



Determinants of satisfaction with love life in Brazil and Portugal

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ABSTRACT

In the present research, we investigated how individual love dispositions and personality traits predict satisfaction with love life. The sample comprised 531 participants, of whom 257 were Brazilian and 274 Portuguese. Their mean age was 23.36 (SD = 5.91) years. There were no significant differences between men and women, and between Brazilian and Portuguese participants in satisfaction with love. Love dispositions predicted 61 % of the variance in satisfaction with love. Feelings regarding a relationship (closeness and commitment) were stronger predictors of satisfaction with love than feelings regarding a partner (compassion and affection). Satisfaction with love was also predicted by higher feeling of admiration, closeness, commitment, and lower feeling of affection and neuroticism.

The goal of this research was to investigate how individual love dispositions, such as affection, compassion, closeness, commitment, as well as love attitudes of eros and agape determine satisfaction with love life (SWLL) among young men and women in Brazil and Portugal - two Portuguese speaking countries. We also were interested in examining whether big five personality traits, and gender of people predict SWLL.

Love is “a desire to enter, maintain, or expand a close, connected, and ongoing relationship with another person” (Reis & Aron, 2008, p. 80). Love includes a web of cognitive, affective, and behavioral aspects (Hatfield et al., 2020). In this study, we focused on the factors predicting SWLL.

Subjective well-being (SWB) has three components: positive affect, negative affect, and satisfaction with life (SWL) (Diener, 2000). SWL is a cognitive evaluation of one's life satisfaction either globally or with respect to specific life domains, such as job, leisure, family, migration, and other (Costa & Neto, 2019).

Satisfaction with love life is also a specific domain of SWL which concerns a cognitive process. SWLL is defined as “a judgmental process in which individuals assess the quality of their love lives on the basis of their own set of criteria” (Neto, 2005, p. 4). SWLL concerns most individuals (Hatfield et al., 2020). SWL is an important research topic in the context of love because of its relations with better physical and

mental health outcomes, and social relationships, among others (Graham, 2011; Neto, 2005).

The Satisfaction With Love Life Scale (SWLLS) was proposed as a brief tool for assessing global SWLL (Neto, 2005). It was designed to measure the overall cognitive judgments of individuals regarding satisfaction with their love lives containing five statements. The theoretical framework of the SWLLS is substantially grounded on the work of the original SWLS (Diener, 2000).

Construct validity of the SWLLS was assessed using principal component analysis resulting in one factor that accounted for 73.7 % of the variance. The internal consistency of the SWLLS was high ($\alpha = 0.91$). Convergent validity was demonstrated between scores on the SWLLS and positive and negative affective states, such as happiness, self-esteem, physical attractiveness, loneliness, and frustration (Neto, 2005). Other studies, with university students, also showed satisfactory psychometric properties of the SWLLS (e.g., Alves, 2012; Nazzal et al., 2019; Neto & Dimitrova, 2017; Soares et al., 2020). Furthermore, the SWLLS showed adequate psychometric characteristics across the adult life span (Neto & Pinto, 2015).

Neto and Dimitrova (2017) evaluated the extent to which the SWLLS could be used for cross-cultural comparisons. The study demonstrated the single-factor structure of the SWLLS in five cultural contexts

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(Angola, Brazil, Macao, Portugal, and East Timor) and the invariance of the SWLLS across cultures. In addition, there are adaptations of the SWLLS to Arabic (Nazzal et al., 2019) and Spanish languages (Caycho-Rodriguez et al., 2020).

1. The present study

This study aimed to explore how affection, compassion, closeness, and commitment, which people experience in romantic relationships, affect their SWLL. It explored also how the feeling of admiration and compatibility with partner, and the selfless desire of the best to the partner affect their SWLL. The study also intended to find out the predictive roles of big five personality factors - neuroticism, openness to experience, extraversion, conscientiousness, and agreeableness – (Costa & McCrae, 1980) of the SWLL among Portuguese and Brazilian men and women. Finally, the study explored gender and culture differences in SWLL. Our study employed hierarchical regression analysis of the three groups of variables in consecutive blocks as the determinants of SWLL.

