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Abstract

Through online social networks, individuals establish and maintain social connections to satisfy their need to belong. Recent research suggests that taken too far, one's need to belong can increase envy and lead to maladaptive social media behavior aligned with obsessive-compulsive disorder. This study examines the role of two personality traits, one's intrinsic need to belong and trait reactance, on feelings of envy and the self-disclosure processes that lead to obsessive-compulsive disorder on social networks. A sample of 354 U.S. adult users of Facebook completed a survey measuring individuals' need to belong, trait reactance, envy, self-disclosure, and online social network obsessive-compulsive disorder. Regression analyses reveal that need to belong and trait reactance both independently and interactively relate to envy, and that self-disclosure mediates the relationship between envy and obsessive-compulsive disorder on social networks. Those with low trait reactance appear at the lowest risk of online social network OCD no matter their need to belong. The highest risk profile for online OCD is found in those with both high trait reactance and high need to belong. Overall, our findings support further exploration of one's intrinsic need to belong and trait reactance as personality indicators of risk for online social network OCD.

***Keywords**:* need to belong, self-disclosure, trait reactance, envy, online social network obsessive-compulsive disorder

Introduction

Online social network (OSN) sites, such as Facebook, help people establish and maintain social connections.[1,2,3,4] By 2025, worldwide social media users is forecasted to reach 4.4 billion.[5,6] However, use of OSNs can become maladaptive, manifesting as an obsessive compulsion.[7] Not surprising, researchers are increasingly considering behavioral addiction to online activities, such as social media[8,9,10] and its drivers warrant consideration.[11] In this research, we investigate envy as a key driver of obsessive-compulsive use of OSNs (OSN OCD)[7] and the mediating role of self-disclosure. Additionally, we assess the independent and interactive roles of two personality traits, one's intrinsic need to belong and trait reactance, in feelings and responses to envy in the context of social networks.[12] One's need to belong is a core human need with extensive research in psychology.[13] Need to belong predicts social network use,[14] but also addictive tendencies toward OSNs.[15] Trait reactance is an individual's predisposition to resist perceived threats to freedom and external influences. Because trait reactance boosts individuals' core beliefs and feelings,[16,17] it may be relevant in the context of online social networks, which are prime sources of social pressure and influence.[18] However, only one study has investigated trait reactance in an OSN setting, finding that Facebook users with high trait reactance become more irritated with paid branding messages.[19] In particular, this research examines whether and how trait reactance may interact with one's need to belong in affecting behavior in online environments.

Drivers of Online Social Network OCD: Envy and Self-Disclosure

Researchers have proposed that envy can drive compulsive behavior on social media in the form of OCD.[7] Social networks fodder social comparison[20,21,22,23,24] and can trigger feelings of inferiority,[25] thereby producing envious feelings.[7,26,27] Envy evokes a range of unpleasant feelings such as resentment, frustration, or fear of missing out, and motivates

action.[28,29,30] We propose that self-disclosure, the process whereby one shares vast amounts of information, including about oneself,[31] can explain why envy affects OCD. Envy is a strong call to action[28] which motivates people to respond to the envied person by addressing perceived imbalances between oneself and the envied person by depriving the envied person's superiority (e.g., leveling down) or bolstering one's comparative position (e.g., leveling up).[12] In other words, envy motivates self-disclosure: revealing to others aspects of themselves, such as personal information, experiences, thoughts, and feelings.[32]

While disclosing information about oneself can foster meaningful relationships,[33,34] and increase OSN enjoyment,[35] social support,[36] and well-being[37,38,39], self-disclosure can also increase one's vulnerability and the risk for negative feedback.[32,34,40,41] Paradoxically, these negative emotional states can create a vicious cycle and encourage further engagement on social network sites.[42,43,44] To the best of our knowledge, no research to date has explored the relationship between self-disclosure and OCD in online social networks.[45] Yet, scholars recognize the relevance of self-disclosure in the development of obsessions,[46] particularly when the content of one's obsession is ego-dystonic in nature—conflicting with one's beliefs and values.[47]

Based on this theoretical development, we propose that envy motivates greater levels of self-disclosure on OSN (H1) and in turn, self-disclosure positively influences the onset of obsessive behavior, as captured in online social network OCD (H2).[48] As such, we propose that self-disclosure mediates the relationship between envy and OSN OCD (H3).

The Role of Need to Belong

Need to belong characterizes a "strong desire to form and maintain enduring personal attachments".[49] This drive to connect with others often improves health and wellbeing[49], but can also lead to problematic feelings and behaviors.[50] For instance, this desire could increase self-disclosure and lead to addictive use of social media.[14,15] High need to belong individuals

are sensitized to social cues and engage in social comparison[51], as such they would be especially likely to develop feelings of envy, drive increased self-disclosure, and in turn experience addictive behavior. Therefore, we propose that need to belong positively influences envy (H4a), self-disclosure (H4b), and risk of OCD in online social networks (H4c).

