

Match Makers and Deal Breakers: Analyses of Assortative Mating in Newlywed Couples

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ABSTRACT We conducted a comprehensive analysis of assortative mating (i.e., the similarity between wives and husbands on a given characteristic) in a newlywed sample. These newlyweds showed (a) strong similarity in age, religiousness, and political orientation; (b) moderate similarity in education and verbal intelligence; (c) modest similarity in values; and (d) little similarity in matrix reasoning, self- and spouse-rated personality, emotional experience and expression, and attachment. Further analyses established that similarity was not simply due to background variables such as age and education and reflected initial assortment (i.e., similarity at the time of marriage) rather than convergence (i.e., increasing similarity with time). Finally, marital satisfaction primarily was a function of the rater's own traits and showed little relation to spousal similarity.

What qualities do people find desirable in a potential life partner? This seemingly simple question actually can be answered in a number

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of different ways. One prominent approach has been to focus on systematic sex differences in mate preferences. For instance, several studies have shown that men place a relatively greater weight on youth and physical attractiveness, whereas women are drawn to mates who show good potential for providing parental care and resources in raising their joint offspring (e.g., Buss, 1989; Gangestad, 2001; Gangestad & Simpson, 2000; Kenrick, Sadalla, Groth, & Trost, 1990).

An even more extensive literature has framed this question in terms of the similarity versus complementarity of the partner's characteristics (e.g., Klohnen & Mendelsohn, 1998). That is, is it true that "Birds of a feather flock together"? Or, alternatively, do "Opposites attract"? This is the basic issue of *assortative mating*, which can be defined as the nonrandom coupling of individuals based on their resemblance to each other on one or more characteristics (Buss, 1984). Similarity (or "positive assortment") is established through significant positive correlations between a husband's score and a wife's score on the same characteristic (e.g., between a husband's extraversion and his wife's extraversion); conversely, complementarity (or "negative assortment") is demonstrated when these scores are significantly negatively correlated.

Prior Evidence of Assortative Mating

To date, researchers have examined similarity versus complementarity on a vast array of variables, including age, race, education, height, weight, physical attractiveness, alcohol consumption, smoking, antisocial behavior, mood and anxiety disorders, intelligence and other cognitive abilities, religiousness, political attitudes, values, and a wide range of personality traits. Although the results are complex and correlations often differ widely across studies (Nicholson, 1992), the accumulating data overwhelmingly support the existence of positive assortment, with very little evidence of complementarity (e.g., Bouchard & Loehlin, 2001; Buss, 1984; Eysenck, 1990; Mathews & Reus, 2001; Vandenburg, 1972).

It is clear, however, that some variables consistently yield much stronger similarity correlations than others. Age is among the variables showing the strongest evidence of positive assortment (except when its range is restricted through the selection of a specific birth cohort). For instance, Feng and Baker (1994) reported a similarity correlation of .96 for age in a sample of 404 married couples; Buss

(1984) obtained a corresponding value of .86 in 93 couples. Furthermore, husbands and wives generally are found to be quite similar on measures of political and religious attitudes. In recent studies (e.g., D'Onofrio, Eaves, Murrelle, Maes & Spilka, 1999; Feng & Baker, 1994; McCrae, 1996; Nagoshi, Johnson, & Honbo, 1992), correlations on measures of political conservatism, radicalism, religiosity, and church attendance have ranged from .42 to .74. These results are quite consistent with an earlier review of the literature by Vandenberg (1972), who found that correlations for opinions and attitudes typically range from .38 to .70.

In contrast, assortative mating correlations for social and personal values tend to be somewhat lower, with correlations generally ranging between .20 and .50 (Caspi & Herbener, 1993; Vandenberg, 1972). Similarly, husbands and wives show moderate similarity in their level of education, and on measures of general intelligence and other cognitive abilities. For example, analyses of education level have yielded similarity correlations of .52 (Feng & Baker, 1994) and .43 (Phillips, Fulker, Carey, & Nagoshi, 1988). In a meta-analysis of the early literature, Bouchard and McGue (1981) reported a weighted mean correlation of .33 for standardized intelligence across 16 studies. Subsequent analyses also have tended to find evidence of positive assortment on cognitive ability measures, although the individual correlations have ranged widely from slightly negative to approximately .50 (e.g., Buss, 1984; Nagoshi et al., 1992; Phillips, et al., 1988; Tambs, Sundet, & Berg, 1993). In addition, some types of abilities may show stronger assortment than others. For example, in a sample of 215 newlywed couples, Watkins and Meredith (1981) obtained a similarity correlation of .40 on a measure of verbal ability; in contrast, measures of other abilities (spatial, perceptual speed, visual memory) produced coefficients ranging from only .02 to .18. Similarly, Mascie-Taylor (1989) reported a weighted mean correlation of .39 for verbal ability across two British samples; the corresponding coefficient for performance ability was only .23. Taken together, these results suggest that positive assortment may be particularly strong for verbal ability.

Finally, analyses of a wide range of personality traits have yielded correlations that tend to be positive but generally are quite low, leading Eysenck (1990) to conclude that "mating is essentially random for personality differences" (p. 252) (see Buss, 1984; Caspi & Herbener, 1993; D'Onofrio et al., 1999; Feng & Baker, 1994; Gutt-

man & Zohar, 1987; Krueger, Moffitt, Caspi, Bleske, & Silva, 1998; Lykken & Tellegen, 1993; Mascie-Taylor, 1989; McCrae, 1996; Nagoshi et al., 1992; Phillips et al., 1988). For instance, Watson, Hubbard, and Wiese (2000) examined similarity on the Big Five personality traits (John & Srivastava, 1999; McCrae & Costa, 1999) and positive/negative affectivity (Watson, Wiese, Vaidya, & Tellegen, 1999) in both dating and married couples. They obtained similarity correlations on the Big Five traits ranging from .07 to .36 (mean $r = .17$) in the dating couples, and from .06 to .23 (mean $r = .14$) in the married couples; measures of general negative and positive affectivity yielded similarity correlations ranging from only $-.06$ to .23 (mean $r = .10$) across the two samples. Studies examining assortative mating on dimensions of adult attachment still are limited in number and scope. In general, however, the results appear to be similar to those obtained for other aspects of personality, showing low—but mostly positive—similarity correlations (e.g., Rhoades, Simpson, Campbell, & Grich, 2001; Ruvolo & Fabian, 1999).

Limitations of the Available Evidence and Goals of the Current Research

Limited scope of prior studies. The accumulating data therefore indicate (a) strong similarity for age and for political and religious attitudes; (b) moderate similarity for education, cognitive abilities and intelligence (particularly verbal IQ), and values; and (c) little similarity for most personality traits. However, this impressive body of evidence is limited in several ways. First, most studies have focused rather narrowly on one or two types of variables. Several studies have analyzed both personality and ability variables (e.g., Mascie-Taylor, 1989; Phillips et al., 1988), and a few studies have examined both traits and political/religious attitudes (D'Onofrio et al., 1999; Feng & Baker, 1994; Nagoshi & Johnson, 1994). Few studies, however, have examined similarity across multiple domains (e.g., attitudes, ability, values, personality). Moreover, studies that have examined assortment across multiple domains tend to be based on relatively small sample sizes (e.g., Nagoshi et al., 1992).

Because no previous investigation has provided a suitable examination of the full range of individual differences variables within a single analysis, the relevant evidence must be pieced together from different studies. This, in turn, makes it difficult to compare assort-

ative mating correlations across these different domains (see Nicholson, 1992). That is, any observed differences in the level of positive assortment may reflect differences in sampling or other design-related features, rather than true differences in partner similarity. Accordingly, a primary goal of the current study was to examine the level of assortative mating that exists across a very broad range of variables within the same large sample. Thus, we collected data from more than 260 newlywed couples regarding their age, education level, religious and political attitudes, values, general intelligence, and a wide range of personality characteristics, including the Big Five traits, positive and negative affectivity, attachment, and positive and negative emotional expression.

Initial assortment versus convergence. A second limitation of previous research is that almost all of the relevant evidence has been collected from couples who already have been married for a substantial length of time. This raises the issue of whether significant similarity coefficients are due to *initial assortment* (i.e., whether the spouses already were similar at the time of their marriage) or *convergence* (i.e., whether the spouses became more similar over time) (see Price & Vandenberg, 1980). Consequently, it is preferable to study couples as close to their engagement or marriage as possible. To date, however, only a few studies have reported assortative mating correlations in engaged or newlywed couples (e.g., Botwin, Buss, & Shackelford, 1997; Boye-Beaman, Leonard, & Senchak, 1991; Caspi & Herbener, 1993; Watkins & Meredith, 1981).

