

# Similarity and Assumed Similarity in Personality Reports of Well-Acquainted Persons

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The authors obtained self- and observer reports of personality from pairs of well-acquainted college students. Consistent with previous findings, results of Study 1 showed strong cross-source agreement for all 6 HEXACO personality factors ( $r_s \approx .55$ ). In addition, the authors found modest levels of similarity ( $r \approx .25$ ) between dyad members' self-reports on each of 2 dimensions, Honesty-Humility and Openness to Experience. For these same 2 factors, dyad members' self-reports were correlated with their observer reports of the other dyad member ( $r \approx .40$ ), thus indicating moderately high assumed similarity. In Study 2, Honesty-Humility and Openness to Experience were the 2 personality factors most strongly associated with the 2 major dimensions of personal values, which also showed substantial assumed similarity. In Study 3, assumed similarity was considerably stronger for close friends than for nonfriend acquaintances. Results suggest that assumed similarity for Honesty-Humility and Openness to Experience reflects a tendency to overestimate one's similarity to persons with whom one has a close relationship, but only on those personality characteristics whose relevance to values gives them central importance to one's identity.

*Keywords:* personality, values, observer reports, agreement, assumed similarity

Most research involving self- and observer reports of personality has focused on the extent of the agreement between those sources. But when personality is assessed by self- and observer reports, as obtained from dyads of well-acquainted persons, two other relations between those reports are also of interest (see Figure 1). First, the relation between self-reports of one dyad member and self-reports of the other dyad member is generally described simply as *similarity*. The strength of this relation indicates whether there is any tendency for nonrandom assortment in certain personality traits among social partners, either in the direction of similarity (i.e., positive assortment) or in the direction of dissimilarity or complementarity (i.e., negative

assortment; see Watson et al., 2004). Second, the relation between self-reports of one dyad member and the observer reports that he or she provides for the other dyad member is generally described as *assumed similarity* (Cronbach, 1955).<sup>1</sup> The strength of this relation indicates whether there is any tendency for individuals to perceive their social partners as having characteristics similar to their own.

The study of similarity and assumed similarity in dyadic relationships has some methodological and substantive importance for personality research. One methodological implication, as noted by Cronbach (1955), is that self-observer agreement can be spuriously high when there is both (a) a high level of similarity and (b) a high level of assumed similarity. In other words, if two members in a dyad have a similar level of a personality trait, and if each of them "projects" his or her own personality when making personality judgments of the other member of the dyad, then self-

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<sup>1</sup> A reviewer pointed out that the term *assumed similarity* might be misleading, because members of a dyad might sometimes perceive a true similarity between one another, rather than incorrectly assuming a similarity that has no basis in fact. (Indeed, some degree of assumed similarity would be expected to occur whenever people are accurate in their ratings and similar to their social partners.) Thus, the phenomenon of assumed similarity might be more generally understood as one of *perceived similarity*, where this perception of similarity might or might not be accurate. For the sake of consistency with previous research, we continue to use the term *assumed similarity* throughout this article, but we do caution readers that "assumed" similarity may have a basis in reality.

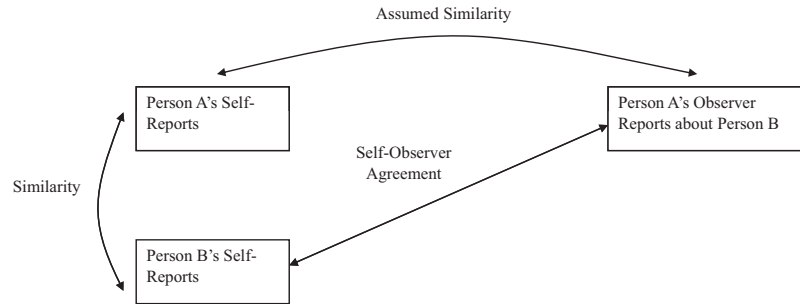


Figure 1. Three relations between self- and observer reports of personality within a dyad.

observer agreement may be achieved even when the judge does not have any real, direct knowledge of the target's level of the characteristic.

With regard to substantive issues in personality research, the study of similarity in personality provides an important clue to understanding the ways in which people form and maintain social relationships (cf. Rushton & Bons, 2005). Investigations of assumed similarity in personality may also give some important insights into the nature of the personality traits that show such a tendency. That is, if the phenomenon of assumed similarity is observed only for certain personality characteristics, then this result suggests that those characteristics possess some special property, and raises the question of why people project only those particular aspects of their own personalities onto others.

In the present research, we examined similarity and assumed similarity of personality characteristics as assessed in pairs of well-acquainted persons, using the six dimensions of the HEXACO model of personality structure (Ashton & Lee, 2007). To provide some context for our specific research questions, we provide below a brief overview of previous empirical findings regarding similarity and assumed similarity in personality reports.

### Similarity in Personality Self-Reports

The degree of similarity between two members of a social relationship (such as spouses, dating partners, friends, or relatives) has been widely investigated in the context of various physical and psychological characteristics. In general, findings suggest that the process of forming friendships and romantic relationships is not entirely random and that, instead, there is a tendency to select one's social partners partly on the basis of the resemblance on certain characteristics. In several previous studies, spouses and friend pairs have been found to be fairly similar to each other on such characteristics as height, body mass index, age, education, verbal intelligence, political attitudes, and religiosity, and on some specific behavioral patterns, such as smoking, drinking, drug use, and physical exercise (e.g., Watson et al., 2004). Similarity correlations reported for these traits have been of moderate to large size, typically in the .30s, .40s, or even higher.

It is interesting to note, however, that the similarity between well-acquainted dyad members tends to be much weaker for

personality traits than for the above-mentioned characteristics (e.g., Rushton & Bons, 2005; Watson, Hubbard, & Wiese, 2000). Of studies using the Big Five factors or similar variables, however, some findings suggest that Openness to Experience shows positive assortment effects in friend pairs, dating couples, and married couples. For example, McCrae (1996) reported similarity correlations of .33 and .29 for Openness to Experience in two samples of married couples, and these correlations were the highest among the Big Five personality factors. Waller (1999) also reported, in a sample of spouse pairs, a similarity correlation of .41 for Conventionalness, a construct closely related to low Openness to Experience. Watson et al. (2000) reported very weak similarity correlations on the Big Five factors, except that the similarity correlation for Openness to Experience for dating couples was moderately strong ( $r = .36$ ). Ready, Clark, Watson, and Westerhouse (2000) reported correlations of .30 or above for two personality scales, namely Propriety and Eccentric Perceptions, that in other investigations have been found to load (in opposite directions) on the Openness to Experience factor. In contrast, other studies, such as those by Watson et al. (2004) and Botwin, Buss, and Shackelford (1997), did not find significant similarity correlations for Openness to Experience in samples of spouses or dating couples.

### Assumed Similarity in Personality Reports

Several studies have investigated the tendency of individuals to provide observer reports of personality that are similar to their own self-reports. For example, Watson et al. (2000) examined assumed similarity correlations for the Big Five personality characteristics in samples of friendship dyads, dating couples, and married couples. They reported weak or modest assumed similarity correlations for the personality variables, as all correlations fell below .30, except for a correlation of .50 for Openness to Experience in the dating-couple sample. The investigation by Ready et al. (2000) of the 15 personality scales reported higher assumed similarity correlations (called "self-based heuristic" correlations by those authors), averaging .29. It is interesting to note that two scales showing the highest assumed similarity correlations were Eccentric Perceptions and Propriety. As mentioned above, these two scales are related to

the two opposite poles of the Openness to Experience factor, the same dimension that showed some evidence of assumed similarity in the investigation of Watson et al. (2000).