The Role of Trait Reactance

Trait reactance predisposes individuals to resist outside influences and social pressures. High reactance individuals tend to go against whatever is being suggested when they perceive their autonomy is being threatened.[52,53] Not surprisingly, high trait reactance individuals perceive persuasion attempts, such as communication on television or social networks, as a potential threat to their autonomy.[19,54] High trait reactance individuals tend to resist outside influences, regardless of whether significant others or peers make recommendations directly or imply them indirectly.[55,56]

The defining characteristic of trait reactance as protective of one's identity and sense of self[16] makes it relevant to whether and how envy and disclosure develop on social media: highly reactant individuals may experience even greater feelings of envy and desire to self-disclose as a result. Additionally, recent findings that trait reactance strengthens individuals' core values and beliefs, such as their religiosity,[17] signal that reactance may also accentuate how one's motivation to fit into the collective (high need to belong) activate envy and self-disclosure.

Online social networks are ripe for potential threats to identity, and prior studies in a social media context have shown the relevance of trait reactance in that context.[19] Given the limited prior research in the social media context, we pose a series of research questions (RQs) to explore associations between trait reactance and envy (RQa) and trait reactance and self-disclosure (RQb). We also explore whether trait reactance affects the relationship

between need to belong and envy on social networks (RQc) and between need to belong and self-disclosure (RQd). Figure 1 illustrates the proposed moderated mediation model.

Insert Figure 1 here

Methods

Participants

Participants were 354 adults (195 females, 158 males, 1 other) in the U.S. who indicated that they interact on Facebook in health or fitness-related milieus. They were recruited from a national consumer panel maintained by Cint, a commercial research company to complete an online questionnaire. The mean age was 38.8 (*SD* = 12.45, range = 21-76 years). The majority (83.1%) reported using Facebook at least four times a week.

Measures

Need to belong was measured using the single-item Need to Belong Scale (NTB-SI).[13] Table 1 provides the measures of envy[7,31], self- disclosure[32], OSN OCD[7], and trait reactance[54,57] along with their reliability and validity. All scales demonstrated a high degree of internal reliability, surpassing the acceptable Cronbach's alpha level of 0.7 and meeting the acceptable composite reliability level of 0.7.[58,59] The average variance extracted (AVE) for all measures meet the recommended level of 0.5. Discriminant validity was established using the heterotrait-monotrait (HTMT) ratio[60] values (0.19 to 0.62) which were below the threshold of 0.85. Last, Harman's one-factor test was used to assess common method bias: the total variance extracted by one factor was 31.23%, below the threshold of 50%.[61]

Insert Tables 1 and 2 here

Results

Table 2 presents descriptive statistics and correlations for the study variables. An independent-samples t-test reveals significant differences in OSN OCD between males (*M* = 2.37, *SD* = 1.02) and females (*M* = 1.89, *SD* = 0.92), $t(351) = 4.60$, $p < 0.01$. The effect size

is medium, with a Cohen's d of 0.49. Similarly, age is significantly and negatively related to OSN-OCD. Thus, gender and age were used as control variables.

Predictors of OSN OCD: Envy, Self-Disclosure, and mediation effects

We tested H1-H3 in a series of multiple regressions and evaluated mediation[62] using Hayes[63] PROCESS macro for SPSS (model 4). All continuous predictors were mean-centered. All steps were bootstrapped with a 5,000 resampling procedure for generating confidence interval for significance testing.

Insert Table 3 here

Table 3 reports the results. Social network envy is significantly related to self-disclosure on social networks ($b = 0.22$, $p < 0.01$) (Model 1 of Table 2). Additionally, social network envy ($b = 0.42$, $p < 0.01$) and self-disclosure ($b = 0.36$, $p < 0.01$) are both significantly related to OSN-OCD (Model 2 of Table 2). Finally, the bias-corrected percentile bootstrap method shows significant indirect effect of social network envy via self-disclosure on OSN-OCD ($ab = 0.08$, $SE = .02$, CI = 0.028 to 0.122). The mediation effect accounts for 42% of the total effect. As the criteria for establishing mediation effects are fully satisfied, hypotheses 1, 2 and 3 are supported.

