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The Relationship Between Dimensions of Love, Personality, and Relationship Length

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Abstract The present study examined the associations among participant demographics, personality factors, love dimensions, and relationship length. In total, 16,030 participants completed an internet survey assessing Big Five personality factors, Sternberg's three love dimensions (intimacy, passion, and commitment), and the length of time that they had been involved in a relationship. Results of structural equation modeling (SEM) showed that participant age was negatively associated with passion and positively associated with intimacy and commitment. In addition, the Big Five factor of Agreeableness was positively associated with all three love dimensions, whereas Conscientiousness was positively associated with intimacy and commitment. Finally, passion was negatively associated with relationship length, whereas commitment was positively correlated with relationship length. SEM results further showed that there were minor differences in these associations for women and men. Given the large sample size, our results reflect stable associations between personality factors and love dimensions. The present results may have important implications for relationship and marital counseling. Limitations of this study and further implications are discussed.

Keywords Love · Personality · Big Five · Relationship length · Interpersonal relationships · Internet survey

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Introduction

As an abstract concept, love is typically taken to represent a range of human emotions, from simple feelings of pleasure to overwhelming and ineffable attraction towards another person. It is not surprising, therefore, that discourse on love has long been the preserve of poets and songwriters (Berscheid, 1988), although it is increasingly falling within the purview of the psychological sciences (Griffiths, 2007). Indeed, psychologists have approached the topic of love from many different perspectives, including biochemistry (e.g., Emanuele et al., 2006), evolutionary psychology (e.g., Buck, 2007), psychoanalysis (Gordon, 2006), and theology (e.g., Tjeltveit, 2006). It is only more recently that psychologists have focused on the pivotal role of individual differences in love and relationship quality, examining such variables as physical attractiveness (Swami, Stieger, Haubner, Voracek, & Furnham, 2009), attitudinal dispositions (Feng & Baker, 1994), and emotional intelligence (Zeidner & Kaluda, 2008). As a contribution to this literature, the present research set out to examine the associations between love, personality, and relationship length.

What Is Love?

Although psychological investigations of love have been dogged by "conflict, confusion, and disagreement" (Fehr, 1988), it is possible to discern two dominant theories of love. Lee (1973) proposed a six-style model of love, with three primary styles (Eros, or passionate, romantic love; Ludus, or game-playing love, and; Storge, or friendship-based love) and three secondary styles that were compounds of the two primary styles each (Pragma, or practical love; Mania, or possessive love, and; Agape, or altruistic love). Rather than

referring to types of individuals, Lee's (1973) model referred to multidimensional "styles" of loving within relationships.

More recently, Sternberg (1986, 1998) proposed an alternative conceptualization of love comprising three dimensions, namely intimacy, passion, and commitment. On their own (intimacy alone: liking; passion alone: infatuation, and; commitment alone: empty love), or in combination (intimacy and passion: romantic love; intimacy and commitment: compassionate love; passion and commitment: fatuous love; all three love dimensions in combination: consummate love) these dimensions of love form different types of loving experiences and change over the course of a relationship. Sternberg (1998) further described how mismatches in relationships occur when there are inter-individual discrepancies in the geometric size or shape of "love triangles".

Of the two models, Sternberg's (1986, 1998) three-component model has been shown to be the more reliable. For instance, following a factor analysis of prototypical characteristics of love, Aron and Westbay (1996) reported a three-dimensional latent structure that matched the dimensions of intimacy, passion, and commitment. In addition, Aron and Westbay reported no unique role for ludus and pragma in conceptions of love, and it is notable that these love dimensions also do not appear in Sternberg's triangular love theory. With one exception, however, previous work has not focally examined the association between Sternberg's dimensions of love and personality.

Love and Personality

In a recent study, Engel, Olson, and Patrick (2002) had university undergraduates complete Sternberg's (1998) Triangular Love Scale as well as the NEO PI-R, a widely used measure of the Big Five personality dimensions. The latter postulates a five-factor personality taxonomy at a broad level of abstraction, consisting of Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (Goldberg, 1993). In their study, Engel et al. reported that Conscientiousness was a significant predictor of intimacy for both women and men, and of commitment for men alone.

Engel et al. (2002) went on to argue that Conscientiousness may be associated with intimacy because the personality factor involves self-control and achievement orientation (Costa & McCrae, 1992), which may lead conscientious individuals to express greater intimacy in order to achieve more successful relationships. In addition, Conscientiousness is associated with reliability, persistency, and goal-fulfillment, which may help explain the association between this personality factor and commitment, i.e., the extent to which a person "persists until the goal underlying the commitment is achieved" (Sternberg, 1988, p. 12). Somewhat surprisingly, however, Engel et al. found that the remaining Big Five factors did not predict Sternberg's love dimensions.