1.1. Expected immediate effects of emotional variables on SWLL

First, these were the variables of emotional level: (1) affection/passion, (2) compassion, (3) closeness, (4) commitment, (5) the feeling of admiration and compatibility with partner, and (6) the selfless desire of the best to the partner. These emotional attitudes and feelings, as the variables of the primary level, should immediately affect the satisfaction of a person with his or her SWLL.

The attitudes and feelings of affection/passion, compassion, closeness, and commitment were conceptualized in this study according to the Quadrangular Love Theory and corresponding scale (Karandashev & Evans, 2019). These four dimensions fall into two categories of feelings of love: (1) the feelings toward a partner (Compassion and Affection), and (2) the feelings regarding a relationship with a partner (Closeness and Commitment). Compassion and Affection represent a person's perception and thinking of his or her partner and express feelings that the person may have toward the partner. Closeness and Commitment, on the other hand, represent a person's perception and thinking regarding the relationship with his or her partner and express feelings and experiences that the person may have regarding this relationship. In sum, one group focuses on a partner, while the second, on the relationship with this partner. Being tightly intertwined, the two groups of feelings reflect different sources of emotional experiences.

The measurements of these four first-order and two second-order dimensions of love dispositions have shown cross-cultural invariance in several cultural samples across Brazil, Iran, Portugal, Russia, Turkey, and USA (Karandashev et al., 2022).

Previous research found that SWLL correlated significantly with compassionate love, a particular type of love that centers on another's welfare (Neto & Neto, 2022). It was also evidenced that SWLL correlated significantly with commitment among young adults (Neto & Pinto, 2015). Prior work has also shown that SWLL correlated significantly with sexual relationships and trust and support among young adults (Neto, 2005). Based on those findings, we predicted that feelings of compassion and commitment should contribute to SWLL.

In this study we investigate two love styles, Eros (romantic love) and Agape (altruistic love) (Lee, 1973), given their connections with SWL demonstrated in prior studies. Previous research showed that Eros love attitude, as the feeling of compatibility with a partner and admiration of him/her, and Agape love attitude, as the concern about the partner's welfare and willingness of selfless giving (Hendrick et al., 1998), are associated with relationship satisfaction among dating couples and SWLL (Graham, 2011; Nazzal et al., 2019; Neto, 2005; Neto & Pinto, 2015). Hence, we expected that the Eros and Agape love attitudes would predict SWLL. It is worth noting that in previous studies, the Eros was more strongly associated with SWLL than Agape.

1.2. The expected effects of personality factors on the effects of emotional variables on SWLL

Multiple studies have shown the role of big five personality factors in SWL. Various meta-analytic studies have been conducted on the relationships between the Big Five and SWL. DeNeve and Cooper (1998) in their meta-analysis showed that Neuroticism and Conscientiousness were the strongest Big 5 predictors of SWL, whereas openness was the weakest. A recent meta-analytic study showed that extraversion (positively) and neuroticism (negatively) were related to SWL (Anglim et al., 2020). Slightly weaker positive associations were displayed for conscientiousness and agreeableness, whereas the association between openness and SWL was near zero. In sum, previous research about the relations between personality factors and life satisfaction is not totally consistent; however, the extensive research on personality seems to suggest that neuroticism negatively affects several positive outcome variables, namely health, success at work, and relationships. Those who are low in neuroticism tend to be happier and more successful.

Based on those findings, we expected that these big five groups of personality traits, as the variables of the secondary level, should predict the effects of emotional variables on SWLL. While *emotional experiences* (affection/passion, compassion, closeness, commitment, Eros, and Agape) as the variables of the primary level might directly affect SWLL, *the personality traits* as the variables of the secondary level directly affect how a person experiences love emotionally. And then, these emotional experiences, being determined by personality traits, should affect the satisfaction of a person with his or her love life.

