



## Brief Report

## The Five-Factor Model of personality and relationship satisfaction of intimate partners: A meta-analysis

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## ABSTRACT

A meta-analysis that included 19 samples with a total of 3848 participants showed that scores on four of the Five-Factor Model personality factors correlated significantly with level of relationship satisfaction by intimate heterosexual partners. The four personality characteristics were low neuroticism, high agreeableness, high conscientiousness, and high extraversion. The associations between an individual's personality characteristics and the relationship satisfaction of the individual's intimate partner did not vary significantly from men to women or from married to unmarried individuals. The results of the meta-analysis provide support for the utility of the Five-Factor Model of personality in understanding an important realm of life, intimate relationships.

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## 1. Introduction

Five dimensions, extraversion, agreeableness, conscientiousness, neuroticism and openness, are core aspects of personality (Digman, 1990; John & Srivastava, 1999; McCrae & Costa, 1999). The Five-Factor Model dimensions are related to a variety of important life outcomes (Ozer & Benet-Martinez, 2006). For example, high conscientiousness predicts good work performance and good health while low agreeableness and high neuroticism are associated with poor health; high agreeableness is related to helping others; high extraversion predicts leadership; high neuroticism is associated with depression; and high openness is related to creativity. The lack-of-self-control cluster of high neuroticism, low agreeableness and low conscientiousness has been found to be associated with various types of psychopathology (Malouff, Thorsteinsson, & Schutte, 2005), including alcohol involvement (Malouff, Thorsteinsson, Rooke, & Schutte, 2007) and smoking (Malouff, Thorsteinsson, & Schutte, 2006).

An important life outcome is satisfaction with an intimate (romantic) relationship. It seems likely that personality characteristics would express themselves in ways that affect intimate relationships. Greater intimate relationship satisfaction is associated with less relationship instability and lower relationship dissolution (Gottman & Levenson, 1992), more parenting satisfaction (Rogers & White, 1998) and better mental health (Beach, Katz, Kim, & Brody, 2003). Relationship satisfaction has been operationalized

through self-report (e.g., Barelds, 2005) and through behavioral indicators such as dissolution of a marriage (e.g., Kurdek, 1993).

Researchers have used various research paradigms to examine the relationship between the Five-Factor Model dimensions and intimate relationship satisfaction. One focus has been on personality characteristics that make it more likely that individuals will be satisfied with their relationships. Heller, Watson, and Iles (2004) conducted a meta-analysis of Five-Factor Model characteristics and self-rated marital satisfaction and found that all five characteristics had statistically significant correlations, with Neuroticism having the strongest relationship, with higher neuroticism being associated with self-rated marital satisfaction at  $-.26$ . Greater agreeableness, conscientiousness, extraversion and openness were associated with greater marital satisfaction at  $.24$ ,  $.22$ ,  $.14$  and  $.08$ , respectively. It seems likely that these correlations may be inflated to some extent by common-source biases (see Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The longitudinal approach to predicting marital satisfaction has also found low neuroticism to be an important predictor. In a review of longitudinal studies (Karney and Bradbury (1995) reported that neuroticism was a substantial predictor of marital quality and stability.

Another research focus has been on congruence between individuals' Five-Factor Model characteristics and their partners' Five-Factor Model characteristics. Although congruence between partners' individual Five-Factor characteristics generally does not predict relationship satisfaction well (see Shiota & Levenson, 2007), congruence between overall Five-Factor profiles does seem to correlate with satisfaction (Gonzaga, Campos, & Bradbury, 2007). Also, there is evidence that congruence between an individual's self-rated characteristics and his or her perception of the partner's characteristics predicts satisfaction (Zentner, 2005).

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A third approach, which comprises a substantial amount of research on the Five-Factor Model and relationship satisfaction, has focused on the association of the satisfaction of one partner in relation to the level of the Five-Factor characteristics of the other partner. The present meta-analysis focused on these studies. Comparing findings resulting from different approaches in this area creates a nomological net facilitating the understanding of the overall relationship between personality dimensions and relationship satisfaction.

The main purpose of the present meta-analysis was to obtain an estimate of the overall association between an individual's Five-Factor personality characteristics and the relationship satisfaction of his or her partner. We included studies that examined all or almost all Five-Factor characteristics so that we could compare effect sizes of the different characteristics in samples in which all participants completed similar measures of all or almost all the characteristics. Another purpose was to examine potential moderating factors of this relationship. With meta-analysis, we expected to answer research questions with much more power than any individual study. We also expected a total sample far more diverse than any one study sample.