Our investigation explicitly focused on a large sample of newlyweds (married for an average of only 5 months), thereby allowing us to study couples who have reached this same level of commitment (i.e., the decision to get married) at a similar point in time. However, even newlyweds will vary substantially in the length of their premarital relationship. Given our large sample and significant variation in the length of the couples' premarital relationships, we are able to conduct a series of analyses to test explicitly for the occurrence of convergence over time. Most importantly, because of the broad range of individual difference variables in our study, we can examine whether relationship length differentially affects different types of characteristics. For example, it is possible that some characteristics (e.g., attitudes and values) are more malleable and show greater convergence than others (e.g., personality traits). To date, however,

most studies that have examined this issue have found that initial assortment—rather than convergence—primarily is responsible for observed evidence of similarity (e.g., Buss, 1984; Caspi & Herbener, 1993; Feng & Baker, 1994; Glicksohn & Golan, 2001; Guttman & Zohar, 1987; Mascie-Taylor, 1989; Price & Vandenberg, 1980).

Active assortment versus social homogamy. A related issue is whether similarity correlations reflect *active assortment* or *social homogamy*. Active assortment represents direct effects due to differential mating preferences; that is, active assortment is established when it can be shown that people prefer to marry those who resemble them on a particular characteristic. In contrast, social homogamy refers to passive, indirect influences on spousal similarity. It reflects various effects due to social background, socioeconomic status, and the social environment (see Botwin et al., 1997; Eaves, Fulker, & Heath, 1989; Nagoshi & Johnson, 1994; Reynolds, Baker, & Pedersen, 2000; Tambs et al., 1993). One particularly important source of indirect effects is propinquity, that is, the simple fact that people may be much more likely to meet—and spend time with—those who resemble them on certain characteristics. Propinquity effects embody the familiar observation that “Mating requires meeting”; or as Botwin et al. (1997) put it, “Regardless of conceptions of romantic love, the ‘one and only’ typically lives within driving distance” (p. 108).

Our study was not designed to separate out these two different types of effects. However, following the practice recommended by previous investigators, we can compute partial correlations, controlling for two key background variables—age and education level—that are potentially important sources of social homogamy effects (for a discussion, see Feng & Baker, 1994). If controlling for these variables substantially reduces the magnitude of the spousal correlations, this would strongly suggest that similarity primarily is due to indirect effects such as propinquity, rather than to differential mating preferences.

Exclusive reliance on self-report. Previous studies of assortative mating have relied almost exclusively on self-report data. In contrast, we collected both self- and spouse-ratings on our Big Five, trait affectivity, adult attachment, and emotional expression measures. We conducted a series of analyses to exploit this multimethod aspect of our data. Most notably, because of our large sample size, we were able to conduct confirmatory factor analyses in which the wives’ and

husbands' characteristics are treated as latent constructs, each of which is defined by two observed indicators (i.e., by a self-rating and a spouse-rating); we then computed the similarity correlations between these latent factors. Because these analyses eliminate the distorting effects of method variance and measurement error, they provide more accurate estimates of the true level of similarity on these variables (see Byrne, 1994; Kline, 1998). No analyses of this type previously have been reported in this literature.

Similarity and satisfaction. Finally, another basic goal of our study was to examine whether similarity is associated with greater relationship satisfaction. This topic has aroused considerable interest and has generated a sizable literature. However, the available evidence is inconsistent and difficult to interpret: Whereas some studies have found that dyadic similarity is associated with greater satisfaction (e.g., Blum & Mehrabian, 1999; Deal, Wampler, & Halverson, 1992; Richard, Wakefield, & Lewak, 1990; Russell & Wells, 1991), other investigators have reported weak or nonsignificant results (e.g., Murray, Holmes, Bellavia, Griffin, & Dolderman, 2002; Robins, Caspi, & Moffitt, 2000). The interpretative difficulties are compounded by two problems. First, researchers have examined similarity on a wide range of variables, including attitudes, emotionality, and a broad array of personality traits. No study, however, has provided a direct comparison of similarity effects across different domains. It may be that satisfaction is related to similarity on some variables, but not on others; unfortunately, this possibility never has been systematically addressed in this literature. Thus, our study makes a unique contribution to this literature in light of the scope and diversity of the assessed variables.

Second, investigators have used a number of different approaches to assess similarity, including both absolute difference scores (i.e., the absolute value of the difference between the wife's and husband's score on a given variable) and hierarchical multiple regression; these approaches can yield very different results (Edwards, 1993, 1994; Murray et al., 2002). Although absolute difference scores are intuitively appealing, they are difficult to interpret and potentially can yield misleading results (for discussions, see Edwards, 1993, 1994; Murray et al., 2002). In addition to modeling configural effects that truly are attributable to similarity, these scores also capture variance from the simple main effects associated with each partner's score on

the dimension. In our data, for instance, the absolute difference score for self-rated Neuroticism correlated .49 with the wives' Neuroticism and $-.44$ with the husbands' Neuroticism. Thus, difference scores confound linear and configural effects and fail to provide a clear, unambiguous assessment of similarity/dissimilarity. We therefore used hierarchical multiple regression analyses—which control for these linear main effects—to examine this issue in our data.

The Current Study

The current study extends the assortative mating literature in several ways. It reports the first analysis of assortative mating on a comprehensive set of individual difference variables in a large sample of newlywed couples. The participants were assessed on measures of the Big Five personality traits, general negative and positive affectivity, disinhibition, ego resiliency, intelligence, political and religious attitudes, and values. In addition, the couples were assessed on various relationship indicators (including both marital and sexual satisfaction), as well as demographic variables such as age and education. This unusually broad and comprehensive battery permits clearer comparisons of assortment across multiple domains. Because of the comprehensiveness of our assessment battery, we also are in a unique position to address such issues as (a) convergence versus initial assortment and (b) the effects of spousal similarity on marital satisfaction. Finally, as noted previously, the multimethod aspect of our design enabled us to conduct latent trait analyses of assortative mating in personality.

On the basis of the research reviewed earlier, we predicted strong positive assortment for age and political/religious attitudes; more moderate assortment for education, intelligence, and values; and little assortment for the personality, emotionality, and attachment variables. Furthermore, in light of the prior evidence, we expected to find little evidence of convergence over time. Finally, because of the inconsistent results that have been reported in this literature, we made no specific predictions regarding the effects of similarity on satisfaction.

METHOD

Participants and Procedure

The sample consisted of 291 married couples who participated in the Iowa Marital Assessment Project (IMAP). IMAP staff members identified re-

cently married couples from the records of Johnson County and Linn County in eastern Iowa. Couples who met the inclusion criteria for the study (which required that they had been married less than a year at the time of initial contact, and that both members of the couple were aged 50 or younger) then were sent a letter inviting them to participate. At the time of assessment, the couples had been married an average of 153.9 days (range = 25 to 452 days), that is, approximately five months. They indicated that they had known each other an average of 4.69 years (range = less than a year to 30 years) and had begun dating approximately 3.5 years earlier ($M = 3.54$ years; range = less than a year to 15 years).

All participants were assessed in small-group sessions involving from one to three couples. The sessions typically lasted from two to two-and-a-half hours, and included a battery of self-report measures, spouse-ratings, and intelligence testing. The couples were compensated \$120 for their participation. To ensure honest and independent responding, each participant sat quietly at a separate desk when completing the self- and spouse-ratings.

Because some respondents were not sufficiently fluent in English to complete the Vocabulary subtest validly, intelligence scores could not be computed for all of the IMAP participants. Complete intelligence data are available for 263 couples (90.4% of the total sample); these 263 couples will be used in subsequent analyses involving intelligence. In addition, one or both members of 19 couples was missing data on other analyzed measures; consequently, other analyses are based on N s of 272 (adult attachment, emotional expression, values) and 276 (personality, affectivity, attitudes).

Measures

Demographic questionnaire. The participants completed an extensive demographic questionnaire, which yielded information regarding the length of their acquaintanceship and the duration of their marriage. In addition, they reported their birth date, which was used to compute their age. Finally, the respondents indicated their highest attained education level on a 6-point scale (1 = grade school, 2 = high school, 3 = some college, 4 = college degree, 5 = master's degree [or equivalent], 6 = doctoral degree [or equivalent]).