Testing for Moderated Mediation: Trait Reactance and Need to Belong

To examine the relationships of the two personality antecedents, trait reactance and need to belong, with envy and self-disclosure in social networks (H4; RQ), we estimated a regression model using Hayes' PROCESS macro for SPSS (Model 85).[63]

Insert Table 4 here

As reported in Table 4, H4a, H4b, and H4c are supported with a significant main effect of need to belong on envy ($b = 0.10$, $p < 0.01$), on self-disclosure ($b = 0.17$, $p < 0.01$), and on OSN-OCD ($b = 0.12$, $p < 0.01$). With regards to the RQ and the role of trait reactance, the regression results reveal a significant main effect of trait reactance on envy ($b = 0.35$, $p <$

0.01) and a significant interaction between trait reactance and need to belong on envy (b = 0.12, $p < 0.01$). While not included in the proposed model, the regression results also reveal a significant main effect of trait reactance on OSN-OCD (b = 0.15, $p < 0.01$) and a significant interaction between reactance and need to belong on OSN-OCD (b = 0.08, $p < 0.01$). Figure 2 illustrates these interaction patterns: a simple slope analysis reveals a stronger relationship between need to belong and envy at moderate levels of trait reactance (b_{simple} = 0.09, t = 2.41, CI = 0.016 to 0.156, $p < 0.05$) and high levels of trait reactance (b_{simple} = 0.25, t = 4.67, CI = 0.143 to 0.350, $p < 0.01$) but no relationship at low reactance levels (b_{simple} = -0.03, t = -0.68, CI = -0.133 to 0.065, p = 0.50). Similarly, a simple slope analysis reveals a stronger relationship between need to belong and OSN-OCD at moderate levels trait reactance (b_{simple} = 0.11, t = 3.29, CI = 0.046 to 0.181, $p < 0.01$) and high levels of trait reactance (b_{simple} = 0.22, t = 4.34, CI = 0.123 to 0.326, $p < 0.01$) but no relationship at low reactance levels (b_{simple} = 0.03, t = 0.63, CI = -0.063 to 0.123, p = 0.53). In other words, low reactance individuals do not report experiencing envy or OCD on social networks no matter their level of need to belong.

Insert Figure 2 here

There is no relationship between trait reactance on self-disclosure (b = 0.06, p = .33) nor interaction between need to belong and trait reactance on self-disclosure (b = 0.04, p = 0.34), per Model 2 in Table 4. Figure 3 shows the path coefficients for the conceptual model.

Insert Figure 3 here

Discussion

This study contributes to a growing body of work on the role of personality traits in the development of maladaptive behavior on social media. We find that one's intrinsic need to

belong and one's trait reactance contribute both independently and interactively to envy, and in turn to self-disclosure, which are key factors linked to online social network OCD.

Trait reactance, a personality trait that inclines individuals to resist outside influences and pressures, is not only positively correlated with envy, but it also strengthens the relationship between need to belong and envy in social networks. That is, for individuals with high trait reactance, need to belong is associated with higher social network envy. Conversely, for individuals with low trait reactance, need to belong is not related to social network envy. Therefore, the most problematic trait profile, in terms of risk for developing a social media addiction, is exhibited in those high in both need to belong and trait reactance.

The main limitation of this study is reliance on self-reported and cross-sectional survey data. This correlational evidence warrants further exploration of need to belong and trait reactance as indicators of risk for obsessive, compulsive and addictive behaviors in the social media environment. We encourage longitudinal and experimental research to establish causality between need to belong, envy, self-disclosure and OCD on social networks. Consistent with prior research on envy,[30] our sample exhibited relatively low levels of envy. While this reflects the broad population sample in our study, future research may want to focus more squarely on individuals exhibiting higher levels of maladaptive behaviors.

Notwithstanding these limitations, our research contributes to our understanding of maladaptive behavior on social media, and the growing body of knowledge on personality and behavioral correlates of online social network OCD. Given that OCD is a concerning trend in social media use, the findings of this study can help identify individuals with the highest risk of compulsive behavior, and guide the development of potential interventions to mitigate the behavior.

References

1. Nadkarni A, Hofmann SG. Why do people use Facebook?. Personality and Individual Differences 2012;52(3):243-9; doi.org/10.1016/j.paid.2011.11.007.
2. Seidman G. Self-presentation and belonging on Facebook: How personality influences social media use and motivations. Personality and Individual Differences 2013;54(3):402-7; doi.org/10.1016/j.paid.2012.10.009.
3. Wang P, Xie X, Wang X, Wang X, Zhao F, Chu X, Nie J, Lei L. The need to belong and adolescent authentic self-presentation on SNSs: A moderated mediation model involving FoMO and perceived social support. Personality and Individual Differences 2018;128:133-8; doi.org/10.1016/j.paid.2018.02.035.
4. Roper M., Tobin S. J. Compassionate Goals, Facebook Use, and Subjective Well-Being: Examining the Roles of Relationship Maintenance and Connectedness. Cyberpsychology, Behavior, and Social Networking 2022;25(8):527-533; doi.org/10.1089/cyber.2021.0259.
5. Statista. Forecast of the number of social media users in the United States from 2017 to 2025 (in millions). 2022. Available from: https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/ [Last accessed: 8/4/2022]
6. Wagner, P. Statistica. By 2021 More Than 1/3 of the Globe Will be on Social Media. 2018. Available from: https://www.statista.com/chart/15355/social-media-users/ [Last accessed: 8/4/2022]
7. James TL, Lowry PB, Wallace L, Warkentin M. The effect of belongingness on obsessive-compulsive disorder in the use of online social networks. Journal of Management Information Systems 2017;34(2):560-96; doi.org/10.1080/07421222.2017.1334496.

