Indice

Couples' relationship satisfaction and problematic internet use. A dyadic response surface analysis

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Abstract

Maintaining a balance between healthy technology use and happy relationships can be challenging. This explorative study aims to examine the association between problematic internet use and relationship satisfaction in couples using a dyadic approach. In a sample of 155 heterosexual couples, a DRSA was conducted to examine the association of both partners' relationship satisfaction with their problematic internet use, as well as the association between the (dis)similarity between partners in their relationship satisfaction with the problematic internet use of each partner. Results showed that a higher personal level of relationship satisfaction was associated with a lower level of problematic internet use, while the (dis)similarity between partners was not associated with the problematic internet use.

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Introduction

In recent years, romantic relationships have taken on new characteristics in the light of the omnipresence of technology in people's lives. Couples frequently use technology to communicate for example by exchanging regular messages with each other during the day or sharing photos of their relationship on social networks (Norton et al., 2018). Therefore, one of the challenges that couples face in the present day is to define and maintain boundaries and rules that determine who can get access to the couple's life via social networks and which online behaviors and activities may be considered appropriate or inadequate in the context of a stable romantic relationship.

Usually when couple satisfaction is low, it is more likely for one or both partners to engage in inappropriate behavior and experience psychopathology (Braithwaite & Holt-Lunstad, 2017). Previous studies showed that marital dissatisfaction predicted substance and alcohol abuse (Whisman et al., 2006) and poor health habits (i.e., decreased sleep, unbalanced diet, smoking; Wickrama et al., 1997). Consequently, when a member of the couple feels dissatisfied with their romantic relationship, they can compensate for the lack of social and emotional support by using social networks, or they can decide to spend more time and energy engaged in pleasant internet activities instead of engaging in activities with their partner (Valenzuela et al., 2014). Several studies (see Rus & Tiemensma, 2017 for a review) showed that internet use and relationship quality are related in different ways. For example, Saslow et al. (2013) showed that people who reported high relationship satisfaction tend to share more information on Facebook about it. Similarly, using a daily approach, Marshall et al. (2013) reported that relationship dissatisfaction significantly predicted checking behavior of the partner's Facebook page.

These considerations have led several scholars to investigate how much relationship quality is associated with dysfunctional internet and social networking site use. Consistent studies found negative associations between relationship satisfaction and problematic social network site use (Northrup & Smith, 2016; Valenzuela et al., 2014) and internet use (Kerkhof et al., 2011). These associations can be explained

through Davis' Cognitive-Behavioral Model (2001) that asserts that "a vicious cycle of cognitive distortions and reinforcement facilitates symptoms of pathological internet use" (p. 194). Problematic internet use is an umbrella term that refers to all potentially dysfunctional, excessive, and inappropriate online activities that could have several negative consequences on social, psychological, educational and professional domains (Fineberg et al., 2018). Generally, problematic internet use is characterized by intense preoccupation and difficulty in managing time spent online with several consequences on everyday functioning and on physical and psychological well-being (Spada, 2014). Although there is not a universal prevalence estimate, previous studies indicated problematic internet use is particularly relevant for younger age groups where adolescents and young adults (18-35) tend to be particularly affected because they have higher internet use (Laconi et al., 2018).

The Cognitive-Behavioral Model (Davis, 2001) describes the etiology of problematic internet use as the combination of problematic cognitions and behaviors that promote and maintain the maladaptive response. In line with this theoretical foundation, unpleasant situations, negative feelings and thoughts may act as triggers for internet use to escape from and avoid stressful conditions. In a situation of interpersonal dissatisfaction with a partner, internet use may provide emotional relief that, on the one hand, can maintain greater social network and internet use because it alleviates negative moods and stress experienced in the relationship, whilst also reducing the time dedicated to activities with the partner (negative reinforcement). On the other hand, internet use is positively reinforced since it allows the formation of new ad external relationships and it strengthens existing social networks (Demircioğlu & Köse, 2018; Skinner, 1969). These mechanisms have also been explained by Northrup and Smith (2016), who found that the association between feeling love towards the partner and Facebook maintenance behaviors is bidirectional. In fact, those who spend much time on Facebook usually have lower levels of relationship satisfaction. However, it is equally possible that those who are not satisfied with their romantic relationship use Facebook more to avoid spending time together with their partner or to search

for alternative relationships. Similarly, the internet may be used to withdraw from an unhappy romantic relationship (Caughlin, 2002).