1.3. The expected effects of the gender and culture on the effects of emotional variables on SWLL

In addition to the effect of personality factors, as the variables of the secondary level, we examined whether gender, and culture, as the variables of tertiary level, can also predict SWLL. There are few differences in romantic love between females and males. Females may experience romantic love more intensely than males (Meskó et al., 2021), although other research has not found that effect (Hatfield & Sprecher, 1986; Hendrick & Hendrick, 1995). Males may fall in love more often than females (Harrison & Shortall, 2011). Regarding SWL previous studies have shown no gender differences (Hayes & Joseph, 2002). For instance, in a meta-analysis based on 281 effect sizes for SWL, findings evidenced no significant gender differences (Batz-Barbarich et al., 2018). Also, no gender differences in SWLL also were reported among university students (Nazzal et al., 2019; Neto, 2005; Neto & Dimitrova, 2017; Neto & Pinto, 2015). Therefore, in our analysis we did not expect to find an effect of gender on SWLL.

As for the effect of cultures, few psychological investigations have been carried out about cultural differences and similarities between Brazil and Portugal. Both countries are culturally similar due to the common history, language, and long-term connections. Despite some cultural differences which may affect SWLL, such as "the mental health of Brazilians was worse than in the Portuguese individuals, the optimism was higher and the pessimism was lower" (Vitorino et al., 2022, p. 1783), similarities seem to outweigh differences in some regards. Most studies provide a picture of resemblance (Bond et al., 2004; Neto et al., 1991). For instance, four factors on partner preferences have been identified in Brazil and Portugal: personality, physical attractiveness, resources, and abilities (Neto et al., 2012). Globally, these factors show more similarity than differences between the two countries. Regarding love attitudes, no cross-cultural differences emerged between participants of both countries (Neto et al., 2000). Hence, it was unlikely to expect an effect of these two similar cultures on SWLL. We did not expect to see differences in satisfaction with love in Brazil and Portugal.

In sum, based on the aforementioned studies, we had five major hypotheses in this study.

H1. Feelings associated with relationships (closeness and commitment) rather than feelings regarding a partner (compassion and affection) would predict satisfaction with love.

H2. Eros and Agape love attitudes would predict love satisfaction.

H3. Low neuroticism would predict satisfaction with love, beyond love variables.

H4. Gender differences were not expected to affect satisfaction with love.

H5. Country differences were not expected to affect satisfaction with love.

2. Method

2.1. Participants

The sample included 531 participants, of whom 257 were Brazilian (59 men and 198 women) from several Universities, Brazil, and 274 were Portuguese (85 men and 189 women) from Porto University, Portugal. The average age of the Brazilian participants was 25.53 years (SD = 7.11), whereas for the Portuguese participants, it was 21.32 (SD = 4.36). Brazilians were older on average than the Portuguese, $F(1, 530) = 76.89, p < .001$. Hence, age was utilized as covariates.

2.2. Instruments

Satisfaction with Love Life Scale (SWLLS) (Neto, 2005) contained 5 statements (e.g., “The conditions of my love life are excellent”). Ratings ranged from 1 (“strongly disagree”) to 7 (“strongly agree”). Higher scores indicate higher levels of SWLL.

Quadrangular Love Scale (QLS). The QLS consists of 40 items expressing basic love attitudes, 10 items for each dimension — Compassion (e.g., “I would console this person in times of need”), Affection (e.g., “I like to physically embrace this person”), Closeness (e.g., “I am comfortable asking this person for help”), and Commitment (e.g., “I want to be in this relationship”) (Karandashev & Evans, 2019). Ratings ranged from 1 (“strongly disagree”) to 7 (“strongly agree”). Prior research demonstrated high reliability and convergent validity of the QLS (Karandashev et al., 2022; Karandashev & Evans, 2019).

