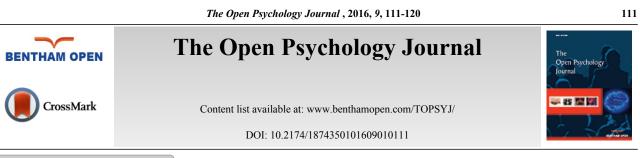
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RESEARCH ARTICLE

The Romantic Jealousy as Multidimensional Construct: A Study on the Italian Short Form of the Multidimensional Jealousy Scale

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Abstract:

Background:

Romantic jealousy is a complex construct composed of several dimensions. Given the multidimensional nature of romantic jealousy, it would be useful to have a measurement scale that would take into account its several components.

Objective:

The aims of the present study were to provide the Italian adaptation of the Short Form of the Multidimensional Jealousy Scale (SF-MJS - Elphinson, Feeney & Noller, 2011) verifying its factorial structure, reliability, and predictive validity. Finally, gender differences in the tree main dimensions of romantic jealousy- cognitive, emotional and behavioral- were explored.

Method:

361 participants (168 males and 193 females), aged 20 to 40 (M = 26.50; SD = 4.99) were recruited. A confirmatory factor analyses (CFA) was performed to test the multidimensional structure of the scale. Cronbach's alpha coefficient was used to verify the reliability. The predictive validity was assessed examining associations between different dimensions of the romantic jealousy and insecure romantic attachment. Multivariate analysis of variance (MANOVA) was implemented in order to verify gender differences.

Results:

Confirmatory factor analyses verified the three-factor structure, supporting the presence of these distinct latent constructs, assessing cognitive, emotional and behavioral components of romantic jealousy. The internal consistency coefficients were satisfactory for all the three factors of the scale, and ranged from .80 to .85. Consistent evidence supported the predictive validity of the ISF-MJS. Significant gender differences were registered.

Conclusion:

The ISF-MJS constitutes a reliable instrument for measuring romantic jealousy in the Italian context. Limitations, strengths, and further development of the present study are discussed.

Keywords: Behavioral jealousy, Cognitive jealousy, Emotional jealousy, Gender differences, Insecure attachment, Multidimensional jealousy scale, Romantic jealousy.

INTRODUCTION

Jealousy represents one of the most powerful behavioral motivations throughout life. It is a universal emotional feeling that occurs in all close relationships, including those with parents, siblings, friends, romantic partners, and so on. In this article we discuss a specific kind of jealousy, which is the one that occurs in romantic relationships.

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White defined romantic jealousy as "an adaptive and complex emotional state that follows - with thoughts, actions and feelings - threats to self-esteem or to the existence (or quality) of the relationship. Those threats are generated by perception of a real or potential romantic attraction between one's partner and a (perhaps imaginary) rival" [1, p. 296]. In fact, jealousy may be elicited by a relatively wide range of common or mundane interaction-changes. For instance, some authors verified that eating or drinking with someone tends to evoke jealousy more than more dramatic and less common activities, such as engaging in sexual intercourse, Authors hypothesize that this is because people view commensality as an interaction that involves a mix of physical and emotional exchanges [2].

Moreover, expanding on Lazarus and colleagues' work on coping processes [3, 4], White states that jealousy is a complex emotion that originates in emotional and cognitive processes related to the evaluation of a threat perception. The first step of this evaluation is made on a set of Primary Appraisal variables (PAs) that can influence the individual perception concerning a real or imaginary threat to self-esteem or to the existence or quality of a relationship. Secondary Appraisal variables (SAs) are coping processes put in place to reduce the threats, such as emotional reactions (ERs) involved in jealousy. These reactions are characterized by several negative emotions, such as anger, sadness and fear, and to different states of feeling, such as guilt, anxiety, bitterness, and even shame [5, 6]. The last step in the whole process is the enactment of Coping Behaviors (CBs) that lead to the final outcome [1]. In other words, White highlighted the multidimensionality of the romantic jealousy construct as composed by three main dimensions, emotional, cognitive, and behavioral, which were then confirmed by other authors [7 - 9].

Jealousy is a common emotional experience within romantic relationships. However, in some cases, romantic jealousy can become morbid jealousy, constituting a real psychopathological disease. Usually, healthy people become jealous only when there is certainty that the partner is unfaithful, while individuals suffering morbid jealousy can experiment a range of irrational and extreme emotions and thoughts, and enact unacceptable behaviors in case of both real and imaginary infidelity [10]. The line between normal and morbid jealousy does not have unambiguous boundaries, and it could be influenced by socio-cultural causes [9, 11, 12]. The distinction between the two polarities is relatively clear only when one is faced with an apparent psychosis [6]. Morbid jealousy is a relevant phenomenon related to negative emotions, and to a range of destructive events, harassment, or behavior, such as domestic violence and marital problems [13, 14]. There is also evidence that it is one of the most relevant motivations in passionate murders [15, 16], and 57% of former- intimate stalking victims have reported that their partner had been jealous during the relationship [17].