Other relevant research has suggested that personality factors may influence relationship quality and length (Bradbury & Fincham, 1988). In particular, a number of studies have reported a negative association between Neuroticism and relationship or marital quality (e.g., Barelds, 2005; Davila, Karney, Hall, & Bradbury, 2003; Heaven, Smith, Prabhakar, Abraham, & Mete, 2006; Karney & Bradbury, 1997; Watson, Hubbard, & Wiese, 2000), as well as a positive link between Neuroticism and marital dissolution (Kelly & Conley, 1987). Other research suggests that there should be a positive association between love dimensions and Extraversion, insofar as extraverts are better able to "communicate love" than introverts (Taraban, Hendrick, & Hendrick, 1998). The available literature on the association between Extraversion and relationship adjustment, however, is equivocal at best (e.g., Botwin, Buss, & Shackelford, 1997; Donnellan, Conger, & Bryant, 2004; Watson et al., 2000).

Intuitively, at least, Agreeableness might also be expected to be associated with love dimensions, despite the reported findings of Engel et al. (2002). Specifically, Agreeableness is relevant when trying to understand interpersonal behavior and has been negatively associated with both marital dissatisfaction (Botwin et al., 1997) and negative partner interactions (Donnellan et al., 2004), and positively linked to conflict resolution in romantic relationships (Graziano, Jensen-Campbell, & Hair, 1996). Finally, the available research does not suggest any reliable association between Openness to Experience and love styles or relationship length, although Donnellan et al. (2004) did report sex-specific associations with self-reported marital interactions and sexual satisfaction.

The Present Study

The equivocal nature of past research may be due to such factors as the reliance on university undergraduates, small sample sizes, and relatively limited statistical analyses. Clearly, this necessitates further work examining the associations between love dimensions, personality, and relationship dissolution. In the present study, therefore, we examined the relationship between Sternberg's three dimensions of love, the Big Five factors of personality, relationship length, and participant demographics in a large, representative sample. As an extension to previous work (Engel et al., 2002), the present study also examined the interrelations between these variables using structural equation modeling (SEM; Byrne, 2006). This allows for the simultaneous testing of predictors and criteria, as well as multiple criteria (unlike regression analyses, where there is only one criterion and where variables are either predictors or criteria).

Based on previous work, we expected that Conscientiousness would be positively associated with intimacy and commitment (cf. Engel et al., 2002). In addition, we expected to uncover significant positive associations between Agreeableness

and love dimensions (commitment in particular) and a negative association between Neuroticism and love dimensions. Given the more equivocal nature of results pertaining to Extraversion and Openness, we did not expect any reliable relationships between these personality factors and love dimensions. Finally, we predicted that there would be positive associations between all three love dimensions and relationship length.

Method

Participants

A total of 16,030 participants took part in this study. The age-groups (exact age data were not collected) ranged from "under 20" to "over 70" (M = 31–40 years). Fifty-four percent (8,589 participants) were aged between 20 and 40 years, with 6% aged 20 years or below, and 40% being 41 years or above. Of the total sample, 9,827 (61%) were women and 6,203 (39%) were men. Of the total sample, 13,242 (83%) indicated that they were currently in a relationship, and 2,788 (17%) indicated that they were not. Relative to the 2001 British census data (Office for National Statistics, n.d.), our sample was, on average, older than the general population in Britain (Britain: approx. 23% under 18 years, 36% aged 18–34 years, 41% aged 44 years or above), and female respondents were somewhat over-represented (Britain: 51.4% female). Although no data on educational background or socioeconomic status (SES) were available, the study was advertised in mainstream British media, including the best-selling British broadsheet newspaper, lunchtime and primetime national television, and radio. Naturally, participation in the survey was limited to individuals with internet access but figures from Ofcom (the British telecoms regulator) suggest that up to 70% of British households were online at the time of conducting this study (May 2008) and, among those without internet access at home, many could be expected to have online access at work. Indeed, all British regions were represented in the internet logs (as shown by the wide geographical distribution of user identification protocols), and personality traits as well as SES may be expected to be normally distributed within each region. For instance, self-concept and willingness to disclose have been found to be unrelated to SES (Pramanick, 1996) and a recent study of the Big Five across 56 nations found that the five-factor structure and distribution is universal (Schmitt, Allik, McCrae, & Benet-Martínez, 2007). In addition, internet surveys have been generally deemed valid and advantageous over paper-and-pencil surveys in many ways (Gosling, Vazire, Srivastava, & John, 2004). Although these arguments do not compensate for the absence of actual measures of SES or educational level, the sample's demographics were no doubt closer to the general population's than the typical student or small-sample surveys in this area.