Personality/affectivity. The respondents rated both themselves and their spouses on the Big Five Inventory (BFI; Benet-Martinez & John, 1998; John & Srivastava, 1999). The BFI contains 8-item scales assessing Neuroticism and Extraversion, a 10-item Openness scale, and 9-item measures of Agreeableness and Conscientiousness. In the self-rating version, participants were asked to indicate "the extent to which you agree or

disagree” with each item on a 5-point scale ranging from *disagree strongly* to *strongly agree*. The format for the spouse ratings was identical, except that the respondents were asked to “consider the feelings, behaviors, and preferences of your spouse” when responding to the items. In the current sample, the BFI scales had coefficient alphas ranging from .78 (Agreeableness) to .88 (Neuroticism) in the self-ratings, and from .83 (Conscientiousness) to .88 (Neuroticism) in the spouse-ratings.

Next, the participants rated themselves and their spouses on the trait form of the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS includes 10-item scales assessing the general dimensions of Negative Affect (e.g., *nervous, upset, irritable, ashamed, scared*) and Positive Affect (e.g., *enthusiastic, active, interested, proud, determined*). Self-raters were asked to indicate on a 5-point scale (ranging from *very slightly or not at all* to *extremely*) “to what extent you generally feel this way, that is, how you feel on average.” The format and instructions for the spouse-ratings were identical, except that respondents were told to rate “to what extent your spouse generally feels or acts this way, that is, how your spouse feels or acts on the average.” The Negative Affect scale had coefficient alphas of .89 and .88 in the self- and spouse-ratings, respectively; parallel values for the Positive Affect scale were .85 and .87, respectively.

In addition, the participants were assessed on the 16-item Disinhibition scale from the Brief Temperament Survey (BTS; Clark, 1995). The items are answered using a true/false format. The Disinhibition scale assesses general individual differences in under- versus overcontrolled behavior; high scorers indicate that they are reckless, impulsive, irresponsible, and undisciplined. Previous research has established that Disinhibition scores are negatively correlated with Conscientiousness and, to a lesser extent, Agreeableness in the five-factor model (Clark & Watson, 1999). The BTS Disinhibition scale had an internal consistency reliability of .74 in this sample.

Finally, the participants rated themselves on a 16-item Ego Resiliency scale (Klohnen, 1996). This measure taps a dimension that has been shown to have important links to psychological well-being and positive life outcomes (Klohnen, 1996; Klohnen, Vandewater, & Young, 1996). Participants used a 4-point scale to indicate their level of agreement with each statement (1 = *don't agree at all*, 4 = *agree a lot*). The scale had an alpha reliability of .86 in this sample.

Emotional expression. The respondents used a 5-point scale (1 = *not at all*, 5 = *very strongly*) to indicate the extent to which they and their spouses typically express 15 discrete emotions (Gross & John, 1998). We created a 6-item Positive Emotions scale (e.g., love, excitement, amusement; alphas = .84 and .87 in the self- and spouse-ratings, respectively)

and a 9-item Negative Emotions scale (e.g., anger, fear, sadness; alphas = .83 and .86, respectively).

Adult attachment. The participants completed 16-item self- and spouse-versions of Brennan, Clark, and Shaver's (1998) attachment measure, which yields scores on the dimensions of Anxiety and Avoidance. They used a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*) to indicate how they—and their spouses—typically feel and behave in their romantic relationships. The Avoidance scale had coefficient alphas of .81 and .85 in the self- and spouse-ratings, respectively; parallel values for the Anxiety scale were .75 and .79, respectively.

Religious and political attitudes. Five items assessed the importance of religion in the participants' lives. Three items measured the frequency of various religious activities (e.g., "attend a religious or spiritual service," "pray or meditate") on a 6-point scale ranging from *never* to *once or more a day*. The two remaining items assessed the perceived importance of religion (e.g., "How important or meaningful is religion and/or spirituality to you, personally?") on 5-point Likert scales. Responses to all five items were very highly intercorrelated (mean $r = .64$). Accordingly, the items were summed into an overall Religiousness score with a coefficient alpha of .89.

To assess their political attitudes, the respondents were asked to indicate whether they agreed or disagreed with 13 statements reflecting a wide range of contemporary sociopolitical issues. A principal factor analysis of their responses revealed the presence of a very large general factor, which accounted for 88.9% of the common variance. Consequently, the eight items that loaded .40 or greater on this factor were combined into an overall measure of Political Conservatism, with a coefficient alpha of .75 (as its title indicates, high scores on this scale reflect the endorsement of conservative, traditional political beliefs). The eight retained items assess attitudes on such issues as the legalization of abortion, public school prayer, the censorship of pornography, and the legalization of same-sex marriages (paraphrased versions of all eight items are reported in Table 3).

Values. This 17-item measure was adapted from value inventories created by Rokeach and Ball-Rokeach (1989) and Schwartz and Bilsky (1990). Participants were asked to indicate "How important is each of these values to you as a guiding principle in your life?" (1 = *not at all*, 5 = *very*). Principal factor analyses of these items failed to yield a clearly interpretable structure; accordingly, they will be analyzed separately (see Tables 2 and 4).

Intelligence. The Wechsler Abbreviated Scale of Intelligence (WASI; Psychological Corporation, 1999) is designed for use with a broad age

range (from 6 to 89 years of age), is nationally standardized, and, similar to other Wechsler instruments, yields three index scores: Verbal, Performance, and Full Scale IQ. We assessed our participants on the short version of the WASI, which uses the Vocabulary and Matrix Reasoning subtests to derive a Full Scale IQ score and takes approximately 20 minutes to administer.

The Vocabulary subtest is a 42-item task similar to those in the Wechsler Intelligence Scale for Children (WISC-III; Wechsler, 1991) and the Wechsler Adult Intelligence Scale (WAIS-III; Wechsler, 1997). Items 1–4 require the examinee to name pictures. The remaining items (5–42) are words that the examinee defines orally. The items increase in difficulty as the task progresses. This subtest was administered by one of eight different examiners; these included seven undergraduate research assistants, as well as one of the authors (A.C.), who has considerable experience in the administration and scoring of cognitive skills tests. Each research assistant received approximately 12 hours of training and practice in standardized testing procedures before he or she engaged in the testing of IMAP participants. Additionally, research assistants received regular supervision of their testing skills. Finally, as a reliability check, each participant's responses and scores were reviewed by two examiners. Whenever discrepancies arose, these were reviewed and resolved by one of the authors (A.C.).

The Matrix Reasoning subtest consists of a series of 35 incomplete target patterns that the examinee completes by selecting the correct response from five possible choices featured under the target pattern. Again, the items increase in difficulty as the task progresses. Although Matrix Reasoning typically is conducted face to face, in order to increase administration efficiency during IMAP sessions, the instructions of the subtest were modified slightly to allow for self-administration. The modification included the use of a timer, which signaled to the examinee to stop working on the task.

Relationship variables. Finally, the assessment battery included three measures of marital quality. First, the participants were assessed on a single global rating derived from the Locke-Wallace Marital Adjustment Test (MAT; Locke & Wallace, 1959). Participants chose “the number which best describes the degree of happiness, everything considered, that you feel in your present marriage”; these ratings were made on a 7-point scale ranging from *very unhappy* to *perfectly happy*.

Second, sexual satisfaction was assessed using 10 items from the Pinney Sexual Satisfaction Inventory (PSSI; Pinney, Gerrard, & Denney, 1987). The respondents indicated their level of agreement with each item (e.g., “Generally, I am satisfied with my sex life”, “I wish my partner were

more affectionate during foreplay”) on a 5-point scale ranging from *strongly disagree* to *strongly agree*. On the basis of a factor analysis, Pinney et al. (1987) created two PSSI subscales: General Sexual Satisfaction and Satisfaction with Partner. However, our own principal factor analysis of this reduced set of 10 PSSI items indicated the presence of a very large general factor that accounted for 86.1% of the common variance. Accordingly, we summed all 10 items into a single measure of Sexual Satisfaction with a coefficient alpha of .86.

Finally, the participants completed the 3-item Conflict subscale from the Relationship Assessment Questionnaire (RAQ; Simms & Watson, 2003), which measured the frequency of interpersonal conflict in the relationship (e.g., “How often do you and your spouse quarrel?”); these items were rated on a 5-point scale ranging from *never* to *once or more a day*. We reverse-scored this scale, so that a high score indicates low conflict; it had a coefficient alpha of .81 in this sample.

Scores on these three measures were moderately correlated in both the wives’ (r s ranged from .36 to .45) and the husbands’ (r s ranged from .31 to .41) ratings. We therefore standardized them and then combined them into a single, aggregate index of Relationship Satisfaction that was used in subsequent analyses.