Literature has underlined that romantic attachment style, expressing the coping and emotional strategies used to maintain closeness to partner, plays a significant role in jealous feelings within the couple relationship, because it affects the perception of partner trust and threats to couple stability [18 - 20]. In particular, insecure attachment styles are strictly associated to romantic jealousy [21, 22]. More specifically, anxious attachment individuals tend to experience more jealousy, both in frequency and intensity. For example, anxious individuals tend to display more negative effects and show more surveillance behavior than avoidant and secure individuals. On the contrary, avoidant individuals are less likely to become jealous and, when it occurs, they tend to feel less sadness [22, 23].

A large amount of literature claims that the tendency to experience feelings of jealousy also varies by gender. In fact, several studies have found evidence concerning different triggers for men and women. Men feel more distress regarding sexual infidelity than emotional infidelity, whereas women report a higher level of jealousy arousal for emotional rather than sexual infidelity [24, 25]. Evolutionary psychologists contend that these differences are deeply embedded in biological and evolutionary aspects: a man needs to safeguard himself, being sure to spend his resources for his own progeny and not for another man's children; on the contrary, a woman needs a partner who can guarantee resources for her and for her offspring [24, 26 - 28]. Other authors hypothesize that sexual differences could be influenced by pan cultural accepted behaviors and not only by biological matters [29]. In this perspective, jealousy has the adaptive role of preventing infidelity and desertion of one's partner.

Despite these previous studies, however, some authors have found that there are no significant differences in jealousy by gender [2].

Romantic Jealousy Assessment

Given the above-discussed influences of romantic jealousy on psychological wellbeing [14], researchers have developed several scales in order to assess this construct. Taken together, however, these scales are heterogeneous, because they are based on different theoretical backgrounds. Therefore, some scales assess only a single dimension or

only one aspect of this complex construct, such as, the Sexual Jealousy Scale [30], a modified version of deWeerth and Kalma's Sexual Jealousy Scale [31]). Others, like the Jealous Responses Scale (JRS-I) by Rich [32], measure only two aspects, related to jealous behaviors aimed to protect the individual against threatened loss of both personal self-esteem and romantic relationship.

However, in line with the above considerations regarding the multidimensional nature of romantic jealousy, we believe that a multidimensional scale could be a more comprehensive and appropriate instrument to assess this complex construct. Therefore, a critical evaluation of existing multidimensional scales of jealousy in literature was conducted and, using this evaluation, we decided to adapt the Multidimensional Jealousy Scale (MJS) by Pfeiffer and Wong [8] to the Italian context. In fact, the MJS is one of the most frequently used scales in jealousy literature [5, 6], and it allows the measurement of the three main dimensions that characterize this construct. Finally, the MJS is able to distinguish between normal and pathological jealousy, especially in cognitive and behavioral subscales.

Multidimensional Jealousy Scale (MJS)

The MJS is composed of 3 subscales made up of 8 items each: cognitive (*e.g.*, I suspect that X may be attracted to someone else), emotional (*e.g.*, X comments to you on how great looking a particular member of the opposite sex is), and behavioral (*e.g.*, I look through X's drawers, handbag, or pockets) subscales. The cognitive and behavioral subscales are rated on a 7-point Likert scale, from 1 (never) to 7 (all the time). The emotional subscale is rated from 1 (very pleased) to 7 (very upset). In order to eliminate the response-acquiescence bias, all the first cognitive subscale items were reversed.

The psychometric properties of the MJS were tested in three different studies. Results confirmed that the theoretical three factors structure accounted for 58.4 per cent of the total variance. Moreover, the scale showed good internal consistency: the reliability of the three subscales, measured by Cronbach's alpha value, ranges from .85 to .92. Test-Retest reliability was consistent for cognitive (r = .75, p < .001), emotional (r = .82, p < .001), and behavioral (r = .34, p < .05) subscales. Finally, Pearson's correlations among the three subscales were moderately correlated, with r values ranging from .31 to .37. The concurrent validity, assessed with another quantitative measure of romantic jealousy, the WRJS [1], was confirmed. Finally, authors provided evidence of discriminant and concurrent validity of the MJS [8].

