

The Third Wheel: The Impact of Twitter Use on Relationship Infidelity and Divorce

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Abstract

The purpose of this study was to examine how social networking site (SNS) use, specifically Twitter use, influences negative interpersonal relationship outcomes. This study specifically examined the mediational effect of Twitter-related conflict on the relationship between active Twitter use and negative relationship outcomes, and how this mechanism may be contingent on the length of the romantic relationship. A total of 581 Twitter users aged 18 to 67 years ($M_{age}=29$, $SD_{age}=8.9$) completed an online survey questionnaire. Moderation–mediation regression analyses using bootstrapping methods indicated that Twitter-related conflict mediated the relationship between active Twitter use and negative relationship outcomes. The length of the romantic relationship, however, did not moderate the indirect effect on the relationship between active Twitter use and negative relationship outcomes. The results from this study suggest that active Twitter use leads to greater amounts of Twitter-related conflict among romantic partners, which in turn leads to infidelity, breakup, and divorce. This indirect effect is not contingent on the length of the romantic relationship. The current study adds to the growing body of literature investigating SNS use and romantic relationship outcomes.

Introduction

THE INTRODUCTION OF SOCIAL NETWORKING SITES (SNSs) such as MySpace, Facebook, and Twitter have provided a relatively new platform for interpersonal communication and, as a result, have substantially enhanced and altered the dynamics of interpersonal relationships.^{1–7} Twitter, once deemed merely an “information network,”⁸ is now considered one of the most popular SNSs, with more than 554 million active users, competing with Facebook, Google+, and LinkedIn.⁹ Although Facebook and MySpace have received a great deal of empirical attention,^{3,6} research investigating the effects of Twitter use on interpersonal relationships has been somewhat limited, despite Twitter’s increasing popularity. Thus, the current study’s aim is to examine the effects of Twitter use on romantic relationships.

Evolution of Twitter as a SNS

Since its creation in 2006, the microblogging site Twitter has accumulated more than 554 million active registered users with 58 million tweets per day.¹⁰ Twitter provides users a communication platform to initiate and develop connections in real time with thousands of people with shared interests.¹¹ It is also a way to get to know strangers who share the details of their daily lives.¹² As Chen¹³ notes,

Twitter evolved from an online information network where users responded to a simple question: “What are you doing right now?” to a social network that provides a “new economy of info-sharing and connectivity” between people.¹⁰ Johnson and Yang¹⁴ found that those who have Twitter accounts use the site primarily to give and receive advice, gather and share information, and meet new people.

The primary source for providing and obtaining information on Twitter is by reading or communicating 140-character personal updates, now known as “tweets,” to those who opt to “follow” the tweeter. Additional features allow users to retweet, abbreviated as RT, others’ tweets and privately direct message, or DM, other users. Twitter users can also have public conversations with others by using “@replies” and can engage in larger conversations by hashtagging (“#”) words or phrases. Tweets, RTs, @replies, and hashtags are sent to a public newsfeed viewable by others, unless the user designates his or her tweets as private. Twitter updates can be sent to the newsfeed using mobile phone text messaging from Twitter’s mobile phone Web site, phone applications, and from a user’s Twitter home Web page.^{8,14} Although users can access Twitter across many electronic devices,^{8,14} Twitter user interactivity is still somewhat limited compared to other SNSs.

While other SNSs, such as Facebook, allow users to share information about their daily lives on their Facebook

newsfeeds, or directly communicate with other users via online chat, Twitter does not provide users the same functionality. Twitter does, however, allow users to post photos, videos, and check-ins that display on the Twitter newsfeed through third-party sites, such as Instagram (photos/videos) and Foursquare (check-ins). Although the method of sharing information varies between Facebook and Twitter, the type of information that can be shared publicly is similar. Therefore, the researcher speculates that the effects of Twitter usage on relationships may parallel those of Facebook. For this reason, the researcher will briefly highlight recent literature pertaining to the effects of SNS use on romantic relationships.

