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Culture Moderates the Normative and Distinctive Impact of Parents and Similarity  
on Young Adults' Partner Preferences

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### Abstract

To examine cultural, parental, and personal sources of young adults' long-term romantic partner preferences, we had undergraduates ( $n=2,071$ ) and their parents ( $n=1,851$ ) in eight countries (Canada, India, Italy, Japan, Mexico, Malaysia, Philippines, U.S.) rate or rank qualities they would want in the student's partner. We introduce and employ a method for separating preference patterns into normative patterns (shared across families and generations) and distinctive patterns (that characterized particular families or individuals). We found that youth everywhere wanted partners who aligned with both their own dispositions and their parents' preferences, and these alignments reflected both culturally normative preferences and preferences distinctive to specific individuals or families. Students also predicted their parents' responses: Their predictions were reasonably accurate reflections of what a typical parent prefers, but also reflected distinctive assumed agreement (i.e., they overestimated the degree to which their particular parents shared their particular preferences for qualities that diverged from culturally normative ideals). Culturally normative patterns exerted a stronger influence on actual or assumed parent-child agreement and accuracy in relatively collectivistic Southeast Asia (Philippines and Malaysia) than in relatively individualistic English-speaking North America (U.S. and Canada). Conversely, preferences for partners who shared one's distinctive personal dispositions were stronger in Western than Asian countries.

*Keywords:* partner preferences, cultural differences, normative profiles, distinctive similarity, parent-child agreement

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Seeking, forming, and sustaining long-term romantic relationships are among the most pivotal chapters in the lives of most individuals. Romantic relationships have continuing consequences for the partners' mental and physical well-being (Feeney & Collins, 2015). They also affect broader family relations, sometimes bringing different families closer and sometimes alienating individuals from their family of origin. Over many generations, by influencing who does or does not mate, partner preferences may have shaped the course of human evolution (Darwin, 1871). Given the manifold consequences of partner choice, the current study aims to advance our understanding of the influences on partner preferences.

One influence on partner preferences may be a general preference for others who are similar to the self (i.e., *self-ideal similarity*). For example, numerous studies have found positive associations between individuals' self-ratings on certain personality traits (e.g., conscientiousness, openness) and preferences for those same traits in a long-term partner (Botwin, Buss, & Shackelford, 1997; Furnham, 2009; Liu, Ludeke, Haubrich, Gondan, & Zettler, 2018; Watson, Beer, & McDade-Montez, 2014).

Another potential influence is parents. Throughout history parents have attempted to govern their children's mate choices, presumably because they doubt their child will spontaneously share their opinions of potential partners (Apostolou, 2017). Indeed, although only a few studies have directly compared young adults' preferences for attributes in a long-term partner or spouse with their parents' preferences for attributes in a son/daughter-in-law (i.e., Apostolou, 2015; Guo, Li, & Yu, 2017; Perilloux, Fleischman, & Buss, 2011), those studies

identified reliable areas of parent-child disagreement. Specifically, youth preferred entertaining, exciting, attractive partners more and preferred religious partners less than their parents wanted them to.

Youth demonstrate some understanding of which attributes tend to evoke parent-child disagreements: When asked whether various attributes of potential partners would be more unacceptable to them or to their parents, young adults generally expected they would consider smelly, unattractive, uncreative, unexciting, humorless partners more unacceptable, whereas their parents would consider uneducated partners from different religious or ethnic backgrounds more unacceptable (Buunk & Castro-Solano, 2010; Buunk, Park, & Dubbs, 2008; Dubbs, Buunk, & Taniguchi, 2013). However, no studies have directly tested the accuracy of youth's perceptions of their parents' partner preferences. Moreover, studies comparing compared youth's perceptions of their parents' general life values with their parents' actual values have found at best moderate correlations (Stattin & Kim, 2018). Thus, one reason young adults may not share their parents' preferences is they do not accurately comprehend their parents' preferences (Knafo & Schwartz, 2004), and thus may not recognize when they are confounding rather than accommodating their parents' wishes. One potential source of inaccuracy is *assumed similarity*—i.e., presuming others share your attributes or preferences (Cronbach, 1955; Kenny, 1994). Assumed similarity has been shown to influence many types of judgments, including adolescents' perceptions of parents' personal values (Stattin & Kim, 2008).

The current study adds to previous research in two ways. First, the partner preference studies reviewed above sought to identify which particular partner attributes youth valued more than parents did or vice versa. In contrast, the current study concerns not which *specific*

attributes were preferred, but instead—*on average* across a diverse sample of partner attributes—how closely young adults' partner preferences align with their self-concepts (self-ideal similarity), their perceptions of their parents' preferences (assumed agreement), and their parents' actual preferences (actual agreement), as well as how closely their perceptions of their parents' preferences align with their parents' actual preferences (accuracy). Second, the current study of partner preferences is the first to examine if nationality predicts levels of self-ideal similarity, parent-child agreement, assumed agreement, or accuracy.

### **Moderating Effects of Culture**

Although previous partner preference research has not tested if self-ideal similarity, parent-child agreement, assumed agreement, or accuracy differs between countries, related research—and cultural theory—suggests such differences are likely. Cultures that are more individualistic and less collectivistic tend to give individual preferences more priority than family or ingroup cohesion (Hofstede, 2001). Accordingly, relatively individualistic (e.g., North American) cultures are more apt to construe marriage as joining two compatible individuals, whereas relatively collectivistic (e.g., Asian) cultures are more apt to construe marriage as joining two compatible families (Dion & Dion, 1996). If young adults in more individualistic cultures give more weight to personal preferences, then we might expect them to prefer a partner whose personality mirrors their own personality (i.e., greater self-ideal similarity).

In contrast, parental involvement in choosing partners is both more expected and more accepted in relatively collectivistic than relatively individualistic cultures (Buunk, Park, & Duncan, 2010). Members of more collectivistic cultures may thus give more weight to the partner preferences of parents and close others (MacDonald, Marshall, Gere, Shimotomai, &

Lies, 2012). For example, Zhang and Kline (2009) found Chinese to be more likely than Americans to describe the approval or disapproval of friends and family a decisive factor in who they would date or marry. If young adults in more collectivistic cultures give their parents' preferences more attention and respect, then we might expect them to better understand—and to want to conform to—their parents' preferences (e.g., greater accuracy and actual/assumed agreement).

### **Normative and Distinctive Sources of Congruence**

Actual or assumed agreement, accuracy, and self-ideal similarity are all forms of congruence. Self-ideal similarity is congruence between qualities a youth has and qualities the youth prefers in a partner. Accuracy is congruence between qualities a youth believes her/his parents prefer and qualities her/his parents actually prefer. Finally, agreement and assumed agreement are congruence between qualities a youth prefers and qualities that either her/his parents prefer or she/he believes her/his parents prefer.

Cultural differences in these types of overall congruence may be attributable to cultural differences in either normative congruence or distinctive congruence. Normative congruence reflects response patterns that are commonly shared within a culture, thus making it likely that responses from random unrelated individuals within that culture will be consistent with each other. Distinctive congruence reflects response patterns that are characteristic of an individual or family but are not shared with random others from the same culture (e.g., Barni, Knafo, Ben-Arieh, & Haj-Yahia, 2014).

To illustrate, suppose parent-youth agreement is greater in Culture A than Culture B. One reason may be that an average (*normative*) parent's preferences is more like an average

(*normative*) youth's preferences in Culture A than Culture B. In other words, *normative agreement* between random unrelated parents and youth is greater in Culture A than Culture B. Another reason may be that *within each family*, a parent's *distinctive* preferences (how this parent's preferences deviate from those of the average parent) is more like a youth's *distinctive* preferences (how this youth's preferences deviate from those of the average youth) in Culture A than Culture B. In other words, *distinctive agreement* between related (rather than random) parents and youth is greater in Culture A than Culture B. These are conceptually and statistically independent explanations; thus, Culture A could show greater normative (but not distinctive) agreement, greater distinctive (but not normative) agreement, or both greater normative and greater distinctive agreement.

Assumed agreement, accuracy, and self-ideal similarity can likewise be divided into normative and distinctive components. Table 1 provides definitions and simple examples of normative, distinctive, and overall agreement, assumed agreement, accuracy, and self-ideal similarity.

### **Summary of Study**

The current study examined if nationality moderated how closely young adults' partner preferences aligned with their own traits and their parents' actual or assumed preferences. We collected data from parents and their young adult children in eight geographically and culturally diverse countries: Canada, India, Italy, Japan, Mexico, Malaysia, the Philippines, and the United States. To explore the generalizability of our findings, participants reported their partner preferences both by rating the desirability of various traits (e.g., shy, outspoken) and by ranking the desirability of various attributes (e.g., intelligent, attractive). We hypothesized that

understanding of and alignment with parental preferences would be weaker—whereas alignment of preferences with one’s own personality would be stronger—among youth from more individualistic cultures. We tested the effects of nationality on normative congruence and distinctive congruence separately, but did not make a priori predictions regarding how nationality might differentially affect normative versus distinctive congruence given the absence of prior research on that topic.

## Method

### Participants

The participants were unmarried undergraduates who desired a long-term partner of a different gender, were  $\leq 30$  years old, citizens of the country where data was being collected, and residents of that country for  $\geq 5$  years. Canadian participants were 295 University of Toronto students (103 men, 192 women;  $M$  age = 18.7,  $SD$  = 1.3); they identified their ethnic backgrounds as European ( $n$  = 120), Asian or Pacific Islander ( $n$  = 111), and other/missing ( $n$  = 64). Indian participants were 133 Bangalore, Goa, or Karnatak University students (23 men, 110 women;  $M$  age = 21.5,  $SD$  = 1.6); their religious backgrounds were Hindu ( $n$  = 91), Christian ( $n$  = 31), Islam ( $n$  = 6), and other/missing ( $n$  = 5). Italian participants were 290 Catholic University of Milan students (98 men, 192 women;  $M$  age = 20.8,  $SD$  = 2.0). Japanese participants were 255 Kansai University students (130 men, 125 women;  $M$  age = 20.3,  $SD$  = 1.2). Malaysian participants were 325 National University of Malaysia students (172 men, 153 women;  $M$  age = 20.5 years,  $SD$  = 1.2). Mexican participants were 273 National Autonomous University of Mexico students (100 men, 173 women;  $M$  age = 19.8 years,  $SD$  = 1.9). Philippine participants were 229 De La Salle University students (93 men, 136 women;  $M$  age = 18.9,  $SD$  = 1.3). Of those

reporting their ethnicities, 81% described themselves as Filipino and 14% as Chinese or Filipino-Chinese. U.S. participants were 271 University of Idaho students (86 men, 185 women;  $M$  age = 19.3,  $SD$  = 1.8); they identified their ethnic backgrounds as European ( $n$  = 229), Latino/Hispanic ( $n$  = 19), multi-racial ( $n$  = 15), and other/missing ( $n$  = 8). In total, we obtained responses from 2,071 undergraduates. We also obtained responses from 1,851 parents (227 American, 197 Canadian, 97 Indian, 288 Italian, 208 Japanese, 266 Mexican, 296 Malaysian, 227 Filipino; 76.6% female;  $M$  age = 50.2). Parent gender yielded no noteworthy main or moderating effects and will not be discussed further.