One interesting observation noted by Ready et al. (2000) was that traits showing strong assumed similarity correlations tended to show somewhat lower self–observer agreement, particularly when the level of similarity on the trait was controlled. This finding suggests that the tendency to project one’s own characteristics onto others might be a general phenomenon that occurs when people do not have valid trait-relevant information to allow informed assessments of the target person (see also Funder, Kolar, & Blackman, 1995; Watson et al., 2000). However, this relation may differ widely depending on the variable set being analyzed; for example, in Watson et al. (2000), Openness to Experience showed the highest average assumed similarity correlation among the Big Five factors across the three dyad samples ( $r = .31$ ), even though Openness to Experience also showed the *highest*, not lowest, mean self–observer convergent correlation ( $r = .53$ ). Thus, the phenomenon of assumed similarity in personality reports is likely not always attributable to a person-perception strategy that is sometimes used in the absence of trait-valid information about the target person.

### Summary

The empirical literature on similarity and assumed similarity can be summarized as follows. First, similarity in personality between social partners tends generally to be weak; however, the Openness to Experience factor has shown moderate levels of similarity in some studies. Second, although the issue of assumed similarity in personality judgments has received rather little research attention, the personality dimension of Openness to Experience has shown some assumed similarity effects. Furthermore, the assumed similarity found for Openness to Experience does not seem to be fully explained by any tendency to project one’s personality onto a target person when information about that person is lacking.

### Study 1

Although the studies cited above have contributed substantially to our understanding of the phenomena of similarity and assumed similarity in personality reports, there remain several unanswered questions. First, there is still much uncertainty as to the strength of similarity and assumed similarity effects for each of the major dimensions of personality. The evidence to date suggests that Openness to Experience may exhibit higher levels of similarity and assumed similarity than do the other personality factors, but results have not been consistent, and further data would help to resolve this issue. Also, most investigations of these phenomena have been based on measures of the Big Five or Five-Factor Model, and, thus, have not examined similarity or assumed similarity in terms of the HEXACO model of personality structure, which has emerged as an alternative structural framework for personality characteristics. Given that the HEXACO model differs in some important respects from the Big Five, as described below, some empirical

investigation of similarity and assumed similarity on the HEXACO dimensions is warranted. Such an investigation would help to answer the more general question of whether the phenomena of similarity and assumed similarity are observed for only some subset of the personality domain or for the full array of personality characteristics.

### Method

#### Participants

The participant sample of this study consists of three previously obtained subsamples of college students, each of whom participated as a member of a pair of well-acquainted persons. Each participant provided self-reports of personality as well as observer reports of the personality of the other member of his or her dyad. Participants completed questionnaires in groups of 2 to 20. All sessions were supervised by a research assistant, and each participant responded independently to all of the questionnaires; participants were not permitted to discuss or observe each other’s responses during the sessions.

The three subsamples consist of a total of 800 college students who were recruited between the years 2004 and 2006 from advertisements at Brock University (St. Catharines, Ontario, Canada) and the University of Calgary (Calgary, Alberta, Canada) and who participated in exchange for course credit or for monetary payment.<sup>2</sup> Of the 800 participants, 63.3% were women, and the median age was 20 years ( $M = 23.2$ ,  $SD = 5.7$ ). The length of time that the participants within each pair had been acquainted ranged from 6 months to 37 years, with a mean of 4.9 years ( $SD = 5.8$ ). The average subjective rating by the participants of how well they knew each other was 8.2 ( $SD = 1.5$ ) on a scale from 0 to 10.

#### Measures

We assessed participants’ personalities with the HEXACO Personality Inventory (HEXACO-PI; Lee & Ashton, 2004, 2006), which measures the six broad personality factors of Honesty-Humility (H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O). Three of the HEXACO dimensions—Extraversion, Conscientiousness, and Openness to Experience—are very similar to the well-known Big Five factors of the same names. However, HEXACO Agreeableness and Emotionality can be viewed roughly as rotational variants of Big Five Agreeableness and Neuroticism (i.e., low Emotional Stability), whereby HEXACO Agreeableness incorporates the anger-related traits associated with Big Five Neuroticism, and HEXACO Emotionality incorporates the sentimentality-related traits associated with Big Five Agreeable-

<sup>2</sup> The data from the three subsamples of Study 1 were used in previous investigations involving different research questions from those examined here. The first subsample ( $n = 326$ ) was used in Lee and Ashton (2006) and in Lee, Ashton, Morrison, Cordery, and Dunlop (2008); the second subsample ( $n = 248$ ) was used in Ashton, Lee, Visser, and Pozzobon (2008); and the third subsample ( $n = 226$ ) was used in Ashton and Lee (2008). None of these studies examined the issues of similarity or assumed similarity.

ness. Also, HEXACO Honesty-Humility has some limited overlap with Big Five Agreeableness but also contains much variance not incorporated within the Big Five (see Ashton & Lee, 2005, for a detailed discussion); the defining traits of Honesty-Humility include sincerity and modesty versus deceitfulness and greed.

Each of the six HEXACO-PI factor-level scales consists of four facet-level scales, each of which contains eight items (in the full-length form of the inventory) or four items (in the half-length form). Factor-level scale scores are typically computed as means across their respective sets of facet scales, all of which are computed as means across their constituent items. All items use a 5-point response format (1 = *strongly disagree*; 5 = *strongly agree*), with all scales roughly balanced for direction of keying of items. In the present sample, the internal consistency reliabilities of the factor-level scales all fell above .83, and those of the facet-level scales ranged from .56 (self-reported Unconventionality) to .84 (self-reported Greed Avoidance).

Participants in the first subsample completed the full-length form of the HEXACO-PI, and participants in the second subsample completed the half-length form. Participants in the third subsample completed the full-length form of an updated version of the inventory (the HEXACO-PI—Revised [HEXACO-PI-R]). To obtain scores on the same scales for all participants, we computed scale scores using only the items of the half-length form. Also, because one of the HEXACO-PI Extraversion facet scales was replaced in the HEXACO-PI-R, we computed Extraversion factor-level scores across only the remaining three facet scales.

## Results

Table 1 shows the (convergent) self-observer correlations, similarity correlations, and assumed similarity correlations for the six higher-order HEXACO-PI(-R) scales. First, with regard to self-observer agreement for those six HEXACO-PI(-R) variables, the convergent correlations between self- and observer reports ranged from .48 (Agreeableness) to .64 (Emotionality).

Next, in computing similarity, we used intraclass correlation coefficients because the assignment of dyad members as Person A or Person B is arbitrary (see Watson et al., 2000). As seen in the third column of Table 1, modest correlations between the two members' self-reports were observed for Honesty-Humility ( $r = .28$ ) and for Openness to Experience ( $r = .23$ ). This suggests a tendency toward positive assortment among college acquaintances in these two personality dimensions. For the other four HEXACO factors, the similarity correlations were smaller, ranging from  $-.10$  to  $.14$ .

Finally, Table 1 also shows assumed similarity correlations for the six HEXACO-PI(-R) factors, and these results were rather striking: The same two personality dimensions that showed appreciable similarity correlations also showed rather strong assumed similarity correlations ( $r = .44$  for Honesty-Humility;  $r = .35$  for Openness to Experience). For the remaining dimensions, the assumed similarity correlations were much smaller, ranging from  $-.07$  to  $.11$ . It is interesting that these assumed similarity correlations remained moderately large after we controlled for the effects of similarity, as the partial assumed similarity correlations were  $.36$  for Honesty-Humility and  $.27$  for Openness to Experience.