More recently, Elphinson and colleagues [33] adapted the MJS by validating a Short Form of the scale, the SF-MJS, consisting in 17 items in Australian samples. In particular, an exploratory factor analysis was carried out, showing the three-factor structure of the scale, which accounted for 53.2 per cent of the total variance. Moreover, confirmatory factor analysis confirmed the multidimensional structure, providing an adequate fit to the data (CFI = .91; RMSEA = .06; and SRMR = .07). In addition, the three factors were moderately correlated (between cognitive and emotional dimensions: r = .20; between cognitive and behavioral dimensions: r = .26; between emotional and behavioral dimensions: r = .42). The SF-MJS also showed adequate internal consistency reliabilities, with Cronbach's alpha values of .77, .81, and .70 for cognitive, emotional, and behavioral dimensions, respectively. Finally, the authors found good indices of concurrent and discriminant validity, correlating the three dimensions of the SF-MJS with Chronic Jealousy, Anxiety and Emotionality [33].

Given the strong theoretical and psychometric properties of this scale, the present study aimed at further contributing to the validation of the SF-MJS edited by Elphinstons and colleagues [33] in the Italian context (ISF-MJS). More specifically, the aims of the present study were to verify: 1) the factorial structure of the scale, *via* confirmatory factor analysis; 2) the reliability of the scale; 3) the predictive validity of the ISF-MJS by analyzing its relationships with romantic attachment measure; and, finally, explore: 4) gender differences in romantic jealousy.

We expected to confirm the factor structure according to the three-factor model discussed above (see Fig. 1), and that the SF-MSJ would show good internal consistency in the Italian population. Moreover, in line with the literature discussed above, we hypothesized that the three dimensions of the ISF-MJS would be significantly correlated with insecure romantic attachment, and in particular with anxious attachment style [21, 23]. Finally, according to the previous study [33], we expected to find significant gender differences, with females reporting more jealous feelings within romantic relationships than males.

MATERIALS AND METHODS

Translation of the SF-MJS

The SF-MJS was preliminarily translated into Italian through the back-translation procedure. Two English native language translators worked autonomously: the first translated the SF-MJS into Italian and the second translated the Italian translation back into English. Then, both experts jointly compared the two translations and found no significant incongruities between them. However, before administering this version to the participants of the study, a pilot test was conducted on a small number of subjects (N=31) to identify possible problems of comprehension or linguistic ambiguities resulting from language translation. This survey did not reveal any problems, so the Italian version of the ISF-MJS was administered (see **Appendix**).

Participants

A total of 361 participants (168 males and 193 females) were recruited for the present study. Their age ranged from 20 to 40 years (M = 26.50; SD = 4.99). Subjects were graduate students enrolled in a psychology course. The majority of participants were from Central Italy (73.7%), with the remainder being from Northern (15.8%) and Southern Italy (10.5%). Subjects came from families of middle or high socio-economic level with more than 58% of the parents having a high school diploma or university degree.

The requirement for participation in the study was that respondents be currently involved in a heterosexual romantic relationship of a duration of at least one year. The length of these romantic relationships varied widely, ranging from 1 to 14 years (M = 4.54 years, SD = 3.25). Regarding the relationship status, 69% of subjects were dating and not living with their partner, 23.5% were cohabiting, and 7.5% were married.

Procedure

In accordance with the guidelines for the ethical treatment of human participants of the Italian Psychological Association, all participants were informed fully about the aims of the research, and formal consent was obtained prior to commencing with data collection. Subjects were asked to anonymously complete a battery of questionnaires in a booklet form. The questionnaires included the ISF-MJS and a measure of romantic attachment (see Measure section). The questionnaires were also designed to gather information about personal and demographic data (*i.e.*, age, gender, origin, parental education level, relationship status). The questionnaires were administered collectively in class during university course. Participation in the survey was voluntary, and no monetary reward was given. Participants could withdraw at any time.

Measures

The ISF-MJS was administered to all participants. They also completed the Italian version of the Experience in Close Relationship Questionnaire (ECR) [34], edited by Picardi and colleagues [35], in order to measure romantic attachment. The ECR is a self-report measure composed of 36 items, with a Likert scale format with seven points (from 1 = disagree strongly; to 7 = agree strongly). This questionnaire assesses two major dimensions of romantic attachment, each made up of 18 items, namely *Avoidance* and *Anxiety*. The Avoidance dimension measures levels of avoidance of intimacy, discomfort with closeness, and self-reliance. The Anxiety dimension measures jealousy, fear of rejection and abandonment. Low scores indicate secure attachment while high scores indicate that the subject has emotional insecurity (high scores on Anxiety dimension) or difficulty with intimacy (high scores on Avoidance dimension). The ECR has shown high internal consistency with a Cronbach's alpha of .94 for Avoidance and .91 for Anxiety [34]. In the present study, the alpha coefficients for Avoidance and Anxiety were .90 and .97, respectively.