### **Materials**

The original English materials were translated into Italian, Japanese, Malaysian, Spanish, and Tagalog (Filipino) by native speakers. Different translators translated the materials back into English, and minor modifications were made to resolve discrepancies with the original materials.

**Trait Rating Measure of Partner Preferences.** We selected traits from a pool of traits whose social desirability had been judged on 1 (extremely undesirable) to 9 (extremely desirable) scales by two large independent samples (Hampson, Goldberg, & John, 1987; Norman, 1967). To prevent floor or ceiling effects, we chose 10 traits that lacked extreme positive or negative evaluative implications (i.e., whose desirability—averaging across the two samples—was greater than 4 but less than 7). To ensure that they assessed different qualities, we chose traits that formed pairs that were contrasting in meaning. Specifically, the traits were: quiet, outspoken; cautious, carefree; shy, frank; traditional, nonconforming; mischievous, predictable. Students rated how well each of the 10 traits described them on the following 7-

point scale: extremely **untrue** of me (1), very **untrue** of me (2), somewhat **untrue** of me (3), neither (4), somewhat **true** of me (5), very **true** of me (6), extremely **true** of me (7). Students also rated “*how desirable or undesirable you consider each trait to be in a **long-term mate or marriage partner for you***” and “*how desirable or undesirable **your parent** would consider each of these traits to be in a long-term mate or **marriage partner for you***” on the following 7-point scale: extremely undesirable (1), very undesirable (2), somewhat undesirable (3), neutral (4), somewhat desirable (5), very desirable (6), extremely desirable (7). Finally, one parent of each student rated “*how desirable or undesirable you consider each trait to be in someone your child might marry*”.

To verify that the traits did not receive uniformly high or low ratings, we examined the mean rating of each trait in each country. For students’ self-ratings, 88% of the 80 means (from 8 countries x 10 traits) fell in the middle third of the 1-to-7 response scale (i.e., between 3 and 5) and 100% fell in the middle two thirds (i.e., between 2 and 6). The corresponding percentages for students’ partner-ratings were 68% and 98% and for parents’ partner-ratings were 61% and 94%. In sum, some traits in some countries received mostly high or mostly low ratings, but in no case did the ratings seem hindered by floor or ceiling effects.

**Attribute Ranking Measure of Partner Preferences.** The ranking preference measure, which has been used in numerous studies (e.g., Guo et al., 2017; Perilloux et al., 2011), involves ranking the following attributes from 1 (most desired characteristic) to 13 (least desired): *Kind & Understanding; Good Earning Capacity; College Graduate; Religious; Good Heredity; Intelligent; Exciting Personality; Healthy; Easygoing; Physically Attractive; Creative & Artistic; Wants Children; Good Housekeeper*. Students ranked their “*desirability in someone you might*

*marry*". Students also ranked "how desirable [your parent completing this study] would consider the characteristics below in someone you might marry". One parent of each student ranked their "desirability in someone [your child completing this study] might marry".

### **Procedure**

Students completed a questionnaire containing, in order, the following measures: ratings of their own traits; attribute ranking and trait rating measures of their own partner preferences; attribute ranking and trait rating measures of their perceptions of parents' preferences. Interspersed were demographic questions and two personality inventories irrelevant to the current study. Students provided us with one parent's contact information. We mailed parents a briefer questionnaire which only contained the attribute ranking and trait rating measures of preferences for a partner for their child. To protect anonymity, parent and child surveys were linked by a random code number. The data is available on the Open Science Framework: <https://osf.io/67rkv/>

### **Operationalizing Overall, Normative, and Distinctive Congruence**

We operationalized parent-child agreement, assumed agreement, accuracy, and self-ideal similarity as within-person or within-family covariation between profiles of ratings or rankings of preferences for various partner attributes; for example, parent-child agreement is the covariance between the attributes a child rates as more/less important and the child's parent rates as more/less important. Profile covariances (or correlations) were the appropriate index for the current study because in a single number they show the tendency for judgments to align or misalign *on average across all attributes*. To clarify what profile covariances capture, note that we could obtain essentially identical results by analyzing the average of the squared

differences between ratings (e.g., the squared difference between a parent's rating and a child's rating) for each attribute in a profile (see Cronbach & Gleser, 1953); however, profile covariances have multiple advantages, including being simpler to compute and yielding instantly interpretable values (e.g., correlations ranging from -1 to +1).

Additionally, a profile of ratings can be divided into a normative profile and a distinctive profile. A *normative profile* shows how members of a group (e.g., Mexican women) rate each attribute *on average*. An individual's *distinctive profile* shows the degree to which each of the individual's ratings is *above or below the group average*, and is computed by subtracting the normative profile from the individual's raw profile of ratings. As depicted in Equation 1 below, the covariance between two overall profiles ( $COV_{12}$ ) equals the sum of the covariance between the two normative profiles ( $COV_{N1N2}$ ), the covariance between the two distinctive profiles ( $COV_{D1D2}$ ), the covariance between the normative component of profile 1 and distinctive component of profile 2 ( $COV_{N1D2}$ ), and the covariance between the normative component of profile 2 and distinctive component of profile 1 ( $COV_{N2D1}$ ):

$$COV_{12} = COV_{N1N2} + COV_{D1D2} + COV_{N1D2} + COV_{N2D1} \quad (1)$$

*Distinctive covariance* ( $COV_{D1D2}$ ) varies both between and within groups; *normative covariance* ( $COV_{N1N2}$ ) varies between but not within groups (because within groups there is only one normative profile per type of rating profile); and  $COV_{N1D2}$  and  $COV_{N2D1}$  vary within but not between groups. Specifically, averaging across group members,  $\overline{COV_{N1D2}} = \overline{COV_{N2D1}} = 0$ .

Consequently, averaging across group members, Equation 1 simplifies to:

$$\overline{COV_{12}} = \overline{COV_{N1N2}} + \overline{COV_{D1D2}} \quad (2)$$

Thus, group differences in overall profile covariance equals group differences in normative profile covariance plus group differences in distinctive profile covariance. Because the current study only concerns differences between (not within) cultural groups, it will only examine overall, normative, and distinctive covariance.<sup>1</sup>

The preceding is a general approach can be applied to any profile congruence data. The following describes how we applied and tailored this methodology to the current study. First, each raw profile of ratings or rankings from each individual was standardized (relative the mean and standard deviation of that individual's profile), thereby placing the subsequently computed covariances onto comparable correlational metrics. Second, we computed separate normative profiles for the male students, female students, parents of males, and parents of females within each country. Third, we computed distinctive profiles by subtracting the relevant normative profiles from individuals' raw profiles; for example, if Stefano is a male Italian student, then Stefano's distinctive profile of self-ratings was computed by subtracting the average Italian male's self-ratings from Stefano's raw self-ratings. Agreement, assumed agreement, and accuracy were computed for both the attribute ranking and trait rating measures; however, because self-ratings could only be obtained for the trait rating measure, self-ideal similarity could only be computed for the trait rating measure. Finally, if for a particular profile of ratings or rankings a participant either failed to respond to most of the items or gave all items the same rating (e.g., rating all traits "very desirable"), then that participant was excluded from that analysis.

## Results

To provide a broad overview, Figure 1 juxtaposes overall and distinctive agreement, assumed agreement, accuracy, and self-ideal similarity (averaging across all participants and both preference measures). Because overall covariance is the sum of normative and distinctive covariance, within each column the difference between overall and distinctive covariance is the normative covariance. Figure 1 highlights three related patterns. First, overall assumed agreement exceeded overall actual agreement; thus, youth overestimate the degree to which their preferences and their parents' preferences align. Second, distinctive assumed agreement and self-ideal similarity exceeded distinctive agreement and accuracy; thus, youth specifically overestimate the degree to which their *distinctive* preferences and their parents' *distinctive* preferences align. Finally, the normative component accounted for a larger percentage of overall agreement (82%) and accuracy (79%) than of overall assumed agreement (58%) or self-ideal similarity (40%). Thus, about 20% of child-parent agreement and accuracy reflected response patterns uniquely shared by students and parents from the same family, whereas about 80% reflected response patterns typically shared by any student and parent from that normative sample.

### **Effects of Nationality**

Tables 2-4 shows the average normative, distinctive, and overall agreement, assumed agreement, accuracy, and self-ideal similarity for each country. To test for effects of nationality on overall and distinctive self-ideal similarity, agreement, accuracy, and assumed agreement, we conducted General Linear Model analyses (i.e., 14 separate analyses, one for each row in Tables 3-4), with Nationality and Gender as between-participants predictors. Given the large samples, we will only discuss effects significant at  $p < .0001$  (approximately 95% power to

detect effect sizes = .15). There were no Nationality x Gender interaction effects and only two Gender effects: Compared to males, females showed greater overall assumed agreement for ratings and overall accuracy for rankings. Because both gender differences were weak ( $\eta^2_{ps} = .01$ ), not hypothesized, and not consistent across the ranking and rating measures, gender effects will not be discussed further. (However, interested readers can find the descriptive statistics for each type of congruence broken down by gender reported in Supplemental Tables 1-3 and the effects of Gender and Nationality x Gender reported in Supplemental Table 4.) In contrast, nationality strongly predicted every outcome measure, as summarized in Table 5 and described below.

