, Katigbak, & Reyes, 1998) and Turkish (Goldberg & Somer, 2000; Somer & Goldberg, 1999) adjectives. As noted above, however, two of us have argued that the inclusion of such terms is inconsistent with the logic of the lexical approach to personality structure (see Ashton & Lee, 2001).6 In addition, different results might be obtained if different types of words, such as nouns or verbs, were studied (e.g., De Raad et al., 1992; but see also Di Blas, 2003). To the extent that lexical researchers use different criteria for variable selection, there may be disagreements among them regarding the optimal structure of personality characteristics.

It should also be noted that two of the six factors reported here—those interpreted as *Honesty–Humility* and as *Intellect/Imagination/Unconventionality*—have been weaker than the other four in terms of the fidelity with which they have been recovered across languages. This might lead some to suggest a structure consisting of a smaller number of dimensions that would be universally recovered. However, there would be at least two important disadvantages associated with such a structure. First, the elimination of any of the six factors would mean a substantial reduction in comprehensiveness, because much of the personality variance associated with the discarded factors would be lost. Moreover, the widespread recurrence of the six-factor solution

<sup>&</sup>lt;sup>5</sup> However, English studies based on internal ratings of trait similarity have recovered a factor defined by *honest, fair,* and *moral* (Peabody & Goldberg, 1989).

<sup>&</sup>lt;sup>6</sup> Even if these extremely evaluative terms are excluded from factor analyses (for a detailed discussion of the Filipino and Turkish results, see Ashton & Lee, 2001), it is also possible that the mere administration of such adjectives to the research participants who provide ratings may influence their patterns of responses to the more descriptive terms, thereby influencing the factor structure.

would have to be explained—implausibly—as a series of Type I errors; it is much easier, instead, to explain the occasional failures of replication of the six-factor solution as Type II errors.

Another issue related to the replicability of the six-factor solution involves the source of the personality ratings. The results summarized in the present study are based on self-ratings, and it is possible that the structure obtained from these ratings would not be recovered with the same degree of consistency and fidelity from peer ratings. As noted by Peabody and Goldberg (1989), selfrating results tend to be more differentiated than are those based on peer ratings, in the sense that variance tends to be spread more evenly across factors; this is especially true when some of the targets of the peer ratings are disliked by the raters. Thus, it might well be expected that analyses based on peer ratings, relative to self-ratings, would have somewhat less power to detect all six factors. Nevertheless, the reports of self- and peer rating results from German (Angleitner & Ostendorf, 1993, Table 4), the Italian study conducted in Trieste (Di Blas & Forzi, 1998), and Polish (Szarota, 1995) have each revealed six-factor structures that are similar across self- and peer ratings.

Finally, it should be remembered that many personality characteristics have only modest loadings within the space of the five or six largest factors and therefore possess a considerable amount of unique variance (for a list of several such constructs, see, e.g., Paunonen & Jackson, 2000). Thus, the adoption of any structural model of personality variation should not lead researchers to forget that many traits are only partially accommodated within that model.

# Consequences for the Big Five Structure

The aim of this article is to describe a common six-dimensional structure of personality characteristics that replicates widely across languages. Many readers may wonder about the implications of this solution for the Big Five personality factors. On the one hand, the results reviewed here do indicate that the Big Five structure should be revised in two important ways. First, an Honesty-Humility factor should be added (or, alternatively, subdivided from a broader Agreeableness factor). Second, the Agreeableness and Emotional Instability factors (and to some extent the Extraversion factor) should be modified, with important shifts of content between factors. However, in some sense, the six-factor solution reported here allows the Big Five space to be "rescued"—albeit with a different alignment of the factors—because the Intellect/ Imagination factor that failed to emerge in the five-factor solutions of Hungarian and Italian (Trieste) can be recovered in six-factor solutions, at least with an appropriate rotation of factor axes. That is, the six-factor solution reported here incorporates the variance associated with all of the Big Five factors, but, to use Goldberg's (2001) phrase, it provides a "reorganization" of those factors.