Although a growing number of studies have shown that it is essential when studying the couple to use a dyadic approach that integrate the reciprocal associations between partners (Kenny & Ledermann, 2010), in the study of Kerkhof et al. (2011), the negative relationship between problematic internet use and relationship satisfaction occurred mainly within the individual rather than across partners. However, to have a more comprehensive understanding of the association between couples could be crucial to explore the similarity between partners in their level of relationship satisfaction. Specifically, the dyad members' dissimilarity in relationship satisfaction may be more problematic for a partner who does not perceive the same level of dissatisfaction in the other partner and therefore this may facilitate the development of compensatory, excessive, and dysregulated behavior, such as problematic internet use. The (dis)similarity in relationship satisfaction could also be irrelevant considering that partners may only give importance to their own level of relationship satisfaction, and this could be associated with problematic internet use regardless of the other partner's relationship satisfaction. Furthermore, the dissimilarity could also have a protective role; It could be also possible that high levels of one partner's relationship satisfaction can act as a buffer against negative associations between one partner's levels of relationship satisfaction and their level of problematic internet use. Considering that previous studies have not tested the dyadic (dis)similarity regarding couples' relationship satisfaction, an explorative approach is requested to deepen the understanding of the association between couples' relationship satisfaction levels and problematic internet use and to verify whether personal relationship satisfaction of each partner matters more with regards to their problematic internet use than being (dis)similar in their level of relationship satisfaction, or whether similarity matters above and beyond the overall level of couples' relationship satisfaction.

Dyadic response surface analysis (DRSA) is a good way to examine dyadic (dis)similarity associations since it allows testing whether being similar or dissimilar to the romantic partner regarding the

levels of a variable (i.e., relationship satisfaction) is associated with the levels of another variable (i.e., problematic internet use) of both partners (Weidmann et al., 2017). To date, no study has used DRSA to analyze the association between relationship satisfaction and internet use. This type of analysis can provide information about the dynamics of interaction between the couple's perceptions, i.e., is problematic internet use more likely to occur when the perception of relationship satisfaction is similar in both partners or when it differs?

Previous studies showed the relevance to investigate relationship satisfaction in the context of problematic internet use (McDaniel & Coyne, 2016), but only a few studies explored this association and examined the contribution of both partners (Kerkhof et al., 2011), without investigating how the dissimilarity or similarity in the level of relationship satisfaction between perceptions of partners might be associated with problematic internet use in both partners. For this reason, the main research questions of the present explorative study are: (q1) Is the individual's perceived level of relationship satisfaction associated with the individuals' levels of problematic internet use (i.e., actor associations)?; (q2) Is the individual's perceived level of relationship satisfaction associated with levels of problematic internet use of the partner (i.e., partner associations)?; (q3) Is the similarity or dissimilarity between partners in the level of perceived relationship satisfaction associated with the level of problematic internet use in both partners?

Method

Participants

Participants in this study were 155 heterosexual couples in a romantic relationship for at least ten months. All participants were Italian, spoke Italian as their first language, and lived in several cities located in the south of Italy. Participants identified as cisgender females with an age range between 20 and 34 years old ($M = 25.93$; $SD = 2.67$). Participants who identified as cisgender males had an age range between 20 and 35 years old ($M = 27.15$; $SD = 3.15$). Regarding educational

level, two women (1%) had completed middle school, 74 (48%) had obtained a high school diploma, and 79 (51%) obtained a master's degree. Seven men (4%) had obtained a middle school certification, 93 (60%) had obtained a high school diploma, and 55 (36%) had obtained a master's degree.

Procedure

The present convenience sample was recruited through contact with local associations operating in Sicily and Calabria and through personal contacts. Both partners responded to questionnaires separately under the supervision of a trainee psychology graduate. Participation in the research was voluntary and anonymity was guaranteed. Considering the complexity of the model and the difficulties in statistically controlling for the confounding variables without reducing the power, stringent inclusion and exclusion criteria were used to make the participants constant on some relevant variables. Specifically, the inclusion criteria for the study consisted of being a heterosexual couple in a stable monogamous relationship for at least ten months. Furthermore, previous studies have shown that different personal and situational characteristics of couples and periods of the lifecycle as couples (e.g., from partnership to parenthood) have an impact on the relationships and on the dynamic of the couples (Kluwer, 2010). For this reason, being married, divorced and/or having children were defined as exclusion criteria. Following the international guidelines of the Helsinki Declaration and the Italian Association of Psychology (AIP), the researchers obtained the authorization of the local ethics committee, and only the couples where both partners signed the informed consent forms were able to participate.