**Agreement, Accuracy, and Assumed Agreement.** Overall agreement was, for ratings, highest in the Philippines and lowest in the U.S. and Canada; and, for rankings, highest in Malaysia and lowest in Mexico and India. Overall accuracy was, for ratings, highest in the Philippines and lowest in the U.S. and Canada; and, for rankings, highest in Malaysia and lowest in Mexico. Overall assumed agreement was, for ratings, highest in Malaysia and the Philippines and lowest in the U.S. and Canada; and, for rankings, highest in Malaysia and lowest in Mexico and India.

Between-country differences in *overall* agreement, accuracy, and assumed agreement were largely attributable to between-country differences in *normative* agreement, accuracy, and assumed agreement; therefore, after subtracting the normative component, between-country differences in *distinctive* agreement, accuracy, and assumed agreement were small. Nonetheless, there were some significant differences. Distinctive agreement was lower in Japan than India on the rating measure. Distinctive accuracy was lowest in Japan (on the rating

measure) and Malaysia (on the ranking measure), and highest in India on both measures.

Finally, distinctive assumed agreement was higher in the U.S. and Canada than Mexico and the Philippines on the rating measure and higher in Japan than Mexico on the ranking measure.

**Self-ideal similarity.** Normative self-ideal similarity was relatively low in the U.S., Canada, and Japan. In contrast, distinctive self-ideal similarity (the inclination to regard one's distinctive traits as strangely appealing rather than unappealingly strange) was higher in Canada, the U.S., and Italy than in the Asian countries and especially Japan. The combination of low normative plus high distinctive self-ideal similarity meant *overall* self-ideal similarity was not lower in the U.S. and Canada than elsewhere. In contrast, the combination of low normative plus low distinctive self-ideal similarity meant overall self-ideal similarity was lowest in Japan, and significantly ( $p < .0001$ ) lower there than anywhere except India and Malaysia.<sup>2</sup>

### Effects of Individualism

To test if between-nation variance in individualism explained between-nation variance in overall or distinctive congruence, we used multilevel regression (with students nested within countries). For example, if analyzing overall agreement, the model would be:  $Agreement_{ij} = b_{00} + b_{01}Individualism_j + u_{0j} + r_{ij}$ , where  $Agreement_{ij}$  is country  $j$ 's student  $i$ 's overall agreement level,  $b_{00}$  is overall agreement averaged across all students,  $Individualism_j$  is country  $j$ 's level of individualism,  $b_{01}$  is the effect of country-level individualism (i.e., the effect of interest), and  $u_{0j}$  and  $r_{ij}$  are country- and student-level residuals. Individualism was operationalized using Hofstede's index, which can range from 0 to 100 (Hofstede, Hofstede, & Minkov, 2010). Table 6 shows the results. To facilitate interpreting the results, Figures 2-4 plot overall and distinctive

agreement, accuracy, assumed agreement, and self-ideal similarity as a function of individualism.

On the ranking measure (Figure 2), individualism was unrelated to overall agreement, overall or distinctive accuracy, or overall or distinctive assumed agreement. Individualism was positively related to distinctive agreement (mainly due to low distinctive agreement in Malaysia and Mexico), but the absolute differences between countries were small.

On the rating measure (Figure 3), stronger individualism predicted weaker *overall* agreement, accuracy, and assumed agreement, mainly because the coefficients were lowest in the two most individualistic countries (U.S. and Canada) and tended to be highest in the less individualistic Southeast Asian countries. Individualism did not predict less distinctive agreement, accuracy, and assumed agreement; thus, individualism's negative associations with overall coefficients were attributable to individualism's negative correlations with *normative* agreement, accuracy, and assumed agreement ( $r_s = -.79, -.81, \text{ and } -.83$ , respectively). Indeed, after removing the normative component of assumed agreement, more individualism predicted *more* distinctive assumed agreement (because levels were relatively high in the U.S. and Canada—see Figure 3 panel c).

Finally, individualism was positively associated with distinctive self-ideal similarity (Figure 4). Because there was an opposing weak negative association between individualism and *normative* self-ideal similarity ( $r = -.67$ ), individualism did not predict overall self-ideal similarity.

## Discussion

### Global Patterns

Averaging across countries, overall self-ideal similarity and parent-child agreement coefficients were moderately positive. Thus, the partner characteristics young adults preferred tended to align with both their own traits and parents' preferences. The proportion of profile congruence explained by the distinctive component was understandably greater for self-ideal similarity and assumed agreement, which reflect *within-person* congruence (students' preferences matching their *own* beliefs about either themselves or their parents), than for accuracy and agreement, which reflect *within-family* but *between-individual* congruence (i.e., students knowing and sharing their parents' preferences).

One implication is that students' accuracy regarding their parents' preferences largely reflects their understanding of a typical parent's preferences (rather than their understanding of their own parent's unique preferences). Students may lack distinctive accuracy in part because they tend to overestimate how much their parents share their distinctive preferences, as evidenced by distinctive *assumed* agreement greatly exceeding distinctive *actual* agreement. Collectively, these results suggest that youth will sometimes be surprised when their parents disapprove of their preferred partner, and such surprises will occur most often when the partner's attributes deviate from the attributes that are normatively preferred within their culture.

Nonetheless, the positive (albeit weak) distinctive agreement coefficients indicate that parents and children did share distinctive as well as culturally normative preferences. Research on preferences for broad life values (e.g., benevolence, hedonism) has likewise found that parent-child agreement reflected parents and children sharing both culturally normative patterns and patterns distinctive to their family (Barni, Alfieri, Marta, & Rosnati, 2013).

Finally, it is also noteworthy that students wanted partners whose personalities were distinctively like their own personalities. Because normative personality profiles correspond closely to what the average person considers the most desirable personality profile (Edwards, 1957), this means that people preferred similar partners even when that similarity involved exhibiting various traits to a greater degree or lesser degree than most people would consider optimal.

### **Cultural Differences**

Culture exerted similar effects on accuracy, actual agreement, and assumed agreement (i.e., on youths' understanding, sharing, and believing that they shared their parents' preferences). Unexpectedly, though, the two partner preference measures produced somewhat different results. Specifically, when participants rated partner personality traits, normative (and, concomitantly, overall) agreement, assumed agreement, and accuracy were negatively associated with a country's individualism, mainly because levels were high in Southeast Asia (Philippines and Malaysia) and low in English-speaking North America (U.S. and Canada). When participants ranked a more varied set of attributes, normative (and, concomitantly, overall) agreement, assumed agreement, and accuracy were again high in the Philippines and especially Malaysia. However, levels were also relatively high in Italy—which Hofstede et al. (2010) rated high in individualism—perhaps because Italian culture incorporates Mediterranean family-oriented collectivism as well as Western European individualism (Caprara, Scabini, & Barni, 2011). Conversely, levels were relatively low in Mexico, which Hofstede et al. rated low in individualism (but whose culture reflects a complex mixture of European and indigenous

influences). The net result was that individualism was not related to normative (or overall) agreement, assumed agreement, and accuracy on the ranking measure.

After subtracting the normative component, cultural differences in distinctive accuracy and actual/assumed agreement were small. Only two effects of nationality were consistent across preference measures: Indians demonstrated superior distinctive accuracy (knowing parents' distinctive preferences) and Mexicans showed little distinctive assumed agreement (assuming parents' distinctive preferences match one's own). Interestingly, across the eight countries, individualism was *positively* related to distinctive assumed agreement (students assuming parents shared their distinctive preferences) when rating traits and to distinctive agreement (students and parents actually sharing distinctive preferences) when ranking attributes.

Self-ideal similarity yielded a quite different pattern of cultural differences. Overall self-ideal similarity was unrelated to individualism because levels were moderate ( $.36 < r < .49$ ) in every country except Japan. However, in Japan overall self-ideal similarity was unusually low ( $r = .20$ ) because *both* normative *and* distinctive self-ideal similarity were low; in other words, a Japanese student was unusually prone to describe her personality as deviating from the personality that a typical student—and even this student herself—would deem desirable in a partner. This finding may be an instance of a general tendency for Japanese to describe themselves in less socially desirable terms than do people in most other countries (Heine & Hamamura, 2007; Locke et al., 2017).

In six of the countries, between 33% and 66% ( $M = 50\%$ ) of overall self-ideal similarity was distinctive (preferring partners with personalities distinctively like one's own) rather than

normative (preferring partners with a typical, normal personality). In contrast, the percentage of overall self-ideal similarity attributable to distinctive similarity was unusually high in the U.S. and Canada (85% and 90%). Thus, distinctive self-ideal similarity was stronger among Americans and Canadians than Asians, and across all countries was positively associated with individualism, perhaps because individualistic Westerners were more apt to construe their personal deviations from cultural norms as desirable rather than undesirable.

In sum, there was partial, limited support for the hypothesis that accuracy and actual/assumed agreement would be greater in less individualistic countries: It was confirmed for normative (but not distinctive) agreement and when rating the desirability of personality traits (but not when ranking the importance of other attributes). Thus, the current results support the following—more circumscribed—hypothesis: The less individualistic a society, the more likely it is that members of that society will—across families and generations—share similar beliefs about which personality traits are more desirable in a spouse.

The associations between individualism and distinctive congruence tended to go in the other direction. Specifically, there was some (admittedly fragile) evidence that, compared to youth in less individualistic cultures, youth in more individualistic culture were more apt to share—or assume that they share—their *unique* parent's *unique* preferences. Moreover, in partial support of our initial hypotheses, individualism's strongest effect was a *positive* association with *distinctive* self-ideal similarity—that is, wanting a partner whose personality quirks matches one's own personality quirks.

Taken together, our results suggest that in relatively collectivistic cultures (that discourage standing out), people may prefer a partner whose personality aligns with consensually shared

injunctive norms. Conversely, in relatively individualistic cultures (that encourage standing out), people may prefer a partner who fits their own or their family's unique identity, thereby highlighting and amplifying how "we" differ from most couples or most families. These conclusions align with Locke, Zheng, and Smith's (2014) finding that members of friendship groups in relatively collectivistic southern China tended to describe each other as having similar personalities, whereas members of friendship groups in the relatively individualistic northwestern United States tended to describe each other as having distinct personalities.