SNSs' effects on romantic relationships

The evolution of SNSs, as well as their increasing popularity, have provided communication and psychology researchers with an avenue to investigate, more than ever, computer mediated communication. As a result, scholars have compiled a body of research that has systematically investigated the dynamic, complex interactions between SNS use, health, and romantic relationship outcomes.^{1,3-7,15-24} While SNSs may be beneficial in helping users keep in touch with others,¹⁶ research has shown that excessive SNS use can be detrimental to romantic relationships.³ As Tong¹⁷ notes, relationships, both personal and impersonal, are social in nature, and therefore involve one's social networks. Since Twitter and Facebook use "maps on to one's social networks almost isomorphically, SNSs' potential role in the process of relationship maintenance and termination seems quite likely."^{17(p1)}

In fact, several studies have found that Facebook-induced jealousy, partner surveillance, posting ambiguous information, compulsive Internet use, and online portrayal of intimate relationships can be damaging to romantic relationships.¹⁸⁻²¹ Additionally, Lyndon²² found that Facebook monitoring leads to negative relationship outcomes, such as online and offline relationship intrusion, which may induce jealousy among romantic partners.²³ Marshall²⁴ found that remaining friends on SNSs, specifically Facebook, after a breakup delays the healing process. One possible explanation for this delay could be due to romantic partners taking advantage of the information Facebook provides of their ex-partner.¹⁷ This type of information visibility, which occurs not only on Facebook but also on Twitter, may lead to similar relationship outcomes for the latter SNS.

Since Twitter now allows users to interact in a similar way as Facebook (i.e., write posts and upload images, videos, and location check-ins), the researcher theorizes that the effects of Twitter use on interpersonal relationships are comparable to those associated with Facebook. Thus, one additional aim of this study is to examine if Twitter use parallels that of Facebook with regard to negative relationship outcomes.³

The current study

The current study is grounded in the methodological framework of Clayton et al.'s³ survey study examining the influence of Facebook use on romantic relationships. Clayton et al.'s⁴ study of 205 Facebook users found that Facebook-related conflict mediated the relationship between Facebook use and negative relationship outcomes (i.e., cheating, breakup, and divorce). This indirect effect was more pronounced for those in relatively newer relationships of 3 years

or less.³ To understand the influence of Twitter usage on romantic relationships, this study used the same mediating variable, now termed "Twitter-related conflict," as well as the negative relationship outcome items.³ The researcher conceptualized Twitter-related conflict as whether Twitter use increases relationship complications in intimate romantic relationships. Negative relationship outcomes were conceptualized as whether Twitter use influences the likelihood for emotional cheating, physical cheating, relationship breakup, and divorce. As a result, the researcher predicted that active Twitter use and negative relationship outcomes would be positively related, and that Twitter-related conflict would mediate the relationship between active Twitter use and negative relationship outcomes.

Clayton et al.'s³ study found a moderating effect on the mediational relationship for those who are, or have been, in relationships of 3 years or less. Therefore, the current study hypothesizes that the length of the romantic relationship will moderate the indirect effect on the relationship between active Twitter use and negative relationship outcomes. Based on this examination of the literature, the author hypothesizes the following:

H1: The relationship between active Twitter use and negative relationship outcomes will be positively related.

H2: Twitter-related conflict will mediate the relationship between active Twitter use and negative relationship outcomes.

H3: The indirect effect of active Twitter use on negative relationship outcomes through Twitter-related conflict will be greater for those who are, or have been, in shorter duration relationships.

Method

Participants

An online survey was created on qualtrics.com and distributed to Twitter users via the researcher's Twitter account, as well as *The Huffington Post's* Twitter account. The survey was tweeted a total of 20 times to followers. The total number of users the survey link was tweeted to, not including possible retweets, exceeded 3.4 million Twitter users. The final number of participants was 581 Twitter users. All participants were 18 years of age or older. The participants' ages ranged from 18 to 67 years ($M = 29$, $SD = 8.9$). Most participants (62%) were Caucasian, 15% Asian, 12% Hispanic, 6% African American, and 5% Native American. The majority of participants (63%) were male. This study was approved by the university's Institutional Review Board.

Materials

Following Clayton's³ methodology, a 20-question survey was designed using qualtrics.com. The survey included demographic questions, as well as questions about participants' perceived levels of Twitter use. Additionally, participants were asked if they had encountered relationship conflict with their current or former partner as a result of Twitter use. Participants were also asked if Twitter use had led to breakup or divorce, emotional cheating, and physical cheating with a current or former partner.