Measures

Adapted Triangular Love Scale (Lemieux & Hale, 1999)

This is a 9-item adaptation of Sternberg's (1998) original measure and a later adaptation by Lemieux and Hale. The scale accesses three components of love, namely intimacy, passion, and commitment. We selected nine items from the 19-item version: three items each for intimacy, passion, and commitment (see Appendix). Participants rated their own love-related thoughts, feelings, behaviors, and preferences for current partners on a 5-point scale (1 = *Not at all*, 5 = *Extremely*).

The Big 5-Short Inventory (B5S; Chamorro-Premuzic, 2008)

The Big Five personality traits were assessed via this purpose-designed, 10-item, self-report questionnaire (see Appendix). The measure includes two items for each of the five major personality dimensions, namely Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness, and were rated on a 5-point Likert-type scale (1 = *Strongly disagree*, 5 = *Strongly agree*). Items were adapted from the International Personality Item Pool (IPIP) website and scale (Goldberg, 1999), for which data on 91,692 participants were collected for a different sample (Chamorro-Premuzic, Reimers, Hsu, & Ahmetoglu, 2008). For each Big Five factor, the four items with the highest loadings were collapsed into two items (reversing one of them). Two pilot studies (Ns = 309 and 257) were carried out to test the convergent validity of the B5S in regards to another, well-established, 10-item inventory (TIPI; Gosling, Rentfrow, & Swann, 2003) and the 50-item IPIP Big Five, respectively (using two different, additional, samples). With the exception of Openness, which had poor internal consistencies in the B5S (see Table 1 for the internal consistencies for the present sample), the B5S correlated highly with their equivalent traits as assessed by the other two instruments: with the TIPI, correlations were .67 (N), .69 (E), .34 (O), .67 (A), and .69 (C); with the IPIP-50 correlations were .68 (N), .70 (E), .36 (O), .63 (A), and .71 (C). This provided evidence for the concurrent validity of the B5S factors.

Relationship Length

This was assessed via a single self-reported single-item with the following options: 1 = Not applicable (16.3%),[1] 2 = Less than 1 month (1.5%), 3 = 1–6 months (7.5%), 4 = 7–11 months (5.7%), 5 = 1–3 years (19.5%), 6 = 4–9 years (18.6%), 7 = 10 years or over (13.7%), 8 = 20 years or over (8.9%), 9 = 30 years or over (8.2%). Of the total

[1] In brackets are the percentages of participants in each category.

Table 1 Means, SDs, alphas, and effect sizes for the Big Five, love dimensions, age, and relationship length

	M	*SD*	α	Cohen's *d*
Extraversion				
♀	7.24	2.0	.71	0.21
♂	6.82	2.0		
Agreeableness				
♀	7.92	1.7	.46	0.45
♂	7.17	1.6		
Conscientiousness				
♀	7.13	1.9	.61	0.13
♂	6.89	1.9		
Neuroticism				
♀	6.48	2.0	.66	0.44
♂	5.61	2.0		
Openness				
♀	7.28	1.5	.18	0.05
♂	7.21	1.5		
Passion				
♀	8.12	2.0	.90	0.06
♂	8.24	1.9		
Intimacy				
♀	7.75	1.9	.74	0.10
♂	7.56	1.9		
Commitment				
♀	7.20	2.3	.77	0.03
♂	7.28	2.3		
Time in relationship				
♀	5.02	2.4		0.13
♂	5.35	2.5		
Age				
♀	3.06	1.3		0.36
♂	3.56	1.5		

Age scores are between 1 and 5, where 1 = <20, 2 = 20–30, 3 = 31–40, 4 = 41–50, 5 = >50. Big Five and love dimension scores are between 1 and 10. Relationship length was scored between 1 and 5, where 1 = not applicable, 2 = <1 month, 3 = 1–6 months, 4 = 7–11 months, 5 = 1–3 years, 6 = 4–9 years, 7 = >10 years, 8 = >20 years, 9 = >30 years

sample, 52.0% indicated they had been in a relationship between 1 and 20 years, 14.7% less than a month to 11 months, 17.1% over 20 years, and 16.3% of the sample responded "not applicable."