### **Limitations**

The multilevel analyses of nation-level individualism (summarized in the preceding section) should be interpreted with caution since we only compared eight countries and the observed differences between countries were only partly explained by the particular one-dimensional measure of cultural individualism used in current study. Furthermore, the individualism index we used was based on earlier research in organizational settings and may only imperfectly mirror the levels of cultural individualism characterizing the current sample. Relatedly, although we recruited a large and linguistically, geographically, and culturally diverse sample, many regions of the globe were not sampled, and even within the countries we studied our participants may not be representative of young adults who do not attend college.

Like most partner preference studies, the current study relied on self-reports, which are vulnerable to response biases. Indeed, there is debate over how well self-reported preferences predict with whom people actually form partnerships (Campbell & Stanton, 2014), though research has shown self-reported partner preferences to be moderately stable and to prospectively predict the characteristics of future partners (Bredow & Hames, 2019; Gerlach,

Arslan, Schultze, Reinhard, & Penke, 2019). Moreover, our attribute ranking and trait rating measures sometimes yielded different results, which suggests that congruence estimates will partly depend on which partner attributes are assessed or how they are assessed. For example, our rating measure only included traits relatively neutral in desirability; measures including traits that almost everybody considers desirable (e.g., honest) or undesirable (e.g., cruel) may generate higher levels of normative congruence.

### **Conclusions**

The current study analyzed personal, familial, and cultural sources of beliefs about what qualities are preferable in a long-term partner. The study complemented previous studies of partner and in-law preferences (e.g., Apostolou, 2015; Guo et al., 2017; Perilloux et al., 2011) by (a) surveying and comparing multiple countries, (b) broadening the focus from particular preferences to general patterns of preferences, and (c) separating those preference patterns into normative patterns (shared across families and generations) and distinctive patterns (that characterized particular families or individuals).

Youth everywhere wanted partners who aligned with both their own dispositions and their parents' preferences, and these alignments reflected both preferences unique to specific individuals or families and culturally normative preferences shared across families and generations. Youth demonstrated a reasonably accurate appreciation of which qualities parents typically prefer in their children's partners, but were overly optimistic about how much their own parents would share their unique preferences for qualities that diverged from culturally normative ideals. In general, culturally normative patterns exerted a stronger influence in the relatively collectivistic Philippines and Malaysia than in the relatively individualistic U.S. and

Canada (with India, Italy, Japan, and Mexico falling in between). Conversely, distinctive preferences for partners who shared one's personal dispositions were stronger among Western than Asian youth. Thus, a potential partner who does not conform to cultural or parental ideals but who does affirm one's distinctive personal identity may be more appealing to youth in more individualistic and less collectivistic cultures. We hope that these intriguing findings advance our understanding of the personal, familial, and cultural sources of partner preferences, and that the methodology we introduced to disentangle normative and distinctive patterns can help advance cross-cultural research on other topics as well.

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## Footnotes

<sup>1</sup>Two methodological asides. First, Furr (2008) details two models for decomposing raw profile similarity into distinct components that differ slightly from our model in Equation 1. Which of these models is most useful depends on the research question. Our model is useful in the current study because when making cross-cultural comparisons it can be simplified as Equation 2. However, Furr's models may be more useful when addressing other research questions.

Second, when the goal is to clarify the proportion of variation in overall similarity attributable to distinctive similarity, operationalizing normative and distinctive profile similarity as covariations (as in the current study) rather than correlations (as is typically done) can yield more interpretable results. To illustrate, imagine two parent-child dyads. In both dyads, the parent and child express partner preferences that deviate in the same ways from culturally normative preferences (e.g., the child and parent both prioritize a partner's "intelligence" more than does the typical parent or typical child). Thus for both dyads the distinctive parent-child profile *correlation* = 1. However, whereas Dyad A's preferences deviate greatly (e.g., 2 scale units) from the cultural norms, Dyad B's preferences deviate only slightly (e.g., 1/10 scale unit) from the cultural norms. Thus, despite both dyads having equally high distinctive profile correlations, distinctive parent-child agreement may make a large contribution to Dyad A's overall agreement but only a trivial contribution to Dyad B's overall agreement.

<sup>2</sup>In addition to the preceding comparisons across countries, at the request of a reviewer we also conducted comparisons *within the Canadian sample* between those with "European" versus "Asian/Pacific" ethnic backgrounds (see Appendix in the Supplemental Materials).

Table 1

*Definitions and Simple Examples of Overall, Normative, and Distinctive Assumed Agreement, Accuracy, Agreement, and Self-Ideal Similarity*

Name	Overall	Normative	Distinctive
<b>Agreement</b>	Qualities a student prefers <b>x</b> qualities her parents prefer	Qualities typical student prefers <b>x</b> qualities typical parent prefers	Qualities a student prefers <i>more/less than other students do</i> <b>x</b> qualities her parents prefer <i>more/less than other parents do</i>
Example:	Stu prefers “kind” over “exciting”; so do his parents	Typical student prefers “kind” over “exciting”; so does typical parent	Stu prefers “kind” over “exciting” <i>more than typical student does</i> ; Stu’s parents prefer “kind” over “exciting” <i>more than typical parent does</i>
<b>Assumed Agreement</b>	Qualities a student prefers <b>x</b> qualities the student thinks her parents prefer	Qualities typical student prefers <b>x</b> qualities typical student thinks her parents prefers	Qualities a student prefers <i>more/less than other students do</i> <b>x</b> qualities the student thinks her parents prefer <i>more/less than other students think their parents do</i>
Example:	Stu prefers “kind” over “exciting”; Stu thinks his parents prefer “kind” over “exciting”	Typical student prefers “kind” over “exciting” and also thinks his parents prefer “kind” over “exciting”	Stu prefers “kind” over “exciting” <i>more than typical student does</i> ; Stu thinks his parents prefer “kind” over “exciting” <i>more than typical student thinks his parents do</i>
<b>Accuracy</b>	Qualities a student’s parents prefer <b>x</b> qualities the student thinks her parents prefer	Qualities parents typically prefer <b>x</b> qualities students typically think parents prefer	Qualities this student’s parents prefer <i>more/less than other parents do</i> <b>x</b> qualities the student thinks her parents prefer <i>more/less than other students think their parents do</i>
Example:	Stu’s parents prefer “kind” over “exciting”; Stu thinks his parents prefer “kind” over “exciting”	Parents typically prefer “kind” over “exciting”; Students typically think parents prefer “kind” over “exciting”	Stu’s parents prefer “kind” over “exciting” <i>more than the typical parent does</i> ; Stu thinks his parents prefer “kind” over “exciting” <i>more than the typical student thinks his parents do</i>
<b>Self-Ideal Similarity</b>	Qualities a student reports having <b>x</b> qualities she prefers	Qualities students typically report having <b>x</b> qualities typical student prefers	Qualities a student reports having <i>more/less than other students do</i> <b>x</b> partner qualities the student prefers <i>more/less than other students do</i>
Example:	Stu reports being more “kind” than “exciting”; Stu prefers “kind” over “exciting”	Typical student reports being more “kind” than “exciting”; typical student prefers “kind” over “exciting”	Stu reports being more “kind” than “exciting” <i>than the typical male student does</i> ; Stu prefers “kind” over “exciting” <i>more than the typical male does</i>

*Note.* Above, the term *typical* refers to the average person of that gender in that country; for example, in the above examples, if Stu is an Italian male then *typical* refers to the average Italian male student (or average parent of an Italian male student).

Table 2

*Normative Agreement, Assumed Agreement, Accuracy, and Self-Ideal Similarity by Nationality*

Outcome / Measure	CA	IN	IT	JP	MX	MY	PH	US	ALL
<b>Agreement</b>									
Ranking Measure	.33	.24	.44	.30	.27	.57	.39	.36	<b>.38</b>
Rating Measure	.12	.34	.40	.43	.36	.47	.55	.15	<b>.35</b>
<b>Accuracy</b>									
Ranking Measure	.31	.30	.43	.40	.27	.59	.43	.34	<b>.39</b>
Rating Measure	.26	.39	.41	.46	.39	.53	.60	.23	<b>.41</b>
<b>Assumed Agreement</b>									
Ranking Measure	.25	.20	.43	.25	.26	.55	.40	.32	<b>.34</b>
Rating Measure	.12	.32	.34	.36	.32	.49	.54	.13	<b>.32</b>
Self-Ideal Similarity	.04	.17	.21	.07	.27	.19	.29	.06	<b>.16</b>

*Note.* CA = Canada, IN = India, IT = Italy, JP = Japan, MX = Mexico, MY = Malaysia, PH = Philippines, US = United States, ALL = all participants. Values reflect the normative portions of the overall (agreement, assumed agreement, accuracy, or self-ideal) coefficients, which when combined with the corresponding distinctive portions shown in Table 3 will equal the overall correlations shown in Table 4.

Table 3

*Distinctive Agreement, Assumed Agreement, Accuracy, and Self-Ideal Similarity by Nationality*