Relationships. The researcher asked the participants to indicate if their partner or former partner had a Twitter

account. Those who indicated that their former partner or spouse did not have a Twitter account were not included in further analyses because some items pertained to participants' perceived levels of their current or former partner's Twitter use ($n=67$). In order for the researcher to understand to whom the participants' answers were directed, the survey also instructed participants to answer the question, "Are you currently in a romantic relationship?" If the participants answered, "Yes," they were then asked to type how many months or years they had been in the relationship with their current partner. If participants answered "No," the researcher could analyze their data in connection with the participants' former partners. After screening participants' responses for initial criteria, the total number of participants included for analyses was 514. Of the 514 participants, 386 (75%) participants responded that they were in a romantic relationship, while 128 (25%) reported being single.

Active Twitter use. Following Rubin's²⁵ active audience construct and Chen's¹³ Twitter use items, active Twitter use was measured by asking participants to rate the following five statements: "How often do you log in into Twitter?" "How often do you Tweet?" "How often do you @replies?" "How often do you direct message followers?" and "How often do you scroll the Twitter newsfeed?" Data were gathered using a Likert-type scale where A="never," B="monthly," C="weekly," D="daily," E="hourly," F="more than hourly." The Cronbach's alpha for the scale was 0.90. To create a multiplicative index of Twitter use, participants indicated how many hours per day, and how many days per week, they used Twitter. On average, participants used Twitter for 52 minutes per day ($SD=66.3$), five days per week ($SD=2.3$).

Twitter-related conflict. The current study adapted the items in Clayton et al.'s³ Facebook-related conflict scale (Cronbach's $\alpha=0.85$) to measure Twitter-related conflict. Such items included, "How often do you have an argument with your significant other as a result of excessive Twitter use?" and "How often do you have an argument with your significant other as a result of viewing friends' Twitter profiles?" The questions were answered using a Likert scale ranging from A="never" to F="always." The Cronbach's alpha for the scale was 0.94.

Negative relationship outcomes. The current study used Clayton et al.'s³ negative relationship outcome questions (Kuder Richardson [KR-20]=0.70) to measure the criterion variable. Such items included, "Have you emotionally cheated on your significant other with someone you have connected or reconnected with on Twitter?" "Have you physically cheated on your significant other with someone you have connected or reconnected with on Twitter?" and "Has Twitter led to a breakup/divorce?" The researcher condensed the answers into dichotomous yes/no answer choices. Once averaged, the KR-20 measure of reliability was 0.72 (see Table 1).

Results

To test the aforementioned hypotheses, moderation-mediation regression analyses using bootstrapping resampling methods were conducted according to the specifications set out by Andrew Hayes's PROCESS for SPSS using model four

TABLE 1. MEANS, STANDARD DEVIATIONS, CORRELATIONS, AND ALPHA RELIABILITIES^a FOR VARIABLES

	<i>M</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>
1. Active Twitter use	3.36	1.0	(0.90)		
2. Twitter-related conflict	2.77	1.4	0.52***	(0.94)	
3. Negative relationship outcomes	1.17	0.30	0.33***	0.53***	(0.72)

^aOn diagonal in parentheses.
* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

for simple mediation and model seven to test for moderation-mediation.²⁶ As Figure 1 shows, active Twitter use was entered as the independent variable (X), Twitter-related conflict as the mediator variable (M), length of romantic relationship as the moderator variable (W), and negative relationship outcomes was entered as the criterion variable (Y) in the model.

Mediation

As a test of simple mediation, Twitter-related conflict was entered as the mediator variable (M) in model four of Hayes's PROCESS²⁶ (see Figure 1). Data analysis using 1,000 bootstrap simulations²⁶ revealed that the direct effect of active Twitter use was not statistically significant ($effect = 0.02, SE = 0.01, p = 0.082$ [95% CI -0.01, 0.05]) in predicting negative relationship outcomes, H1 was not supported. However, data analysis revealed a significant positive indirect effect of active Twitter use on negative relationship outcomes through Twitter-related conflict ($effect = 0.07, SE = 0.01, p < 0.001$ [95% bias-corrected bootstrap CI 0.06, 0.09]), supporting H2 (see Table 2). The indirect effect is statistically different from zero, as revealed by a 95% bias-corrected bootstrap confidence interval,²⁶ and indicates that Twitter-related conflict mediates the relationship between active Twitter use and negative relationship outcomes. Moreover, the total effect of model four, which is expressed as the sum of the direct and indirect effects, was significant ($effect = 0.09, SE = 0.01, p < 0.001$ [95% CI 0.07, 0.12]).