RESULTS

Sex Differences

Before turning to our primary analyses of assortative mating, we briefly examine differences between the men and women in our newlywed sample. Table 1 presents descriptive statistics for the wives and husbands on a wide range of self-report measures and demographic variables. The wives in our sample described themselves as significantly more neurotic, agreeable, conscientious, and religious than their husbands; they had a more anxious attachment style and also were more willing to express negative emotions. Conversely, the husbands were significantly older (husband $M = 28.8$ years; wife $M = 27.1$ years) and more disinhibited than their spouses; they also described themselves as having a more avoidant attachment style. This modest evidence of sex differences is broadly consistent with previous research, which indicates that women tend to be somewhat more distressed, controlled, emotionally expressive, and interpersonally sensitive than men (e.g., Costa & McCrae, 1992; Watson & Clark, 1993).

Table 2 reports descriptive statistics for the 17 items in our values inventory. Here, we clearly see evidence of significant sex differences.

Table 1
 Descriptive Statistics for the Wives and Husbands on the Self-Report Measures and Demographic Variables

Measure	Wife		Husband	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>BFI</i>				
Neuroticism	24.7	6.9	19.6	6.2**
Extraversion	28.4	6.6	28.0	6.1
Openness	38.6	6.3	38.9	5.8
Agreeableness	36.2	5.0	34.6	5.4**
Conscientiousness	35.2	5.7	33.2	5.8**
<i>PANAS</i>				
Negative Affect	18.6	6.6	18.5	6.3
Positive Affect	37.9	5.8	38.6	5.2
<i>Other personality</i>				
Disinhibition	3.2	2.6	4.6	3.0**
Ego Resiliency	51.4	8.0	51.7	7.1
<i>Adult attachment</i>				
Avoidance	1.8	0.9	2.0	0.8**
Anxiety	3.4	1.0	3.0	1.0**
<i>Emotional expression</i>				
Negative Emotions	2.7	0.7	2.5	0.6**
Positive Emotions	4.2	0.6	4.1	0.5
<i>Attitudes</i>				
Religiousness	17.0	5.9	15.5	6.2**
Political Conservatism	3.8	2.3	3.6	2.4
<i>Demographic variables</i>				
Age	27.1	6.2	28.8	6.2**
Education Level	3.6	0.9	3.5	1.0

Note. $N = 276$, except for Adult Attachment and Emotional Expression scales, where $N = 272$. BFI = Big Five Inventory. PANAS = Positive and Negative Affect Schedule.

**wife/husband means differ at $p < .01$, two-tailed.

In particular, the wives consistently placed greater importance on close personal relationships (i.e., love, family life, spending time together, relationships/friendships) than did the husbands; they also assigned greater value to self-respect, equality, independence, and

Table 2
Descriptive Statistics for Rated Values

Value	Wife		Husband	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Love	4.89	0.43	4.70	0.53**
Family life	4.77	0.60	4.48	0.83**
Spending time together	4.75	0.56	4.50	0.61**
Self-respect	4.72	0.55	4.58	0.57**
Relationships/friendships	4.67	0.58	4.46	0.69**
Equality	4.39	0.81	4.10	1.02**
Having leisure time	4.15	0.78	4.18	0.78
Independence	4.08	0.85	3.88	0.89**
A varied life/new experiences	4.08	0.82	4.10	0.81
Self-discipline	4.05	0.86	4.06	0.88
Ambition	3.99	0.93	3.90	0.95
Success	3.84	0.92	3.89	0.95
Respect for tradition	3.53	1.10	3.38	1.13
Religion	3.32	1.40	3.08	1.42**
Consistency and routine	3.10	0.96	2.95	1.02
Political awareness	3.03	0.97	3.21	1.11
Wealth	2.87	1.00	3.09	1.04**

Note. $N = 272$.

**wife/husband means differ at $p < .01$, two-tailed.

religion. Conversely, the husbands rated wealth as more important than did the wives.

Table 2 also indicates that some of these values were rated as very important by virtually everyone, which indicates a potential problem due to ceiling effects. This problem is particularly salient in the wives' data: On a 1–5 scale, women produced overall mean scores of 4.89 (love), 4.77 (family life), 4.75 (spending time together), 4.72 (self-respect), and 4.67 (relationships/friendships). Not surprisingly, these same items also show limited variability, with standard deviations ranging from only 0.43 to 0.58. This limited variability should be kept in mind when interpreting the assortative mating evidence: As with any other correlations, similarity coefficients will be lower when the range is restricted and variability is limited.

Table 3
 Similarity Correlations for Age, Attitudes, and the Cognitive Ability Measures

Measure	Simple correlation	Partial correlation
Age	.77**	—
<i>Attitude scales</i>		
Religiousness	.75**	.75**
Political Conservatism	.63**	.62**
<i>Political items</i>		
Favor a flag burning amendment	.33**	.30**
Believe abortion should be legal	.40**	.40**
Support prayer in public schools	.41**	.39**
Favor stricter drug laws	.46**	.45**
Believe English should be official language	.32**	.29**
Believe government should censor pornography	.15*	.16**
Approve the legalization of same-sex marriages	.48**	.46**
Believe the U.S. should spend more on defense	.29**	.27**
<i>Cognitive ability measures</i>		
Education Level	.45**	—
Vocabulary	.46**	.33**
Matrix Reasoning	.11	.05
Full-scale IQ	.42**	.29**

Note. $N = 276$, except for the Intelligence measures, where $N = 263$. Partial correlations control for similarity in age and education level; see text for details.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

Assortative Mating Analyses

Similarity in age. We turn now to our primary analyses of assortative mating. The basic similarity correlations (e.g., the correlation between a wife's Vocabulary and her husband's Vocabulary) are presented in Tables 3 (for the demographic, attitude, and intelligence measures), 4 (values), and 5 (for the personality, affectivity, attachment, and emotional expression scales). We consider first the results for age (see Table 3). Consistent with previous research (e.g., Buss, 1984; Feng & Baker, 1994), age showed the highest overall similarity

Table 4
Similarity Correlations for Rated Values

Value	Simple correlation	Partial correlation
Love	.07	.08
Family life	.19**	.19**
Spending time together	.14*	.14*
Self-respect	.06	.06
Relationships/friendships	-.03	-.03
Equality	.10	.10
Having leisure time	.03	.02
Independence	.04	.02
A varied life/new experiences	.21**	.23**
Self-discipline	.15*	.14*
Ambition	.21**	.20**
Success	.05	.06
Respect for tradition	.23**	.20**
Religion	.56**	.56**
Consistency and routine	.16*	.17**
Political awareness	.20**	.19**
Wealth	.21**	.20**
<i>Mean Correlation</i>	(.16)	(.15)

Note. $N = 272$. Partial correlations control for similarity in age and education level; see text for details.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

coefficient ($r = .77$) in our sample. Not surprisingly, people tend to marry those who are close to them in age.

Similarity in attitudes. As predicted, wives and husbands showed very strong positive assortment on both Religiousness ($r = .75$) and Political Conservatism ($r = .63$). Although previous investigators have reported very similar results (e.g., D'Onofrio et al., 1999; Feng & Baker, 1994), this is the first time that strong similarity in attitudes has been documented in a sample of newlywed couples. The current results strongly suggest that similarity/compatibility in basic attitudes and values plays a crucial role in the selection of a spouse.

Similarity in education and intelligence. Consistent with previous research, the couples generally showed moderate positive assortment on the ability-related variables. Specifically, we obtained similarity

Table 5
 Similarity Correlations for the Personality, Attachment, and
 Emotional Expression Scales

Measure	Self-ratings		Spouse-ratings	
	Simple	Partial	Simple	Partial
<i>BFI</i>				
Neuroticism	.02	.02	.07	.09
Extraversion	-.17**	-.16**	-.14*	-.15*
Openness	.04	.01	.13*	.12
Agreeableness	-.07	-.10	.02	.00
Conscientiousness	.02	.01	-.10	-.13*
<i>PANAS</i>				
Negative Affect	.18**	.17**	.11	.10
Positive Affect	.05	.06	.13*	.13*
<i>Other personality</i>				
Disinhibition	.12*	.10	—	—
Ego Resiliency	.19**	.17**	—	—
<i>Adult attachment</i>				
Avoidance	.26**	.23**	.18**	.16**
Anxiety	.02	.03	.01	.01
<i>Emotional expression</i>				
Negative Emotions	.06	.07	.03	.05
Positive Emotions	.05	.04	.18**	.17**

Note. $N = 276$ (BFI, PANAS, Other Personality), 272 (Adult Attachment, Emotional Expression). Partial correlations control for similarity in age and education level; see text for details. BFI = Big Five Inventory. PANAS = Positive and Negative Affect Schedule.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

correlations of .46 for Vocabulary, .45 for Education Level, and .42 for Full Scale IQ. Although these correlations are much weaker than those for age or attitudes, they nevertheless demonstrate a substantial level of similarity. The single exception was Matrix Reasoning, which yielded a very low similarity coefficient ($r = .11$). As was discussed earlier, this pattern is consistent with the results of earlier studies. Most notably, in another sample of newlyweds, Watkins and Meredith (1981) obtained a similarity correlation of .40 for verbal ability, but correlations ranging from only .02 to .18 for other cognitive abilities. It therefore appears that spouses (or at least newly-

weds) show stronger positive assortment for verbal fluency than for other types of ability.