Outcome / Measure		CA	IN	IT	JP	MX	MY	PH	US	ALL
Agreement										
Ranking Measure	<i>M</i>	.11 <sub>a</sub>	.10 <sub>a</sub>	.10 <sub>a</sub>	.09 <sub>a</sub>	.04 <sub>a</sub>	.04 <sub>a</sub>	.09 <sub>a</sub>	.11 <sub>a</sub>	<b>.08</b>
	<i>(SD)</i>	(.20)	(.26)	(.16)	(.17)	(.20)	(.13)	(.20)	(.21)	<b>(.19)</b>
Rating Measure	<i>M</i>	.09 <sub>ab</sub>	.15 <sub>b</sub>	.09 <sub>ab</sub>	.02 <sub>a</sub>	.07 <sub>ab</sub>	.06 <sub>ab</sub>	.08 <sub>ab</sub>	.05 <sub>ab</sub>	<b>.07</b>
	<i>(SD)</i>	(.29)	(.22)	(.23)	(.20)	(.22)	(.18)	(.18)	(.29)	<b>(.23)</b>
Accuracy										
Ranking Measure	<i>M</i>	.16 <sub>b</sub>	.19 <sub>b</sub>	.18 <sub>b</sub>	.11 <sub>ab</sub>	.10 <sub>ab</sub>	.04 <sub>a</sub>	.13 <sub>ab</sub>	.13 <sub>ab</sub>	<b>.13</b>
	<i>(SD)</i>	(.22)	(.24)	(.21)	(.20)	(.23)	(.13)	(.23)	(.23)	<b>(.21)</b>
Rating Measure	<i>M</i>	.11 <sub>ab</sub>	.18 <sub>b</sub>	.11 <sub>ab</sub>	.03 <sub>a</sub>	.07 <sub>ab</sub>	.07 <sub>ab</sub>	.10 <sub>ab</sub>	.09 <sub>ab</sub>	<b>.09</b>
	<i>(SD)</i>	(.26)	(.24)	(.22)	(.19)	(.23)	(.18)	(.21)	(.27)	<b>(.23)</b>
Assumed Agreement										
Ranking Measure	<i>M</i>	.25 <sub>ab</sub>	.21 <sub>ab</sub>	.21 <sub>ab</sub>	.29 <sub>b</sub>	.17 <sub>a</sub>	.19 <sub>ab</sub>	.25 <sub>ab</sub>	.28 <sub>ab</sub>	<b>.23</b>
	<i>(SD)</i>	(.27)	(.24)	(.19)	(.20)	(.27)	(.25)	(.23)	(.25)	<b>(.24)</b>
Rating Measure	<i>M</i>	.32 <sub>b</sub>	.26 <sub>ab</sub>	.24 <sub>ab</sub>	.23 <sub>ab</sub>	.19 <sub>a</sub>	.26 <sub>ab</sub>	.19 <sub>a</sub>	.34 <sub>b</sub>	<b>.26</b>
	<i>(SD)</i>	(.31)	(.24)	(.23)	(.24)	(.23)	(.20)	(.22)	(.32)	<b>(.26)</b>
Self-Ideal Similarity	<i>M</i>	.39 <sub>d</sub>	.19 <sub>ab</sub>	.28 <sub>bcd</sub>	.14 <sub>a</sub>	.21 <sub>abc</sub>	.17 <sub>ab</sub>	.15 <sub>ab</sub>	.33 <sub>cd</sub>	<b>.24</b>
	<i>(SD)</i>	(.30)	(.26)	(.26)	(.27)	(.23)	(.26)	(.24)	(.32)	<b>(.29)</b>

*Note.* Within rows, national averages that do not share common subscripts differ at  $p < .0001$  using Scheffe tests. CA = Canada, IN = India, IT = Italy, JP = Japan, MX = Mexico, MY = Malaysia, PH = Philippines, US = United States, ALL = all participants. Values reflect the distinctive portions of the overall (agreement, assumed agreement, accuracy, or self-ideal) coefficients, which when combined with the corresponding normative portions shown in Table 2 will equal the overall correlations shown in Table 4.

Table 4

*Overall Agreement, Assumed Agreement, Accuracy, and Self-Ideal Similarity by Nationality*

Outcome / Measure		CA	IN	IT	JP	MX	MY	PH	US	ALL
Agreement										
Ranking Measure	<i>M</i>	.45 <sub>abc</sub>	.33 <sub>ab</sub>	.54 <sub>cd</sub>	.40 <sub>abc</sub>	.31 <sub>a</sub>	.62 <sub>d</sub>	.48 <sub>cd</sub>	.47 <sub>bc</sub>	<b>.46</b>
	<i>(SD)</i>	<i>(.31)</i>	<i>(.30)</i>	<i>(.24)</i>	<i>(.24)</i>	<i>(.29)</i>	<i>(.23)</i>	<i>(.27)</i>	<i>(.28)</i>	<b><i>(.29)</i></b>
Rating Measure	<i>M</i>	.22 <sub>a</sub>	.50 <sub>bc</sub>	.49 <sub>bc</sub>	.45 <sub>b</sub>	.43 <sub>b</sub>	.54 <sub>bc</sub>	.63 <sub>c</sub>	.19 <sub>a</sub>	<b>.44</b>
	<i>(SD)</i>	<i>(.34)</i>	<i>(.30)</i>	<i>(.31)</i>	<i>(.30)</i>	<i>(.31)</i>	<i>(.27)</i>	<i>(.24)</i>	<i>(.35)</i>	<b><i>(.33)</i></b>
Accuracy										
Ranking Measure	<i>M</i>	.49 <sub>ab</sub>	.49 <sub>abc</sub>	.60 <sub>bc</sub>	.52 <sub>bc</sub>	.37 <sub>a</sub>	.63 <sub>c</sub>	.56 <sub>bc</sub>	.47 <sub>ab</sub>	<b>.52</b>
	<i>(SD)</i>	<i>(.28)</i>	<i>(.30)</i>	<i>(.23)</i>	<i>(.25)</i>	<i>(.32)</i>	<i>(.24)</i>	<i>(.28)</i>	<i>(.28)</i>	<b><i>(.28)</i></b>
Rating Measure	<i>M</i>	.37 <sub>ab</sub>	.59 <sub>cd</sub>	.52 <sub>c</sub>	.48 <sub>bc</sub>	.47 <sub>abc</sub>	.60 <sub>cd</sub>	.70 <sub>d</sub>	.32 <sub>a</sub>	<b>.50</b>
	<i>(SD)</i>	<i>(.30)</i>	<i>(.30)</i>	<i>(.29)</i>	<i>(.30)</i>	<i>(.31)</i>	<i>(.26)</i>	<i>(.24)</i>	<i>(.30)</i>	<b><i>(.31)</i></b>
Assumed Agreement										
Ranking Measure	<i>M</i>	.50 <sub>ab</sub>	.41 <sub>a</sub>	.64 <sub>cd</sub>	.54 <sub>abc</sub>	.43 <sub>a</sub>	.74 <sub>d</sub>	.65 <sub>cd</sub>	.59 <sub>bc</sub>	<b>.57</b>
	<i>(SD)</i>	<i>(.35)</i>	<i>(.34)</i>	<i>(.24)</i>	<i>(.29)</i>	<i>(.36)</i>	<i>(.21)</i>	<i>(.25)</i>	<i>(.27)</i>	<b><i>(.31)</i></b>
Rating Measure	<i>M</i>	.44 <sub>a</sub>	.58 <sub>ab</sub>	.58 <sub>ab</sub>	.59 <sub>abc</sub>	.51 <sub>a</sub>	.75 <sub>c</sub>	.73 <sub>bc</sub>	.47 <sub>a</sub>	<b>.58</b>
	<i>(SD)</i>	<i>(.41)</i>	<i>(.31)</i>	<i>(.29)</i>	<i>(.29)</i>	<i>(.35)</i>	<i>(.23)</i>	<i>(.24)</i>	<i>(.39)</i>	<b><i>(.34)</i></b>
Self-Ideal Similarity	<i>M</i>	.44 <sub>b</sub>	.36 <sub>ab</sub>	.48 <sub>b</sub>	.20 <sub>a</sub>	.48 <sub>b</sub>	.37 <sub>ab</sub>	.44 <sub>b</sub>	.39 <sub>b</sub>	<b>.40</b>
	<i>(SD)</i>	<i>(.35)</i>	<i>(.38)</i>	<i>(.34)</i>	<i>(.38)</i>	<i>(.36)</i>	<i>(.35)</i>	<i>(.31)</i>	<i>(.38)</i>	<b><i>(.36)</i></b>

*Note.* Within rows, national averages that do not share common subscripts differ at  $p < .0001$  using Scheffe tests. CA = Canada, IN = India, IT = Italy, JP = Japan, MX = Mexico, MY = Malaysia, PH = Philippines, US = United States, ALL = all participants. Values are correlation coefficients that could range from -1 to +1.

Table 5

*Effects of Nationality on Raw and Distinctive Agreement, Assumed Agreement, Accuracy, and Self-Ideal Similarity*

Outcome / Measure	Agreement		Accuracy		Assumed Agreement		Self-Ideal Similarity	
	<i>F</i>	$\eta^2_p$	<i>F</i>	$\eta^2_p$	<i>F</i>	$\eta^2_p$	<i>F</i>	$\eta^2_p$
Overall Covariance								
Rankings	32.22***	.114	27.77***	.098	36.51***	.112		
Ratings	50.08***	.162	37.88***	.128	36.23***	.111	16.97***	.055
Distinctive Covariance								
Rankings	4.56***	.017	10.61***	.040	8.87***	.030		
Ratings	4.04**	.015	5.03***	.019	9.26***	.031	29.47***	.091

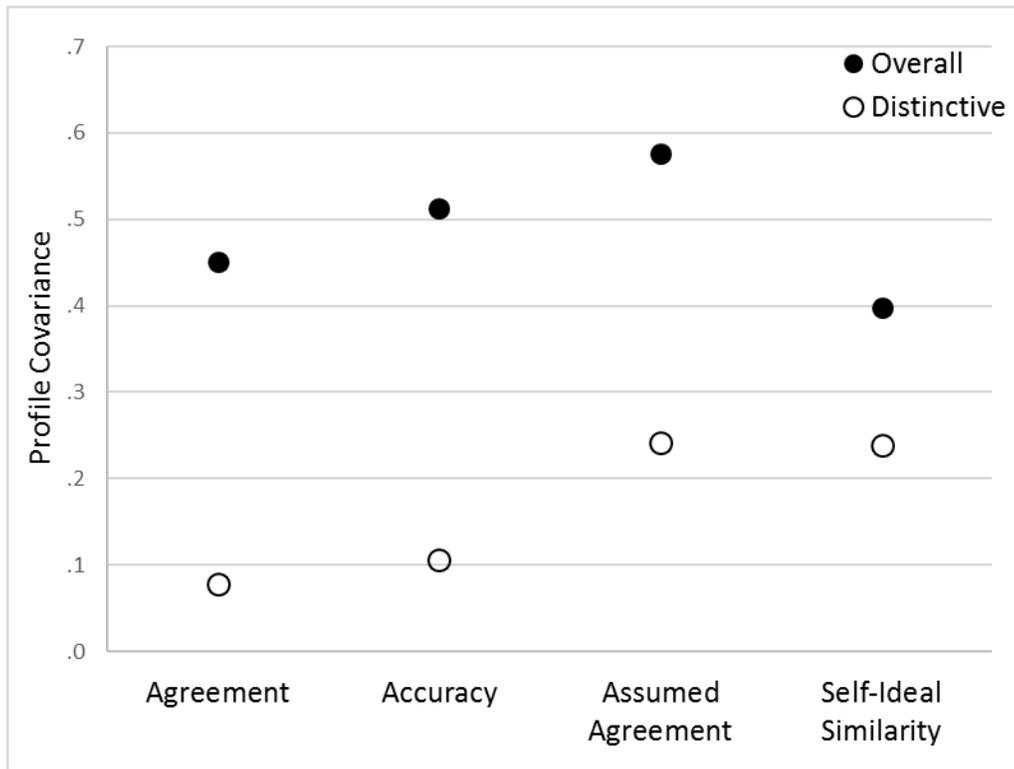
*Note.* \* $p < .01$ , \*\* $p < .001$ , \*\*\* $p < .0001$ . Due to missing values and parents not returning surveys, error degrees of freedom ranged between 1,793 and 1,816 for analyses of agreement or accuracy, and between 2,033 and 2,049 for analyses of similarity or assumed agreement. The partial eta-squared ( $\eta^2_p$ ) values indicate the proportion of unexplained variance explained by nationality.