Moderation

As a test of moderation-mediation, negative relationship outcomes was entered as the moderator variable (W) in model seven of Hayes's PROCESS²⁶ using 1,000 bootstrap simulations²⁶ (see Figure 1). The sample was divided based upon a median split (median=18 months). Those participants who reported being in a relationship for 18 months or less were categorized in the shorter length group ($n=194$), whereas those who reported being in relationships for more than 18 months were categorized in the longer length group ($n=181$). The moderating effect on the indirect relationship between active Twitter use and negative relationship outcomes was not significant for the shorter length group ($effect=0.01, SE=0.02, p=0.337$ [95% CI -0.02, 0.05]) or for the longer length group ($effect=0.02, SE=0.03, p=0.454$ [95% CI -0.03, 0.08]). H3 was not supported.

Discussion

Although a number of variables can contribute to relationship infidelity and separation, the current study hypothesized

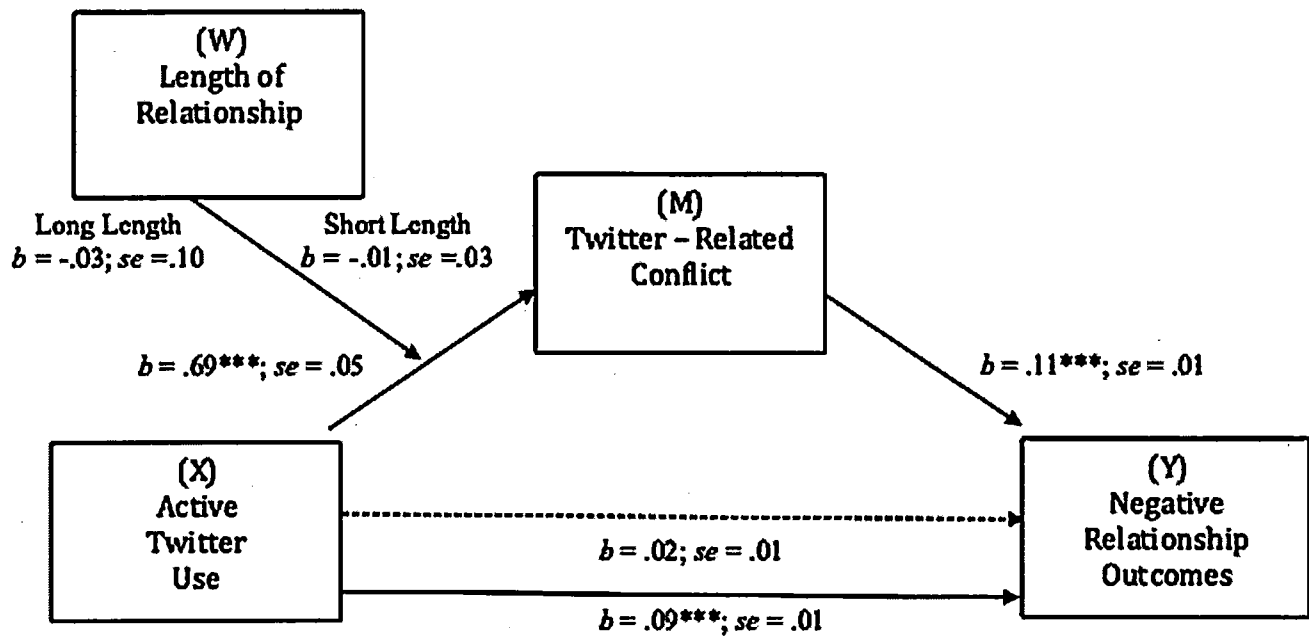


FIG. 1. Andrew Hayes's mediation-moderation model 7 conceptual diagram. Path coefficients for simple moderation-mediation model analysis. *Note.* Model four is the same as model seven excluding the moderator variable (W). Dotted line denotes the effect of active Twitter use on negative relationship outcomes when Twitter-related conflict is not included as a mediator. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

that SNS use, specifically Twitter use, can contribute to negative relationship outcomes. Therefore, the purpose of this study was to investigate the relationship between active Twitter use and negative romantic relationship outcomes. Moreover, the researcher sought to examine whether the findings of Clayton et al.'s³ recent study, which concluded that Facebook-related conflict fully mediated the relationship between Facebook use and negative relationship outcomes, were consistent with a different SNS platform—Twitter.