Data Analyses

A confirmatory factor analyses (CFA) was performed to test the multidimensional structure of the ISF-MJS [35, 36], as illustrated in Fig. (1).

The goodness of fit of the model was assessed using χ^2 test, the Comparative Fit Index (CFI) [37], the Tucker-Lewis index (TLI) [38], the Standardized Root Mean Square Residual (SRMR) [39], and the Root Mean Square Error of Approximation (RMSEA) [40]

The SRMR and the RMSEA indices ranged from 0 to 1, with lower values indicating a better model fit. Values of

less than .08 were considered adequate [41]. The CFI and the TLI indices also ranged from 0 to 1. Higher values indicate a better model fit with satisfactory values of .90 or higher [42].

The reliability of the three dimensions of the ISF-MJS was calculated using the Cronbach's alpha coefficient.

The predictive validity of the ISF-MJS was assessed examining associations between the three dimensions of jealousy as measured by ISF-MJS and the conceptually distinct but related construct of insecure romantic attachment. In order to assess associations between these constructs, Pearson product-moment correlations were calculated in SPSS v.23.

Finally, multivariate analysis of variance (MANOVA) was implemented in order to verify gender differences on romantic jealousy.

RESULTS

Before analyzing the data, we conducted a preliminary analysis designed to test the normality of all the ISF-MJS items [43]. Analyses revealed a non-normal distribution for some items, which showed asymmetry and a kurtosis greater than ± 1 [44, 45]. For this reason, subsequent analyses were conducted using robust methods (Maximum Likelihood Estimates, MLM [46], utilizing the MPLUS v.5.21 statistical program.

Confirmatory factor analysis on the three-factor model provided an acceptable model fit ($\chi^2 = 345.234$, df = 117, p<.001; CFI = .90; TLI = .89; SRMR = .07; RMSEA = .06). Moreover, the CFA carried out on this model revealed significant saturations (p<.001) for all 17 items of the scale (see Fig. 1).

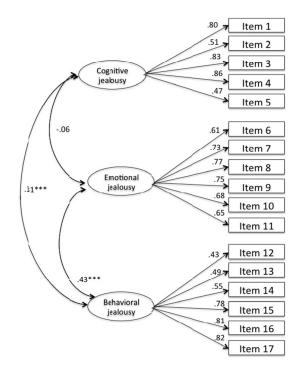


Fig. (1). Factor structure of the ISF-MJS, loadings and correlations.

Finally, the correlations among the three dimensions indicate significant and positive relationships (p < .001) between *emotional jealousy* and *behavioral jealousy* (r = .43), and between *behavioral jealousy* and *cognitive jealousy* (r = .31). No significant relationship was found between *emotional jealousy* and *cognitive jealousy*.

The reliability of three dimensions of the ISF-MJS indicated good values of internal consistency: *cognitive jealousy*, $\alpha = .80$; *emotional jealousy*, $\alpha = .85$; and *behavioral jealousy*, $\alpha = .80$.

The results of correlation analyses between the three dimensions of SF-MJ and the two dimensions of ECR revealed positive and significant associations between the three dimensions of jealousy and anxious romantic attachment. Specifically, the correlation value between cognitive jealousy and anxiety was r=.35; between emotional jealousy and anxiety, r=.31; and between behavioral jealousy and anxiety, r=.48. On the contrary, only emotional jealousy showed a significant, negative correlation with avoidance romantic attachment (r = -.30). All correlation values are significant at p < .01.

Table 1 illustrates the descriptive statistics for the three ISF-MJS dimensions by gender. Multivariate analysis of variance (MANOVA) showed significant multivariate effects for gender, F(3, 357) = 14.10, p<.001, $\eta^2 =.11$. Subsequent univariate analyses revealed statistically significant results for *emotional jealousy*, F(1, 359) = 25.51, p<.001, $\eta^2 =.07$, and *behavioral jealousy*, F(1, 359) = 29.59, p<.001, $\eta^2 =.08$. In particular, Bonferroni post-hoc tests showed that females perceived higher emotional and behavioral jealousy scores than did males. On the contrary, no gender differences emerged for the *cognitive jealousy* dimension.

	Males (n = 168)		Females (n = 193)			
	М	SD	М	SD	F	df	р
Cognitive Jealousy	8.71	4.90	9.22	4.49	1.107	1, 359	.293
Emotional Jealousy	29.88	8.64	33.79	5.97	25.508	1, 359	.000
Behavioral Jealousy	12.47	5.73	15.97	6.39	29.585	1, 359	.000

Table 1. Descriptive statistics of the ISF-MJS dimensions and ANOVA results.