Table 1  
Self-Observer Agreement, Similarity, and Assumed Similarity of the HEXACO-PI(-R) Scales (Study 1)

Scale	Self-observer agreement	Similarity	Assumed similarity
Honesty-Humility	.54	.28	.44
Sincerity	.25	.16	.32
Fairness	.48	.24	.47
Greed Avoidance	.53	.24	.33
Modesty	.40	.24	.42
Emotionality	.64	-.10	-.07
Fearfulness	.54	-.08	.00
Anxiety	.44	-.03	-.05
Dependence	.45	-.06	-.02
Sentimentality	.51	.03	.12
Extraversion	.61	.14	.11
Social Boldness	.60	.14	.02
Sociability	.49	.06	.08
Liveliness	.44	.12	.23
Agreeableness	.48	.06	.06
Forgiveness	.37	.03	.10
Gentleness	.41	.02	.06
Flexibility	.35	.04	.13
Patience	.42	.02	.05
Conscientiousness	.52	.12	.05
Organization	.56	-.06	-.12
Diligence	.41	.21	.15
Perfectionism	.41	.09	.04
Prudence	.34	.13	.10
Openness to Experience	.58	.23	.35
Aesthetic Appreciation	.50	.27	.37
Inquisitiveness	.52	.16	.28
Creativity	.47	.11	.18
Unconventionality	.42	.16	.31

Note. For self-observer agreement and assumed similarity correlations,  $N = 795-800$ ;  $p < .05$  when  $|r| > .07$ . For similarity correlations (intra-class), dyad  $N = 398$ ;  $p < .05$  when  $|r| > .10$ . HEXACO-PI(-R) = HEXACO Personality Inventory—Revised (Lee & Ashton, 2004, 2006).

Note that the joint presence of similarity and assumed similarity for Honesty-Humility and Openness to Experience is not the primary basis of the observed self-observer agreement for these two personality variables. The partial cross-source correlations of each HEXACO-PI(-R) scale, controlling for the other partner's self-reports on the corresponding variable, were  $.55$  for Openness to Experience and  $.48$  for Honesty-Humility. These findings suggest that the self-observer agreement for these characteristics represents a genuine consensus concerning the target's personality.

Table 1 also reports the levels of self-observer agreement, similarity, and assumed similarity for the facet-level scales of the HEXACO-PI(-R). As shown in Table 1, the levels of self-observer agreement were generally comparable, and fairly high, across all facets. One interesting exception is the lower agreement for the Honesty-Humility facet of Sincerity (cf. Lee & Ashton, 2006). With regard to similarity correlations, the facets of the Honesty-Humility and Openness to Experience factors generally showed higher levels than did most of the remaining facets, only a few of which showed correlations of comparable size. For assumed similarity, a comparable but even more pronounced pattern of findings was observed: Assumed similarity correlations for seven of the eight facets making up the Honesty-Humility and

Openness to Experience dimensions exceeded all of the other assumed similarity correlations, with only the Creativity facet of Openness to Experience having a level of assumed similarity that was exceeded by some of the facet-level scales of the other four factors.

Taken together, the results of Study 1 suggest that some property of Honesty-Humility and Openness to Experience, but not of the other dimensions of personality, is associated with some degree of positive assortment and some degree of projection between persons in close social relationships. We therefore conducted two follow-up studies, with the aims of identifying this property (Study 2) and of examining the extent to which assumed similarity would be observed in more distant social relationships (Study 3).

## Study 2

The fact that similarity and assumed similarity are observed for both Honesty-Humility and Openness to Experience—but not for the other four dimensions of personality—suggests that the former two factors might share some common property that is not possessed by the latter four. We suggest that the most plausible such property is a relevance to personal or social values—that is, to the abstract goals that one considers to be inherently desirable. According to research by Schwartz (e.g., 1992), individual differences in values can be summarized by a two-dimensional space that is defined by axes of Self-Transcendence versus Self-Enhancement and of Openness to Change versus Conservation. Broadly, the former axis contrasts preferences for sharing and fairness with preferences for competition and personal gain, whereas the latter axis contrasts preferences for novelty and uniqueness with preferences for convention and conformity. As such, these two axes show some rather strong conceptual links with the content of the Honesty-Humility and Openness to Experience dimensions of personality, respectively.

Empirical research on the relations between personality and values is consistent with these conceptual links. The most direct evidence on this point comes from the data of Goldberg's (1999) Oregon community sample, in which 673 participants completed both the HEXACO-PI and the Schwartz Value Survey (SVS; Schwartz, 1992). In Goldberg's data set, the strongest relations between the HEXACO personality factors and the 10 value types of the SVS were those involving the Honesty-Humility and Openness to Experience factors: Honesty-Humility correlated  $-.46$  with Power values and  $.42$  with Benevolence values, and Openness to Experience correlated  $.50$  and  $.43$  with Self-Direction and Universalism values and  $-.42$  and  $-.40$  with Conformity and Tradition values. No other HEXACO factor showed any absolute correlations reaching  $.30$  with any of the SVS scales.

The relations of Honesty-Humility and Openness to Experience with personal values can also be inferred from previous investigations that assessed personality with the NEO Personality Inventory—Revised (NEO-PI-R; Costa & McCrae, 1992). The NEO-PI-R Openness to Experience factor is very similar to that of the HEXACO-PI, and there are two facet-level scales of the NEO-PI-R Agreeableness factor—namely, Straightforwardness and Modesty—that correspond mainly to HEXACO Honesty-Humility, and not to HEXACO Agreeableness. (Recall that the low pole of HEXACO Agreeableness involves anger and ill temper, and is very strongly related to the Angry Hostility facet of

NEO-PI-R Neuroticism.) In the two previous studies that have reported correlations between the NEO-PI-R and the 10 SVS value types (Roccas, Sagiv, Schwartz, & Knafo, 2002; Saroglou & Muñoz-García, 2008), the NEO-PI-R Openness to Experience and Agreeableness factor scales showed much stronger associations with the SVS variables than did the other three NEO-PI-R factor scales. Moreover, in both samples, the NEO-PI-R Straightforwardness and Modesty facet scales (i.e., the facets most strongly associated with HEXACO Honesty-Humility) showed strong links with SVS scales, whereas the NEO-PI-R Angry Hostility facet scale was nearly unrelated to the SVS scales. Therefore, the empirical data available thus far are consistent with the conceptual similarities involving the two broad axes of personal values and the personality dimensions of Honesty-Humility and Openness to Experience.<sup>3</sup>

The associations of Honesty-Humility and Openness to Experience with the two broad axes of personal or social values can perhaps shed some light on the findings of similarity and assumed similarity for these two personality dimensions. Because values are presumably an important part of one's identity, one would likely tend to form and maintain relationships with others whose values are similar to one's own and to assume one's own values to be shared by persons with whom one has a close social relationship. Given that Honesty-Humility and Openness to Experience are the aspects of personality that most strongly underlie individual differences in personal values, it is these personality dimensions that would be expected to show some similarity and assumed similarity in dyads consisting of persons having a close relationship.

In Study 2, we tested the above ideas by examining self- and observer reports of personality and of values among well-acquainted participant dyads. We first examined whether the two major axes of values would be more strongly associated with the Honesty-Humility and Openness to Experience factors than with the other four dimensions of personality. We also investigated the extent of similarity and assumed similarity, to test the hypothesis that the values dimensions should show substantial levels of similarity and assumed similarity, comparable with those observed for the above two aspects of personality.

## Method

A total of 490 participants, representing 245 participant dyads, were recruited from advertisements on the campuses of Brock University and the University of Calgary. Women represented 57% of the sample, and the median age was 20 years ( $M = 20.9$ ,  $SD = 3.4$ ). Data from approximately half of the participants ( $n = 252$ ) were collected in 2006 as part of an earlier investigation of values and personality as predictors of behavior (see Pozzebon & Ashton, 2008), and data from the remaining participants ( $n = 238$ ) were collected in 2008 for the purpose of the present investigation.

<sup>3</sup> These results are also consistent with those of Goldberg's Oregon community sample, in which participants also completed the NEO-PI-R. Note that some of the other NEO-PI-R Agreeableness facet scales—which are located between the HEXACO Honesty-Humility and Agreeableness factors (Ashton & Lee, 2005)—tended to show correlations with SVS Benevolence and Power values closely approaching those of Straightforwardness and Modesty. Detailed analyses are available from Kibeom Lee or Michael C. Ashton.