Similarity in values. We predicted that the spouses would show moderate similarity in their rated values; these correlations are presented in Table 4. Replicating the results of Table 3, we again see strong positive assortment regarding the importance of religion ($r = .56$). Several other items also showed significant similarity, but at a much lower level; indeed, the next highest correlation was only .23 (respect for tradition). Overall, the 17 items produced a mean similarity correlation of only .16, indicating modest positive assortment for rated values. These coefficients are somewhat lower than expected and likely reflect, in part, the range-restriction problem discussed earlier.

Similarity in personality, attachment, and emotional expression. Finally, Table 5 reports the similarity correlations for our measures of personality, adult attachment, and emotional expression. As expected, these scales consistently produced very weak evidence of similarity. Only 10 of the 26 zero-order correlations were significant, and only one exceeded .20 (Avoidance in the self-ratings). Moreover, only one scale (Avoidance) showed significant positive assortment in both the self-ratings ($r = .23$) and the spouse-ratings ($r = .18$). The only other consistent effect was that Extraversion displayed significant *negative* assortment in both the self-ratings ($r = -.17$) and the spouse-ratings ($r = -.14$). Thus, these data reveal some modest evidence of complementary: Extraverts showed a slight tendency to marry introverts in this sample.

Confirmatory Factor Analyses of the Big Five

Analyses of agreement and assumed similarity. We conducted additional analyses to exploit the multimethod aspect of these data. As noted earlier, because we collected both self- and spouse-ratings on the BFI, PANAS, attachment, and emotional expression scales, we potentially have two measures of each underlying characteristic; for instance, we have two measures of both the wife's Neuroticism (i.e., her self-rating and her husband's rating of her) and the husband's Neuroticism (i.e., his self-rating and his wife's rating of him). Given our large sample size, this allowed us to conduct confirmatory factor

analyses in which the wives' and husbands' characteristics are treated as latent constructs, each of which is defined by two observed indicators; we then can compute the similarity correlations between these latent factors (e.g., between the factor defining the wife's Neuroticism and the factor defining the husband's Neuroticism).

Note, however, that these analyses only make conceptual sense—and the resulting factor models will only fit well—when these two indicators actually converge well and, in fact, define the same underlying construct. Put differently, these analyses only are feasible when the self- and spouse-ratings show good interjudge agreement (e.g., when self-rated Neuroticism correlates substantially with spouse-rated Neuroticism). In our data, the BFI scales showed much better interjudge agreement (mean agreement $r = .49$) than the affectivity (r mean $r = .29$), attachment (mean $r = .34$) and emotional expression (mean $r = .26$) scores.

A related problem is the issue of *assumed similarity*. Assumed similarity is the tendency for people to rate others as similar to themselves. It results in significant positive correlations between (a) a judge's self-rating on a trait and (b) his/her rating of another person on that same trait (e.g., between a husband's self-rated Neuroticism and his rating of his wife's Neuroticism). Earlier studies have established that assumed similarity represents a rating strategy—or heuristic—that judges use when trait-relevant information is lacking and agreement is poor (see Ready, Clark, Watson, & Westerhouse, 2000; Watson et al., 2000). In some instances, in fact, assumed similarity correlations may exceed agreement correlations, indicating that ratings actually convey more information about the judge than the target.

This was the case for many of our measures. Replicating previous results (Watson et al., 2000), the assumed similarity correlations were low for the BFI scales (mean $r = .13$). In contrast, the assumed similarity correlations for all of the other scales were much higher, and, in many cases, substantially exceeded the corresponding agreement correlations (mean assumed similarity r s = .52, .37, and .51 for the PANAS, attachment, and emotional expression scales, respectively). We therefore restricted our confirmatory factor analyses to the BFI scales.

Model specification and fit. We began by specifying 10 content factors, five to measure the wife's traits, and the other five to measure

the husband's traits; each content factor was defined by a self-rating and its corresponding spouse-rating (e.g., the wife's Neuroticism factor was marked by her self-rated Neuroticism and her husband's rating of her Neuroticism). In addition, following the recommended procedure in analyses of multitrait-multimethod data (see Byrne, 1994, Chapter 6; Kline, 1998, Chapter 7), we specified two method factors: One was defined by all the self-report scales, and the other was marked by all of the spouse-ratings. These method factors were allowed to correlate with each other but were constrained to be uncorrelated with all of the content factors. This analysis was conducted in EQS (Bentler & Wu, 1995), using covariance matrices and the maximum likelihood estimation method.

We considered several different fit indices in evaluating the adequacy of our measurement model: the Bentler-Bonett normed fit index (NFI), the comparative fit index (CFI), the goodness-of-fit index (GFI), the standardized root-mean-square residual (SRMR), and the root-mean-square error of approximation (RMSEA). Conventional guidelines suggest that a fit is adequate if (a) NFI, CFI, and GFI are .90 or greater and (b) SRMR and RMSEA are .10 or less (for discussions of fit indices, see Finch & West, 1997; Hu & Bentler, 1998, 1999). On the basis of these criteria, the fit of the measurement model generally was acceptable: $\chi^2(104) = 254.24$, NFI = .881, CFI = .923, GFI = .916, SRMR = .069, RMSEA = .073.

Factor correlations. Correlations among the content factors are presented in Table 6. Three of the traits—Neuroticism, Openness, and Agreeableness—showed evidence of modest positive assortment, with latent correlations ranging from .21 to .32. These correlations still are substantially lower than those seen with attitudes and abilities, however.

It is noteworthy, moreover, that these similarity correlations generally do not represent the highest values in their row and column of the hetero-spouse block. For instance, the wife's Neuroticism actually correlated more strongly with the husband's Agreeableness ($r = -.41$) and Conscientiousness ($r = -.35$) than with his Neuroticism ($r = .21$). Similarly, the husband's Agreeableness correlated more strongly with the wife's Neuroticism ($r = -.41$) and Conscientiousness ($r = .44$) than with her Agreeableness ($r = .23$). These results suggest that the assortment process for personality likely is diffuse, rather than trait-specific. For instance, these data may large-

Table 6
 Latent Trait Correlations from the Confirmatory Factor Analysis
 of the Big Five

Trait	Wife's traits					Husband's traits				
	N	E	O	A	C	N	E	O	A	
<i>Wife's traits</i>										
Neuroticism (N)	–									
Extraversion (E)	–.41	–								
Openness (O)	–.29	.25	–							
Agreeableness (A)	–.59	.17	.25	–						
Conscientiousness (C)	–.34	.16	–.04	.38	–					
<i>Husband's traits</i>										
Neuroticism (N)	.21	–.04	–.02	–.20	–.27	–				
Extraversion (E)	–.23	–.06	.06	.16	.25	–.25	–			
Openness (O)	–.16	–.06	.32	.30	.19	–.08	.37	–		
Agreeableness (A)	–.41	.21	.18	.23	.44	–.46	.17	.23	–	
Conscientiousness (C)	–.35	.10	.13	.38	–.02	–.24	.15	.10	.21	

Note. $N = 276$. Assortative mating correlations are highlighted. Correlations of $|\geq .13|$ and greater are significant at $p < .05$, two-tailed.

ly reflect the fact that psychologically healthy women—that is, those who are high in Agreeableness and Conscientiousness and low in Neuroticism—are more likely to marry well-adjusted men. Note that this process could reflect an active mating preference (i.e., well-adjusted people prefer well-adjusted spouses), market pressures (i.e., poorly adjusted people are less desirable as mates, and so are unable to attract healthy spouses), or other processes (e.g., social homogamy). These intriguing results require replication and clarification in future research.

One surprising aspect of these results is that the latent similarity correlation for Extraversion ($r = -.06$) actually was weaker than the uncorrected coefficients obtained in the simple correlational analyses. This finding is particularly puzzling considering that Extraversion showed significant negative assortment in both the self-ratings ($r = -.17$) and the spouse-ratings ($r = -.14$). To examine this issue further, we conducted a separate confirmatory factor analysis of Extraversion. In this case, we specified a simple two-factor model in which (a) the wife's trait level was marked by her self-rated Extra-

version and her husband's rating of her Extraversion, and (b) the husband's trait score was defined by his self-rated Extraversion and his wife's rating of his Extraversion. The fit of the measurement model was acceptable, except for a high RMSEA value: $\chi^2(1) = 18.848$, $NFI = .918$, $CFI = .920$, $GFI = .968$, $SRMR = .043$, $RMSEA = .255$. In this analysis, the latent similarity correlation for Extraversion was significant and comparable in magnitude ($r = -.17$) to those reported in Table 5. Putting all of these findings together, we tentatively conclude that Extraversion showed weak evidence of complementarity in our sample.