Table 6

*Effects of Country-Level Individualism on Raw and Distinctive Agreement, Assumed Agreement, Accuracy, and Self-Ideal Similarity*

Outcome / Measure	Agreement		Accuracy		Assumed Agreement		Self-Ideal Similarity	
	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>
Overall Covariance								
Rankings	.010	0.25	-.007	-0.20	-.008	-0.18		
Ratings	-.116*	-3.07	-.090*	-2.70	-.080*	-2.60	.014	0.39
Distinctive Covariance								
Rankings	.022*	3.15	.027	1.78	.020	1.34		
Ratings	.001	0.07	.010	0.64	.041*	3.00	.076**	4.04

*Note.* \* $p < .05$ , \*\* $p < .01$ . Individualism scores were standardized across the eight countries; thus, *bs* estimate the change in the outcome per 1 standard deviation change in individualism. Because there were only eight countries, the approximate degrees of freedom = 6.



*Figure 1.* Overall and distinctive agreement, accuracy, assumed agreement, and self-ideal similarity (averaging across all participants and both preference measures). Because all standard errors were  $< .008$ , the confidence intervals were shorter than the markers.

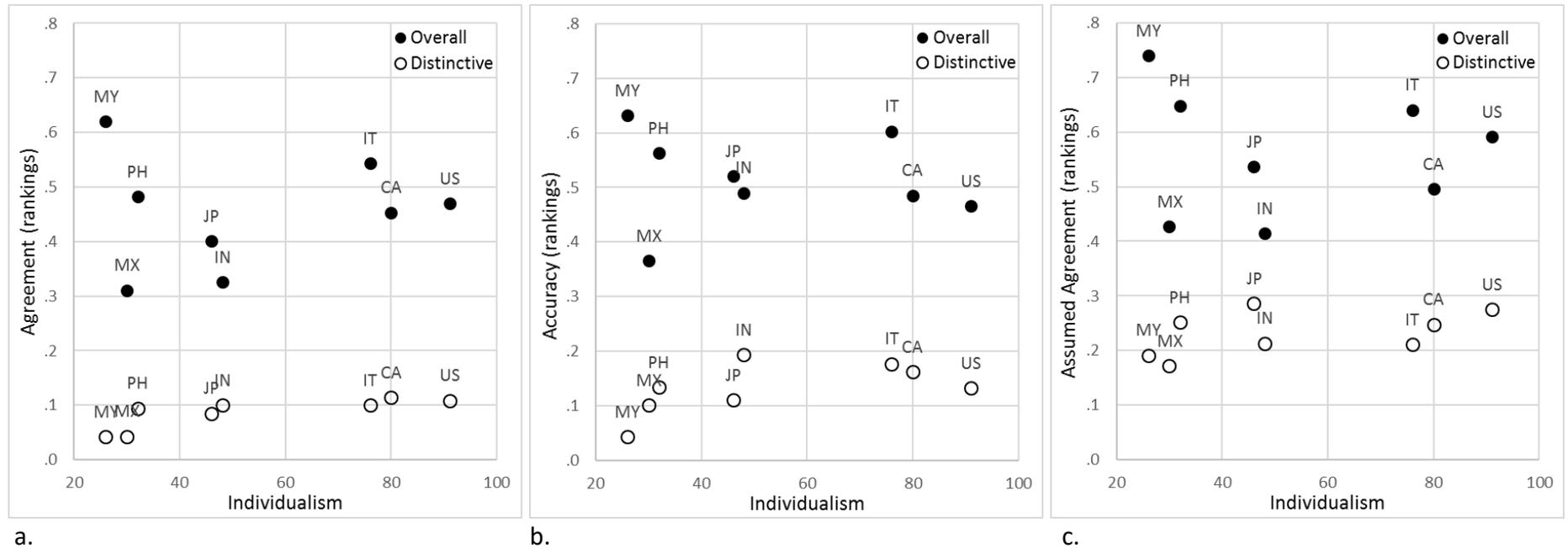


Figure 2. Overall and distinctive agreement (panel a), accuracy (panel b), and assumed agreement (panel c) as a function of individualism for the ranking measure of partner preferences. CA = Canada, IN = India, IT = Italy, JP = Japan, MX = Mexico, MY = Malaysia, PH = Philippines, US = United States. Within each panel, each country's normative congruence equals the difference between that country's overall and distinctive congruence.

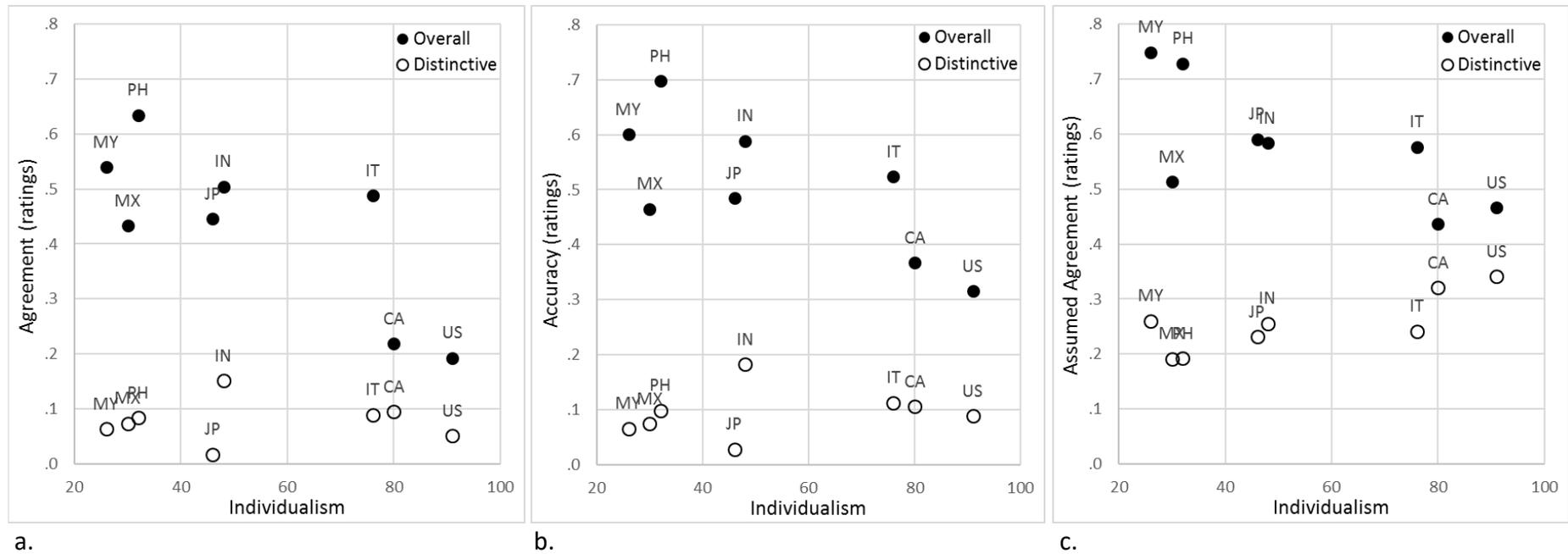


Figure 3. Overall and distinctive agreement (panel a), accuracy (panel b), and assumed agreement (panel c) as a function of individualism for the rating measure of partner preferences. CA = Canada, IN = India, IT = Italy, JP = Japan, MX = Mexico, MY = Malaysia, PH = Philippines, US = United States. Within each panel, each country's normative congruence equals the difference between that country's overall and distinctive congruence.

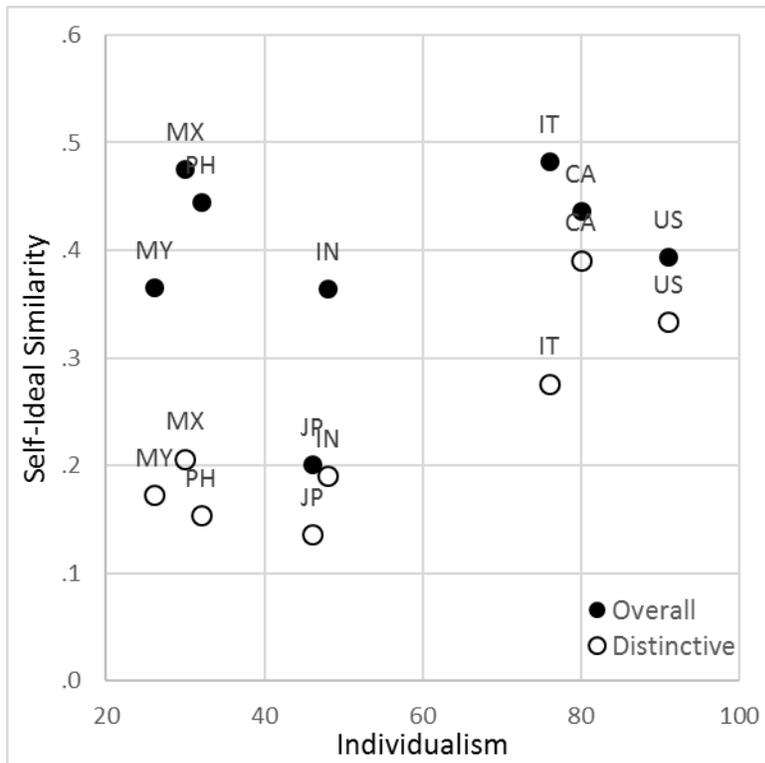


Figure 4. Overall and distinctive self-ideal similarity as a function of individualism. CA = Canada, IN = India, IT = Italy, JP = Japan, MX = Mexico, MY = Malaysia, PH = Philippines, US = United States.