Table 2  
*Factor Loadings of SVS Scales and Correlations of SVS Factors With HEXACO-PI(-R) Scales (Study 2)*

Scale	Study 2 sample			Oregon sample		
	SVS 1	SVS 2	R	SVS 1	SVS 2	R
SVS loadings						
Power	-.80	-.05		-.81	-.04	
Hedonism	-.62	.15		-.39	.49	
Universalism	.62	.38		.65	.51	
Benevolence	.61	-.16		.60	-.32	
Tradition	.50	-.48		.03	-.74	
Achievement	-.30	-.04		-.51	.02	
Conformity	.29	-.68		.10	-.78	
Self-direction	.28	.67		.06	.73	
Stimulation	-.10	.65		-.31	.66	
Security	-.08	-.49		-.25	-.53	
HEXACO-PI(-R) correlations						
Honesty-Humility	.60	-.04	.60	.48	-.26	.55
Emotionality	.20	-.17	.26	.20	-.15	.26
Extraversion	-.04	.07	.08	-.11	.14	.18
Agreeableness	.34	-.01	.34	.28	-.15	.32
Conscientiousness	.08	-.22	.24	-.06	-.23	.24
Openness to Experience	.30	.37	.48	.24	.56	.61

*Note.* SVS = Schwartz Value Survey (Schwartz, 1992); HEXACO-PI(-R) = HEXACO Personality Inventory(-Revised; Lee & Ashton, 2004, 2006). Factors are varimax-rotated principal components. For Study 2 sample,  $N = 474$ ;  $p < .05$  when  $|r| > .09$ . For Oregon sample,  $N = 699$  for factor loadings and  $N = 673$  for correlations;  $p < .05$  when  $|r| > .08$ . SVS 1 = Self-Transcendence versus Self-Enhancement; SVS 2 = Openness to Change versus Conservation.

The sex and age distributions were nearly identical across these two subsamples. Because of missing data, the sample size per analysis ranged from 452 to 490, depending on the variables included in the analysis (see the note section of each table).

Each participant in the 2008 subsample was also asked to indicate how long he or she had known the other member of the dyad, how well he or she knew that person (on a scale from 0 to 10), and the nature of the relationship (i.e., spouse, other romantic partner, relative, friend, or other). The average length of time during which participants had been acquainted ranged from 3 months to 29 years ( $M = 3.9$  years,  $SD = 4.6$ ). The average subjective rating by participants of how well they knew each other was 7.9 ( $SD = 1.5$ ). Most of the participants were friends (71%), but many others were nonspouse romantic partners (21%), with a few spouses (3%), relatives (3%), and other acquaintances (1%). Although these data were not available for the participants of the 2006 subsample, we expect that they would be comparable, given the similar methods of recruiting participants across the two subsamples.

Participants completed self-reports and observer reports on the items of the SVS and the half-length version of the HEXACO-PI (in the first subsample) or of the HEXACO-PI-R (in the second subsample), using the standard instructions and response scales of the respective instruments.<sup>4</sup> In the present sample, the internal consistency reliabilities of the factor-level HEXACO-PI(-R) scales were .80 or above, and those of the facet-level HEXACO-PI(-R) scales ranged from .52 (observer-reported Unconventionality) to .83 (observer-reported Fairness). The internal consistency reliabilities of the 10 SVS scales ranged from .61 (observer-reported Hedonism) to .85 (observer-reported Universalism).

Data-collection sessions consisted of 2–20 participants. In all sessions, communication between participants was not permitted, and the 2 members of a participant pair were seated some distance apart to prevent either participant from seeing the other's responses.

### Results and Discussion

Table 2 shows the loadings of self-reports on the 10 SVS scales on two varimax-rotated principal components, along with the correlations of those factors (i.e., components) with self-reports on the six HEXACO-PI(-R) scales. As seen in that table, the content of the first factor corresponds roughly to that of the Self-Transcendence versus Self-Enhancement axis, and the content of the second factor corresponds roughly to that of the Openness to Change versus Conservation axis. The first values dimension showed its strongest correlation with HEXACO Honesty-Humility ( $r = .60$ ), whereas the second values dimension showed its strongest correlation with HEXACO Openness to Experience ( $r = .37$ ). Note, however, that Openness to Experience also correlated .30 with the first dimension; this result indicates that the two values axes are aligned only approximately with the personality factors. (To obtain more nearly isomorphic relations, one can apply an orthogonal rerotation to the values axes, shifting them by 22.5° clockwise: after this rotation, one of the rerotated values factors

<sup>4</sup> Participants in the 2008 subsample also provided self- and observer ratings, using a 0–10 scale, on the attributes of physical attractiveness, athletic ability, physical fitness, reading ability, and mathematical ability.

correlates .57 with Honesty-Humility and .14 with Openness to Experience, whereas the other correlates .19 with Honesty-Humility and .46 with Openness to Experience.) The multiple correlations of the two values factors with each of the six personality dimensions (also shown in Table 2) indicated that Honesty-Humility and Openness to Experience showed the strongest relations with the two values dimensions ( $R = .60$  and  $R = .48$ , respectively, with no other  $R$ s reaching .35).

For the sake of comparison, we also report in Table 2 the corresponding results from Goldberg's Oregon community sample ( $N = 673$ ). The two varimax-rotated factors, as derived from the 10 SVS scales, are broadly similar to those obtained from the present sample of Canadian university students, with the two dimensions again being interpretable as Self-Transcendence versus Self-Enhancement and as Openness to Change versus Conservation. The rotational positions of the factors are not identical across the two samples—an unsurprising result, given the highly circumplexical (rather than simple-structured) nature of the values domain—but nevertheless, the congruence coefficients between the corresponding factors of the two samples were .89 for the former factor and .97 for the latter factor. The patterns for correlations for the values dimensions with the HEXACO-PI scales are also similar to those observed in the college student sample, with Honesty-Humility and Openness to Experience again showing the strongest relations with the values axes ( $R = .55$  and  $R = .61$ , respectively, with no other  $R$ s reaching .35). Taken together, the results shown in Table 2 indicate that the two major axes of personal values are associated chiefly with the Honesty-Humility and Openness to Experience factors of personality.

Note that the factor-level associations between personality and values were not attributable to any unusually strong correlations involving particular facet-level variables. We examined this in detail by combining the data across the Oregon community sample and the college sample (total  $N = 1,147$ ). In this combined sample, the two values factors again corresponded to somewhat rotated variants of Honesty-Humility and Openness to Experience: The first values factor correlated .63 with Honesty-Humility and .31 with Openness to Experience, and the second values factor correlated  $-.19$  with Honesty-Humility and .47 with Openness to Experience. With regard to facet-level correlations, the first values factor was correlated with all four Honesty-Humility facets (Sincerity,  $r = -.37$ ; Fairness,  $r = -.49$ ; Greed Avoidance,  $r = -.54$ ; Modesty,  $r = -.45$ ), and the second values factor was correlated with all four Openness to Experience facets (Aesthetic Appreciation,  $r = .27$ ; Inquisitiveness,  $r = .20$ ; Creativity,  $r = .41$ ; Unconventionality,  $r = .52$ ). Conversely, the Honesty-Humility factor scale was correlated with several SVS scales that showed substantial loadings on the first values factor (Achievement,  $r = .32$ ; Hedonism,  $r = .44$ ; Power,  $r = -.59$ ; Benevolence,  $r = .47$ ; Universalism,  $r = .30$ ), and the Openness to Experience factor scale was correlated with several SVS scales that showed substantial loadings on the second values factor (Self-direction,  $r = .46$ ; Stimulation,  $r = .16$ ; Security,  $r = -.27$ ; Conformity,  $r = -.23$ ; Tradition,  $r = -.26$ ; Universalism,  $r = .43$ ). With regard to associations between HEXACO-PI(-R) facets and individual SVS scales, the largest correlations were those for HEXACO-PI(-R) Greed Avoidance with SVS Power ( $r = -.50$ ) and HEXACO-PI(-R) Aesthetic Appreciation with SVS Self-Direction ( $r = .44$ ).

Thus, although there were some theoretically meaningful differences between correlations involving the facet-level variables, the associations between the broader personality and values factors are not primarily due to any especially close associations involving specific HEXACO-PI(-R) and SVS variables.