8. D'Arienzo MC, Boursier V, Griffiths MD. Addiction to social media and attachment styles: A systematic literature review. International Journal of Mental Health and Addiction 2019;17(4):1094-118; doi.org/10.1007/s11469-019-00082-5.
9. Kuss DJ, Griffiths MD. Online social networking and addiction—a review of the psychological literature. International Journal of Environmental Research and Public Health 2011;8(9):3528-52; doi.org/10.3390/ijerph8093528.
10. Ryan T, Chester A, Reece J, Xenos S. The uses and abuses of Facebook: A review of Facebook addiction. Journal of Behavioral Addictions 2014;3(3):133-48; doi.org/10.1556/jba.3.2014.016.
11. Kloker S. Non-addictive information systems. Information Systems Frontiers 2020;22(3):549-62; doi.org/10.1007/s10796-020-10011-w.
12. Wenninger H, Cheung CM, Chmielinski M. Understanding envy and users' responses to envy in the context of social networking sites: A literature review. International Journal of Information Management 2021;58:102303; doi.org/10.1016/j.ijinfomgt.2020.102303
13. Nichols AL, Webster GD. The single-item need to belong scale. Personality and Individual Differences 2013;55(2):189-92; doi.org/10.1016/j.paid.2013.02.018.
14. Utz S, Tanis M, Vermeulen I. It is all about being popular: The effects of need for popularity on social network site use. Cyberpsychology, Behavior, and Social Networking 2012;15(1):37-42; doi.org/10.1089/cyber.2010.0651.
15. Pelling EL, White KM. The theory of planned behavior applied to young people's use of social networking web sites. CyberPsychology & Behavior 2009;12(6):755-9; doi.org/10.1089/cpb.2009.0109.

16. Dowd ET, Pepper HF, Seibel C. Developmental correlates of psychological reactance. Journal of Cognitive Psychotherapy 2001;15(3):239-52; doi.org/10.1891/0889-8391.15.3.239
17. Russell CA, Alderman J. Religiosity and US adolescents' well-being: The moderating role of trait reactance. Journal for the Scientific Study of Religion 2022; doi.org/10.1111/jssr.12789.
18. Babić Rosario A, Russell CA, Shanahan DE. Paradoxes of Social Support in Virtual Support Communities: A Mixed-Method Inquiry of the Social Dynamics in Health and Wellness Facebook Groups. Journal of Interactive Marketing 2022;57(1):54-89; doi.org/10.1177/10949968221075.
19. Lee E, Kim YJ, Lim YS, et al. Trait reactance moderates Facebook users' irritation with brand communication. Social Behavior and Personality: An International Journal 2015;43(5):829-44; doi.org/10.2224/sbp.2015.43.5.829.
20. Festinger L. A theory of social comparison processes. Human Relations 1954;7(2):117-40; doi.org/10.1177/0018726754007002.
21. Kruglanski AW, Mayseless O. Classic and current social comparison research: Expanding the perspective. Psychological Bulletin 1990;108(2):195; doi.org/10.1037/0033-2909.108.2.195.
22. Wu J, Srite M. Envy on social media: The good, the bad and the ugly. International Journal of Information Management 2021;56:102255; doi.org/10.1016/j.ijinfomgt.2020.102255.
23. Meier A, Johnson BK. Social comparison and envy on social media: A critical review. Current Opinion in Psychology 2022;45:101302; doi.org/10.1016/j.copsyc.2022.101302.