Social Homogamy versus Active Assortment

Consistent with previous research, we obtained evidence of positive assortment on both age and education level (see Table 3). To control for social homogamy effects, many researchers have advocated the use of partial correlations that control for differences on these demographic variables across couples (e.g., Feng & Baker, 1994). We therefore conducted additional analyses to control for these two key background variables in our data. Specifically, we computed partial similarity correlations, simultaneously controlling for the age and education level of each spouse. For each variable, we partialled out the individual influence of each spouse's score, as well as the similarity/interaction between them; that is, we controlled for (a) the wife's score, (b) the husband's score, and (c) the interaction between them (i.e., the centered product term). Thus, we controlled for a total of six background variables (three for age, three for education level) in these analyses. We also report these partial correlations in Tables 3, 4, and 5. As can be seen, these correlations generally are quite similar to the simple correlations; indeed, with the exception of those involving intelligence (see Table 3), these partial correlations never differ from the zero-order correlations by more than $|.03|$. Consequently, our significant assortative mating correlations are not primarily due to underlying demographic similarities in age and education.

As stated earlier, the intelligence scores showed the largest effects in these partial correlation analyses. These differences largely are attributable to controlling for education level, which was moderately correlated with the WASI scores in both wives (r s ranged from $.34$ to $.48$) and husbands (r s ranged from $.24$ to $.43$). Nevertheless, Vocabulary (partial $r = .33$) and Full Scale IQ (partial $r = .29$) both con-

tinued to show evidence of moderate positive assortment in these analyses, which establishes that these effects are not simply due to similarity in educational level. Furthermore, these partial correlations are causally ambiguous and can be interpreted in various ways: Specifically, although it is plausible to argue that similarity in measured intelligence might reflect, in part, a common educational background, it also is reasonable to suggest that similarity in educational attainment might arise from underlying similarities in cognitive ability. Overall, therefore, we see little evidence that social homogeneity effects played an important role in our data.

Convergence Versus Initial Assortment

Difference score analyses. Another crucial issue in this literature is whether significant similarity correlations are due to initial assortment (i.e., whether the spouses already were similar at the time they met) or convergence (i.e., whether the spouses became more similar over time). Although our couples had been married an average of only 5 months, they had known each other for an average of nearly 5 years ($M = 4.69$ years) and had been dating for roughly 3.5 years ($M = 3.54$ years). Thus, it is important to examine whether convergence plays a significant role in our findings.

We investigated the role of convergence in two series of analyses. In the first series, we created dyadic difference scores by computing the absolute value of the difference between the wife's and the husband's score on our attitude, ability, personality, attachment, and emotional expression scales. Note that these indexes measure *dissimilarity*—that is, higher values reflects larger discrepancies between the wife's and the husband's scores on each variable. Thus, significant convergence would be demonstrated if these scores are negatively correlated with the length of the relationship.

Table 7 reports correlations between these dyadic dissimilarity scores and two different measures of relationship length: (a) time since first meeting and (b) time since the start of dating. Overall, these results yield very little evidence of convergence. Only 5 of the 36 correlations are significant, and none is as high as $|.15|$. Moreover, although three of these significant coefficients indicate convergence, the other two (Positive Emotions vs. time since first meeting; Openness vs. time since first dating) reflect significant *divergence* (i.e.,

Table 7
Analyses of Convergence: Correlations between Length of Acquaintanceship/Relationship and Dyadic Difference Scores

Absolute difference score	Time since:	
	First meeting	Started dating
<i>BFI (Self-ratings)</i>		
Neuroticism	-.07	-.08
Extraversion	.05	.03
Openness	.00	.14*
Agreeableness	-.10	-.04
Conscientiousness	.04	.03
<i>PANAS (Self-ratings)</i>		
Negative Affect	-.14*	-.08
Positive Affect	.01	.05
<i>Other personality</i>		
Disinhibition	-.07	-.02
Ego Resiliency	-.11	-.11
<i>Adult attachment (Self-ratings)</i>		
Avoidance	.03	.03
Anxiety	-.14*	-.13*
<i>Emotional expression</i>		
Negative Emotions	-.01	.01
Positive Emotions	.13*	.10
<i>Attitudes</i>		
Religiousness	-.06	-.07
Political Conservatism	-.04	-.02
<i>Cognitive Ability</i>		
Vocabulary	-.05	.04
Matrix Reasoning	-.10	-.06
Full-scale IQ	-.10	.02

Note. *N*s range from 262 to 274.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

longer relationships were associated with greater dissimilarity). Finally, it is noteworthy that only one variable (Anxiety) showed a consistent convergence effect across both measures of relationship length; this finding is difficult to interpret, however, given that Anxiety showed no evidence of positive assortment in either the self- ($r = .02$) or spouse-ratings ($r = .01$).

Moderated regression analyses. As discussed earlier, although absolute difference scores are intuitively appealing, they potentially can yield misleading results if studied in isolation (for discussions, see Edwards, 1993, 1994; Murray et al., 2002). In addition to modeling interactive effects that truly are attributable to similarity, these scores also capture variance from the simple main effects associated with each partner's individual score on the dimension.

We therefore conducted a second series of analyses using moderated multiple regression (see Edwards, 1993, 1994). We ran a total of 72 regression analyses, two for each of the 36 associations shown in Table 7: The wife's score served as the criterion in one regression, and the husband's score was the criterion in the other. In all analyses, the two main effects (i.e., the spouse's score on the dimension and the relevant time variable) were entered as a block in Step 1, followed by the interaction term in Step 2. Following the recommendation of Aiken and West (1991), all interaction terms were centered to reduce collinearity. As an example, consider the analyses involving (a) Neuroticism and (b) the time since first meeting. In the analysis predicting the wife's Neuroticism, the two main effects (i.e., the husband's Neuroticism and the time since first meeting) were entered as a block in Step 1, followed by the centered interaction term (i.e., the product of the two main effects) in Step 2. The second analysis was identical, except the husband's Neuroticism served as the criterion and the wife's Neuroticism was used as a predictor.

Of these 72 regression analyses, only two yielded significant interactions: Similarity in Openness was associated with the length of the dating relationship, using both the wives' scores (R^2 change = .024; $p < .01$) and the husbands' scores (R^2 change = .016; $p < .05$) as criteria. As in Table 7, moreover, both of these significant effects actually reflected divergence: Couples who had been dating longer were more dissimilar on Openness. Overall, therefore, these results indicate that (a) convergence did not play an important role in our results and that (b) our significant similarity correlations reflect initial assortment.

Analyses of Satisfaction

Analyses of the aggregated satisfaction index. Finally, we conducted hierarchical regression analyses to examine whether spousal similarity is associated with greater relationship satisfaction. We

conducted two series of analyses. The first set used the aggregate index of Relationship Satisfaction (i.e., the composite of marital satisfaction, sexual satisfaction, and conflict) as the criterion measure. We conducted two regressions for each variable, using each spouse's satisfaction as the criterion in a separate analysis. In each analysis, we entered the target's own self-rating (i.e., the person whose satisfaction was being predicted) in Step 1, followed by the spouse's self-rating in Step 2 and the absolute difference score in Step 3. For example, in the analysis using similarity in Religiousness to predict the wife's satisfaction, her Religiousness was entered in Step 1, her husband's Religiousness was entered in Step 2, and the absolute difference score (i.e., the absolute value of the difference between their ratings) was entered in Step 3. The results (showing the R^2 change at each step of the regression) for the attitude, ability, and demographic variables are presented in Table 8. These variables all were weak predictors of satisfaction, with final multiple R s ranging from only .05 to .26 across the various analyses. It is noteworthy that similarity had a significant effect in only one of the 14 analyses: Husbands reported greater satisfaction if their wives were *dissimilar* to them in age (R^2 change = .046). This effect did not replicate in the parallel analysis of the wives' satisfaction, however. On balance, these data indicate that similarity on these variables had little effect on satisfaction.