We next examined self-observer agreement, similarity, and assumed similarity for the personality and values dimensions. As seen in Table 3, self-observer agreement was rather high for all six personality factor scales, ranging from .47 to .67, and was comparably high for the two values dimensions ( $r = .50$  and  $r = .42$ ).<sup>5</sup> There was a modest level of similarity between dyad members' self-reports (computed using intraclass correlations) for Honesty-Humility ( $r = .24$ ) and Openness to Experience ( $r = .28$ ); Extraversion also showed some nontrivial similarity in this sample ( $r = .18$ ), but the remaining three personality dimensions showed very little similarity (all  $r$ s  $< .10$ ). The similarity levels for the two values dimensions ( $r = .23$  and  $r = .20$ ) were comparable to those of Honesty-Humility and Openness to Experience. Assumed similarity was high for Honesty-Humility ( $r = .46$ ) and to some extent for Openness to Experience ( $r = .30$ ) but was low for the other four personality dimensions (the highest being  $r = .12$ , for Conscientiousness); the assumed similarity levels for the two values dimensions ( $r = .42$  and  $r = .32$ ) were comparable to those of Honesty-Humility and Openness to Experience.

Table 3 also shows the levels of self-observer agreement, similarity, and assumed similarity for the facet scales of the HEXACO-PI(-R) and for the 10 SVS scales. As observed in Study 1, self-observer agreement tended to be fairly high across all HEXACO-PI(-R) facets, with Sincerity again showing the lowest level. With regard to similarity, most facets of the Honesty-Humility and Openness to Experience factors showed higher levels than did the facets of the other factors. As in Study 1, however, the Creativity facet of Openness to Experience showed lower similarity than did the other Openness to Experience facets. In addition, the Sincerity facet of Honesty-Humility showed essentially zero similarity in Study 2. For assumed similarity, the results were much like those of Study 1: seven of the eight facets within Honesty-Humility and Openness to Experience showed higher levels than did any other facet, with only the Creativity facet of Openness to Experience showing a rather low level.

The 10 SVS scales showed levels of self-observer agreement that were somewhat lower than those of the HEXACO-PI(-R) facets, ranging from .18 (Achievement) to .49 (Power). Assumed similarity was moderately high across the SVS variables, ranging from .24 (Stimulation) to .44 (Universalism) and was thus comparable to the levels observed for the facets of Honesty-Humility and Openness to Experience. Similarity tended to be fairly low, ranging from .02 (Conformity) to .27 (Universalism).

The results of Study 2 can be summarized as follows. First, among the six personality factors of the HEXACO model, the Honesty-Humility and Openness to Experience factors clearly showed the strongest associations with the two broad factors derived from the domain of social values. Second, those two dimensions of values showed appreciable levels of similarity and

<sup>5</sup> The two varimax-rotated principal components obtained from observer reports on the 10 SVS scales were nearly identical to those of the self-reports.

Table 3  
*Self-Observer Agreement, Similarity, and Assumed Similarity for Values and Personality Dimensions (Study 2)*

Variable	Self-observer agreement	Similarity	Assumed similarity
SVS variables			
SVS 1: Self-Transcendence vs. Self-Enhancement	.50	.23	.42
SVS 2: Openness to Change vs. Conservation	.42	.20	.32
Self-direction	.32	.15	.33
Stimulation	.26	.10	.24
Achievement	.18	.09	.26
Hedonism	.29	.14	.34
Power	.49	.21	.40
Security	.19	.12	.31
Conformity	.22	.02	.33
Tradition	.30	.19	.38
Benevolence	.33	.07	.35
Universalism	.35	.27	.44
HEXACO-PI variables			
Honesty-Humility	.52	.24	.46
Sincerity	.21	.02	.40
Fairness	.54	.26	.52
Greed Avoidance	.51	.19	.35
Modesty	.39	.26	.38
Emotionality	.67	.06	.07
Fearfulness	.54	.09	.07
Anxiety	.49	-.03	-.02
Dependence	.39	-.05	.03
Sentimentality	.57	.15	.25
Extraversion	.51	.18	.06
Social Boldness	.50	.11	-.06
Sociability	.42	.19	.15
Liveliness	.43	.11	.15
Agreeableness	.47	.03	.05
Forgiveness	.34	.03	.06
Gentleness	.37	-.04	.11
Flexibility	.33	.10	.10
Patience	.43	.05	.07
Conscientiousness	.58	.09	.12
Organization	.57	.09	.05
Diligence	.38	.09	.23
Perfectionism	.44	-.06	-.03
Prudence	.38	.18	.18
Openness to Experience	.57	.28	.30
Aesthetic Appreciation	.50	.22	.32
Inquisitiveness	.46	.21	.28
Creativity	.52	.13	.15
Unconventionality	.37	.20	.29

*Note.* SVS = Schwartz Value Survey (Schwartz, 1992); HEXACO-PI = HEXACO Personality Inventory (Lee & Ashton, 2004, 2006). For self-observer agreement and assumed similarity correlations,  $N = 490$  (HEXACO-PI;  $p < .05$  when  $|r| > .09$ ) and  $N = 452-458$  (SVS;  $p < .05$  when  $|r| > .09$ ). For similarity correlations (intra-class), dyad  $N = 245$  (HEXACO-PI;  $p < .05$  when  $|r| > .12$ ), and dyad  $N = 226$  (SVS;  $p < .05$  when  $|r| > .13$ ).

assumed similarity, comparable to the levels observed for the Honesty-Humility and Openness to Experience personality factors. Thus, the results of this study are consistent with the idea that the finding of similarity and assumed similarity for these—and only these—two dimensions of personality can be understood in terms of the relevance of those factors to the major axes of values.

### Study 3

The results of Study 2 indicated that the two broad dimensions of personal or social values showed stronger links with the personality factors of Honesty-Humility and Openness to Experience than with the other four factors of the HEXACO personality framework. This result is consistent with the suggestion that these two personality dimensions have some influence on individuals' value systems, guiding the views that individuals hold regarding the proper relations between themselves and their social groups.<sup>6</sup> Given that people are attracted to persons whose beliefs and attitudes are similar to their own, particularly with regard to issues that are of central importance to them (Byrne, London, & Griffitt, 1968), it is perhaps not surprising that well-acquainted college students tend to be similar on the two dimensions of values and on Honesty-Humility and Openness to Experience, the two personality traits that are most strongly associated with individuals' personal values.

One interesting finding from Studies 1 and 2, however, is that Honesty-Humility and Openness to Experience showed rather strong levels of assumed similarity—levels higher than could be attributed to the levels of actual similarity and self-observer agreement. This may well have resulted from the fact that the participant dyads consisted of persons who had a reasonably close relationship, by virtue of being friends, romantic partners, or relatives. According to Newcomb's (1953) A-B-X system (see also Heider, 1958), people are motivated to maintain cognitive consistency or balance among the relations involving people, ideas, and events. For example, a balance will be achieved when two people (A and B) who are affectively close to each other share a similar attitude toward an object (X) that is important for both of them. The desire for such a balance should lead people to perceive that their close friends tend to be similar to themselves, at least on those personality dimensions having strong implications for people's value systems. Following this cognitive consistency explanation, the finding of rather strong assumed similarity for Honesty-Humility and Openness to Experience is readily interpreted; moreover, this account would also predict a lower level of assumed similarity for dyads whose members have a relationship that is more distant.

Alternatively, however, one could suggest that the assumed similarity observed for Honesty-Humility and Openness to Experience can be understood in terms of the phenomenon known as the false consensus effect—that is, people's tendency to generalize their own beliefs, attitudes, and behaviors to others (Marks & Mullen, 1987). Given that false consensus effects have been widely observed with respect to a variety of attitudes and beliefs, one would expect strong assumed similarity effects for those personality dimensions that play an important role in shaping one's social values. If the assumed similarity observed for Honesty-Humility and Openness to Experience can be explained by false consensus effects, then one would expect this assumed similarity to emerge at full strength, even when the target persons do not have any close relationship to the observers.