Measures

The Internet Disorder Scale-Short Form (IDS9-SF). The IDS9-SF (Pontes & Griffiths, 2016) is a unidimensional scale, consisting of nine

items and it was used to assess the presence of dysfunctional internet use, focusing on users' online leisure time activity (i.e., excluding academic and/or occupational internet use). Respondents answered the questions (e.g., items: And "Do you have difficulties in trying to control, cut down, and/or cease your online usage?"; "Have you lost interest in previous hobbies and other leisure activities as a result of being online?") using a 5-point Likert scale from 1 ("Never") to 5 ("Very often"). The reliability of this measure was high (women: α = .88; men: α = .86).

The Romantic Relationship Quality (RQS). To evaluate relationship satisfaction, a short form of the Romantic Relationship Quality questionnaire (Ponti et al., 2010) was used. Respondents answered 12 items (e.g., "Sometimes my partner does things for me, or makes me feel special") using a 5-point Likert scale ranging from 1 ("Absolutely false") to 5 ("Absolutely true"). In this study, a total relationship satisfaction index was used, which considers emotional closeness, companionship and any conflict. In this study, the reliability was high both in women (α = .78) and in men (α = .81).

Data Analysis

Preliminary analyses for all study variables were conducted, calculating descriptive statistics (mean, standard deviations, minimum and maximum value, skewness, and kurtosis) and Pearson's correlations. To examine the role of dyadic (dis)similarity between partners on relationship satisfaction in the context of problematic internet use of both partners, a Dyadic Response Surface Analysis (DRSA; Schönbrodt et al., 2018) was used. R studio was used to test DRSA, applying the source code defined by Schönbrodt et al. (2018) that integrates the packages lavaan (Rosseel, 2012) and RSA using robust maximum likelihood estimators (MLR) and Full Information Maximum Likelihood to deal with missing values.

DRSA produces four coefficients, respectively, for men ($a1m$, $a2m$, $a3m$, $a4m$) and for women ($a1f$, $a2f$, $a3f$, $a4f$) that allow interpreting the responses by the line of congruence (LOC) and the line

of incongruence (LOIC). Specifically, the a1 parameter (a1m for men and a1f for women) statistically tests the linearity of the LOC that could indicate that congruence at the high/low level of the predictor between the two partners could have different outcomes. The a2 parameter, instead, tests the curvilinearity of the LOC that could indicate that a congruence at the extreme level of the predictor between the two partners could have different outcomes than congruence between the two partners at the middle level of the predictor. The other two parameters refer to the LOIC, specifically the a3 parameter tests the linearity of the LOIC that could indicate that discrepancy at the high/low level of the predictor between the two partners could have different outcomes, suggesting that one combination (Actor > Partner) is worse or better than the other (Actor < Partner). The a4 parameter, instead, tests the curvilinearity of the LOIC that could indicate that a discrepancy at the extreme/middle level of the predictor between the two partners could have different outcomes, suggesting that the outcome is higher with discrepancies or with congruences. However, to have a full comprehension of the (dis)similarity patterns, is not possible to base the interpretation from a single coefficient in isolation, but the entire pattern of results needs to be evaluated (Humberg et al., 2019).

Results

Descriptive Statistics and Preliminary Analyses

Table 1 reports the descriptive statistics and correlation analyses for all study variables. Correlational analyses showed that both partners' problematic internet use was negatively related to relationship satisfaction of both partners. Relationship satisfaction of both partners was correlated. Examination of the mean level between partners showed that there were no differences between partners in both levels of relationship satisfaction, $t(154) = .14$, $p = .89$, and problematic internet use $t(154) = .06$, $p = .95$.

Table 1.