Parallel analyses for the self-rated personality, emotionality, and attachment scores are reported in Tables 9 (predicting the wife's satisfaction) and 10 (predicting the husband's satisfaction). It is noteworthy that these measures generally were substantial predictors of satisfaction. In fact, 6 variables (Neuroticism, Agreeableness, Ego Resiliency, Negative Affect, Avoidance, and Positive Emotions) produced final R s of .35 or greater in both analyses. Clearly, the bulk of this predictive power was contributed by the target's self-rating in Step 1, which yielded mean R^2 change values of .136 and .099 in Tables 9 and 10, respectively. Thus, an individual's satisfaction primarily is a function of his/her self-rated characteristics. In addition, six variables (Neuroticism, Openness, Agreeableness, Ego Resiliency, Anxiety, and Positive Emotions) showed relatively small but consistent partner effects in Step 2. These results establish that the spouse's characteristics also play a role in satisfaction.

Finally, replicating the results of Table 8, these data again indicate that similarity has little systematic effect on satisfaction. In this regard, it is noteworthy that only 5 of the 26 similarity effects were

Table 8
 Predicting Relationship Satisfaction: Moderated Multiple Regression
 Analyses of the Demographic, Ability, and Attitude Measures

Scale	R^2 Change			Final R
	Target's rating	Spouse's rating	Absolute difference	
<i>Criterion: Wife's satisfaction</i>				
Age	.009	.004	.008	.14
Education Level	.009	.000	.008	.13
Vocabulary	.010	.003	.007	.14
Matrix Reasoning	.002	.024*	.000	.16
Full-scale IQ	.002	.017*	.007	.16
Religiousness	.007	.006	.004	.13
Political Conservatism	.002	.001	.006	.09
<i>Mean</i>	(.006)	(.008)	(.006)	(.14)
<i>Criterion: Husband's satisfaction</i>				
Age	.056**	.002	.008	.26
Education Level	.000	.006	.046**	.08
Vocabulary	.003	.015*	.000	.13
Matrix Reasoning	.002	.000	.001	.05
Full-scale IQ	.004	.008	.009	.15
Religiousness	.014*	.000	.002	.13
Political Conservatism	.004	.002	.000	.08
<i>Mean</i>	(.012)	(.005)	(.009)	(.13)

Note. $N = 276$, except for the intelligence measures, where $N = 263$.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

significant. Moreover, the direction of these effects was inconsistent: Satisfaction was associated with greater *similarity* in three analyses (Openness and Conscientiousness in the prediction of the husband's satisfaction; Positive Emotions in the prediction of the wife's satisfaction), whereas it was linked to greater *dissimilarity* in the other two (i.e., Negative Emotions in both spouses). Finally, only one analysis (involving Negative Emotions) replicated across both spouses; as noted before, it actually indicated that satisfied spouses tended to be more dissimilar on this variable.

Analyses of the individual satisfaction measures. As discussed earlier, our three satisfaction measures were only moderately interre-

Table 9
 Predicting the Wife's Satisfaction: Moderated Multiple Regression
 Analyses of Personality, Affectivity, and Attachment

Scale	R^2 Change			Final R
	Wife's self-rating	Husband's self-rating	Absolute difference	
<i>BFI</i>				
Neuroticism	.192**	.021**	.002	.46
Extraversion	.019*	.007	.001	.16
Openness	.078**	.016*	.005	.31
Agreeableness	.100**	.057**	.000	.40
Conscientiousness	.042**	.000	.003	.21
<i>Other personality</i>				
Disinhibition	.044**	.005	.001	.23
Ego Resiliency	.248**	.012*	.001	.51
<i>PANAS</i>				
Negative Affect	.195**	.023**	.009	.48
Positive Affect	.136**	.000	.002	.37
<i>Adult attachment</i>				
Avoidance	.272**	.050**	.000	.57
Anxiety	.214**	.014*	.000	.48
<i>Emotional Expression</i>				
Positive Emotions	.156**	.020*	.016*	.44
Negative Emotions	.069**	.009	.021*	.31
<i>Mean</i>	(.136)	(.018)	(.005)	(.38)

Note. $N = 276$ (BFI, Other Personality, PANAS), 272 (Adult Attachment, Emotional Expression). BFI = Big Five Inventory. PANAS = Positive and Negative Affect Schedule.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

lated, with correlations in the .30 to .45 range. It therefore is possible that these aggregate-based analyses mask important differences that would be observed at the individual scale level. Accordingly, we conducted a second series of hierarchical regression analyses. These analyses were identical to those reported in Tables 8 through 10, except that the three individual satisfaction measures (i.e., marital satisfaction, sexual satisfaction, and conflict) served as the criteria. Thus, we ran a total of 120 regression analyses (six for each of our 20 predictor variables) in this series.

Table 10
 Predicting the Husband's Satisfaction: Moderated Multiple
 Regression Analyses of Personality, Affectivity, and Attachment

Scale	R^2 Change			Final R
	Husband's self-rating	Wife's self-rating	Absolute difference	
<i>BFI</i>				
Neuroticism	.103**	.045**	.000	.39
Extraversion	.009	.004	.010	.15
Openness	.033**	.025**	.019*	.28
Agreeableness	.166**	.041**	.002	.46
Conscientiousness	.047**	.004	.016*	.26
<i>Other personality</i>				
Disinhibition	.062**	.000	.001	.25
Ego Resiliency	.176**	.035**	.001	.46
<i>PANAS</i>				
Negative Affect	.129**	.011	.002	.38
Positive Affect	.052**	.035**	.002	.30
<i>Adult attachment</i>				
Avoidance	.250**	.009	.000	.51
Anxiety	.087**	.019*	.002	.33
<i>Emotional expression</i>				
Positive Emotions	.130**	.032**	.000	.40
Negative Emotions	.042**	.015*	.014*	.38
<i>Mean</i>	(.099)	(.021)	(.005)	(.35)

Note. $N = 276$ (BFI, Other Personality, PANAS), 272 (Adult Attachment, Emotional Expression). BFI = Big Five Inventory. PANAS = Positive and Negative Affect Schedule.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

These analyses yielded the same basic conclusion as those described previously: As before, similarity was not systematically related to satisfaction. Only 13 of the 120 individual similarity effects (10.8%) were statistically significant, and the direction of these effects again was inconsistent: Satisfaction was associated with greater similarity in 7 analyses, but with greater dissimilarity in the remaining 6. Finally, no effect replicated across both spouses. Overall, therefore, our data offer little support for the idea that similar spouses are more satisfied.

DISCUSSION

Summary of Results

This study provides the first comprehensive analysis of assortative mating in a large sample of newlywed couples. In general, our results corroborate those obtained with longer-married couples. Specifically, these newlyweds displayed (a) very strong similarity in age, religiousness, and political orientation (similarity r s ranged from .63 to .77); (b) moderate similarity in education, vocabulary, and general intelligence (r s ranged from .42 to .46) (c) more modest similarity in rated values (mean $r = .16$) and (d) little similarity on matrix reasoning ($r = .11$) and on self- and spouse-rated personality, emotionality, and attachment (r s ranged from $-.17$ to .26). Overall, these assortative mating coefficients showed remarkable variability, ranging from .77 (for age) to $-.17$ (for self-rated extraversion).

Explaining Differences in Spousal Similarity Across Domains

Analyses of convergence. How can we explain this tremendous range in similarity across these various domains? One possibility is that it reflects convergence, that is, an increasing similarity with time. Our results contribute to this literature, however, by establishing that convergence is unlikely to play a primary role in explaining this pattern of widely varying levels of spousal similarity across domains (see also Caspi & Herbener, 1993; Feng & Baker, 1994; Watkins & Meredith, 1981). In fact, our moderated multiple regression analyses revealed only one significant association between the level of similarity and the length of the couples' relationship (between Openness and the length of the dating relationship). Moreover, this association actually reflected divergence: Couples who had been dating longer were more dissimilar on Openness.

The role of social homogamy. It is clear, therefore, that any general account of these findings must focus on initial assortment rather than convergence. In attempting to explain this pattern of initial assortment, however, we must further distinguish between two very different types of effects: active assortment and social homogamy. As discussed earlier, active assortment represents direct effects due to differential mating preferences; that is, active assortment is established when it can be shown that people prefer to marry those who resemble them on a particular characteristic. In contrast, social ho-

mogamy refers to passive, indirect influences on spousal similarity. It reflects various effects due to social background, socioeconomic status, and the social environment .

We controlled for age and education in our analyses, which establishes that our significant similarity correlations were not simply attributable to these background variables. However, we cannot rule out social homogamy effects more generally. In this regard, substantial social homogamy effects already have been established for a number of variables, including education, intelligence, and political beliefs (e.g., Nagoshi & Johnson, 1994; Nagoshi, Johnson, & Ahern, 1987; Reynolds et al., 2000; Tambs et al., 1993).