<sup>6</sup> We believe that personality characteristics are likely to predispose individuals toward certain value systems, but it is also possible that personal values would influence personality trait levels.



We conducted Study 3 to investigate these competing explanations of the origins of assumed similarity. Specifically, we examined whether the assumed similarity for Honesty-Humility and Openness to Experience would be specific to the case in which individuals assess target persons who are close friends, or would instead be observed more generally, even when individuals assess more distant, but still well-known, nonfriend acquaintances.

### Method

#### Participants

A total of 343 psychology undergraduate students participated in Study 3 in exchange for course credit. Women represented 76.4% of the sample, and participants' ages ranged from 17 to 55 years, with a median of 20 ( $M = 20.8$ ,  $SD = 5.2$ ).

#### Procedures and Measures

*Participants' self-reports of personality.* Participants provided self-reports of personality using the full-length version of the HEXACO-PI-R (see description in Study 1). The internal-consistency (coefficient alpha) reliabilities of the HEXACO-PI-R scales, as obtained in the present study, ranged from .88 to .92.

*Participants' observer reports of personality for friend and nonfriend targets.* Participants were also asked to provide observer reports of the personalities of two target persons. The participants were instructed that one of the two target persons must be a close friend and that the other must be a person whom they know well but not a friend, a relative, or an enemy. We instructed participants to choose a nonfriend target person from among their teachers, neighbors, classmates, coworkers, and employers, or from some other category of persons known in another context.

Participants completed observer reports for each of the two target persons on three of the six HEXACO personality dimensions. Two of these were the dimensions that previously showed rather strong assumed similarity—specifically, Honesty-Humility and Openness to Experience—and the other was the HEXACO Agreeableness (vs. Anger) dimension. We included the latter variable to determine whether this factor would continue to show a lack of any assumed similarity effect, as the absence of assumed similarity for Agreeableness (vs. Anger) differentiates that factor sharply from Honesty-Humility, despite the conceptual and (modest) empirical links between those factors.

We administered shorter versions of the three HEXACO-PI-R scales for the observer report tasks. Specifically, we randomly split

the items of the three full-length HEXACO-PI-R scales (i.e., 32 items per scale) into two equal-length groups to form two quasi-parallel subscales for each construct (i.e., 16 items per scale). For about one half of the participants ( $n = 170$ ), the first set of subscales (Subscale Set A) was used for obtaining observer reports for a close friend, and the second set of subscales (Subscale Set B) was used for obtaining observer reports for a well-known nonfriend acquaintance. For the other half of the participants ( $n = 173$ ), the pairings were switched so that Subscale Set B was used for the close friend target and Subscale Set A was used for the nonfriend acquaintance target; in addition, the order of the reports was switched so that the nonfriend acquaintance reports were provided before the close friend reports. The internal-consistency reliabilities of the subscales used for observer reports were all high, ranging from .83 to .90.

For the friend-description task, the chosen target persons were primarily women (73%), with a mean age of 21 years ( $SD = 5.7$ ). The time during which the participants had known the friend target persons averaged 8.0 years ( $SD = 5.6$ ). For the nonfriend-description task, 58% of the target persons were women, and the mean age of targets was 31 years ( $SD = 12.5$ ). The mean length of time during which the participants had known the nonfriend target persons was 3.3 years ( $SD = 3.6$ ). The categorical representations of the nonfriend target persons were as follows: 9.0% neighbors, 27.1% classmates, 27.4% coworkers, 14.3% teachers, 14.0% employers, 6.7% others, and 1.5% not specified.

### Results and Discussion

Table 4 shows correlations of self-reports on the full-length HEXACO-PI-R scales assessing Honesty-Humility, Openness to Experience, and Agreeableness with observer reports on the half-length HEXACO-PI-R scales, for each of the two target person categories (i.e., close friends and well-known nonfriend acquaintances). We report the correlations separately for the group who assessed close friends first (Sample 1) and for the group who assessed nonfriend acquaintances first (Sample 2).

With regard to the observer reports of friend targets, moderately strong levels of assumed similarity correlations were found in both samples for Honesty-Humility (mean  $r = .48$ ) and for Openness to Experience (mean  $r = .33$ ). Therefore, the phenomenon of assumed similarity for these two personality dimensions was again replicated. Also as found in the previous studies, a near-zero assumed similarity correlation was obtained for Agreeableness (mean  $r = .06$ ). With regard to the observer reports of nonfriend

Table 4  
Assumed Similarity of the HEXACO-PI-R Variables for Friends and Nonfriend Acquaintances (Study 3)

Scale	Friends			Nonfriends		
	Sample 1	Sample 2	<i>M</i>	Sample 1	Sample 2	<i>M</i>
Honesty-Humility	.47	.48	.48	.31	.20	.26
Openness to Experience	.30	.35	.33	.22	.10	.16
Agreeableness	-.03	.15	.06	-.10	.02	-.04

Note. HEXACO-PI-R = HEXACO Personality Inventory—Revised (Lee & Ashton, 2004, 2006).  $N = 170$  (Sample 1);  $N = 173$  (Sample 2).  $p < .05$  when  $|r| > .15$ .

acquaintances, the levels of assumed similarity for Honesty-Humility (mean  $r = .26$ ) and Openness to Experience (mean  $r = .16$ ) were considerably weaker than those found for the observer reports of friends. Once again, Agreeableness showed near-zero assumed similarity (mean  $r = -.04$ ). The differences in assumed similarity correlations between friend and nonfriend acquaintances were statistically significant for both Honesty-Humility ( $z = 3.50$ ,  $p < .01$ ) and Openness to Experience ( $z = 2.27$ ,  $p < .05$ ). These results indicate that people tend to perceive their social partners as similar to themselves with regard to the two personality dimensions that are relevant to their social value systems and that the perception of similarity is stronger for close friends than for more distant acquaintances.

The above results are therefore congruent with the cognitive consistency account of Newcomb (1953). Nevertheless, there was still a modest level of assumed similarity for nonfriend acquaintance targets, and the origin of the latter assumed similarity is not precisely known. We suggest that two sources are likely to operate together. First, the participants presumably felt at least some slight degree of closeness with their chosen nonfriend acquaintance targets, and this closeness would therefore elicit weaker but appreciable assumed similarity effects, according to the cognitive consistency explanation outlined earlier. Second, some small part of the assumed similarity correlations could indeed reflect a small degree of false consensus (Marks & Mullen, 1987), that is, a perceptual bias such that one overgeneralizes one's beliefs to people in general, even those with whom one has no relationship at all. Future studies are needed to clarify this issue, but the important finding of Study 3 is that assumed similarity was stronger within close relationships than within more distant relationships.

## General Discussion

### *Summary of Findings*

This investigation examined the extent of similarity and assumed similarity of personality in dyads consisting of well-acquainted persons, using the six personality dimensions of the HEXACO model of personality structure. The results of Study 1 indicated that four of the six HEXACO dimensions showed rather low levels of both similarity and assumed similarity (all correlations below  $.20$ ) but that the Honesty-Humility and Openness to Experience factors showed moderate levels of similarity (correlations in the  $.20$ s) and rather high levels of assumed similarity (correlations about  $.45$  for Honesty-Humility and about  $.35$  for Openness to Experience). We interpreted this pattern of results in terms of a conceptual link between those two personality dimensions and two main axes of personal or social values. When we tested this hypothesis in Study 2, we found that the two largest dimensions of values were indeed more strongly associated with Honesty-Humility and Openness to Experience than with the other personality dimensions and that the values factors showed levels of similarity and assumed similarity that were comparable to those obtained for Honesty-Humility and Openness to Experience. Finally, we found in Study 3 that the assumed similarity effects for Honesty-Humility and Openness to Experience were stronger when the assessed targets were close friends rather than well-known nonfriend acquaintances.