Since Twitter allows users to share similar types of information as Facebook, the researcher argued that Twitter outcomes may parallel those of Facebook regarding SNS use, romantic conflict, and negative relationship outcomes. The researcher theorized that if an individual who is in a romantic relationship is highly active on Twitter (e.g., tweeting, direct messaging others, check-ins, posting images to the Twitter newsfeed), Twitter use could create conflict within the re-

lationship. If high amounts of Twitter use does, indeed, lead to high amounts of Twitter-related conflict (i.e., arguments pertaining to a partner's Twitter use, etc.) among romantic partners, it is plausible to speculate that such conflict could lead to unfavorable relationship outcomes such as cheating, breakup, or divorce. The results from this study largely support these propositions. In contrast to recent findings,³ the length of the relationship did not moderate the mediational effect, suggesting that relationship maturity may not influence negative relationship outcomes in terms of Twitter use.

The results of this study partially replicate Clayton et al.'s³ findings regarding Facebook use and negative relationship outcomes. Based on the findings from both³ studies, Twitter and Facebook use can have damaging effects on romantic relationships. That is, when SNS use becomes problematic in one's romantic relationship, risk of negative relationship outcomes may follow. In contrast, recent reports have shown that SNS conflict can be reduced when partners share joint

TABLE 2. TOTAL, DIRECT, AND INDIRECT EFFECTS

	Negative relationship outcomes as criterion				
	Effect	SE	t	LLCI	ULCI
Total effect of active Twitter use	0.09	0.01	7.90***	0.07	0.12
Direct effect of active Twitter use	0.02	0.01	1.75	-0.01	0.05
	Effect	Boot SE		BootLLCI	BootULCI
Indirect effect of active Twitter use	0.07***	0.01	—	0.06	0.09

Note. Number of bootstrap samples for bias corrected bootstrap confidence intervals: 1,000. Level of confidence for all confidence intervals: 95.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

accounts.²⁷ Furthermore, recent SNS applications have been developed to facilitate interpersonal communication between partners by providing a private, secure, and organized environment for two people to share, such as the 2life app²⁸ for iPhone users. Whether this type of app reduces SNS-related conflict between romantic partners is yet to be determined.

Limitations and implications for further research

The current study has several limitations. The sample included participants who were told before starting the survey that they would be answering questions regarding Twitter use and romantic relationship outcomes, and this may have skewed the data. Additionally, some items were left to participants' interpretation, such as the word "excessive" when answering questions about Twitter-related conflict. Moreover, social desirability is an unavoidable issue when it comes to self-reported data, particularly when the issues under investigation are sensitive, as in the current study. Since the online survey link was distributed by the researcher's Twitter account and *The Huffington Post's* Twitter account, the current study's sample is limited to only those who use Twitter and who follow the researcher or *The Huffington Post's* profile on Twitter. This limitation significantly limits the generalizations of the findings. Future research should investigate if engaging in high levels of other SNS usage, such as Instagram and LinkedIn, also predicts negative relationship outcomes. Additional future research should explore other mediators in the current study's model, such as relationship quality and satisfaction.

Conclusion

The results from this study show that active Twitter use leads to greater amounts of Twitter-related conflict among romantic partners, which in turn leads to infidelity, breakup, and divorce. Results from the current study and Clayton et al.'s³ study demonstrate that Twitter and Facebook use can have damaging effects on romantic relationships.

Author Disclosure Statement

No competing financial interests exist.