24. Tandoc Jr EC, Goh ZH. Is Facebooking really depressing? Revisiting the relationships among social media use, envy, and depression. Information, Communication & Society 2021;26(3):1-17; doi.org/10.1080/1369118X.2021.1954975.
25. Barry CT, Wong MY. Fear of missing out (FoMO): A generational phenomenon or an individual difference?. Journal of Social and Personal Relationships 2020;37(12):2952-66; https://doi.org/10.1177/0265407520945394.
26. Noon EJ, Meier A. Inspired by friends: Adolescents' network homophily moderates the relationship between social comparison, envy, and inspiration on Instagram. Cyberpsychology, Behavior, and Social Networking 2019;22(12):787-93; doi.org/10.1089/cyber.2019.0412.
27. Salovey P, Rodin J. Provoking jealousy and envy: Domain relevance and self-esteem threat. Journal of Social and Clinical Psychology 1991;10(4):395; doi.org/10.1521/jscp.1991.10.4.395.
28. Duffy MK, Scott KL, Shaw JD, et al. A social context model of envy and social undermining. Academy of Management Journal 2012;55(3):643-6; doi.org/10.5465/amj.2009.0804.
29. Smith RH, Kim SH. Comprehending envy. Psychological Bulletin 2007;133(1):46-64; doi.org/10.1037/0033-2909.133.1.46.
30. Yin L, Wang P, Nie J, Guo J, Feng J, Lei L. Social networking sites addiction and FoMO: The mediating role of envy and the moderating role of need to belong. Current Psychology 2021;40(8):3879-87.
31. Krasnova H, Widjaja T, Buxmann P, et al. Research note—why following friends can hurt you: an exploratory investigation of the effects of envy on social networking sites

among college-age users. Information Systems Research 2015;26(3):585-605; doi.org/10.1007/s12144-019-00344-4.

32. Barak A, Gluck-Ofri O. Degree and reciprocity of self-disclosure in online forums. CyberPsychology & Behavior 2007;10(3):407-17; doi.org/10.1089/cpb.2006.9938.
33. Ledbetter AM, Mazer JP, DeGroot JM, et al. Attitudes toward online social connection and self-disclosure as predictors of Facebook communication and relational closeness. Communication Research 2010;38(1):27-53; doi.org/10.1177/0093650210365537.
34. Posey C, Lowry PB, Roberts TL, et al. Proposing the online community self-disclosure model: the case of working professionals in France and the UK who use online communities. European Journal of Information Systems 2010;19(2):181-95; doi.org/10.1057/ejis.2010.15.
35. Krasnova H, Kolesnikova E, Guenther O. "It won't happen to me!": self-disclosure in online social networks. In Americas Conference on Information Systems 2009 Proceedings 2009:1-10.
36. Huang HY. Examining the beneficial effects of individual's self-disclosure on the social network site. Computers in Human Behavior 2016;57:122-32; doi.org/10.1016/j.chb.2015.12.030.
37. High AC, Ruppel EK, McEwan B, et al. Computer-Mediated Communication and Well-Being in the Age of Social Media: A Systematic Review. Journal of Social and Personal Relationships 2022; https://doi.org/10.1177/02654075221106449.
38. Kim YK, Fingerman KL. Daily social media use, social ties, and emotional well-being in later life. Journal of Social and Personal Relationships 2022;39(6):1794-813; doi.org/10.1177/02654075211067254.

39. Kim J, Lee JE. The Facebook paths to happiness: Effects of the number of Facebook friends and self-presentation on subjective well-being. Cyberpsychology, Behavior, and Social Networking 2011;14(6):359-64; doi.org/10.1089/cyber.2010.0374.
40. Dietz-Uhler B, Bishop-Clark C, Howard E. Formation of and adherence to a self-disclosure norm in an online chat. Cyberpsychology & Behavior 2005;8(2):114-20.
41. Valkenburg PM, Peter J, Schouten AP. Friend networking sites and their relationship to adolescents' well-being and social self-esteem. CyberPsychology & Behavior 2006;9(5):584-90; doi.org/10.1089/cpb.2005.8.114.
42. Amran MS, Jamaluddin KA. Adolescent Screen Time Associated with Risk Factor of Fear of Missing Out During Pandemic Covid-19. Cyberpsychology, Behavior, and Social Networking 2022;25(6); doi.org/10.1089/cyber.2021.0308.
43. Blackwell D, Leaman C, Tramposch R, et al. Extraversion, neuroticism, attachment style and fear of missing out as predictors of social media use and addiction. Personality and Individual Differences 2017;116:69-72; doi.org/10.1016/j.paid.2017.04.039.
44. Przybylski AK, Murayama K, DeHaan CR, et al. Motivational, emotional, and behavioral correlates of fear of missing out. Computers in Human Behavior 2013;29(4):1841-8; doi.org/10.1016/j.chb.2013.02.014.
45. Chu TH, Sun M, Crystal Jiang L. Self-disclosure in social media and psychological well-being: A meta-analysis. Journal of Social and Personal Relationships 2022;40(2):576-599; doi.org/10.1177/0265407522111942.
46. Llorens-Aguilar S, Arnáez S, Aardema F, et al. The relationship between obsessions and the self: Feared and actual self-descriptions in a clinical obsessive–compulsive disorder sample. Clinical Psychology & Psychotherapy 2022;29(2):642-5; doi.org/10.1002/cpp.2656.