### *Why Honesty-Humility and Openness to Experience? The Role of Values*

To understand why similarity and assumed similarity would be observed for only the Honesty-Humility and Openness to Experience factors, we attempted to identify some feature that is shared by those two dimensions but not by the other four HEXACO personality factors. As described above, we suggested that Honesty-Humility and Openness to Experience have a strong correspondence to personal values. This interpretation was supported by the results of Study 2, which showed that Honesty-Humility and Openness to Experience corresponded rather strongly to the two large dimensions that are obtained from the domain of values. (The rotational positions of the values axes tend to shift from sample to sample and, hence, do not necessarily correspond isomorphically to Honesty-Humility and Openness to Experience, but the plane of the two values dimensions does correspond fairly closely to that of those two personality factors.) Also in Study 2, those two values dimensions—one interpretable as Self-Transcendence versus Self-Enhancement and the other interpretable as Openness to Change versus Conservation—were found to show levels of similarity and assumed similarity that were comparable to those observed for Honesty-Humility and Openness to Experience. Thus, these results suggest that the substantial levels of similarity and assumed similarity for these two dimensions of personality can be understood in terms of the relevance of those dimensions to the domain of values. Apparently, values are an important part of people's social relationships: people tend to assume that their values are shared by those with whom they have close relationships and tend to develop relationships with those whose values are similar to their own.

As we noted in the introduction to Study 2, the two broad dimensions of values have some strong conceptual similarities with the personality factors of Honesty-Humility and Openness to Experience. In fact, some of the SVS items essentially describe personality traits, and most of these involve traits that define the Honesty-Humility and Openness to Experience factors (e.g., humility, curiosity). In this sense, the empirical relations between those two personality factors and the values dimensions are not at all surprising. This fact also raises the question of whether the values domain has not been sampled broadly enough—and might in fact be expanded to define a six-dimensional space similar to that of the personality domain—or whether instead the two-dimensional framework is not at all accidental and, instead, gives a fairly complete representation of the values domain. We suggest that the latter is more plausible. One piece of circumstantial evidence in this regard is that the two broad axes of values correspond to a similar two-dimensional (not six-dimensional) space of social or political attitudes, as manifested in constructs such as Social Dominance Orientation and Right-Wing Authoritarianism, or economic conservatism and cultural conservatism (e.g., Duriez, van Hiel, & Kossowska, 2005). Presumably, if one were to add new dimensions of "values" relevant to traits defining (for example) the Extraversion or Emotionality factors of personality, these dimensions would have little significance in the context of socio-political orientation and would, in this sense, be superfluous.

We should address an alternative explanation for the finding of assumed similarity for Honesty-Humility and Openness to Expe-

rience, an explanation that involves the social desirability of these personality factors. If these two dimensions are much more highly evaluative than are the other four, then it is plausible that persons would tend to “project” their own levels of both dimensions (but not of the other four) onto their close acquaintances: In this way, persons having high (i.e., desirable) levels would justify their relationships, and persons having low (i.e., undesirable) levels would feel less discomfort about their own “negative” characteristics. We believe that this explanation might apply, to some extent, to some traits whose social desirability is very clear. (One obvious example is the Fairness facet of Honesty-Humility, which involves an avoidance of law breaking and exploitiveness.) But it is unlikely that social desirability can explain the substantial difference in assumed similarity that divides Honesty-Humility and Openness to Experience from the other four factors. For example, some facets of Honesty-Humility and of Openness to Experience (e.g., Modesty, Unconventionality) are probably no more socially desirable than are many facets of the other four factors (e.g., Forgiveness, Prudence), yet it is the facets of Honesty-Humility and of Openness to Experience that consistently show considerable assumed similarity.

Another alternative explanation for findings of assumed similarity should also be considered. Specifically, it has been suggested that assumed similarity can occur as a result of a person-perception heuristic that is used when there is a lack of trait-relevant information about the target person (Watson et al., 2000). Such person-perception heuristics apparently were not responsible for the assumed similarity observed in the present research for Honesty-Humility and Openness to Experience. These two personality dimensions showed rather high levels of self-observer agreement, thus indicating that there was no lack of trait-relevant information about the target person. But this does not, of course, undermine the role of such heuristics as a basis for other cases of assumed similarity; on the contrary, there is already empirical evidence that person-perception heuristics are responsible for assumed similarity in some characteristics (see Funder et al., 1995; Ready et al., 2000; Watson et al., 2000).

As explained above, we believe that the similarity and assumed similarity observed for Honesty-Humility and for Openness to Experience can be understood in terms of the relevance of those personality dimensions to the major axes of values. We should emphasize, however, that values need not be implicated in all instances of similarity and assumed similarity. For example, Watson et al. (2000) found that 11 scales measuring diverse aspects of trait affect all showed moderate levels of assumed similarity ( $r_s = .23$  to  $.43$ ), generally higher than those observed for the Big Five personality factors. It is unlikely that this assumed similarity in trait affect ratings is in any way related to personal values; instead, it more plausibly reflects either a specific tendency to assume similarity in affective experience or a response style such as elevation of responses in use of trait-affect rating scales.<sup>7</sup>

### *Factor- and Facet-Level Findings*

The results obtained for the Honesty-Humility and Openness to Experience factors were generally observed across the majority of facet-level traits within each factor, rather than being driven by

only one or two of those facets. Nevertheless, there were a few interesting contrasts between the facets. One noteworthy finding was that the Sincerity facet of Honesty-Humility tended to show lower similarity, and also lower self-observer agreement, than did the other facets of that factor. Elsewhere (Lee & Ashton, 2006), we have noted that the Sincerity construct—the low pole of which involves the tendency to manipulate others subtly—may be inherently difficult to observe in others, and that this may limit the level of self-observer agreement. It is possible that this low visibility also limits the degree of similarity between social partners by making it difficult for individuals to select social partners on the basis of this trait, even though the high level of assumed similarity suggests that such similarity could be preferred.

Another interesting contrast between results for the facets of a given factor is that observed for the Creativity facet of Openness to Experience, which showed somewhat lower levels of similarity and assumed similarity than did the other facets of that factor. It is not immediately clear why this result should be obtained, given that Creativity is no less strongly loaded on Openness to Experience, and no lower in self-observer agreement, than are the other three facets. One possibility is that individuals high in Creativity tend to prefer friends or romantic partners who are less creative—at least when the common variance of Openness to Experience is controlled—because of some desire to avoid competition for the role of “the creative one” within the relationship. Admittedly, this hypothesis is speculative and cannot be tested directly with the data of the present report.

### *Some Issues Concerning Similarity*

The present results establish an appreciable level of similarity between dyad members for Honesty-Humility and Openness to Experience. However, it is important to note that these results do not contradict the established finding of relatively weak assortment for personality characteristics. Recall that dyadic similarity correlations of less than  $.30$  are generally considered not to indicate any substantial nonindependence of individual-level data (e.g., Kenny, 1995; Watson et al., 2000). Our studies indicated that the level of similarity for Honesty-Humility and Openness to Experience were somewhat below this threshold, averaging about  $.25$ . These results are consistent with previous findings of only modest assortment for personality between friends or romantic partners (e.g., Watson et al., 2000). Moreover, this level of similarity is substantially below that observed for several other psychological or demographic characteristics: For example, Watson et al. (2004) reported spousal similarity correlations in the  $.40$ s for education level and verbal intelligence, in the  $.60$ s for political conservatism, and in the  $.70$ s for age and religiosity. Future research might examine, for example, the degree of spousal similarity in Honesty-Humility and

<sup>7</sup> An analogous point could also be made with regard to assumed similarity in ratings of desirable physical or mental attributes. As noted in Footnote 4, we obtained self- and observer ratings of physical attractiveness, athletic ability, physical fitness, reading ability, and mathematical ability from the 2008 subsample of Study 2 ( $n = 238$ ). All of these ratings showed modest levels of assumed similarity ( $r_s$  ranging from  $.19$  to  $.29$ ), thus suggesting that there is some tendency to assume similarity across a variety of desirable attributes.