## 2. Method

### 2.1. Literature search, inclusion criteria and coding

We searched the PsycINFO database from its beginning through to November, 2008, for studies that assessed the relationship between an individual's Five-Factor personality characteristics and his or her intimate partner's relationship satisfaction or the outcome of the relationship. We searched for the following key terms: "marriage" or "relationship" and "Big Five," "Big 5," or "Five-Factor." We checked relevant articles for citations to other potentially relevant articles. We excluded articles that provided results for fewer than four of the five factors. We also excluded articles that did not provide essential data. In these cases, we attempted to obtain the needed information from the first author but did not always succeed, e.g., Zentner (2005).

We found a total of 10 studies that provided relevant data. All the studies focused on heterosexual relationships. One study did not report an effect size for openness (Barelds, 2005, Study 2). The studies reported separately the correlation between (a) the man's relationship satisfaction and the Five-Factor characteristics of his female partner and (b) the woman's satisfaction and the Five-Factor characteristics of her male partner. Thus each study was given two rows in the data set for each Five-Factor characteristic, except that the Barelds's Study 2 only had one row for each characteristic as it aggregated all participants, male and female, giving the correlation between participants' own marital satisfaction and their partner's Five-Factor characteristics. This coding method means that there is a dependency between effect sizes from the same study as there is more than one row per study.

However, each study, bar one, had two sets of effect sizes. Thus, there is not an issue of one study being weighted higher than another in the overall data set. Further, to test the hypotheses this coding method was the most appropriate.

To facilitate a search for moderators, we coded each study for all variables that were commonly accessible in the study articles and that might be related to effect size: (a) relationship status (dating, mix of living together and married, and married), (b) Five-Factor measure (NEO or other), (c) type of research design (longitudinal or cross-sectional), (d) study location (USA or not USA), and (e) type of research analysis (correlation or comparison of means) and (f) whether there was a risk of response bias because the couples were not separated physically by researchers when they completed a relationship satisfaction scale. In a few instances, we contacted study authors to obtain information for coding because the information was not clearly presented in the report of the study. One of the present authors coded the studies and then another author checked the coding. In some instances the coding was not in agreement. When this occurred, the two coders reached a mutual agreement on the coding.

### 2.2. Statistical analyses

We used Pearson's  $r$  as the effect size with computations based on guidelines by Lipsey and Wilson (2001). We converted group differences, reported in two studies, to  $r$ . We applied inverse variance weighting to effect sizes ( $w = 1/SE$ ). Fisher's transformation of  $r$  ( $z_r$ ) was used in the analyses, with the  $r$  and  $CI$  values back-transformed from the  $z_r$  values. We conducted homogeneity analyses using the  $Q$  statistic. There were no effect size univariate or multivariate outliers (criterion  $z = 3.29$ ,  $p = .001$ ).

## 3. Results

Table 1 reports the overall weighted correlations for each of the Five-Factor Model factors. Across 19 samples with a total of 3848 individuals, the following four Five-Factor dimensions were significantly related to relationship satisfaction by an individual's intimate partner: Lower neuroticism, higher agreeableness, higher conscientiousness, and higher extraversion. The effect sizes and moderator levels for each study can be seen in supplementary tables available at this journal's web site.

One possible explanation for the significant effect sizes involves assortive mating, that is, a tendency for individuals to find a partner who is similar. For instance, if neurotic individuals tended to mate with other neurotic persons, the association between a partner's neuroticism and a person's relationship satisfaction might be due to the person being neurotic himself or herself. To test this possibility, we collected data on personality characteristic similarity from the studies included in the meta-analysis. Six of the studies provided relevant data, from a total of eight samples (Barelds, 2005, only four personality characteristics; Botwin, Buss, & Todd,

**Table 1**  
Overall effect sizes, homogeneity analysis, random effect size model.

Big five factor	$N_r$	$r$	CI 95%		$p$	Fail safe $N^a$	Homogeneity analysis		
			Lower	Upper			$Q$	$df$	$p$
Openness	18	.03	-.03	.09	.37	0	49.86	17	<.01
Conscientiousness	19	.12	.09	.16	<.01	14	19.10	18	.39
Extraversion	19	.06	.01	.10	.02	0	35.31	18	<.01
Agreeableness	19	.15	.11	.20	<.01	22	37.47	18	<.01
Neuroticism	19	-.22	-.26	-.19	<.01	41	27.25	18	.07

Note.  $N_r$  = number of effect sizes (analyses).