It seems likely, moreover, that indirect effects of this type are at least partly responsible for the enormous range of similarity correlations in our data. That is, although certain personality traits may show social homogamy effects (Nagoshi & Johnson, 1994), propinquity likely plays a much more important role in variables such as age and education, which differentially shape the early social environments of most individuals. For instance, because school systems typically sort individuals according to their chronological age, most people spend a disproportionate amount of their childhood and adolescence with those who closely resemble them in age. Moreover, as they get older, people are more likely to meet—and spend substantial time with—individuals at the same educational level; for example, undergraduate students tend to spend time with other undergraduates, whereas graduate students are more likely to interact with their graduate school colleagues. Furthermore, because education is substantially correlated with intelligence (Phillips et al., 1988; Reynolds et al., 2000), it is unsurprising that propinquity also has a significant impact on spousal similarity in intelligence.

The role of active assortment. Active assortment (i.e., actively preferring mates who are similar to oneself) also plays a significant role in partner selection. For example, Botwin et al. (1997) obtained evidence of significant active assortment on the Big Five in both currently dating couples and newlywed couples. The participants initially rated themselves and then described the level “that best corresponds to your *preference* in a potential spouse” (p. 113). Botwin et al. (1997) correlated these two sets of ratings and obtained significant, positive associations for all five traits. Specifically, they reported median active assortment correlations ranging from

.27 (married men) to .59 (dating women) across the Big Five. Thus, individuals are actively attracted to others with similar personalities.

Moreover, our own data indicate that active assortment also is likely to play an important role in producing different levels of similarity across domains. Watson and Haig (2003) asked a large undergraduate sample to rate both (a) their own characteristics and (b) those of their "ideal romantic partner"; they then correlated these two sets of scores. Replicating the results of Botwin et al. (1997), Watson and Haig obtained substantial active assortment correlations on the Big Five (median $r = .52$). They also found moderate active assortment on both negative affectivity ($r = .46$) and positive affectivity ($r = .49$). Consistent with the current results, however, Watson and Haig obtained much stronger evidence of active assortment in political/religious attitudes; indeed, the highest overall correlations were for political conservatism versus liberalism ($r = .79$) and religiousness ($r = .77$). Additional studies are needed to establish more clearly the level of active assortment across different domains. Nevertheless, these data already indicate that active assortment is stronger for political/religious attitudes than for personality/affectivity.

Active assortment across different domains. These data also raise two further issues that are important topics for future research. The first issue is why active assortment is stronger for attitudes than for personality. In comparing these domains, we believe it is useful to consider whether mate preferences for a given characteristic tend to be consensual (i.e., there is near universal agreement that some prospective mates are preferable to others) or idiosyncratic (i.e., different individuals prefer different types of mates). The strongest levels of active assortment obviously can occur only when mate preferences tend to be idiosyncratic, rather than consensual. For instance, if everyone prefers a friendly spouse over an unfriendly spouse—regardless of whether they themselves are friendly or unfriendly—this necessarily would attenuate active assortment correlations on friendliness.

On the basis of existing data (Buss & Barnes, 1986; Watson & Haig, 2003), it seems clear that mate preferences in religious/political attitudes are strongly idiosyncratic, such that similarity actually is the primary determinant of mate preferences. That is, there is no consensual agreement regarding whether conservative mates are preferable to liberal mates, or vice versa; rather, conservatives tend to prefer their fellow conservatives, whereas liberals are attracted to other liberals.

These idiosyncratic preferences produce strong active assortment and allow very strong levels of similarity to emerge on these variables.

In contrast, consensual mate preferences are found in the domains of intelligence and personality—particularly the latter. Specifically, there is widespread agreement—across multiple cultures and both men and women—that mates who are (a) smart, agreeable, conscientious and emotionally stable are preferable to those who are (b) stupid, hostile, unreliable and neurotic (Botwin et al., 1997; Buss, 1989; Buss & Barnes, 1986; Kenrick et al., 1990). For instance, Buss and Barnes (1986, Study 1) had participants rate the desirability of 76 different characteristics in evaluating a prospective spouse; among the 10 most valued qualities were “kind”, “understanding”, “dependable”, “loyal”, and “intelligent”. Similarly, Kenrick et al. (1990) asked students to indicate the levels of various characteristics that they would find minimally acceptable in a spouse; for both men and women, “kind and understanding” emerged as the most highly valued characteristic.

Thus, everyone agrees that a nice person makes a better spouse than an axe murderer. Buss and Barnes (1986, Study 2) report particularly striking evidence along these lines. They asked 100 undergraduates to rank order 13 traits from the most desirable to the least desirable characteristic in a potential mate. Men and women both agreed that the three most desirable characteristics were “kind and understanding,” “exciting personality,” and “intelligent,” respectively. Interestingly, “religious” was ranked as the *least* desirable characteristic by both men and women. Although this result initially may seem somewhat surprising, Buss and Barnes further note that rankings of religiousness also showed the greatest amount of variability in their data. These results are consistent with our earlier argument that attitudinal preferences are strongly idiosyncratic: Whereas individuals who are deeply religious prefer others with a strong religious orientation, religiousness is a much less desirable characteristic to atheists and agnostics.

In light of these data, it seems reasonable to conclude that the higher active assortment correlations for political/religious attitudes reflect—at least in part—the absence of strong consensual mate preferences in this domain. Put differently, the existence of consensual mate preferences attenuates the level of active assortment that can be expected on ability and personality variables.

Active assortment versus actual assortment in personality. The second issue is raised by the fact that although people apparently prefer

mates with similar personalities (Botwin et al., 1997; Watson & Haig, 2003), the actual similarity correlations for spousal personality consistently are found to be quite low (e.g., Table 5). How can these findings be reconciled? We suspect that the answer, in part, is that stronger preferences overwhelm weaker ones. In these active assortment studies, people provide separate ratings of their ideal romantic partners on a number of different characteristics. In the actual courtship process, however, people encounter potential partners within whom these various characteristics co-occur in countless different combinations. None of these potential partners can plausibly be expected to resemble the individual on all desired characteristics; consequently, the person must prioritize them and determine which are most important. On the basis of the data we have reviewed, it seems reasonable to argue that variables such as religious and political attitudes are judged to be most salient and assigned the greatest weight, whereas others (such as personality) are relegated to a lesser role.

In addition, these active assortment preferences in personality must compete with the consensual mate preferences discussed earlier. In this regard, it would be interesting to examine how consensual mate preferences (e.g., almost everyone prefers an agreeable mate to a disagreeable mate) interact with active assortment pressures (e.g., relative to those high in agreeableness, disagreeable individuals tend to find disagreeable mates more attractive) to influence the eventual selection of a spouse.

Similarity and Satisfaction

Another basic goal of our study was to examine the key issue of whether spousal similarity is associated with greater relationship satisfaction. Our study provides the most comprehensive analysis of this issue to date, in light of (a) its relatively large sample size and (b) the scope and diversity of the assessed variables. Overall, our moderated regression analyses indicated that similarity had very little effect on satisfaction. Specifically, similarity had a significant effect in only 6 of 40 analyses. Moreover, only one analysis (involving Negative Emotions) replicated across both spouses; as noted earlier, it actually indicated that satisfied spouses tended to be more *dissimilar* on this variable.

Although these results are discouraging, it would be premature to conclude that similarity is unrelated to satisfaction for two reasons.

First, our sample was composed of newlyweds (married for an average of approximately five months) who generally reported high levels of relationship satisfaction. It may be that similarity exerts a more substantial effect later in marriage, when satisfaction levels are somewhat lower and more variable. We will be conducting a two-year follow-up of the IMAP couples to examine this possibility.

Second, similarity may exert its greatest influence in the earliest stages of romantic relationships. We have seen, for instance, that individuals (a) strongly prefer partners who share their political and religious beliefs and (b) actually marry spouses who closely resemble them on these characteristics. During the trial and error of the courtship process, however, people occasionally form relationships with others who are dissimilar to them on these variables. On the basis of our data, we strongly suspect that these attitudinal dissimilarities represent “deal-breakers” that eventually lead to dissatisfaction with the partner and to the termination of the relationship. Put differently, similarity on certain key variables may have such a strong effect on satisfaction that it plays a crucial role in determining whether a relationship persists to the point of commitment and marriage. This is an important issue for future research.

CONCLUSION

In summary, the substantial similarity correlations in our newlywed couples appear to reflect initial assortment, rather than convergence. It seems likely, moreover, that the widely varying similarity coefficients we observed across various domains reflect both indirect (e.g., propinquity) and direct (i.e., active assortment) influences on assortative mating. We hope that our findings will stimulate further investigation into the earliest stages of marriages and of the various processes that lead to the formation of this central human relationship.

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