The Eros subscale (e.g., “My partner and I have the right physical ‘chemistry’ between us”), and the Agape subscale (e.g., “I am usually willing to sacrifice my own wishes to let my partner achieve his/hers”), of the Short Form of the Love Attitudes Scale (LAS-SF; Hendrick et al., 1998) were used. Three statements evaluated each one of the two love attitudes. Ratings ranged from 1 (“strongly disagree”) to 7 (“strongly agree”). The LAS has showed adequate psychometric properties in Portugal and Brazil (Neto, 1993; Neto et al., 2000).

The variables of personality level were measured with the 20 items derived from the original Big Five Inventory (John et al., 2008). The original inventory was shortened due to space constraints in the questionnaire, selecting 4 items to assess each dimension loading most strongly on each dimension. To make the measure short, we chose the four highest factor loadings per factor reported by Benet-Martínez and John (1998). Thus, the items in the measure we used seem to match up with the highest loading factors reported by Benet-Martínez and John. For instance, neuroticism scale included these four items: “I see myself as someone who... (1) can be tense, (2) is depressed, blue, (3) worries a lot, (4) gets nervous easily”. Ratings ranged from 1 (“strongly disagree”) to 7 (“strongly agree”).

2.3. Procedure

Data were collected as part of a larger study on feelings and attitudes involved in romantic and other close relationships and only the relevant measures collected in Brazil and Portugal are reported here. The study

has been approved by the Institutional Review Board of Aquinas College (IRB #2014-064). The samples were recruited via an online questionnaire disseminated during lectures at universities. The respondents gave digital consent. All participants were unpaid volunteers. Similarly, to the study conducted by Karandashev et al. (2022), we included the respondents who were either currently in a romantic relationship (73 %) or have been in one in the past (27 %).

2.4. Data analysis

Hierarchical regression analysis was performed to scrutinize the particular influence of love measures, personality traits, and background factors on love satisfaction. Analysis of covariance (ANCOVA) was utilized to examine the effects of gender and country on SWLL. IBM SPSS statistical software (version 26.0) and a significant level (p) of less than 0.05 were used for all the statistical analyses.

3. Results

Table 1 shows means, standard deviations, and reliabilities for the scales used in this study. Internal consistency alphas for the measures of personality and love constructs are ranged from 0.61 to 0.94. In particular, the internal consistency of SWLLS for the Brazilian participants was 0.94 and for the Portuguese participants was 0.93.

The effect of love feelings, personality traits, gender, and culture factors on SWLL were determined utilizing hierarchical regression models. Love variables were entered in the first block to test hypotheses 1 and 2, followed by personality variables in the second block to test hypothesis 3, and gender and country in the third block. Before calculating regressions, collinearity diagnostics were examined to ensure that the variance inflation factor (VIF) did not surpass 10 (Field, 2017).

Table 2 presents the findings of the regression models. The first set of love factors predicted 61 % of the variance in SWLL, and affection, closeness, commitment, and Eros variables appeared as significant predictors. SWLL was predicted by lower affection, and higher closeness, commitment, and Eros. By adding the personality traits, affection, closeness, commitment, and Eros remained in the model, and neuroticism appeared a significant predictor. SWLL was predicted by lower neuroticism and affection, and higher closeness, commitment, and Eros. These factors predicted 63 % of the variance in SWLL, and the variance only increased 2 %. By adding the factors of gender and culture, none of them emerged as significant predictors of SWLL, and the variance has not changed (63 %). Affection, closeness, commitment, Eros, and neuroticism remained in the model.

To test our fourth and fifth hypotheses an analysis of covariance (ANCOVA) was carried out on love satisfaction. The values of skewness and kurtosis of the love satisfaction variable for the Brazilians were -0.56 and -0.78 , and for the Portuguese were -0.67 and -0.62 , indicating that the assumption of normality was met. Gender and

Table 1 Descriptive statistics of each cultural sample and internal consistencies.