<sup>a</sup> Reports the number of analyses with  $r = .00$  needed to reduce the mean  $r$  to the  $r$  criterion value ( $\pm .07$ ).

1997, two samples; Donnellan, Conger, & Bryant, 2004; Gattis, Berns, Simpson, & Christiansen, 2004, two samples; Luo & Klohnen, 2005; Watson, Hubbard, & Wiese, 2000). Some of the results were merely a statement of no significant association, so it is not possible to combine the results statistically. Across the 39 associations examined, 31 were nonsignificant, six were significant in the direction of similarity, and two were significant in the direction of dissimilarity. The six similarity findings were spread evenly across the five characteristics, with one extra for neuroticism.

The statistical homogeneity analysis showed significant heterogeneity among effect sizes for openness, extraversion, and agreeableness, as indicated in Table 1. There was also borderline heterogeneity for neuroticism. Given the heterogeneity and the differences in studies (e.g., populations and methodology), we assumed that variability between studies was random. Therefore, we employed a random effects model, which produces larger confidence intervals than a fixed effects model (Lipsey & Wilson, 2001).

There were no significant differences between men and women in the extent to which the five factors correlated with a partner's relationship satisfaction. The type of Five-Factor measure (NEO or not) was also not a significant moderator for any of the five factors. Type of research design, longitudinal versus cross-sectional, was a significant moderator for openness, extraversion, and agreeableness. Longitudinal analyses, both from one study, showed negative correlations between levels of satisfaction for openness,  $r = -.11$  ( $CI_{95\%} -.25, .03$ ), extraversion,  $r = -.10$  ( $CI_{95\%} -.19, -.00$ ) and agreeableness,  $r = -.03$  ( $CI_{95\%} -.12, .05$ ), while cross-sectional studies showed positive correlations for the respective factors,  $r = .05$  ( $CI_{95\%} -.01, .11$ ),  $r = .08$  ( $CI_{95\%} .04, .12$ ) and  $r = .18$  ( $CI_{95\%} .14, .21$ ). Study location was a significant moderator for extraversion. The relationship between extraversion and marital satisfaction was about zero in studies from the USA,  $r = .03$  ( $CI_{95\%} -.01, .08$ ), while it was about .14 (.05, .24) from studies outside the USA. Type of research analysis was a significant moderator with higher associations in correlational designs with marital satisfaction for openness,  $r = .07$  ( $CI_{95\%} .02, .13$ ), extraversion,  $r = .09$  ( $CI_{95\%} .04, .13$ ) and agreeableness,  $r = .18$  ( $CI_{95\%} .13, .23$ ), than in between-groups designs,  $-.10$  ( $CI_{95\%} -.20, -.01$ ),  $-.05$  ( $CI_{95\%} -.13, .03$ ) and  $.08$  ( $CI_{95\%} -.01, .17$ ), respectively. There was virtually no difference in effect size between studies where there was a risk of bias because the man and woman were not physically separated by researchers and other studies, which included studies in which the researchers did separate the man and woman and studies in which relationship outcome was objective, such as a comparison of couples seeking marital therapy and other couples. Relationship status (dating, married or mixed) was not a significant moderator for any of the five factors.

#### 4. Discussion

A number of studies have examined the connection between an individual's Five-Factor characteristics and his or her intimate partner's level of relationship satisfaction. This meta-analysis quantified effect sizes across studies, with a large total number of participants studied in diverse ways in various countries, resulting in estimates of effect sizes and moderator analyses likely to be more replicable than those generated by any one study. The meta-analysis included 19 samples with a total of 3848 participants.

Four of the Five-Factor personality characteristics showed significant meta-analytic associations with partner relationship satisfaction. These characteristics were lower neuroticism, higher agreeableness, higher conscientiousness and higher extraversion. Neuroticism had the largest effect size of any of the personality characteristics, consistent with a review of longitudinal studies of

many variables that found that neuroticism was a substantial predictor of marital quality and stability (Karney & Bradbury, 1995) and consistent with the meta-analytic findings of Heller et al. (2004) regarding the dimensions of self-rated Five-Factor Model characteristics and self-rated marital satisfaction. Convergent findings from different research approaches in this area create a nomological net facilitating the understanding of the overall relationship between personality dimensions and relationship satisfaction.