Openness to Experience, and the degree to which such assortative mating might be mediated by these other variables.<sup>8</sup>

Given that there exists some degree of similarity between dyad members in Honesty-Humility and Openness to Experience, the question arises as to whether or not this similarity can explain the observed levels of assumed similarity for these same personality dimensions. In one sense, the answer to this question is clearly *no*, given that levels of assumed similarity are reduced only slightly by controlling for similarity and for self-observer agreement (i.e., by partialling out the self-reports of the “other” dyad member). But this question can also be considered in another, more interesting sense: Does the assumed similarity occur simply because of a tendency for people to exaggerate any true similarity between themselves and their close acquaintances? If so, then assumed similarity should always exceed any (nonzero) actual similarity between acquaintances. Some of the present data, however, suggest that this is not always the case. Specifically, Extraversion showed small but consistent similarity correlations across Study 1 ( $r = .14$ ) and Study 2 ( $r = .18$ ), as did Conscientiousness to a slightly lesser extent ( $r = .12$  and  $r = .09$  for Studies 1 and 2, respectively). But the assumed similarity for these same dimensions was no greater than the corresponding similarity (for Extraversion,  $r = .11$  and  $r = .06$ ; for Conscientiousness,  $r = .05$  and  $r = .12$ ). Thus, these results suggest that the existence of some true similarity does not necessarily imply that a greater level of assumed similarity will be observed. Instead, the tendency to overestimate similarity for some dimensions—including Honesty-Humility and Openness to Experience—might reflect some degree of motivation to believe that one’s close acquaintances are similar to oneself in some characteristics, such as those associated with one’s values.

Finally, the results of these studies raise some interesting questions about the origin of the (modest) similarity between close acquaintances on Honesty-Humility and Openness to Experience: For example, is there some initial assortment of friends and romantic partners on the basis of similarity on these dimensions? And if so, then is this initial assortment mainly direct (i.e., due to active seeking of similar others) or indirect (i.e., due to greater likelihood of contact)? Also, beyond any initial assortment, are relationships more likely to persist when there is some similarity on these dimensions? Finally, is there any tendency toward actual convergence on these characteristics as the relationship progresses? These questions might be examined in longitudinal studies that follow the course of friendships and romantic relationships from initiation over a period of many years.

### Conclusion

This investigation revealed a modest tendency toward similarity or positive assortment between close acquaintances for two dimensions of personality, namely, Honesty-Humility and Openness to Experience. For the same two personality factors, participants also showed a moderately strong tendency to assume that their close acquaintances are similar to themselves. We provide a preliminary explanation for both of these findings in terms of one important feature common to both Honesty-Humility and Openness to Experience. That is, these two personality factors serve as a dispositional basis for individuals’ value systems, and thereby exert important effects on one’s identity. In this way, individuals tend to

form close relationships with persons who are similar to themselves—and to *perceive* their relationship partners as similar to themselves—on those two dimensions of personality.

<sup>8</sup> The data from our Study 2 allow some initial exploration of the extent of assortment for religiosity between close acquaintances. One of the SVS items asks for ratings of the value, “Devout (holding to religious belief and faith),” and this single-item indicator of religiosity showed rather high self-observer agreement ( $r = .55$ ), as well as moderately high similarity (intraclass  $r = .35$ ) and assumed similarity ( $r = .48$ ). Although this item was clearly a valid indicator of religiosity, it was essentially uncorrelated with all six personality dimensions in self-reports (all  $r$ s  $< .15$ ), thus indicating that religiosity was not implicated in the assortment observed for Honesty-Humility and Openness to Experience.

### References

- Ashton, M. C., & Lee, K. (2005). Honesty-Humility, the Big Five, and the Five-Factor Model. *Journal of Personality*, *73*, 1321–1353.
- 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. (2008). The prediction of Honesty-Humility-related criteria by the HEXACO and Five-Factor models of personality. *Journal of Research in Personality*, *42*, 1216–1228.
- Ashton, M. C., Lee, K., Visser, B. A., & Pozzebon, J. A. (2008). Phobic tendency within the Five-Factor and HEXACO models of personality structure. *Journal of Research in Personality*, *42*, 734–746.
- Botwin, M. D., Buss, D. M., & Shackelford, T. K. (1997). Personality and mate preferences: Five factors in mate selection and marital satisfaction. *Journal of Personality*, *65*, 107–136.
- Byrne, D., London, O., & Griffitt, W. (1968). The effect of topic importance and attitude similarity-dissimilarity on attraction in the intra-stranger design. *Psychonomic Science*, *6*, 295–296.
- Costa, P. T., Jr., & McCrae, R. R. (1992). *NEO Personality Inventory—Revised (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Cronbach, L. J. (1955). Processes affecting scores on “understanding of others” and “assumed similarity.” *Psychological Bulletin*, *52*, 177–193.
- Duriez, B., Van Hiel, A., & Kossowska, M. (2005). Authoritarianism and social dominance in western and eastern Europe: The importance of the socio-political context and of political interest and involvement. *Political Psychology*, *26*, 299–320.
- Funder, D. C., Kolar, D. W., & Blackman, M. C. (1995). Agreement among judges of personality: Interpersonal relations, similarity, and acquaintanceship. *Journal of Personality and Social Psychology*, *69*, 656–672.
- Goldberg, L. R. (1999). A broad-bandwidth, public-domain, personality inventory measuring the lower-level facets of several five-factor models. In I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality psychology in Europe* (Vol. 7, pp. 7–28). Tilburg, the Netherlands: Tilburg University Press.
- Heider, F. (1958). *The psychology of interpersonal relations*. Hoboken, NJ: Wiley.
- Kenny, D. A. (1995). The effect of nonindependence on significance testing in dyadic research. *Personal Relationships*, *2*, 67–75.
- 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., Morrison, D. L., Cordery, J., & Dunlop, P. (2008). Predicting integrity with the HEXACO personality model: Use of self-

- and observer reports. *Journal of Occupational and Organizational Psychology*, 81, 147–167.
- Marks, G., & Mullen, N. (1987). Ten years of research on the false-consensus effect: An empirical and theoretical review. *Psychological Bulletin*, 102, 72–90.
- McCrae, R. R. (1996). Social consequences of experiential openness. *Psychological Bulletin*, 120, 323–337.
- Newcomb, T. M. (1953). An approach to the study of communicative acts. *Psychological Review*, 60, 393–404.
- Pozzebon, J. A., & Ashton, M. C. (2008). *Personality and values: Cross-domain correlations, self/peer agreement, and prediction of behavior*. Manuscript submitted for publication.
- Ready, R. E., Clark, L. A., Watson, D., & Westerhouse, K. (2000). Self- and peer-reported personality: Agreement, trait ratability, and the “self-based heuristic.” *Journal of Research in Personality*, 34, 208–224.
- Roccas, S., Sagiv, L., Schwartz, S. H., & Knafo, A. (2002). Basic values and the Five-Factor Model of personality traits. *Personality and Social Psychology Bulletin*, 28, 789–801.
- Rushton, J. P., & Bons, T. A. (2005). Mate choice and friendship in twins. *Psychological Science*, 16, 555–559.
- Saroglou, V., & Muñoz-García, A. (2008). Individual differences in religion and spirituality: An issue of personality traits and/or values. *Journal for the Scientific Study of Religion*, 47, 83–101.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 1–65). San Diego, CA: Academic Press.
- Waller, N. G. (1999). Evaluating the structure of personality. In C. R. Cloninger (Ed.), *Personality and psychopathology* (pp. 155–197). Washington, DC: American Psychiatric Association.
- Watson, D., Hubbard, B., & Wiese, D. (2000). Self–other agreement in personality and affectivity: The role of acquaintanceship, trait visibility, and assumed similarity. *Journal of Personality and Social Psychology*, 78, 1063–1070.
- Watson, D., Klohnen, E. C., Casillas, A., Nus Simms, E., Haig, J., & Berry, D. S. (2004). Match makers and deal breakers: Analyses of assortative mating in newlywed couples. *Journal of Personality*, 72, 1029–1068.

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