Procedure

The survey was advertised through various British newspapers (in printed and online versions), as well as national television. Advertising (a brief description of the survey and the URL) were placed for free in exchange for a brief report on the findings, which the interested newspapers and television show would disseminate. In the print version of the newspapers, adverts were placed in the "Science and Society" section, whereas in the national television show, presenters invited the audience to visit the website and complete the survey. The survey was completed online via a web-portal designed by the third author. The site remained active for a period of two months. Participants completed the questionnaire without any time limit. First, they completed a section on basic demographic information, including whether they were in a relationship and for how long. Next, and on a separate page, they completed the BS5 and the adapted Triangular Love Dimensions, which were randomized (items from both questionnaire were mixed and the order of items was randomly presented using an algorithm). After completing the survey, participants received instant feedback on where they ranked in relation to the overall sample, as well as a brief explanation on the meaning of the Big Five personality traits. There were no missing data points as each item had to be responded to in order to submit valid data. Data were loaded and stored automatically onto a spreadsheet and transferred into SPSS v.15 for analyses.

Results

Descriptive Statistics

Descriptive statistics and reliability coefficients for the Big Five and the three love dimensions are shown in Table 1. All three love dimensions, as well as the Big Five measure of Extraversion, had satisfactory-to-good reliabilities. Although the reliabilities of Neuroticism, Conscientiousness, and Agreeableness were below conventional cut-offs (that is, a value of .70), these were deemed adequate for assessing population-level correlations, given the large sample size in the present study as well as the fact that they were based on two items each (Cronbach, 1949). Nevertheless, given the unacceptably low reliability for Openness, this item was omitted from SEM analyses.

All variables were *z*-transformed prior to analysis. We initially conducted *t*-tests to investigate possible sex differences on personality factors and love dimensions. Results revealed significant sex differences on all factors (all ts > 2.16, all ps $< .05$),[2] some small and some moderate in magnitude (see Table 1). The sex differences found in the current study are consistent with those found in other research, including meta-analytic reviews (Costa, Terracciano, & McCrae, 2001; Feingold, 1994). Bivariate correlations were also calculated in order to estimate the relationship between the variables. These are shown in Table 2.

[2] It should be noted that there was no significant sex difference in relationship status (i.e., whether a person was single or in a relationship).

Table 2 Bivariate correlations between the Big Five factors, love dimensions, age, and relationship length

Variable	1	2	3	4	5	6	7	8	9	10
1. Age	–	−.18**	.46**	−.09**	−.12**	.13**	−.05**	−.02**	.08**	−.11**
2. Sex		–	−.07**	.05**	−.03**	−.02*	.10**	.22**	.06**	.21**
3. RL			–	.08**	−.13**	.38**	−.05**	.01	.09**	−.01
4. Intimacy				–	.54**	.56**	.14**	.30**	.20**	.02**
5. Passion					–	.40**	.18**	.29**	.11**	−.05**
6. Commitment						–	.01	.21**	.17**	−.03*
7. E							–	.20**	.02**	−.18**
8. A								–	.20**	.01
9. C									–	.00
10. N										–

N neuroticism, *C* conscientiousness, *A* agreeableness, *E* extraversion, *RL* relationship length

* $p < .05$; ** $p < .01$

Structural Equation Modeling

We next conducted SEM with the data using AMOS 5.0 (Arbuckle, 2003). The choice of ordering is rarely straightforward in SEM (Davis, 1985; Kenny, 1979; Loehlin, 1992; Pearl, 2000), and a predictive rather than causal model was tested, primarily to provide a general picture of the relationship between target variables. The nine variables included in the model (age, Big Five personality factors, Sternberg's love dimensions, and relationship length) were divided into four subsets in terms of their likely causal ordering. Age was treated as an exogenous variable, personality factors and love dimensions were modeled as both exogenous and endogenous (mediators), and relationship length was treated as endogenous.

The saturated model had 19 beta parameters. In this model, paths were allowed from age to personality factors, from personality factors to love dimensions, and from love dimensions to relationship length (but no direct paths from age to love dimensions and relationship length, respectively, or from personality to relationship length). In addition, variables within the same block (that is, the Big Five factors and the three love dimensions, respectively) were allowed to correlate. The model's goodness of fit was assessed via the χ^2 statistic (Bollen, 1989; tests the hypothesis that an unconstrained model fits the covariance or correlation matrix as well as the given model; ideally, values should not be significant); the goodness of fit index (GFI; Tanaka & Huba, 1985; a measure of fitness where values close to 1 are acceptable) and its adjusted version (AGFI; adjust for the number of degrees of freedom); the root mean square residual (RMSEA; Browne & Cudeck, 1993; values of .08 or below indicate reasonable fit for the model); the parsimony goodness-of-fit index (PGFI; Mulaik et al., 1989; a measure of power that is optimal around .50); and the Akaike's Information Criterion (AIC; Akaike, 1973; gives the extension to which the parameter estimates from the original sample will cross-validate in future samples).