47. Purdon C, Cripps E, Faull M, et al. Development of a measure of egodystonicity. Journal of Cognitive Psychotherapy 2007;21(3):198-216; doi.org/10.1891/088983907781494537.
48. Rowa K, Purdon C, Summerfeldt LJ, et al. Why are some obsessions more upsetting than others?. Behaviour Research and Therapy 2005;43(11):1453-1465; doi.org/10.1016/j.brat.2004.11.003.
49. Baumeister RF, Leary MR. The need to belong: Desire for interpersonal attachments as a fundamental human motivation. Interpersonal development 1995;117(3):497-529.
50. Stănculescu E, Griffiths MD. Social media addiction profiles and their antecedents using latent profile analysis: The contribution of social anxiety, gender, and age. Telematics and Informatics 2022;74:101879; doi.org/10.1016/j.tele.2022.101879.
51. Alabri A. Fear of missing out (FOMO): The effects of the need to belong, perceived centrality, and fear of social exclusion. Human Behavior and Emerging Technologies 2022; 4824256; doi.org/10.1155/2022/4824256.
52. Brehm JW. Psychological reactance: Theory and applications. ACR North American Advances 1989.
53. Brehm SS, Brehm JW. Psychological reactance: A theory of freedom and control. Academic Press: New York; 2013.
54. Russell CA, Russell DW, Boland WA, et al. Television's cultivation of American adolescents' beliefs about alcohol and the moderating role of trait reactance. Journal of Children and Media 2014;8(1):5-22; doi.org/10.1080/17482798.2014.863475.
55. Chartrand TL, Dalton AN, Fitzsimons GJ. Nonconscious relationship reactance: When significant others prime opposing goals. Journal of Experimental Social Psychology 2007;43(5):719-726; doi.org/10.1016/j.jesp.2006.08.003.

56. Fitzsimons GJ, Lehmann DR. Reactance to recommendations: When unsolicited advice yields contrary responses. Marketing Science 2004;23(1):82-94; doi.org/10.1287/mksc.1030.0033.
57. Hong SM, Faedda S. Refinement of the Hong psychological reactance scale. Educational and Psychological Measurement 1996;56(1):173-82; doi.org/10.1177/0013164496056001014.
58. Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research 1981;18:39–50; doi.org/10.1177/002224378101800104.
59. Malhotra N. K., Dash S. Marketing Research an Applied Orientation. Pearson Publishing: London; 2011.
60. Henseler J, Ringle CM, Sarstedt MA. New Criterion for Assessing Discriminant Validity in Variance-based Structural Equation Modeling. Journal of the Academy of Marketing Science 2015;43(1):115–135; doi.org/10.1007/s11747-014-0403-8.
61. Podsakoff P M, MacKenzie S B, Lee J Y, et al. Common method biases in behavioral research: a critical review of the literature and recommended remedies. Journal of Applied Psychology, 2003, 88(5): 879-903; doi.org/10.1037/0021-9010.88.5.879.
62. MacKinnon DP. Introduction to Statistical Mediation Analysis. Taylor & Francis Group: New York, NY; 2008.
63. Hayes AF. Introduction to Mediation, Moderation, and Conditional Process Analysis. Guilford Press: New York, NY; 2018.

Table 1. Measures.

Construct and Measurement Items	SFL
Need to Belong (NTB-SI: single item scale)	
− I have a strong need to belong.	NA
Trait Reactance (TR)	
− Regulations trigger a sense of resistance in me.	0.73
− I find contradicting others stimulating.	0.56
− When something is prohibited, I usually think "That's exactly what I am going to do."	0.63
Alpha = 0.74; CR = 0.74; AVE = 0.49	
Social Network Envy (SNE)	
− The posts of the members of this Facebook group get more attention (e.g., "likes", comments) than mine do.	0.53
− I see myself as an underdog in this Facebook group.	0.67
− It is annoying to see how successful some of the members in this Facebook group are.	0.81
− It is disturbing to see how popular some members of this Facebook group are.	0.86
− It is disturbing when I see in this Facebook group how much other members are progressing.	0.80
Alpha = 0.85; CR = 0.86; AVE = 0.56	
Self-disclosure (SD)	
− My posts reveal personal information about myself or people close to me.	0.72
− My posts provide thoughts or ideas that refer to me personally.	0.89
− My posts express thoughts relating to my personal characteristics, such as physical appearance, health, or intimate ideas.	0.79
− My posts express my feelings.	0.80
Alpha = 0.87; CR = 0.88; AVE = 0.64	
Online Social Network Obsessive Compulsive Disorder (OSN-OCD)	
− Much of my time is occupied by thoughts about the Facebook group.	0.73
− My thoughts about the Facebook group cause me distress.	0.79
− I spend much of my time visiting the Facebook group.	0.59
− I become distressed when I am prevented from visiting the Facebook group.	0.79
Alpha = 0.82; CR = 0.82; AVE = 0.53	

Abbreviations: AVE, average variance extracted; Alpha, Cronbach's alpha; CR, composite reliability; SFL, standardized factor loading.