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Supplement to accompany Locke et al., “Culture Moderates the Normative and Distinctive Impact of Parents and Similarity on Young Adults’ Partner Preferences.” *Cross-Cultural Research*.

## Contents

<a href="#">1. Descriptive Statistics by Gender</a> .....	1
<a href="#">2. Effects of Gender and Nationality by Gender</a> .....	4
<a href="#">3. Exploratory Comparisons of European- and Asian-Canadians</a> .....	5
<a href="#">References</a> .....	7

## 1. Descriptive Statistics by Gender

Supplemental Tables 1-3 show the average normative, distinctive, and overall agreement, assumed agreement, accuracy, and self-ideal similarity for each country broken down by gender. These correspond to Tables 2-4 in the main body.

Supplemental Table 1. *Normative Agreement, Assumed Agreement, Accuracy, and Self-Ideal Similarity by Nationality and Gender*

	CA	IN	IT	JP	MX	MY	PH	US	ALL
<b>Female Students</b>									
Agreement									
Ranking Measure	.36	.24	.44	.30	.27	.60	.42	.34	.37
Rating Measure	.12	.35	.41	.46	.39	.46	.59	.16	.35
Accuracy									
Ranking Measure	.36	.29	.43	.40	.30	.61	.48	.35	.40
Rating Measure	.26	.39	.42	.50	.41	.52	.64	.25	.41
Assumed Agreement									
Ranking Measure	.27	.20	.44	.25	.30	.58	.45	.32	.36
Rating Measure	.14	.34	.35	.38	.35	.49	.60	.14	.33
Self-Ideal Similarity	.03	.17	.20	.09	.29	.19	.31	.05	.16
<b>Male Students</b>									
Agreement									
Ranking Measure	.28	.22	.45	.31	.25	.55	.34	.42	.38
Rating Measure	.13	.29	.36	.39	.31	.49	.49	.13	.35
Accuracy									
Ranking Measure	.21	.33	.43	.40	.20	.57	.36	.31	.38
Rating Measure	.25	.39	.39	.43	.36	.54	.54	.19	.40
Assumed Agreement									
Ranking Measure	.21	.22	.41	.25	.19	.52	.32	.31	.33
Rating Measure	.08	.27	.31	.34	.28	.48	.45	.09	.31
Self-Ideal Similarity	.06	.18	.21	.05	.24	.19	.28	.09	.16

*Note.* CA = Canada, IN = India, IT = Italy, JP = Japan, MX = Mexico, MY = Malaysia, PH = Philippines, US = United States. Values reflect the normative portions of the overall (agreement, assumed agreement, accuracy, or self-ideal) coefficients, which when combined with the corresponding distinctive portions shown in Table 2 will equal the overall correlations shown in Table 3.

Supplemental Table 2. *Distinctive Agreement, Assumed Agreement, Accuracy, and Self-Ideal Similarity by Nationality and Gender*

		CA	IN	IT	JP	MX	MY	PH	US	<i>Total</i>
<b>Female Students</b>										
Agreement										
Ranking Measure	<i>M</i>	.13	.10	.10	.09	.04	.06	.08	.13	<b>.09</b>
	<i>SD</i>	(.20)	(.26)	(.16)	(.17)	(.20)	(.13)	(.20)	(.21)	<b>(.19)</b>
Rating Measure	<i>M</i>	.11	.14	.08	.03	.06	.09	.07	.04	<b>.07</b>
	<i>SD</i>	(.29)	(.22)	(.23)	(.20)	(.22)	(.18)	(.18)	(.29)	<b>(.23)</b>
Accuracy										
Ranking Measure	<i>M</i>	.16	.19	.18	.13	.09	.06	.12	.16	<b>.14</b>
	<i>SD</i>	(.22)	(.24)	(.21)	(.20)	(.23)	(.13)	(.23)	(.23)	<b>(.21)</b>
Rating Measure	<i>M</i>	.09	.19	.09	.03	.08	.09	.09	.08	<b>.09</b>
	<i>SD</i>	(.26)	(.24)	(.22)	(.19)	(.23)	(.18)	(.21)	(.27)	<b>(.23)</b>
Assumed Agreement										
Ranking Measure	<i>M</i>	.26	.22	.22	.29	.15	.18	.24	.29	<b>.23</b>
	<i>SD</i>	(.27)	(.24)	(.19)	(.20)	(.27)	(.25)	(.23)	(.25)	<b>(.24)</b>
Rating Measure	<i>M</i>	.34	.26	.23	.27	.19	.28	.17	.36	<b>.27</b>
	<i>SD</i>	(.31)	(.24)	(.23)	(.24)	(.23)	(.20)	(.22)	(.32)	<b>(.26)</b>
Self-Ideal Similarity	<i>M</i>	.39	.20	.26	.16	.20	.19	.17	.34	<b>.25</b>
	<i>SD</i>	(.30)	(.26)	(.26)	(.27)	(.23)	(.26)	(.24)	(.32)	<b>(.29)</b>
<b>Male Students</b>										
Agreement										
Ranking Measure	<i>M</i>	.07	.09	.10	.08	.06	.03	.11	.07	<b>.07</b>
	<i>SD</i>	(.20)	(.26)	(.16)	(.17)	(.20)	(.13)	(.20)	(.21)	<b>(.19)</b>
Rating Measure	<i>M</i>	.07	.19	.11	.00	.11	.04	.11	.07	<b>.07</b>
	<i>SD</i>	(.29)	(.22)	(.23)	(.20)	(.22)	(.18)	(.18)	(.29)	<b>(.23)</b>
Accuracy										
Ranking Measure	<i>M</i>	.16	.22	.17	.09	.11	.03	.16	.08	<b>.11</b>
	<i>SD</i>	(.22)	(.24)	(.21)	(.20)	(.23)	(.13)	(.23)	(.23)	<b>(.21)</b>
Rating Measure	<i>M</i>	.15	.13	.15	.03	.07	.04	.12	.11	<b>.09</b>
	<i>SD</i>	(.26)	(.24)	(.22)	(.19)	(.23)	(.18)	(.21)	(.27)	<b>(.23)</b>
Assumed Agreement										
Ranking Measure	<i>M</i>	.23	.20	.20	.28	.20	.20	.27	.24	<b>.23</b>
	<i>SD</i>	(.27)	(.24)	(.19)	(.20)	(.27)	(.25)	(.23)	(.25)	<b>(.24)</b>
Rating Measure	<i>M</i>	.28	.25	.26	.20	.19	.25	.23	.30	<b>.24</b>
	<i>SD</i>	(.31)	(.24)	(.23)	(.24)	(.23)	(.20)	(.22)	(.32)	<b>(.26)</b>
Self-Ideal Similarity	<i>M</i>	.39 <sup>d</sup>	.19 <sup>ab</sup>	.28 <sup>bcd</sup>	.14 <sup>a</sup>	.21 <sup>abc</sup>	.17 <sup>ab</sup>	.15 <sup>ab</sup>	.33 <sup>cd</sup>	<b>.24</b>
	<i>SD</i>	.40	.14	.31	.11	.22	.16	.13	.33	<b>.22</b>

*Note.* CA = Canada, IN = India, IT = Italy, JP = Japan, MX = Mexico, MY = Malaysia, PH = Philippines, US = United States. Values reflect the distinctive portions of the overall (agreement, assumed agreement, accuracy, or self-ideal) coefficients, which when combined with the corresponding normative portions shown in Table 1 will equal the overall correlations shown in Table 3.

Supplemental Table 3. Overall Agreement, Assumed Agreement, Accuracy, and Self-Ideal Similarity by Nationality and Gender

		CA	IN	IT	JP	MX	MY	PH	US	<b>Total</b>
<b>Female Students</b>										
Agreement										
Ranking Measure	<i>M</i>	.50	.33	.54	.41	.31	.66	.50	.46	<b>.47</b>
	<i>SD</i>	.27	.30	.25	.23	.29	.19	.26	.31	<b>.29</b>
Rating Measure	<i>M</i>	.22	.51	.50	.51	.44	.55	.66	.19	<b>.44</b>
	<i>SD</i>	.32	.30	.28	.28	.32	.26	.22	.35	<b>.33</b>
Accuracy										
Ranking Measure	<i>M</i>	.54	.48	.61	.54	.39	.67	.59	.51	<b>.54</b>
	<i>SD</i>	.25	.31	.22	.21	.28	.18	.24	.27	<b>.26</b>
Rating Measure	<i>M</i>	.35	.59	.51	.53	.49	.62	.73	.32	<b>.51</b>
	<i>SD</i>	.31	.29	.27	.27	.31	.24	.19	.32	<b>.31</b>
Assumed Agreement										
Ranking Measure	<i>M</i>	.53	.41	.65	.55	.45	.77	.69	.61	<b>.59</b>
	<i>SD</i>	.33	.34	.23	.29	.34	.17	.21	.26	<b>.30</b>
Rating Measure	<i>M</i>	.48	.59	.58	.65	.54	.77	.77	.50	<b>.60</b>
	<i>SD</i>	.38	.32	.30	.24	.33	.20	.20	.38	<b>.32</b>
Self-Ideal Similarity	<i>M</i>	.42	.37	.46	.24	.49	.38	.47	.38	<b>.41</b>
	<i>SD</i>	.37	.38	.35	.35	.37	.34	.28	.39	<b>.36</b>
<b>Male Students</b>										
Agreement										
Ranking Measure	<i>M</i>	.36	.30	.55	.39	.31	.58	.45	.49	<b>.45</b>
	<i>SD</i>	.37	.32	.23	.26	.30	.25	.29	.22	<b>.29</b>
Rating Measure	<i>M</i>	.22	.48	.47	.39	.42	.53	.59	.19	<b>.43</b>
	<i>SD</i>	.38	.33	.35	.31	.31	.29	.26	.36	<b>.34</b>
Accuracy										
Ranking Measure	<i>M</i>	.38	.53	.59	.50	.31	.60	.52	.38	<b>.48</b>
	<i>SD</i>	.32	.22	.27	.29	.37	.28	.32	.29	<b>.32</b>
Rating Measure	<i>M</i>	.41	.57	.55	.45	.43	.58	.65	.30	<b>.50</b>
	<i>SD</i>	.26	.39	.32	.31	.31	.27	.28	.25	<b>.31</b>
Assumed Agreement										
Ranking Measure	<i>M</i>	.44	.42	.62	.53	.39	.72	.59	.55	<b>.56</b>
	<i>SD</i>	.36	.33	.26	.29	.40	.23	.29	.27	<b>.32</b>
Rating Measure	<i>M</i>	.36	.54	.57	.53	.47	.73	.67	.40	<b>.55</b>
	<i>SD</i>	.47	.26	.29	.32	.36	.25	.28	.42	<b>.36</b>
Self-Ideal Similarity	<i>M</i>	.47	.32	.52	.16	.46	.35	.40	.42	<b>.38</b>
	<i>SD</i>	.29	.35	.32	.40	.35	.37	.34	.34	<b>.36</b>

Note. CA = Canada, IN = India, IT = Italy, JP = Japan, MX = Mexico, MY = Malaysia, PH = Philippines, US = United States. Values are correlation coefficients that could range from -1 to +1.