	Brazil (n = 257)			Portugal (n = 274)		
	M	SD	α	M	SD	α
Neuroticism	4.18	1.17	0.65	4.85	1.08	0.61
Openness	5.63	0.91	0.77	5.52	0.98	0.78
Extraversion	5.57	1.05	0.79	5.45	1.06	0.76
Conscientiousness	5.95	0.78	0.74	5.76	0.86	0.75
Agreeableness	6.08	0.77	0.78	6.04	0.71	0.65
Compassion	6.18	0.76	0.90	6.34	0.69	0.91
Affection	6.32	0.86	0.93	6.41	0.82	0.94
Closeness	5.94	1.19	0.94	6.09	0.98	0.92
Commitment	5.76	1.12	0.90	5.79	1.05	0.91
Eros	4.36	1.65	0.75	4.06	1.84	0.67
Agape	5.35	1.27	0.76	5.50	1.13	0.66
Satisfaction with love	4.82	1.73	0.94	4.97	1.61	0.93

Table 2
Hierarchical regression models of love constructs, personality traits and background factors predicting love satisfaction.

Variables	Block 1, β	95 % CI	Block 2, β	95 % CI	Block 3, β	95 % CI
Compassion	-0.10	[-0.47, 0.02]	-0.10	[-0.47, 0.02]	-0.11	[-0.50, 0.01]
Affection	-0.32***	[-0.90, -0.35]	-0.29***	[-0.85, -0.31]	-0.29***	[-0.84, -0.30]
Closeness	0.51***	[0.60, 0.96]	0.48***	[0.56, 0.93]	0.48***	[0.55, 0.92]
Commitment	0.42***	[0.47, 0.81]	0.41***	[0.46, 0.80]	0.41***	[0.47, 0.81]
Eros	0.32***	[0.34, 0.55]	0.32***	[0.33, 0.54]	0.31***	[0.33, 0.54]
Agape	-0.04	[-0.12, 0.03]	0.10	[-0.09, 0.06]	-0.02	[-0.10, 0.06]
Neuroticism			-0.13***	[-0.28, -0.12]	-0.13***	[-0.28, -0.11]
Openness			-0.01	[-0.11, 0.09]	-0.01	[-0.12, 0.10]
Extraversion			0.02	[-0.07, 0.13]	0.02	[-0.07, 0.13]
Conscientiousness			0.01	[-0.12, 0.14]	0.01	[-0.11, 0.14]
Agreeableness			0.01	[0.12, 0.16]	0.01	[-0.12, 0.17]
Gender					-0.01	[-0.23, 0.20]
Country					0.03	[-0.11, 0.17]
R ²	0.61		0.63		0.63	
Adjusted R ²	0.60		0.62		0.62	
F change	134.82***		5.17***		0.38	

*** $P < .001$.

country were the classification factors, while age was considered as covariate given the possible confounding effects of age. No significant differences were observed between men ($M = 4.92$; $SD = 1.49$) and women ($M = 4.89$; $SD = 1.74$), $F(1, 530) = 0.01, p = .95, \eta^2p = 0.000$, and between Brazilian participants ($M = 4.82$; $SD = 1.73$) and Portuguese participants ($M = 4.97$; $SD = 1.61$), $F(1, 530) = 0.28, p = .60, \eta^2p = 0.001$. The interaction gender x culture also was not significant, $F(1, 530) = 0.10, p = .75, \eta^2p = 0.000$.

4. Discussion

This study showed that both attitudes to love and personality are important and significant predictors of SWLL, while the variables of gender and country did not contribute to SWLL. The mean score of SWLL was significantly above the neutral score, suggesting a norm of general SWLL for the respondents in Brazil and Portugal.

We expected that feelings associated with relationships (closeness and commitment) rather than feelings regarding a partner (compassion and affection) would predict SWLL. As we saw, the results of hierarchical regression analysis supported this hypothesis. We believe this finding is interesting and convincing. The feeling passion/affection toward a partner does not bring satisfaction with love because it brings uncertainty and associated emotional tension. Such passionate/affectionate feelings of love might be unrequited, or a person might be in uncertainty whether his or her love will be reciprocated. Any of these affective states bring emotional tension. These affective states of passion/affection are usually related to the early stages of relationships when affection-passion and compassion are high. However, since the love relationship is not established yet, it is uncertain how the relationship progress – in satisfactory way or not. The partners can become closer and more committed to each other, or the relationship can continue to be unstable and turbulent. Only the first course love progression, not the second one can bring real SWLL.