The saturated model, where only a variable directly to the left of another was allowed to influence it, did not fit the data well: $\chi^2 = (10\,df, p < .01)\,4230.2$, GFI = .95, AGFI = .77, PGFI = .21, RMSEA = .16, AIC = 4300.2. Modifications were, therefore, made in order to improve fit. On the basis of the AMOS modification indices, expected parameter change statistics, and standardized residuals, four paths were added to the model. These included paths from age (the exogenous variable) to commitment, passion, intimacy, and relationship length. Additions were made one at a time, and were based on multiple criteria that take into account theoretical, statistical, and practical considerations. All other path coefficients and fit statistics were examined after each addition to determine its effect on these values. The modified model fitted the data well: GFI = 1.0, AGFI = .99, PGFI = .13, RMSEA = .01 (.01–.02), AIC = 112.16, though the $\chi^2 = (6\ df, p < .01)$ 34.2 was significant (which, in large samples, tends to occur even in well-fitting models (Joreskog & Sorbom, 1993).[3] AMOS-squared multiple correlations indicated that age and personality factors accounted for 8% of commitment, 13% of intimacy, and 12% of passion. In sum, age, personality, and love dimensions accounted for 37% of the variance relationship length. The modified model is graphically depicted in Fig. 1. The standardized path coefficients are shown in Table 3.

[3] The model was also repeated excluding those participants that scored "1" (that is, "not applicable" on relationship length. This computation did not affect the results $\chi^2 = (6\ df, p < .01)$ 62.4, GFI = .99, AGFI = .99, PGFI = .13, RMSEA = .03, AIC = 140.4.

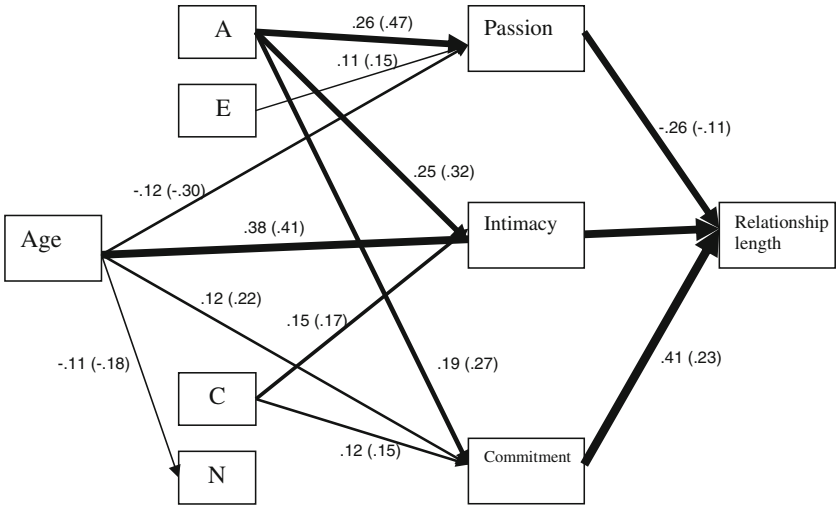

Fig. 1 The relationship between participant age, Big Five personality factors, love dimensions, and relationship length. *N* neuroticism, *C* conscientiousness, *A* agreeableness, *E* extraversion. All coefficients are standardized beta values and are significant at $p < .01$. Thickness of *arrows* is directly proportionate to the size of beta values. Disattenuated coefficients are indicated in *brackets*. For the sake of parsimony, correlations within same-block variables and standardized beta parameters < .10 have been omitted from the figure despite being in the model

Table 3 Standardized path (beta) coefficients for the whole sample

Parameter	Beta
Age to N	−.11**
Age to commitment	.12**
Age to RL	.38**
Age to passion	−.12**
Agreeableness to passion	.26**
Agreeableness to intimacy	.25**
Agreeableness to commitment	.19**
Extraversion to passion	.11**
Conscientiousness to commitment	.12**
Conscientiousness to intimacy	.12**
Passion to relationship length	−.26**
Commitment to relationship length	.41**

** $p < .01$

Multi-Group Analyses

A second set of analyses was carried out to determine whether the overall model obtained for the total sample would fit equally well for the male ($n = 6{,}203$) and female ($n = 9{,}827$) groups separately. When testing for invariance of a model, a prerequisite is that the unconstrained model first fits the overall sample and then each sample individually (in this case, men and women separately; Byrne, 2004). The final model obtained for the combined sample (Fig. 1) was used to test the baseline for the multi-group analyses. The estimation of male and female samples, respectively, indicated that the same path coefficients could be used in models for men and women, although not necessarily with the same values $\chi^2 = (12\ df,\ p < .01)\ 100.2$, GFI = .99, AGFI = .99, PGFI = .13, RMSEA = .02.