The main findings of the meta-analysis support the utility of the Five-Factor Model of personality (McCrae & Costa, 1999) in that four of the five personality factors were found to be associated with an important interpersonal outcome, relationship satisfaction of an individual's intimate partner. The rather modest effect sizes could be due in part to measurement error. Measurement error tends to lead to lower effect sizes when the independent and dependent variables come from different sources. Because Five-Factor factor scores are to some extent factor independent, one might expect the significant effect sizes for individual factors to add together to some extent. However, none of the studies included in the meta-analysis reported relevant multiple-regression results. It is possible to use meta-analysis to estimate  $R$  if one makes a number of assumptions, including that the personality factors cause partner satisfaction (see Judge, Heller, & Mount, 2002), but we were unwilling to make these assumptions.

The results also support the notion that a certain profile of dimensions is associated with life outcomes. A profile of high neuroticism, low agreeableness and low conscientiousness, which might be termed a "low self-control" profile, has previously been found to be associated with less adaptive life outcomes, such as various types of psychopathology (e.g., Malouff et al., 2005; Malouff, Thorsteinsson, & Schutte, 2006). This lack of self-control factor has parallels with what Dignam (1997) termed the alpha factor underlying personality dimensions.

Why might lower neuroticism, higher agreeableness, higher conscientiousness and higher extraversion be associated with the level of relationship satisfaction of one's intimate partner? It could be that the characteristics have a direct effect on the relationship. For instance, neurotic individuals tend to express more criticism, contempt and defensiveness (Gottman, 1994) and this behavior could damage a relationship. If this is the direction of causation, one implication would be that individuals might be able to improve their intimate relationships by changing behaviors related to characteristics such as neuroticism. However, the findings of the present meta-analysis cannot support causal conclusions. It could be that a partner's relationship satisfaction affects the other partner's personality traits, or that some third variable influences both an individual's personality traits and the relationship satisfaction of an individual's partner. The possibility exists that assortive mating of partners may have inflated effect sizes. Some studies included in the meta-analysis reported association of characteristics between partners, allowing examination of this possibility. Across the 39 couple associations examined, 31 were nonsignificant, six were significant in the direction of similarity, and two were significant in the direction of dissimilarity. Thus, the available evidence suggested no association between the personality characteristics of partners. Therefore, assortive mating likely did not create any systematic inflation of effect sizes.

The meta-analytic search for moderators indicated that the level of association between personality characteristics and partner relationship satisfaction did not vary significantly from men to women or from married to unmarried individuals. This suggests that the relationship between personality characteristics and relationship satisfaction is somewhat generalizable across populations.

The meta-analysis produced three significant moderator findings for the four factors found overall to be significantly correlated with partner relationship satisfaction. First, extraversion was a sig-

nificant predictor of relationship satisfaction only outside the USA. This difference could mean that extraversion has different effects or attributes in different cultures. However, there were only three non-USA analyzes, so caution is appropriate in interpreting differences. Second, cross-sectional analyzes showed significantly higher correlations than longitudinal analyzes for agreeableness and extraversion. However, there were only two longitudinal analyzes, both from Kurdek (1993), that used an unvalidated Five-Factor measure derived from the Bem Sex Role Inventory. Third, agreeableness and extraversion had significantly higher effect sizes, as judged by homogeneity statistics, for correlational analyzes than for between-group analyzes. However, there were only four samples with between-group analyzes, and two were from Kurdek (1993). Hence, these moderator results could simply be the result of an unusual measure of the Five-Factor Model.

To some extent the data from participants in the study samples of couples were dependent on each other. However, the available evidence suggested no association between the personality characteristics of members of couples, so this dependency likely did not create any systematic error.

Future research involving the Five-Factor Model might (a) examine same-sex romantic relationships; (b) determine the multivariate correlation of Five-Factor dimensions with intimate relationship satisfaction, (c) test the ability of Five-Factor dimensions to predict future changes in intimate relationships, including changes in satisfaction scores and changes in relationship status, such as break-ups and divorce (see Karney & Bradbury, 1997) and (d) examine whether an individual's Five-Factor Model characteristics are associated with relationship satisfaction by persons with non-romantic relationships with the individual, such as in parent–child relationships and employee–supervisor relationships.

## Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at [doi:10.1016/j.jrp.2009.09.004](https://doi.org/10.1016/j.jrp.2009.09.004).

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