## 2. Effects of Gender and Nationality by Gender

Supplemental Table 4. *Effects of Nationality and Sex on Overall and Distinctive Agreement, Assumed Agreement, Accuracy, and Self-Ideal Similarity*

	Country		Sex		Country x Sex	
	F	$\eta^2_p$	F	$\eta^2_p$	F	$\eta^2_p$
<b>Overall</b>						
Agreement						
Rankings	32.22***	.114	5.36	.003	1.88	.007
Ratings	50.08***	.162	4.20	.002	0.90	.003
Accuracy						
Rankings	27.77***	.098	18.08***	.010	1.89	.007
Ratings	37.88***	.128	2.79	.002	1.74	.007
Assumed Agreement						
Rankings	36.51***	.112	12.53**	.006	0.60	.002
Ratings	36.23***	.111	23.38***	.011	1.09	.004
Self-Ideal Similarity	16.97***	.055	0.85	.000	1.40	.005
<b>Distinctive</b>						
Agreement						
Rankings	4.56***	.017	2.34	.001	1.62	.006
Ratings	4.04**	.015	0.71	.000	1.77	.007
Accuracy						
Rankings	10.61***	.040	0.95	.001	1.89	.007
Ratings	5.03***	.019	0.30	.000	2.04	.008
Assumed Agreement						
Rankings	8.87***	.030	0.92	.000	0.84	.003
Ratings	9.26***	.031	1.90	.001	1.98	.007
Self-Ideal Similarity	29.47***	.091	0.76	.000	1.01	.003

*Note.* \* $p < .01$ , \*\* $p < .001$ , \*\*\* $p < .0001$ . Due to missing values and parents not returning surveys, error degrees of freedom ranged between 1,793 and 1,816 for analyses of agreement or accuracy, and between 2,033 and 2,049 for analyses of similarity or assumed agreement. The partial eta-squared ( $\eta^2_p$ ) values indicate the proportion of unexplained variance explained by that predictor.

### 3. Exploratory Comparisons of European- and Asian-Canadians

To compare Canadians reporting “European” versus “Asian/Pacific” ethnic backgrounds, we recomputed overall and distinctive parent-child agreement, assumed agreement, accuracy, and self-ideal similarity for European-Canadians and Asian-Canadians separately (only using students whose parents also provided data;  $Ns = 92$  European-Canadians, 65 Asian-Canadians). Supplemental Table 5 (left side) shows the effects of ethnicity on each outcome (controlling for gender). Compared to European-Canadians, Asian-Canadians showed significantly less overall assumed agreement on the ranking measure and marginally less overall agreement on the ranking measure and distinctive assumed agreement on the trait measure.

Supplemental Table 5. *Asian- and European-Canadians’ Overall and Distinctive Agreement, Assumed Agreement, Accuracy, and Self-Ideal Similarity*

	Asian- Canadians	European- Canadians	Effect of Ethnicity			Effect of Ethnicity controlling for Parents’ Years outside Canada		
	<i>M</i>	<i>M</i>	<i>b</i>	<i>SE</i>	$\eta^2_p$	<i>b</i>	<i>SE</i>	$\eta^2_p$
Overall Covariance								
Agreement								
Rankings	.38	.50	-.121*	.049	.04	-.045	.066	.00
Ratings	.20	.23	-.029	.057	.00	.060	.077	.00
Accuracy								
Rankings	.43	.49	-.067	.044	.01	.002	.060	.00
Ratings	.39	.33	.064	.051	.01	.087	.069	.01
Assumed Agreement								
Rankings	.42	.57	-.147**	.050	.05	-.063	.069	.01
Ratings	.33	.45	-.119	.067	.02	.073	.089	.00
Self-Ideal Similarity	.38	.47	-.093	.059	.02	-.006	.080	.00
Distinctive Covariance								
Agreement								
Rankings	.10	.10	-.008	.031	.00	.042	.043	.01
Ratings	.05	.10	-.055	.049	.01	-.011	.066	.00
Accuracy								
Rankings	.15	.11	.038	.033	.01	.086	.045	.02
Ratings	.09	.11	-.028	.044	.00	.064	.059	.01
Assumed Agreement								
Rankings	.23	.20	.021	.037	.00	.066	.051	.01
Ratings	.23	.34	-.108*	.050	.03	-.009	.068	.00
Self-Ideal Similarity	.35	.42	-.074	.050	.01	-.032	.068	.00

*Note.*  $N = 65$  Asian-Canadians, 92 European-Canadians. \* $p < .05$ , \*\* $p < .005$ . To adjust for the number analyses conducted,  $ps < .005$  are considered significant and  $ps < .05$  marginally significant. Ethnicity was coded: European-Canadian = 0, Asian-Canadian = 1. Student gender was included as a covariate; accordingly, the *M*s are marginal means. The (unstandardized) effects of ethnicity indicate how the outcomes of Asian-Canadians differ from that of European-Canadians; for example, overall agreement on the ranking measure was estimated to be .121 less for Asian-Canadians than European-Canadians. Partial eta-squared ( $\eta^2_p$ ) values indicate the proportion of unexplained variance explained by ethnicity.

Differences in how European-Canadian and Asian-Canadian undergraduates view and relate to their parents may be due to Asian-Canadian undergraduates having immigrant parents who identify more with heritage cultural norms than mainstream Canadian norms. For example, Locke, Sadler, and McDonald (2019) found that second-generation Asian-Canadian undergraduates interacted with their parents similarly to how European-Canadians interacted with their parents to the degree that they perceived their immigrant parents as embracing a Canadian identity. The current study did not assess actual or perceived acculturation, but fortuitously in Canada did assess how long parents had lived outside of Canada. (In the other countries parents simply indicated whether they “grew up in” the country where the data was being collected, which almost all did). Not surprisingly, years parents lived outside Canada was greater for Asian-Canadians ( $M = 24.9$ ,  $SD = 10.0$ ) than European-Canadians ( $M = 4.6$ ,  $SD = 11.1$ ),  $t(155) = 11.8$ ,  $p < .001$ . (No students had spent more than 8 years outside Canada, and 77% had spent none).

Next, we tested (separately on European-Canadians and Asian-Canadians) the effect of years parents lived outside Canada on each type of congruence. Supplemental Table 6 shows the results. Years abroad had generally negative effects on congruence indices. Among European-Canadians these negative effects were not significant, but these null results should be treated cautiously because 80% of European-Canadian parents had never lived outside Canada. Among Asian-Canadians, the years parents had lived outside Canada was significantly negatively related to overall assumed agreement on the ranking measure and distinctive assumed agreement on the rating measure, and marginally negatively related to overall assumed agreement on the rating measure and overall and distinctive accuracy on the ranking measure. Thus, assumed agreement and, to a lesser degree, the other measures of parent-child congruence tended to be stronger for Asian-Canadian undergraduates whose parents had spent fewer years abroad.

Supplemental Table 6

*Effects of Number of Years Parent Lived Outside Canada on Asian- and European-Canadians' Overall and Distinctive Agreement, Assumed Agreement, Accuracy, and Self-Ideal Similarity*

	Asian-Canadians			European-Canadians		
	<i>b</i>	<i>SE</i>	$\eta^2_p$	<i>b</i>	<i>SE</i>	$\eta^2_p$
<b>Overall</b>						
Agreement						
Rankings	-.007	.004	.04	-.002	.002	.01
Ratings	-.006	.004	.03	-.004	.003	.01
Accuracy						
Rankings	-.009*	.004	.09	.000	.002	.00
Ratings	.006	.004	.04	-.005	.003	.03
Assumed Agreement						
Rankings	-.012**	.004	.12	.000	.003	.00
Ratings	-.015*	.005	.11	-.006	.003	.03
Self-Ideal Similarity	-.005	.005	.02	-.004	.003	.01

**Distinctive**

Agreement						
Rankings	-.003	.003	.03	-.002	.002	.01
Ratings	-.005	.003	.03	-.001	.003	.00
Accuracy						
Rankings	-.005	.003	.06	-.001	.002	.00
Ratings	-.004	.003	.02	-.005	.003	.04
Assumed Agreement						
Rankings	-.006	.003	.06	.000	.002	.00
Ratings	-.012**	.004	.13	-.001	.003	.00
Self-Ideal Similarity	-.005	.004	.02	.000	.003	.00

*Note.*  $N = 65$  Asian-Canadians,  $92$  European-Canadians.  $*p < .05$ ,  $**p < .005$ . To adjust for the number analyses conducted,  $ps < .005$  are considered significant and  $ps < .05$  marginally significant. The (unstandardized) effects of years outside Canada indicate the change in outcomes for each additional year spent outside of Canada; for example, for each additional year an Asian-Canadian parent lived outside Canada, overall assumed similarity on the rating measure is estimated to decline by  $.015$ . Partial eta-squared ( $\eta^2_p$ ) values indicate the proportion of unexplained variance explained by the number of years parents lived outside Canada.

Repeating the preceding regression analyses with ethnicity and number of years parents lived outside Canada as simultaneous predictors eliminated the effects of ethnicity (see Supplemental Table 5, right side). Thus, the fact that many Asian-Canadian undergraduates have parents whose cultural backgrounds differ from the wider Canadian culture in which undergraduates are living and seeking partners may largely explain why assumed parent-child agreement—and, to a lesser extent, agreement and accuracy—tended to be lower for Asian-Canadians than European-Canadians.

## References

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