We also expected that the feeling of compatibility with partner and admiration as well as the selfless desire to give the best to the partner, as expressed in Eros and Agape love attitudes, would predict SWLL. The results of hierarchical regression analysis partially supported this hypothesis. The feeling of admiration of partner is the core love attitude of the Eros as it is operationalized in corresponding subscale of LAS. The attitude associated with this feeling comes along with positive and satisfactory development of the love relationship. Therefore, it was expected to be related to SWLL.

This finding agrees with previous research among young adults (Nazzal et al., 2019; Neto, 2005; Neto & Pinto, 2015; Soares et al., 2020), in which Eros predicted significantly higher SWLL. The Eros attitude predicted SWLL stronger than the Agape love attitude in both

countries. The Agape orientation of placing the loved person's welfare above one's own and selflessly desiring the best to the partner did not contribute to SWLL. This Agape attitude, like Compassion above, does not satisfy love motivation. They are rather the conditions conducive for development of a satisfactory relationship with the beloved. Hence, the second hypothesis was partially supported.

Among variables of personality level, we had only one clear expectation that low Neuroticism would increase SWLL. In our study, among big five personality factors, only Neuroticism negatively predicted SWLL. In accord with this finding, DeNeve and Cooper (1998) indicated that Neuroticism predisposes individuals to experience negative affect and so it is not surprising that low Neuroticism contributed to high SWLL in both countries. Thus, the third hypothesis was supported as neuroticism contributed to SWLL over and above love constructs.

The hypotheses H4 and H5 about effects of gender and country were supported. There were no significant differences, as expected, on SWLLS scores neither between men and women, not between Portugal and Brazil. This result is consistent with the prior findings pointing out no substantial gender differences in general SWL (Batz-Barbarich et al., 2018), as well as in other satisfaction domains, such as SWLL (Nazzal et al., 2019; Neto, 2005; Neto & Dimitrova, 2017; Neto & Pinto, 2015), satisfaction with family life (Costa & Neto, 2019), and satisfaction with job life (Batz-Barbarich et al., 2018). Current findings are in line with the gender similarity hypothesis suggested by Hyde (2005). This hypothesis proposed that many gender differences are extremely small, if not totally non-existent. Hyde (2005) proposed that males and females are more similar than they are different.

The same with hypothesis H5, the SWLLS scores had no significant differences between Portugal and Brazil. The finding is also in line with prior results that showed no substantial differences in SWL (Passos et al., 2020), and SWLL (Neto & Dimitrova, 2017) between Brazil and Portugal. These findings support our fifth hypothesis.

As with any study, this study has limitations. First, the samples were of convenience comprising just of college students. Therefore, they might be not totally representative of the Brazilian and Portuguese populations. Second self-report measures were utilized and therefore they might be susceptible to response bias. Third, in this study was used a cross-sectional design and, hence, causal explanations cannot be determined.

Despite these limitations, the present study suggests that the SWLLS is a brief psychometrically sound tool to assess SWLL for both clinical and research purports in future research (Simmons & Lehmann, 2013). In addition, the design of the study made it possible to investigate cross-cultural influences in SWLL. Personality can contribute to love satisfaction, but other love constructs seem to provide that extra boost.

CRedit authorship contribution statement

All authors contributed to the design of the study. V.K., V.C.-B., E.O. and J.N. collected the data. F.N. performed the analyses with assistance from V.K. The main manuscript was written by F.N., and V.K. with contribution from V.C.-B., E.O., and J.N. All authors reviewed and approved the final manuscript.

Data availability

The authors do not have permission to share data.

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