#### References

- Angleitner, A., & Ostendorf, F. (1989, July). Personality factors via selfand peer-ratings based on a representative sample of German trait descriptive terms. Paper presented at the First European Congress of Psychology, Amsterdam, the Netherlands.
- 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., & 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.
- Boies, K., Lee, K., Ashton, M. C., Pascal, S., & Nicol, A. A. M. (2001). The structure of the French personality lexicon. *European Journal of Personality*, 15, 277–295.
- 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.
- 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.
- De Raad, B. (1992). The replicability of the Big Five personality dimensions in three word-classes of the Dutch language. *European Journal of Personality*, 6, 15–29.
- De Raad, B., Di Blas, L., & Perugini, M. (1998). Two independently constructed Italian trait taxonomies: Comparisons among Italian and between Italian and Germanic languages. *European Journal of Personality*, 12, 19–41.
- 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.
- De Raad, B., Perugini, M., Hrebickova, M., & Szarota, P. (1998). Lingua franca of personality: Taxonomies and structures based on the psycholexical approach. *Journal of Cross-Cultural Psychology*, 29, 212– 232.
- De Raad, B., Perugini, M., & Szirmak, Z. (1997). In pursuit of a crosslingual reference structure of personality traits: Comparisons among five languages. *European Journal of Personality*, 11, 167–185.
- De Raad, B., & Szirmak, Z. (1994). The search for the "Big Five" in a non-Indo-European language: The Hungarian trait structure and its relationship to the EPQ and the PTS. *European Review of Applied Psychology*, 44, 17–24.
- Di Blas, L. (2003). Personality-relevant attribute-nouns: A taxonomic study in the Italian language. Manuscript submitted for publication.
- 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: The abridged Big Three circumplex structure. *Journal of Personality and Social Psychology*, 76, 451–481.
- 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. (1993). The structure of phenotypic personality traits. American Psychologist, 48, 26–34.
- 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 trait adjectives. *European Journal of Personality*, 13, 261–282.
- Hrebickova, M. (1995). The structural model of personality based on the lexical analysis: A Czech replication study of the five-factor model based on a comprehensive taxonomy of personality-descriptive adjectives. Unpublished manuscript, Institute of Psychology, Academy of Sciences of the Czech Republic, Brno, Czech Republic.
- Ostendorf, F., & Angleitner, A. (1993, July). A German replication study of the Five-Factor Model based on a comprehensive taxonomy of

*personality-descriptive adjectives.* Paper presented at the Sixth Biennial Meeting of the International Society for the Study of Individual Differences, Baltimore, MD.

- Paunonen, S. V., & Jackson, D. N. (2000). What is beyond the Big Five? Plenty! *Journal of Personality*, 68, 821–835.
- Peabody, D., & De Raad, B. (2002). The substantive nature of psycholexical personality factors: A comparison across languages. *Journal of Personality and Social Psychology*, 83, 983–997.
- 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., & Goldberg, L. R. (1996). Evidence for the Big Five in analyses of familiar English personality adjectives. *European Journal of Personality*, 10, 61–77.
- Saucier, G., & Goldberg, L. R. (2001). Lexical studies of indigenous personality factors: Premises, products, and prospects. *Journal of Per*sonality, 69, 847–879.

- Somer, O., & Goldberg, L. R. (1999). The structure of Turkish traitdescriptive 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, Warsaw, Poland.
- Szarota, P. (1996). Taxonomy of the Polish personality-descriptive adjectives of the highest frequency of use. *Polish Psychological Bulletin*, 27, 343–351
- Szirmak, Z., & De Raad, B. (1994). Taxonomy and structure of Hungarian personality traits. *European Journal of Personality*, 8, 95–117.

Received December 24, 2002
Revision received April 8, 2003
Accepted April 10, 2003

Start my 2004 and Social Ps	ER FORM subscription to Journal of Personality sychology! ISSN: 0022-3514	<ul> <li>○ Send me a FREE Sample Issue</li> <li>○ Check enclosed (make payable to APA)</li> <li>Charge my: ○VISA ○MasterCard ○ American Express</li> </ul>
\$382 == \$1,0 In DC	0.00, APA MEMBER/AFFILIATE 2.00, INDIVIDUAL NONMEMBER 69.00, INSTITUTION add 5.75% / In MD add 5% sales tax ALAMOUNT ENCLOSED \$	Cardholder Name  Card No Exp. Date  Signature (Required for Charge)  BILLING ADDRESS:
<b>Subscription orders must be prepaid.</b> (Subscriptions are on a calendar year basis only.) Allow 4-6 weeks for delivery of the first issue. Call for international subscription rates.		CityZip
	SEND THIS ORDER FORM TO: American Psychological Association Subscriptions 750 First Street, NE Workington DC 20002 4242	Daytime Phone
American Psychological Association	Washington, DC 20002-4242  Or call (800) 374-2721, fax (202) 336-5568.  TDD/TTY (202) 336-6123.  For subscription information, e-mail: subscriptions@apa.org	Address