We, therefore, proceeded by comparing fully constrained and unconstrained χ^2 and respective *df* values. This comparison yielded a χ^2 difference value of 190.8 with 29 degrees of freedom, which was significant at $p < .01$, indicating that the model was not invariant across sex. To explore group differences, we examined the standardized residuals, *t*-values, and modification indices for all parameters in each group. Figure 2 depicts the individual coefficients for women and men, as well as the parameters that had to be free in order to identify a well-fitting, constrained model $\chi^2 = (28\ df,\ p < .01)\ 125.0$, GFI = .99, AGFI =.98, PGFI = .31, RMSEA = .01, which holds across sex (difference between constrained and unconstrained is 25.0 with $df = 16$). It should be noted that two further paths (Neuroticism and Conscientiousness to relationship length, respectively) were not invariant across sexes, but had values below .10, and were, therefore, not included in Fig. 2.

Discussion

Using SEM, the present study examined the association between Sternberg's three love dimensions, Big Five personality factors, and relationship length. Perhaps the most notable feature of the present results was the association between Agreeableness and the three love dimensions, which contrasts with the lack of such an association in the work of Engel et al. (2002). We suggest that our results were more intuitively plausible (see below), which raises the possibility that the findings reported by Engel et al. with a sample of university undergraduates do not generalize to the general population.

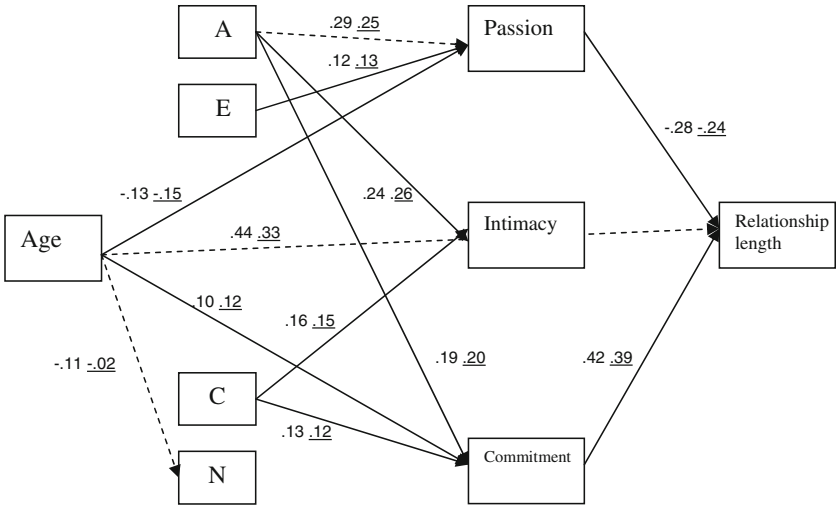

Fig. 2 The relationship between participant age, Big Five personality factors, love dimensions, and relationship length across sex. *N* neuroticism, *C* conscientiousness, *A* agreeableness, *E* extraversion. *Underlined* values are for the men and *dashed lines* indicate paths that were not invariant across sex. For simplicity, correlations within same-block variables and standardized beta parameters < .10 have been omitted from the figure despite being in the model

Moreover, given the substantially larger sample size in the present study, it seems likely that our results reflect more stable associations between personality factors and love dimensions.

The association between Agreeableness and love is not surprising given the role of the former in interpersonal relationships. Specifically, compared with disagreeable individuals, agreeable individuals are more likely to positively perceive others, are more responsive in social interactions (Tobin, Graziano, Vanman, & Tassinary, 2000), and may also be more "expressive" (see Abele, 2003; Antill, 1983; Kurdek & Schmitt, 1986). Agreeable individuals, therefore, may find it easier to form and maintain romantic relationships (that is, relationships characterized by both intimacy and passion). Moreover, research suggests that agreeable individuals are more likely to control their negative emotions and use constructive (rather than coercive) tactics in conflict situations (Jensen-Campbell & Graziano, 2001). They may also adopt conciliatory tactics when conflicts are unavoidable in order to maintain positive relationships (Graziano et al., 1996). It is not surprising, therefore, that Agreeableness has been found to be negatively associated with damaging partner interactions (Donnellan et al., 2004) and positively associated with better conflict resolution in relationships (Graziano et al., 1996).