Descriptive and Correlational Analyses

	Min	Max	M	SD	Ske	Kur	α	1	2	5
1. Problematic internet use - Women	1.00	3.67	1.63	.64	1.47	2.04	.88			
2. Problematic internet use - Men	1.00	4.00	1.62	.66	1.14	.77	.86	.31**		
3. Relationship Satisfaction - Women	2.58	5.00	4.04	.54	-.54	-.23	.78	-.31**	-.17*	
4. Relationship Satisfaction - Men	2.36	5.00	4.03	.58	-.81	.05	.81	-.27**	-.26**	.72**

Note. 146; ** p < .01; * p < .05

Dyadic Response Surface Analysis

The results of the DRSA are presented in Table 2, and the graphical representation is displayed in Figure 1. In line with the interpretation guidelines for DRSA (Schönbrodt et al., 2018), results showed that in the relationship between both partners' satisfaction and women's problematic internet use (Figure 1a), only perceived level of relationship satisfaction reported by women was significantly associated with women's problematic internet use (b1f). This result suggests a predominant actor association, with a negative association between women's perceived relationship satisfaction and their problematic internet use. Moreover, congruence of the couple's relationship satisfaction scores was significantly associated with women's problematic internet use (a1f), and problematic internet use reported by women increased when both partners' relationship satisfaction scores were low. The presence of only this coefficient (a1f) significant in addition to the actor association (b1f), suggests that was the personal level of relationship satisfaction reported by women rather than similarity between partners to be negatively associated with women's problematic internet use.

Examining the relationship between both partners' relationship satisfaction and problematic internet use reported by men (Figure 1b), results of the DRSA showed that the perceived relationship
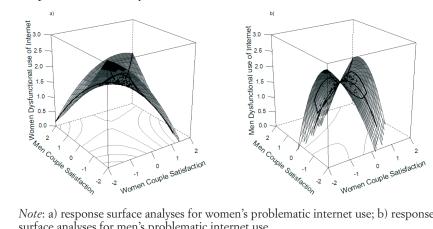
Table 2.

Coefficients of the Dyadic Response Surface Analysis

		b	SE	p	ci low	ci up
Outcome: Problematic Internet Use – Women						
Women's report of relationship satisfaction	(b1f)	-0.28	0.12	0.02	-0.51	-0.05
Men's report of relationship satisfaction	(b2f)	-0.03	0.13	0.81	-0.28	0.22
Quadratic Women's report of relationship satisfaction	(b3f)	-0.16	0.26	0.53	-0.67	0.34
Men x women's report of relationship satisfaction	(b4f)	0.35	0.32	0.27	-0.28	0.98
Quadratic Men's report of relationship satisfaction	(b5f)	0.03	0.25	0.89	-0.45	0.52
Outcome: Problematic Internet Use – Men						
Women's report of relationship satisfaction	(b1m)	0.10	0.11	0.37	-0.11	0.31
Men's report of relationship satisfaction	(b2m)	-0.39	0.13	0.01	-0.64	-0.14
Quadratic Women's report of relationship satisfaction	(b3m)	-0.30	0.19	0.10	-0.67	0.06
Men x women's report of relationship satisfaction	(b4m)	0.98	0.26	< 0.01	0.47	1.49
Quadratic Men's report of relationship satisfaction	(b5m)	-0.53	0.20	0.01	-0.93	-0.13
Outcome: Problematic Internet Use – Women						
line of congruence	a1f	-0.31	0.11	< 0.01	-0.52	-0.10
curvilinearity in line of congruence	a2f	0.22	0.17	0.20	-0.11	0.55
line of incongruence	a3f	-0.25	0.22	0.25	-0.68	0.18
curvilinearity in line of incongruence	a4f	-0.48	0.66	0.47	-1.77	0.81
Outcome: Problematic Internet Use – Men						
line of congruence	a1m	-0.29	0.12	0.01	-0.53	-0.06
curvilinearity in line of congruence	a2m	0.15	0.14	0.30	-0.13	0.43
line of incongruence	a3m	0.49	0.20	0.02	0.09	0.88
curvilinearity in line of incongruence	a4m	-1.81	0.55	< 0.01	-2.89	-0.73

satisfaction of men had a significant linear (b2m) and quadratic (b5m) association with their problematic internet use. Specifically, the response surface analyses showed that problematic internet use reported by men was greater when both partners' relationship satisfaction scores were similar compared to when they differed (a4m), with men's problematic internet use having been greater when both partners' relationship satisfaction scores were low (a1m). Finally, the discrepancy in the relationship satisfaction scores of the two partners was significantly associated with problematic internet use reported by men (a3m), with men's problematic internet use having been higher when relationship satisfaction reported by women was higher than that of men. The integration of the results in all these coefficients suggests that there is not a pattern of similarity or dissimilarity that can have a stronger association with men's problematic internet use and that the common aspect in higher levels of problematic internet use in men is the lower personal level of relationship satisfaction reported by men.