Table 2. Descriptive statistics and correlations.

Variable	Mean (Standard Deviation)	Correlations				
		NTB-SI	SNE	TR	SD	OSN-OCD
NTB-SI	3.33 (1.19)	1				
SNE	1.88 (0.91)	0.21**	1			
TR	2.45 (1.01)	0.13**	0.45**	1		
SD	3.03 (1.03)	0.24**	0.22**	0.15**	1	
OSN-OCD	2.10 (0.99)	0.32**	0.50**	0.38**	0.49**	1
Age	38.89 (12.45)	-0.15**	-0.18**	-0.11*	-0.12*	-0.20**

Note. N = 354. NTB-SI = need to belong, SNE = social network envy, TR = trait reactance, SD = self-disclosure, and OSN-OCD = online social network obsessive-compulsive disorder.
* $p < 0.05$, ** $p < 0.01$

Table 3. Multiple regression assessing mediation.

Predictor	Model 1 (SD)				Model 2 (OSN-OCD)			
	Beta	*SE*	*t*	*LLCI, ULCI*	*Beta*	*SE*	*t*	*LLCI, ULCI*
Gender	-0.25	0.11	-2.35*	-0.465, -0.041	-0.24	0.83	-2.88**	-0.401, -0.075
Age	-0.01	0.00	-1.79	-0.016, 0.001	-0.01	0.00	-2.07*	-0.013, -0.000
SNE	0.22	0.06	3.60**	0.098, 0.333	0.42	0.05	9.10**	0.332, 0.515
SD					0.36	0.04	8.70**	0.275, 0.435
	$R^2 = 0.07$				$R^2 = 0.42$			
	$F(3, 349) = 9.31^{**}$				$F(4, 348) = 63.30^{**}$			

Note. N = 353. Beta = unstandardized coefficient, SE = standard error, LLCI = lower limit of confidence interval, ULCI = upper limit of confidence interval, SNE = social network envy, SD = self-disclosure, and OSN-OCD = online social network obsessive-compulsive disorder. Gender coded as 0 = male, 1 = female. $^{*}p < 0.05$, $^{**}p < 0.01$

Table 4. Multiple regression assessing moderated mediation.

Predictor	Model 1 (SNE)				Model 2 (SD)				Model 3 (OSN-OCD)			
	Beta	*SE*	*t*	*LLCI, ULCI*	*Beta*	*SE*	*t*	*LLCI, ULCI*	*Beta*	*SE*	*t*	*LLCI, ULCI*
Gender	-0.11	0.08	-1.27	-0.275, 0.059	-0.22	0.11	-2.11*	-0.434, -0.015	-0.20	0.08	-2.53**	-0.360, -0.045
Age	-0.01	0.00	-2.37*	-0.015, -0.001	-0.01	0.00	-1.35	-0.014, 0.003	-0.01	0.00	-1.79	-0.012, 0.001
NTB-SI	0.10	0.04	2.80**	0.030, 0.169	0.17	0.05	3.78**	0.082, 0.259	0.12	0.03	3.57**	0.055, 0.190
TR	0.35	0.04	8.35**	0.271, 0.438	0.06	0.06	0.98	-0.057, 0.172	0.15	0.04	3.34**	0.060, 0.231
NTB x TR	0.12	0.03	3.76**	0.057, 0.183	0.04	0.04	0.96	-0.041, 0.120	0.08	0.03	2.73**	0.023, 0.143
SNE					0.13	0.07	2.00*	0.025, 0.267	0.31	0.05	6.05**	0.206, 0.404
SD									0.31	0.04	7.82**	0.235, 0.393
	$R^2 = 0.27$				$R^2 = 0.12$				$R^2 = 0.47$			
	$F(5, 347) = 26.14^{**}$				$F(6, 346) = 7.56^{**}$				$F(7, 345) = 43.65^{**}$			

Note. N = 353. Beta = unstandardized coefficient, SE = standard error, LLCI = lower limit of confidence interval, ULCI = upper limit of confidence interval, NTB-SI = need to belong, SNE = social network envy, SD = self-disclosure, TR = trait reactance, and OSN-OCD = online social network obsessive-compulsive disorder. Gender coded as 0 = male, 1 = female. * $p < 0.05$, ** $p < 0.01$