References

1. boyd d, Ellison BN. Social network sites: definition, history, and scholarship. *Journal of Computer-Mediated Communication* 2007; 13.
2. Choi JH. (2008) Living in cyworld: contextualising cy-ties in South Korea. In Bruns A, Jacobs J, eds. *Uses of blogs*. New York: Peter Lang, pp. 173–186.
3. Clayton R, Nagurney A, Smith J. Cheating, breakup, and divorce: is Facebook use to blame? *Cyberpsychology, Behavior, & Social Networking* 2013; 16:717–720.
4. Ellison BN, Steinfield C, Lampe, C. The benefits of Facebook "friends": exploring the relationship between college students' use of online social networks and social capital. *Journal of Computer-Mediated Communication* 2007; 12:article 1.
5. Lampe C, Ellison BN, Steinfield C. Social capital, self-esteem, and use of online social network sites. *Journal of Applied Developmental Psychology* 2008; 29:434–445.
6. Raacke J, Bonds-Raacke J. MySpace and Facebook: applying the uses and gratifications theory to exploring friend-networking sites. *Individual Differences Research Group* 2008; 8:27–33.
7. Fox J, Warber K. Romantic relationship development in the age of Facebook: an exploratory study of emerging adults' perceptions, motives, and behaviors. *Journal of Cyberpsychology, Behavior, & Social Networking* 2013; 16:3–7.
8. About Twitter. <https://twitter.com/about> (accessed Jun. 20, 2013).
9. 2010 Best social networking site reviews and comparisons. <http://social-networking-websites-review.toptenreviews.com> (accessed Dec. 28, 2013).
10. Statistics Brain. Twitter statistics. www.statisticbrain.com/twitter-statistics/ (accessed Jun. 20, 2013).
11. Sarno D. On Twitter, mindcasting is the new lifecasting. *Los Angeles Times*, Mar. 11, 2009. <http://latimesblogs.latimes.com/technology/2009/03/on-twitter-mind.html> (accessed Jan. 12, 2014).
12. Thompson C. Brave new world of digital intimacy. *The New York Times*, Sep. 5, 2008. www.nytimes.com/2008/09/07/magazine/07awareness-t.html?_r=1&pagewanted=all (accessed Dec. 29, 2013).
13. Chen G. Tweet this: a uses and gratifications perspective on how active Twitter use gratifies a need to connect with others. *Journal of Computers in Human Behavior* 2011; 27:755–762.
14. Johnson P, Yang S-U. Uses and gratifications of Twitter: an examination of user motives and satisfaction of Twitter use. Paper presented at the Annual Convention of Association for Education in Journalism and Mass Communication in Boston, MA.
15. Clayton R, Osborne R, Miller B, et al. Loneliness, anxiousness, and substance use as predictors of Facebook use. *Computers in Human Behavior* 2013; 29:687–693.
16. Joinson AN. (2008) "Looking at," "looking up" or "keeping up with" people? Motives and uses of Facebook. In: *Proceedings of the 26th Annual SIGCHI Conference on Human Factors in Computing Systems (Florence, Italy, April 5–10, 2008)*, CHI'08. New York: ACM Press, pp. 1027–1036.
17. Tong ST. Facebook use during relationship termination: uncertainty reduction and surveillance. *Cyberpsychology, Behavior, & Social Networking* 2013; 16:788–793
18. Utz S, Beukeboom CJ. The role of social network sites in romantic relationships: effects on jealousy and relationship happiness. *Journal of Computer-Mediated Communication* 2011; 16:511–527.
19. Tokunaga RS. Social networking site or social surveillance site? Understanding the use of interpersonal electronic surveillance in romantic relationships. *Computers in Human Behavior* 2011; 27:705–713.
20. Kerkhof P, Finkenauer C, Muusses, LD. Relational consequences of compulsive internet use: a longitudinal study among newlyweds. *Human Communication Research* 2011; 37:147–173.
21. Papp LM, Danielewicz J, Cayemberg C. "Are we Facebook official?" Implications of dating partners' Facebook use and profiles for intimate relationship satisfaction. *Cyberpsychology, Behavior, & Social Networking* 2012; 15:85–90.
22. Lyndon A, Bonds-Raacke J, Cratty AD. College students' Facebook stalking of ex-partners. *Cyberpsychology, Behavior, & Social Networking* 2011; 14:711–716.

23. Muise A, Christofides E, Desmarais S. More information than you ever wanted: does Facebook bring out the green-eyed monster of jealousy? *CyberPsychology & Behavior* 2009; 12:441–444.
24. Marshall T. Facebook surveillance of former romantic partners: associations with postbreakup recovery and personal growth. *Cyberpsychology, Behavior, & Social Networking* 2012; 15:521–526.
25. Rubin AM. (2009) Uses and gratifications: an evolving perspective on media effects. In Nabi RL, Oliver MB, eds. *The SAGE handbook of media processes and effect*. Washington, DC: Sage, pp. 147–159.
26. Hayes AF. (2013) *Introduction to mediation, moderation, and conditional process analysis: a regression-based approach*. New York: Guilford Press.
27. Buck S. (2013) When Facebook official isn't enough. Mashable.com. <http://mashable.com/2013/08/04/social-media-couples/> (accessed Jan. 10, 2014).
28. 2 For Life Media Inc. (2013) 2Life App description. www.2life.io (accessed Sep. 28, 2013).

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