DISCUSSION

Given the lack of questionnaires able to measure jealousy in romantic relationships within the Italian context, the purpose of the present study was to contribute to romantic jealousy research and literature through the Italian adaptation of a self-report instrument that would be capable of measuring different types of the jealousy experience, the SF-MJS [8, 33]. Starting from the multidimensional structure tested by Elphinston and colleagues [33], the present study was intended to assess the psychometric properties of the scale and to examine its predictive validity by comparing the scores of the three dimensions of jealousy (*i.e.* cognitive, emotional and behavioral) with insecure romantic attachment.

Overall, our study has provided verification that the ISF-MJS is an appropriate instrument to evaluate the perception individuals have of their feelings of jealousy.

Even if the self-evaluative nature of this instrument does not guarantee the objective veracity of the participants' reports, the data assessed using this scale constitutes a relevant source of information in the field of studies on intimate relationships, in which many aspects of individual experience may not be detected by observational or hetero-evaluation instruments.

Taken together, our results confirmed the three-factor structure of the ISF-MJS, supporting the presence of these distinct latent constructs by assessing several aspects of romantic jealousy. Therefore, the ISF-MJS appears to be a good measure of jealousy within the Italian context, and it allows for the assessment of the muldimensionality of this construct. Moreover, the psychometric properties of the ISF-MJS are promising. The scale showed good internal consistency for each dimension of the ISF-MJS, confirming the results obtained by the authors, also in the Italian context [8, 33].

The significant correlations between the three constructs of jealousy and anxious romantic attachment underlined the predictive validity of the ISF-MJS. As expected, and in line with previous research [7, 21, 47], our results showed a positive link between romantic jealousy and insecure attachment in a romantic relationship. In particular, individuals characterized by a high level of anxious attachment to partner tend to experience higher cognitive, emotional, and behavioral jealousy, displaying negative effects and frequent control behaviors. On the contrary, individuals characterized by a high level of avoidance attachment to partner tend to show a low level of emotional jealousy. This result could be due to specific features of the avoidance attachment style that reflects deep fears of dependence, proximity and intimacy. Consequently, avoidant individuals tend to use cognitive strategies and control their own emotions and feelings towards their partners to defend themselves from dependence experiences related to emotional contact with him/her. This evidence constitutes a significant confirmation of clinical observations reported in previous research, showing that avoidant individuals tend to react to the threat generated by perception of a real or potential romantic attraction between their partner and a rival less negatively than do anxious individuals [22, 23].

Moreover, in our results, females reported higher levels of emotional and behavioral jealousy than males. These findings are consistent with previous studies which have found that woman generally report more jealous feelings than men [33]. However, our study allowed us to point out that these gender differences are related only to some aspects of romantic jealousy, such as emotion and behavior, while no significant differences exist in cognitive dimensions of romantic jealousy. In other words, males and females are similar in cognitive evaluations of real or imaginary threats to their romantic relationship, but they differ in emotional experiences and behavioral strategies enacted to cope with their emotions and feelings. This evidence confirms the importance, from a theoretical and clinical point of view, of distinguishing different aspects of the jealousy experience.

CONCLUSION

The ISF-MJS results to be a reliable and useful instrument, not only in settings of research, but also in clinical settings, for detecting pathological jealousy. In this regard, further research will be needed to establish normative data. The assessment of jealous feelings in the romantic relationship of a patient, or in a couple in a clinical setting, can offer a better understanding of psychological disease and help determine the treatment.

Despite the fact that our findings are of interest, there are a number of limitations to this study.

First, the fit indices were not completely satisfactory; nonetheless, they can be considered acceptable.

A second limitation is that we have considered a wide range of romantic relationship duration. Future research could explore and evaluate the influence of relationship length on experiencing jealous feelings within the couple relationship.

Moreover, the sample included participants presenting different relationship statuses: some of them were married, others cohabiting, most of them were dating and not living with their partner. It is possible that the relationship status could influence the jealousy experience. An important indication for the future could be to extend this research to samples of participants presenting different relationship statuses. Additional data from new studies on this point might give greater validity to our results.

Despite these limitations, our results suggest that the ISF-MJS is an efficient scale for measuring several aspects of romantic jealousy in an easy and quick, but also reliable, way.

APPENDIX

Italian Version Of SF-MJS.

