Attachment Styles as Predictors of Facebook-Related Jealousy and Surveillance in Romantic

Relationships

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Abstract

Facebook has become ubiquitous over the past five years, yet few studies have examined its role within romantic relationships. In two studies, we tested attachment anxiety and avoidance as predictors of Facebook-related jealousy and surveillance (i.e., checking a romantic partner's Facebook page). Study 1 found that anxiety was positively associated, and avoidance negatively associated, with Facebook jealousy and surveillance. The association of anxiety with Facebook jealousy was mediated in part by lower trust. Study 2 replicated this finding, and daily diary results further showed that over a one-week period, anxiety was positively associated, and avoidance negatively associated, with Facebook surveillance. The association of anxiety with greater surveillance was mediated in part by daily experiences of jealousy.

Keywords: attachment, Facebook, jealousy, online, romantic relationships, social networking websites, surveillance, trust

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Imagine the following scenario: a woman is worried that her boyfriend doesn't love her

as much as she loves him, and fears that he will leave her for someone else. Driven by anxiety

and suspicion, she logs onto Facebook to see if she can find any evidence of his extra-dyadic

transgressions. On his Facebook page, she sees that he has recently added three attractive women

to his list of friends, he has been tagged in a photo with his arm around an unknown pretty girl,

and his relationship status is still listed as "single" rather than "in a relationship." Seeing his

Facebook page has only made her feel worse – jealous, insecure, and scared of rejection.

Nevertheless, she checks his Facebook page a few hours later to see if she can find any new

information.

Social networking websites have exploded in popularity over the last few years, yet their

influence within romantic relationships remains relatively unexplored. At the forefront,

Facebook has attracted more than 800 million active users since its inception in 2004. Facebook

claims to help people connect by enabling users to add friends to their network, post photos,

videos, and links, write status updates, leave comments and wall postings, communicate

privately through email or instant messaging, join groups, invite people to events, and add

applications. Attesting to its social connection function, Joinson (2008) found that people most

commonly used Facebook for keeping in touch with others. Pivotal to the present research, the

second most-common use of Facebook was for people-watching and to find out what others are

up to. Indeed, 60% of college students have reported using Facebook to keep tabs on romantic

partners, friends, and acquaintances (Stern & Willis, 2007). Researchers have coined such terms

as interpersonal electronic surveillance (Tokunaga, 2010), social surveillance (Steinfield, Ellison,

& Lampe, 2008), social searching (Lampe, Ellison, & Steinfield, 2006), or, in the present studies,

Facebook surveillance, to describe the covert use of technology to observe other people's online

and offline activities. The current studies contributed to this burgeoning research area by

examining Facebook surveillance and jealousy within romantic relationships.

Social Networking Websites and Romantic Relationships

Social networking websites may help people to initiate and maintain romantic

relationships. Listing one's relationship status as single, for example, may signal that one is

interested in finding a relationship partner on Facebook (Young, Dutta, & Dommety, 2009).

People may also maintain their relationships through public displays of commitment and through

surveillance of a romantic partner's status updates, wall postings, friend lists, photos, and event

invitations – an information-gathering strategy that may actually help new partners to reduce

relational uncertainty (Tokunaga, 2011).

Other researchers, however, have highlighted the consequences of Facebook use for

romantic relationships. Notably, Muise, Christofides, and Desmarais (2009) found that the

amount of time that romantically-involved people spent on Facebook was positively associated

with Facebook jealousy. This refers to jealous feelings and behavior related to Facebook use,

such as feeling jealous if one's romantic partner becomes Facebook friends with an ex-partner or

worrying that one's partner is secretly developing a relationship with someone else on Facebook.

According to Muise et al., Facebook jealousy operates in a feedback loop, such that spending

more time on Facebook increases exposure to information about one's partner that may arouse

jealousy, and jealousy, in turn, may increase the amount of time spent on Facebook in search of

relationship-relevant information. Along similar lines, Elphiston and Noller (2011) found that

Facebook intrusion – i.e., when excessive attachment to Facebook disrupts daily activities and

relationships – was associated with relationship dissatisfaction. In extreme cases, the use of

Facebook to monitor the activities of current or ex- romantic partners may facilitate obsessive

relational intrusion and cyberstalking behavior (Chaulk & Jones, 2011). In the present studies,

we hypothesized that Facebook jealousy and surveillance were not inevitable consequences of

Facebook use, but rather were predicted by individual differences in attachment style. Next, we

outline attachment theory, discuss the ways that it has informed research on romantic jealousy,

and extend it as a framework for guiding research on Facebook jealousy and surveillance.

Attachment Theory

According to attachment theory, the quality of an infant's interactions with caregivers

during times of need help to shape the infant's expectations, or working models, of later

relationships (Bowlby, 1969, 1973, 1980). Attachment security develops when caregivers are

perceived as available and responsive, and is characterized by positive working models of self

and others (Bartholomew & Horowitz, 1991). Because secure individuals believe that they are

worthy of love and that others can be trusted and relied on, they are confident that their

proximity-seeking attempts will be met with care, they are comfortable with closeness, and they

do not worry excessively about abandonment (Mikulincer & Shaver, 2007).