The results of the present study supported the findings of Engel et al. (2002) in that there were significant positive associations between Conscientiousness and intimacy and commitment, respectively. As Engel et al. have noted, conscientious individuals may be more likely to "dutifully" engage in loving behaviors and may also apply their higher achievement-orientation toward love relationships (just as they do in organizational or academic contexts). In other words, "conscientious persons tend to be motivated workers in their love relationships" (Engel et al., 2002, p. 847), applying their self-control, responsibility, and achievement-orientation to an aspect of interpersonal relationships. Moreover, to the extent that Conscientiousness is associated with greater reliability, persistency, and task-fulfillment, Conscientiousness may also lead to greater commitment.

Our results further suggest that Extraversion is positively related to passion, a finding consistent with previous work (e.g., Watson et al., 2000) and that fits with the idea that extraverts are more able than introverts to "communicate love" (Taraban et al., 1998). Alternatively, it might be argued that, to the extent that Extraversion can be conceptualized as "positive emotionality," this personality dimension serves to vitalize positive emotions of passion. More generally, however, these results support Eysenck and Wakefield's (1981) contention that Extraversion does not play a major role in relationship adjustment. In addition, our results suggest that Neuroticism was not related to any of Sternberg's dimensions of love. While this stands in contrast to work showing that Neuroticism is related to relationship satisfaction (e.g., Barelds, 2005; Davila et al., 2003; Heaven et al., 2006; Watson et al., 2000), it is nevertheless supported by the work of Engel et al. (2002), who similarly found no significant association between these variables.

Although, as expected, commitment was positively associated with relationship length in the present study, one particularly noteworthy result was the negative association between passion and relationship length. One way in which the latter association can be explicated is to examine the components of Sternberg's triangular theory of love in greater detail. Specifically, Sternberg (1998) postulated that passion encompasses drives that heighten romance, physical attraction, and sexual consummation, particularly at the beginning of a relationship. As a relationship progresses, passion may give way to intimacy and commitment (or some combination of these love dimensions), thus reducing feelings of urgency, intensity, or anxiety that characterized passionate love. It may also be this fact that explains the negative association between participants' age and passionate

love, given that extreme absorption and infatuation is traditionally associated with youth (Sternberg, 1998).

The results of the current SEM analyses also revealed some interesting patterns regarding the potential causal integration of various individual difference predictors of love styles and relationship length. First, age appeared to affect love dimensions even when personality traits were accounted for. Specifically, older participants were less passionate and more committed, regardless of their personalities. Second, age continues to affect relationship length even after controlling for personality characteristics and love dimensions, although this effect is not necessarily psychological: older people may have longer relationships, not because of behavioral differences between them and younger people, but simply because they have been alive longer. Third, it is interesting that none of the personality traits affected relationship length when love dimensions were taken into account. This has interesting implications given that love dimensions are arguably much more "malleable" than personality traits.

Despite the small effect sizes found for the sex differences in most paths, the model depicted in Fig. 1 did not hold across sexes, indicating that sex moderates, albeit modestly, some of the effects of age and personality on relationship length. Specifically, our results suggest that the associations between age and relationship length, and Agreeableness and passion, are not invariant across sexes. It might be argued that these variances stem from the contextual nature of love (cf. Beall & Sternberg, 1995). That is, the social construction of traditional gender roles and associated "love stories" (cf. Sternberg, 1995) may serve to contextualize love in different ways for women and men. Alternatively, evolutionary psychologists have suggested that women are more selective in choosing a partner (Buss, 1994; Buss & Schmitt, 1993; Cashdan, 1993; Symons, 1979), which might lead to the prediction that men emphasize passion more than women. In either scenario, a fuller understanding of love will need to consider the specific ways in which love is socially constructed within matrices that include such factors as gender role orientation and culture.