	Sempre [All the time] (1)			Mai [Never]				
				(7)				
1. Sospetto che il mio partner si stia vedendo di nascosto con qualcun altro/a [I suspect that X is secretly seeing someone of the opposite sex] (CJ)	1	2	3	4	5	6	7	
2. Ho il sospetto che il mio partner possa essere attratto da qualcun altro/a [I suspect that X may be attracted to someone else] (CJ)	1	2	3	4	5	6	7	
3. Ho il sospetto che il mio partner possa avere intimità fisica con qualcun altro/a [I suspect that X may be physically intimate with another member of the opposite sex behind my back] (CJ)	1	2	3	4	5	6	7	
4. Penso che il mio partner stia segretamente instaurando una relazione amorosa con qualcun altro/a [I think that X is secretly developing an intimate relationship with someone of the opposite sex] (CJ)	1	2	3	4	5	6	7	
5. Sospetto che il mio partner vada pazzo per tutti i membri dell'altro sesso [I suspect that X is crazy about members of the opposite sex] (CJ)	1	2	3	4	5	6	7	
	Nessun fastidio			Grande fastidio				
	[Very pleased] (1)		[Very upset]					
			(7)					
6. Il tuo partner commenta con te quanto è attraente una particolare persona [X comments to you on how great looking a particular member of the opposite sex is] (EJ)	1	2	3	4	5	6	7	
7. Il tuo partner mostra un grande interesse o eccitamento nel parlare con qualcun altro/a [X shows a great deal of interest or excitement in talking to someone of the opposite sex] (EJ)	1	2	3	4	5	6	7	

Crrmfly contd

Crrgpf kz contd								
8. Qualcun altro/a cerca la vicinanza col tuo partner per tutto il tempo [A member of the opposite sex is trying to get close to X all the time] (EJ)	1	2	3	4	5	6	7	
9. Il tuo partner sta flirtando con qualcun altro/a [X is flirting with someone of the opposite sex] (EJ)	1	2	3	4	5	6	7	
10. Qualcun altro/a sta fissando un appuntamento con il tuo partner [Testo of the opposite sex is dating X] (EJ)	1	2	3	4	5	6	7	
11. Il tuo partner abbraccia e bacia qualcun altro/a [X hugs and kisses someone of the opposite sex] (EJ)	1	2	3	4	5	6	7	
	Mai			Sempre				
	[Never]		[All the time]					
		(1)			(7)			
12. Frugo nei cassetti, nella borsa o nelle tasche del mio partner [I look through X's drawers, handbag, or pockets] (BJ)	1	2	3	4	5	6	7	
13. Chiamo il mio partner inaspettatamente, solo per vedere se c'è [I call X unexpectedly, just to see if he or she is there] (BJ)	1	2	3	4	5	6	7	
14. Faccio domande al mio partner sulle sue precedenti o attuali relazioni sentimentali [I question X about previous or present romantic relationships] (BJ)	1	2	3	4	5	6	7	
15. Interrogo il mio partner sulle telefonate che fa e riceve [I question X about his or her telephone calls] (BJ)	1	2	3	4	5	6	7	
16. Faccio domande al mio partner circa i posti dove è stato [I question X about his or her whereabouts] (BJ)	1	2	3	4	5	6	7	
17. Mi avvicino al mio partner ogni volta che lo vedo parlare con qualcun altro/a [I join in whenever I see X taking to a member of the opposite sex] (BJ)	1	2	3	4	5	6	7	
Note (CD) = items of Cognitive Jealousy: (ED) = items of Emotional Jealousy: (BD) = items of Behavior	vral Ies	lousy						

Note (CJ) = items of Cognitive Jealousy; (EJ) = items of Emotional Jealousy; (BJ) = items of Behavioral Jealousy

CONFLICT OF INTEREST

The authors confirm that this article content has no conflict of interest.