Figure 1.
Response surface analyses

Note: a) response surface analyses for women's problematic internet use; b) response surface analyses for men's problematic internet use.

Discussion

The first question of the present study was to verify whether personal relationship satisfaction was associated with problematic internet use. Our results, in line with the relevant literature about the association between couple's relationship dissatisfaction and problematic behaviors (Braithwaite & Holt-Lunstad, 2017; Whisman & Baucom, 2012), extend these findings showing a strong negative relationship between problematic internet use and relationship satisfaction in both partners. In line with the Davis' Cognitive-Behavioral Model (2001), it is possible that unpleasant experiences and negative feelings due to relationship dissatisfaction may facilitate problematic internet use as dysfunctional coping mechanism, in line with previous research (Kuss et al., 2017).

Regarding the second question of the study, the full model has shown that only the personal level of relationship satisfaction was negatively related with problematic internet use, while there was not a partner association. This result seems to suggest that for each partner, problematic internet use can be particularly associated with the personal perception of dissatisfaction in the relationship (Kerkhof et al., 2011). Although the results have not shown partner associations in both partners, an interaction between men's and women's relationship satisfaction emerged as potentially relevant for problematic internet use reported by men. Considering the lack of associations between the level of relationship satisfaction of one partner and the problematic internet use of the other partner (partner associations) and the absence of the significant effect of the(dis)similarity between partners in their level of relationship satisfaction, is possible that the level of relationship satisfaction reported by women may not provide a unique contribution to men's problematic internet use, but men's problematic internet use may increase when both partners' relationship satisfaction scores are low or when women have higher relationship satisfaction than men. Therefore, it is plausible that the discrepancy between the perception could be an additional form of distress and that men who do not feel satisfied in their romantic relationship may seek satisfaction in internet activities (Caughlin, 2002; Kerkhof et al., 2011).

The third question of this study was to investigate to what extent the congruence or discrepancy between the partners' perception of relationship satisfaction was associated with the level of problematic internet use of each partner. The identification of congruence or discrepancy were not supported, and we found that both partners who have similar levels of relationship satisfaction do not have lower level of problematic internet use than those who have more dissimilar levels. However, the results suggested that the overall level of the couple's relationship satisfaction was associated with a lower level of problematic internet use in both partners. This result is in line with previous studies that overall, in both partners, relationship quality is associated with several indicators of well-being (Roberson et al., 2018).

Some limitations of the current study need to be highlighted. The cross-sectional nature of this study does not allow us to determine the direction of the relationships. It is plausible that the couple's problematic internet use may predict lower perceived relationship satisfaction, but the opposite direction could also be valid. In the future, it will be necessary to analyze longitudinal data to study the direction of these relationships in more depth in individuals and their partners. Furthermore, in this study, similarity and dissimilarity between partners is reduced exclusively to the levels of relationship satisfaction, and future studies should consider the role of similarity and discrepancy of other variables (e.g., personality traits). Another limitation is the use of self-reports to measure problematic internet use which are subject to recall and social desirability biases. More objective measures of internet use may provide more realistic indications of actual internet use and provide information about the main problematic activities engaged in on the internet, especially regarding invasive monitoring partner's social networks. Moreover, we did not have information about the social context of the couples who participated in this study, and it is important to consider in future studies that characteristics, such as value system, economic status, the type of access of and type of internet use can affect the interpretation of results. Moreover, in this study, the focus was on general relationship quality, and the measures used did not allow directly assessing the online experience of the couples: Future studies should explore more deeply the relationship dynamics with the internet using specific constructs, such as

online monitoring, pubbing, and internet surveillance. Furthermore, our sample consisted of young couples in a stable relationship for at least ten months, the majority of whom were not cohabiting: It would be useful to investigate these dynamics in older adult couples with several years of cohabitation. Another aspect to consider in the examination of these results is the use of a convenience sample and that this could reveal sampling bias that calls for caution in the interpretation of findings. Finally, future studies should investigate these variables in culturally different samples with different characteristics that may adequately represent the heterogeneity of the dyadic constellations.