Limitations

The main strength of this study was undoubtedly the large sample size with relatively even sex distribution and a large age range, which allowed us to examine the above relationships in greater detail and sophistication. However, in one sense, this strength may also be viewed as a limitation: due to the large sample size, many associations were significant despite having small effect sizes. Moreover, in order to maximize participation rates, we used simplified scales and adaptations that compromised on their reliability. It is of note, for example, that the Big Five factor of Openness of Experience had to be dropped in the present study because it showed an unacceptably low alpha coefficient. In the same vein, we limited the number of variables that were measured in an attempt to maximize the sample size. It might be argued, in particular, that relationship length was not an ideal outcome variable and that we should have instead measured (for instance) relationship satisfaction, adjustment, or quality. Objective (rather than self-reported) data would have also increased the reliability of our findings, given the possibility of social desirability effects.

Were this study to be repeated, it would be useful to strike a more balanced compromise between the need to maximize sample sizes and minimize measurement length. Furthermore, it will be important for future work to include a more varied range of predictor variables, such as self- and partner physical attractiveness (Swami et al., 2009), emotional intelligence (Zeidner & Kaluda, 2008), and sociosexuality (Penke & Asendorpf, 2008). On the other hand, it might be argued that quantitative methods do not capture the heterogeneous nature of love (see Lee, 1977), and that instead love can only truly be understood as the subjective experience of a partnership between two individuals (e.g., Marston, Hecht, Manke, McDaniel, & Reeder, 1998; Watts & Stenner, 2005). In this scenario, qualitative methods may be better suited to encompass the holism of love, particularly in relation to its socially-constructed nature.

Conclusion

The present study continues the work initiated by Engel et al. (2002) in examining the relationship between personality factors and Sternberg's three dimensions of love. To the extent that the relationships between personality, love dimensions, and relationship length prove reliable, the present results may have important implications for relationship and marital counseling. For instance, insights generated by the present study may prove useful for the formulation of relationship advice or interventions that promote more stable relationships through changes in personality dimensions (e.g., teaching individuals how to adopt more conciliatory tactics in conflict situations) and love styles (e.g., emphasizing the importance of commitment to counteract the long-term reduction in passion). Clearly, the available research only begins to scratch the surface of what may be termed the "personality of love," and much future work remains to be done in uncovering the associations between personality, love dimensions, and particularly relationship initiation, maintenance, and dissolution.

Appendix

(1) The Big 5-Short Inventory: Please give your response to every one of these statements to indicate your choice of agreement:

	YOU ARE:					
1	Outgoing, talkative, and enjoy meeting people	0	1	2	3	4
2	Considerate, polite and politically correct	0	1	2	3	4
3	Organized, efficient, and try to do things properly	0	1	2	3	4
4	Anxious, worry easily, and have frequent mood swings	0	1	2	3	4
5	Intellectual, creative, and curious about exploring new things	0	1	2	3	4
6*	Shy, quiet, and prefer to avoid crowded parties	0	1	2	3	4
7*	Straight-talking, cold, and rarely feel sorry for others	0	1	2	3	4
8*	Spontaneous, disorganized, and do things last minute	0	1	2	3	4
9*	Relaxed and calm and rarely worry about problems	0	1	2	3	4
10*	Down-to-earth, traditional, and rarely waste time daydreaming	0	1	2	3	4

* Means scale needs to be reversed ($0 = 4, 1 = 3, 3 = 1, 4 = 0$) before scoring; to calculate scores, one should not use "0" but move the scale one point to right, so that $0 = 1, 1 = 2, 2 = 3, 3 = 4, 4 = 5$ (this is for all items and also for the romantic scale below)

$1 + 6 =$ Extraversion (sociability or how sociable you are)

$2 + 7 =$ Agreeableness (friendliness or how friendly you are)

$3 + 8 =$ Conscientiousness (responsibility or how responsible you are)

$4 + 9 =$ Neuroticism (anxiety or how anxious you are)

$5 + 10 =$ Openness (creativity or how creative you are)

(2) The triangular love scale: if you are not currently in a relationship, base your answer on your previous relationship.

1	My partner and I share personal information with each other	0	1	2	3	4
2	I am strongly attracted to my partner	0	1	2	3	4
3	I think my relationship with my partner will last forever	0	1	2	3	4
4	I can tell everything to my partner	0	1	2	3	4
5	I find my partner sexually attractive	0	1	2	3	4
6*	I will probably have another love relationship later in my life	0	1	2	3	4
7*	My partner rarely understands how I feel	0	1	2	3	4
8	I tend to feel sexually aroused when my partner is with me	0	1	2	3	4
9*	I often think of being with other men/women	0	1	2	3	4

Note: Same notes as previous table apply

$1 + 4 + 7 =$ Intimacy (how close you are to your partner)

$2 + 5 + 8 =$ Passion (how passionate you are about your partner)

$3 + 6 + 9 =$ Commitment (how committed you are to the relationship)

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