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REFERENCES

- [1] White GL. A model of romantic jealousy. Motiv Emot 1981; 5(4): 295-310. [http://dx.doi.org/10.1007/BF00992549]
- Kniffin KM, Wansink B. Its not just lunch: extra-pair commensality can trigger sexual jealousy. PLoS One 2012; 7(7): e40445. [http://dx.doi.org/10.1371/journal.pone.0040445] [PMID: 22792327]
- [3] Lazarus RS. Psychological stress and the coping process. New York: McGraw-Hill 1966.
- [4] Lazarus RS, Launier R. Stress-related transactions between person and environment. In: Lewis M, Ed. Perspectives in Interactional Psychology. Pervin, LA 1979; pp. 287-327.
- [5] Maggini C, Lundgren E, Leuci E. Jealous love and morbid jealousy. Acta Biomed 2006; 77(3): 137-46.
 [PMID: 17312983]
- [6] Dazzi C, Pedrabissi L. Contribution to the construction of a nonpsychotic morbid jealousy assessment tool. Testing Psicometria Metodologia 2004; pp. 77-93.
- [7] Guerrero LK, Andersen PA. Jealousy experience and expression in romantic relationships. In: Handbook of communication and emotion: Research, theory, applications, and contexts. Academic: San Diego 1998; pp. 155-88.
- Pfeiffer SM, Wong PT. Multidimensional jealousy. J Soc Pers Relat 1989; 6: 181-96. [http://dx.doi.org/10.1177/026540758900600203]
- [9] Lorenzi P. Criteria for the diagnosis of pathological jealousy. Riv Psichiatr 2002; 37: 301-6.
- [10] Kingham M, Gordon H. Aspects of morbid jealousy. Adv Psychiatr Treat 2004; 10(3): 207-15. [http://dx.doi.org/10.1192/apt.10.3.207]
- [11] Mullen PE. Jealousy: the pathology of passion. Br J Psychiatry 1991; 158(5): 593-601.
 [http://dx.doi.org/10.1192/bjp.158.5.593] [PMID: 1801774]
- [12] DeSteno D, Bartlett MY, Braverman J, Salovey P. Sex differences in jealousy: evolutionary mechanism or artifact of measurement? J Pers Soc Psychol 2002; 83(5): 1103-16. [http://dx.doi.org/10.1037/0022-3514.83.5.1103] [PMID: 12416915]

- Barnett OW, Martinez TE, Bluestein BW. Jealousy and romantic attachment in maritally violent and nonviolent men. J Interpers Violence 1995; 10(4): 473-86.
 [http://dx.doi.org/10.1177/088626095010004006]
- [14] Wigman SA, Graham-Kevan N, Archer J. Investigating sub-groups of harassers: The roles of attachment, dependency, jealousy and aggression. J Fam Violence 2008; 23(7): 557-68. [http://dx.doi.org/10.1007/s10896-008-9171-x]
- [15] Harris CR. A review of sex differences in sexual jealousy, including self-report data, psychophysiological responses, interpersonal violence, and morbid jealousy. Pers Soc Psychol Rev 2003; 7(2): 102-28.
 [http://dx.doi.org/10.1207/S15327957PSPR0702 102-128] [PMID: 12676643]
- [16] Harris CR, Darby RS. Jealousy in adulthood. In: Hart SL, Legerstee M, Eds. Handbook of jealousy: Theory, research, and multidisciplinary approaches. USA: Blackwell Publishing 2010; pp. 547-71. [http://dx.doi.org/10.1002/9781444323542.ch23]
- [17] Roberts K. Associated characteristics of stalking following the termination of romantic relationships. Appl Psychol Crim Justice 2005; 1(1): 15-35.
- [18] Simpson JA. Influence of attachment styles on romantic relationships. J Pers Soc Psychol 1990; 59(5): 971-80. [http://dx.doi.org/10.1037/0022-3514.59.5.971]
- Bartholomew K, Horowitz LM. Attachment styles among young adults: a test of a four-category model. J Pers Soc Psychol 1991; 61(2): 226-44.
 [http://dx.doi.org/10.1037/0022-3514.61.2.226] [PMID: 1920064]
- [20] Barelds DP, Barelds-Dijkstra P. Relations between different types of jealousy and self and partner perceptions of relationship quality. Clin Psychol Psychol 2007; 14(3): 176-88. [http://dx.doi.org/10.1002/cpp.532]
- [21] Sharpsteen DJ, Kirkpatrick LA. Romantic jealousy and adult romantic attachment. J Pers Soc Psychol 1997; 72(3): 627-40. [http://dx.doi.org/10.1037/0022-3514.72.3.627] [PMID: 9120787]
- [22] Guerrero LK. Attachment-style differences in the experience and expression of romantic jealousy. Pers Relatsh 1998; 5: 273-91. [http://dx.doi.org/10.1111/j.1475-6811.1998.tb00172.x]
- [23] Marazziti D, Consoli G, Albanese F, Laquidara E, Baroni S, Catena Dellosso M. Romantic attachment and subtypes/dimensions of jealousy. Clin Pract Epidemol Ment Health 2010; 6: 53-8. [http://dx.doi.org/10.2174/1745017901006010053] [PMID: 20835357]
- [24] Buss DM. The dangerous passion: Why jealousy is as necessary as love and sex. New York: Simon & Schuster 2000.
- [25] DeSteno D, Bartlett MY, Braverman J, Salovey P. Sex differences in jealousy: evolutionary mechanism or artifact of measurement? J Pers Soc Psychol 2002; 83(5): 1103-16. [http://dx.doi.org/10.1037/0022-3514.83.5.1103] [PMID: 12416915]
- Shackelford TK, Buss DM, Bennett K. Forgiveness or breakup: Sex differences in responses to a partner's infidelity. Cogn Emotion 2002; 16(2): 299-307.
 [http://dx.doi.org/10.1080/02699930143000202]
- [27] Easton JA, Schipper LD, Shackelford TK. Morbid jealousy from an evolutionary psychological perspective. Evol Hum Behav 2007; 28(6): 399-402.
 [http://dx.doi.org/10.1016/j.evolhumbehav.2007.05.005]
- [28] Al-Shawaf L, Conroy-Beam D, Asao K, Buss DM. Human emotions: An evolutionary psychological perspective. Emot Rev 2015; 1-14.
- [29] DeSteno DA, Salovey P. Evolutionary origins of sex differences in jealousy? Questioning the "fitness" of the model. Psychol Sci 1996; 7: 367-72.