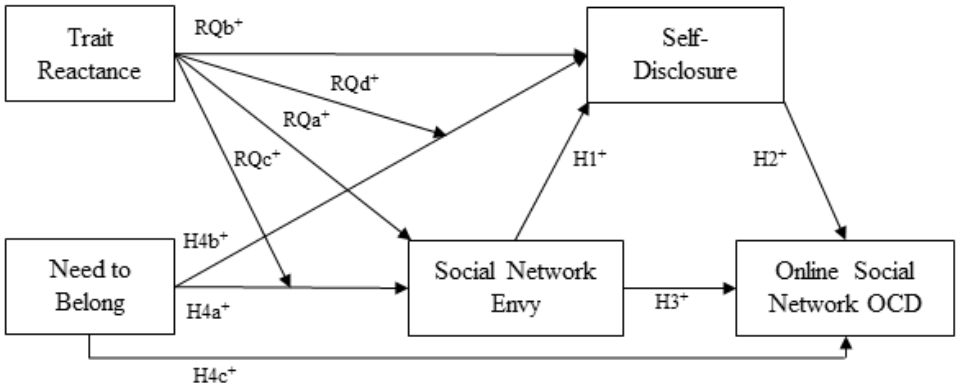

Figure 1. Conceptual model.

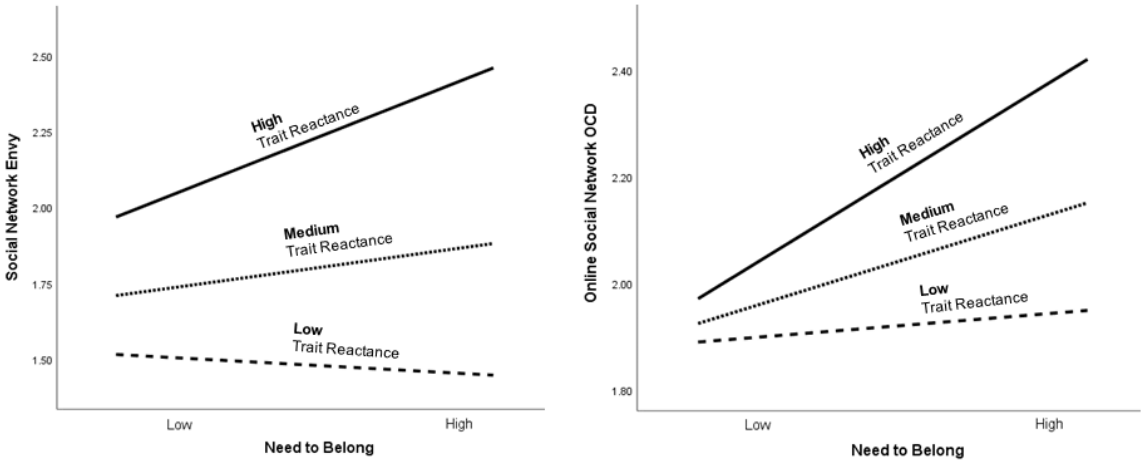

Figure 2. Interactive effects of trait reactance and need to belong on social network envy and online social network OCD.

Note. Slopes represented at 1 SD below the mean and 1 SD above the mean, respectively.

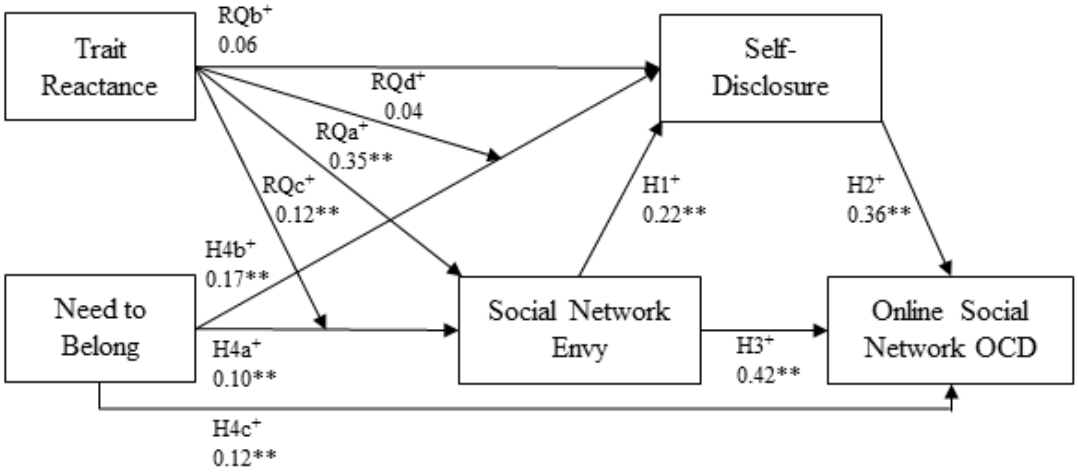

Figure 3. Results of analysis.

Note. Results for H1 – H3 using Hayes PROCESS macro for SPSS (model 4). Results for H4 and RQs using Hayes PROCESS macro for SPSS (model 85). Unstandardized regression weights are provided along the paths; control variables are gender and age; $^{*}p < 0.05$, and $^{**}p < 0.01$.