In conclusion, the present study is one of the first to investigate the role similarity between romantic partners' relationship satisfaction plays in problematic internet use, using dyadic polynomial regression analysis and response surface parameters. Overall, the current evidence confirms that for both partners, perceived low relationship satisfaction may promote higher problematic internet use, above and beyond the contribution of both partners' perceptions. Furthermore, the (dis)similarity between perceived relationship satisfaction of each partner seems not to be an important predictor of problematic internet use. These findings are of practical relevance because they can help couples understand that for both partners it may not be useful to try to be more similar in their level of relationships satisfaction but rather find ways to promote personal relationship satisfaction.

References

Braithwaite, S., & Holt-Lunstad, J. (2017). Romantic Relationships and Mental Health. *Current Opinion in Psychology*, *13*, 120-125. https://doi.org/10.1016/j.copsyc.2016.04.001

Caughlin, J. P. (2002). The Demand/Withdraw Pattern of Communication as a Predictor of Marital Satisfaction over Time: Unresolved Issues and Future Directions. *Human Communication Research*, *28*(1), 49-85. https://doi.org/10.1111/j.1468-2958.2002.tb00798.x

Davis, R. A. (2001). A Cognitive-Behavioral Model of Pathological Internet Use. *Computers in Human Behavior*, *17*(2), 187-195. https://doi.org/10.1016/S0747-5632(00)00041-8

Demircioğlu, Z. I., & Köse, A. G. (2018). Effects of Attachment Styles, Dark Triad, Rejection Sensitivity, and Relationship Satisfaction on Social Media Addiction: A Mediated Model. *Current Psychology*, *40*, 414-428. https://doi.org/10.1007/s12144-018-9956-x

Fineberg, N. A., Demetrovics, Z., Stein, D. J., Ioannidis, K., Potenza, M. N., Grünblatt, E., Brand, M., Billieux, J., Carmi, L., King, D. L., Grant, J. E., Yücel, L., Dell'Osso, B., Rumpf, H. J., Hall, N., Hollander, E., Goudriaan, A., Menchon, J., Zohar, J., … & Chamberlain, S. R. (2018). Manifesto for a European Research Network into Problematic Usage of the Internet. *European Neuropsychopharmacology*, *28*(11), 1232-1246. https://doi.org/10.1016/j.euroneuro.2018.08.004

Humberg, S., Nestler, S., & Back, M. D. (2019). Response Surface Analysis in Personality and Social Psychology: Checklist and Clarifications for the Case of Congruence Hypotheses. *Social Psychological and Personality Science*, *10*(3), 409-419. https://doi.org/10.1177/1948550618757600

Kenny, D. A., & Ledermann, T. (2010). Detecting, Measuring, and Testing Dyadic Patterns in the Actor-Partner Interdependence Model. *Journal of Family Psychology*, *24*(3), 359. https://doi.org/10.1037/a0019651

Kerkhof, P., Finkenauer, C., & Muusses, L. D. (2011). Relational Consequences of Compulsive Internet Use: A Longitudinal Study among Newlyweds. *Human Communication Research*, *37*(2), 147-173. https://doi.org/10.1111/j.1468-2958.2010.01397.x

Kluwer, E. S. (2010). From Partnership to Parenthood: A Review of Marital Change across the Transition to Parenthood. *Journal of Family Theory & Review*, *2*(2), 105-125. https://doi.org/10.1111/j.1756-2589.2010.00045.x

Kuss, D. J., Dunn, T. J., Wölfling, K., Müller, K. W., Hędzelek, M., & Marcinkowski, J. (2017). Excessive Internet Use and Psychopathology: The Role of Coping. *Clinical Neuropsychiatry*, *14*(1), 73-81.

Laconi, S., Kaliszewska-Czeremska, K., Gnisci, A., Sergi, I., Barke, A., Jeromin, F., Growth, J., Gamez-Gaudix, M, Ozcan, N. K., Demetrovics, Z., Király, O., Siomos, K., Floros, G., & Kuss, D. J. (2018). Cross-Cultural Study of Problematic Internet Use in Nine European Countries. *Computers in Human Behavior*, *84*, 430-440. https://doi.org/10.1016/j.chb.2018.03.020

Marshall, T. C., Bejanyan, K., Di Castro, G., & Lee, R. A. (2013). Attachment Styles as Predictors of Facebook-Related Jealousy and Surveillance in Romantic Relationships. *Personal Relationships*, *20*(1), 1-22. https://doi.org/10.1111/j.1475-6811.2011.01393.x