[http://dx.doi.org/10.1111/j.1467-9280.1996.tb00391.x]

- [30] Nannini DK, Meyers LS. Jealousy in sexual and emotional infidelity: An alternative to the evolutionary explanation. J Sex Res 2000; 37(2): 117-22.
 - [http://dx.doi.org/10.1080/00224490009552028]
- [31] De Weerth C, Kalma AP. Female aggression as a response to sexual jealousy: a sex role reversal? Aggress Behav 1993; 19(4): 265-79. [http://dx.doi.org/10.1002/1098-2337(1993)19:4<265::AID-AB2480190403>3.0.CO;2-P]
- [32] Rich J. A two-factor measure of jealous responses. Psychol Rep 1991; 68(3 Pt 1): 999-1007.
 [http://dx.doi.org/10.2466/pr0.1991.68.3.999] [PMID: 1891554]
- [33] Elphinston RA, Feeney JA, Noller P. Measuring romantic jealousy: Validation of the multidimensional jealousy scale in Australian samples. Aust J Psychol 2011; 63: 243-51.
 [http://dx.doi.org/10.1111/j.1742-9536.2011.00026.x]
- [34] Brennan KA, Clark CL, Shaver PR. Self-report measurement of adult attachment: An integrative overview. In: Simpson JA, Rholes WS, Eds. Attachment theory and close relationships. New York, NY: Guilford Press 1998; pp. 46-76.

- [35] Picardi A, Vermigli P, Toni A, D'Amico R, Bitetti D, Pascquini P. Further evidence of the validity of the Italian version of the questionnaire Experience in Close Relationships (ECR), a self-report instrument to assess adult attachment. J Psychopathol 2002; 8: 282-94.
- [36] Jöresborg KG, Sörbom D. LISREL 8: User's reference guide. Chicago: Scientific Software 1993.
- [37] Bentler PM. Comparative fit indexes in structural models. Psychol Bull 1990; 107(2): 238-46. [http://dx.doi.org/10.1037/0033-2909.107.2.238] [PMID: 2320703]
- [38] Tucker LR, Lewis C. A reliability coefficient for maximum likelihood factor analysis. Psychometrika 1973; 38: 1-10. [http://dx.doi.org/10.1007/BF02291170]
- [39] Bentler PM. EQS structural equations program manual. University of California: Los Angeles 1995.
- [40] Steiger JH. Structural model evaluation and modification: an interval estimation approach. Multivariate Behav Res 1990; 25(2): 173-80. [http://dx.doi.org/10.1207/s15327906mbr2502_4] [PMID: 26794479]
- [41] Hu LT, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Struct Equ Modeling 1999; 6: 1-55.
 [http://dx.doi.org/10.1080/10705519909540118]
- [42] Hu LT, Bentler PM. Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. Psychol Methods 1998; 3: 424-53. [http://dx.doi.org/10.1037/1082-989X.3.4.424]
- [43] Fox J. Applied regression analysis and generalized linear models. London: Sage Publications Inc 2008.
- [44] Marcoulides GA, Hershberger SL. Multivariate Statistical Method: A First Course. Mahwah, NJ: Laurence Erlbaum Associates 1997.
- [45] Muthén BO, Kaplan D. A comparison of Some methodologies for the factor analysis of non-normal Likert variables. Br J Math Stat Psychol 1985; 38: 171-89.
 - [http://dx.doi.org/10.1111/j.2044-8317.1985.tb00832.x]
- [46] Muthén LK, Muthén BO. Mplus user's guide. 5th ed. Los Angeles, CA: Muthén & Muthén 1998-2007.
- [47] Buunk BP. Personality, birth order and attachment styles as related to various types of jealousy. Pers Individ Dif 1997; 23: 997-1006. [http://dx.doi.org/10.1016/S0191-8869(97)00136-0]

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