McDaniel, B. T., & Coyne, S. M. (2016). "Technoference": The Interference of Technology in Couple Relationships and Implications for Women's Personal and Relational Well-Being. *Psychology of Popular Media Culture*, *5*(1), 85-98. https://doi.org/10.1037/ppm0000065

Northrup, J., & Smith, J. (2016). Effects of Facebook Maintenance Behaviors on Partners' Experience of Love. *Contemporary Family Therapy*, *38*(2), 245-253. https://doi.org/10.1007/s10591-016-9379-5

Norton, A. M., Baptist, J., & Hogan, B. (2018). Computer-Mediated Communication in Intimate Relationships: Associations of Boundary Crossing, Intrusion, Relationship Satisfaction, and Partner Responsiveness. *Journal of Marital and Family Therapy*, *44*(1), 165-182. https://doi.org/10.1111/jmft.12246

Pontes, H. M., & Griffiths, M. D. (2016). The Development and Psychometric Properties of the Internet Disorder Scale-Short Form (IDS9-SF). *Addicta: The Turkish Journal on Addictions*, *3*(2), 303-318. https://doi.org/10.15805/addicta.2016.3.0102

Ponti, L., Guarnieri, S., Smorti, A., & Tani, F. (2010). A Measure for the Study of Friendship and Romantic Relationship Quality from Adolescence to Early-Adulthood. *The Open Psychology Journal*, *3*(1), 76-87. https://doi.org/10.2174/1874350101003010076

Roberson, P. N., Lenger, K. A., & Olmstead, S. B. (2018). Examining how Romantic Relationship Quality Influences Individual Psychological Distress over Time for Men and Women. *Journal of Adult Development*, *25*, 259-269. https://doi.org/10.1007/s10804-018-9290-4

Rosseel, Y. (2012). Lavaan: An R Package for Structural Equation Modeling and more. Version 0.5-12 (BETA). *Journal of Statistical Software*, *48*(2), 1-36. https://doi.org/10.18637/jss.v048.i02

Rus, H. M., & Tiemensma, J. (2017). "It's Complicated". A Systematic Review of Associations between Social Network Site Use and Romantic Relationships. *Computers in Human Behavior*, *75*, 684-703. https://doi.org/10.1016/j.chb.2017.06.004

Saslow, L. R., Muise, A., Impett, E. A., & Dubin, M. (2013). Can You See how Happy We Are? Facebook Images and Relationship Satisfaction. *Social Psychological and Personality Science*, *4*(4), 411-418. https://doi.org/10.1177/1948550612460059

Schönbrodt, F. D., Humberg, S., & Nestler, S. (2018). Testing Similarity Effects with Dyadic Response Surface Analysis. *European Journal of Personality*, *32*(6), 627-641. https://doi.org/10.1002/per.2169

Skinner, B. F. (1969). *Contingencies of Reinforcement*. Appleton-Century-Crofts.

Spada, M. M. (2014). An Overview of Problematic Internet Use. *Addictive Behaviors*, *39*(1), 3-6. https://doi.org/10.1016/j.addbeh.2013.09.007

Valenzuela, S., Halpern, D., & Katz, J. E. (2014). Social Network Sites, Marriage Well-Being and Divorce: Survey and State-Level Evidence from the United States. *Computers in Human Behavior*, *36*, 94-101. https://doi.org/10.1016/j.chb.2014.03.034

Weidmann, R., Schönbrodt, F. D., Ledermann, T., & Grob, A. (2017). Concurrent and Longitudinal Dyadic Polynomial Regression Analyses of Big Five Traits and Relationship Satisfaction: Does Similarity Matter? *Journal of Research in Personality*, *70*, 6-15. https://doi.org/10.1016/j.jrp.2017.04.003

Whisman, M. A., & Baucom, D. H. (2012). Intimate Relationships and Psychopathology. *Clinical Child and Family Psychology Review*, *15*, 4-13. https://doi.org/10.1007/s10567-011-0107-2

Whisman, M. A., Uebelacker, L. A., & Bruce, M. L. (2006). Longitudinal Association between Marital Discord and Alcohol Use Disorders. *Journal of Family Psychology*, *20*(1), 164-167. https://doi.org/10.1037/0893-3200.20.1.164

Wickrama, K. A. S., Lorenz, F. O., Conger, R. D., & Elder Jr., G. H. (1997). Marital Quality and Physical Illness: A Latent Growth Curve Analysis. *Journal of Marriage and the Family*, *59*(1), 143-155. https://doi.org/10.2307/353668