Anxious attachment, on the other hand, develops when caregivers are inconsistently

available and responsive (Cassidy & Berlin, 1994), and is characterized by negative working

models of self and positive models of others (i.e., preoccupied attachment; Bartholomew &

Horowitz, 1991). Individuals who are high in attachment anxiety doubt that they are worthy of

love, worry that caregivers cannot be counted on when needed, and fear rejection (Mikulincer &

Shaver, 2003). They tend to hypervigilantly monitor the environment for signs of caregiver

availability, and will often appraise ambiguous cues as relationship-threatening (Collins, 1996),

ruminate over these perceived threats (Shaver & Hazan, 1993), and catastrophize about the

future of the relationship (Campbell, Simpson, Boldry, & Kashy, 2005). If an attachment figure

is appraised as unavailable, anxious individuals tend to use *hyperactivating* strategies, which

include intensified efforts – often clingy, intrusive, angry, and controlling – to obtain proximity,

attention, care, and reassurance (Mikulincer & Shaver, 2007).

Avoidant attachment develops from a history of interactions with caregivers who are

unavailable and unresponsive, and is characterized by positive working models of self and

negative models of others (dismissive avoidant) or negative models of self and others (fearful

avoidant; Griffin & Bartholomew, 1994). Individuals who are high in avoidance do not trust

caregivers to be available when needed, and strive to maintain emotional distance, self-reliance,

and control (Hazan & Shaver, 1987). When the attachment system is activated, avoidant

individuals are more likely to use *deactivating* strategies to cope with relationship threats, which

include defensive distancing, denial of intimacy needs, and diverting attention away from or

suppressing threat- and attachment-related cues, thoughts, and emotions (Mikulincer & Shaver,

2007). Attachment anxiety and avoidance are commonly conceptualized as independent

dimensions, and individuals who score low on both dimensions are classified as securely

attached (Brennan, Clark, & Shaver, 2000).

Attachment and Jealousy

Relative to securely attached individuals, insecurely attached individuals tend to

experience lower levels of trust, satisfaction, intimacy, and stability in their romantic

relationships (Kirkpatrick & Davis, 1994; Simpson, 1990). Central to the present research, they

are also more prone to jealousy (Buunk, 1997), which refers to the thoughts, feelings, and

behavior associated with perceiving sexual or emotional threats to one's romantic relationship

(White & Mullen, 1989). Because attachment-anxious individuals hold negative self-views, they tend to be higher in suspicion and worry that their partner will leave them for a superior rival (Guerrero, 1998), thus increasing vigilance for extra-dyadic threats and monitoring their partner's behavior for signs of waning interest. Indeed, attachment-anxious individuals report higher levels of chronic jealousy than attachment-avoidant individuals and respond to jealousy-provoking situations with intensified fear, anger, and sadness (Sharpsteen & Kirkpatrick, 1997). Avoidant individuals, in turn, tend to report greater jealousy than securely attached individuals (Buunk, 1997; Hazan & Shaver, 1987).

Anxious and avoidant individuals tend to vary in their behavioral responses to jealousy. Preoccupied individuals are more likely to respond to jealousy-inducing threats by engaging in surveillance behavior (Guerrero, 1998; Guerrero & Afifi, 1998), which includes spying on or following their partner, keeping tabs on his/her activities, and examining the partner's possessions for evidence of infidelity (Guererro, Andersen, Jorgensen, Spitzberg, & Eloy, 1995). On the other hand, people with negative views of others (dismissing and fearful) are more likely to report avoidance/denial responses to jealousy-inducing threats (Guerrero, 1998). These responses include avoiding communication with one's partner or denying that one feels jealous (Guererro et al.,).

Based on these findings from the jealousy literature, it stands to reason that the tendency of anxious individuals to be hypervigilant for signs of partner availability may lead them to excessively monitor their partner's Facebook activity. In turn, they may be more likely to appraise ambiguous information on their partner's Facebook page as threatening, resulting in greater Facebook jealousy. In contrast, avoidant individuals' defensive efforts to avoid

attachment activation may mean that they are less likely to check their partner's Facebook page

and are less prone to Facebook jealousy than anxious individuals.

Mediating Influence of Relationship Quality

According to Fletcher, Simpson, and Thomas (2000), relationship quality is comprised of

six components: trust, satisfaction, passion, love, intimacy, and commitment. We considered two

mediating pathways through which attachment style may influence Facebook jealousy and

surveillance: via trust and satisfaction, or via passion and love. First, people who are higher in

anxiety tend to trust their partners less and evaluate their relationships as less satisfying (Collins

& Read, 1990; Hazan & Shaver, 1987; Levy & Davis, 1988; Shaver & Brennan, 1992). In turn,

people who are lower in trust tend to be higher in Facebook jealousy (Muise et al., 2009) and are

more likely to snoop through a secretive partner's physical belongings (Vinkers, Finkenauer, &

Hawk, 2011). People who are less satisfied in their relationships are also more likely to engage in

spying behavior, such as checking a partner's email or cell phone (Goodboy, Myers, & Members

of Investigating Communication, 2010). As such, we hypothesized that anxious attachment

would be positively related to Facebook jealousy and surveillance via lower trust and

satisfaction. We did not make a parallel mediating prediction for highly avoidant individuals

because they were predicted to report *lower* Facebook jealousy and surveillance, and would

therefore need to be *higher* in trust and satisfaction to fulfill the requirements for mediation

(Baron & Kenny, 1986). Highly avoidant individuals, however, also tend to be lower in trust and

satisfaction compared to secure individuals (Hazan & Shaver, 1987; Levy & Davis, 1988; Shaver

& Brennan, 1992).[1]

In the second mediating pathway, we surmised that anxiety and avoidance may be

associated with Facebook jealousy and surveillance via passion and love. Hazan and Shaver

(1987) found that anxious-ambivalent individuals, relative to those who were avoidant or secure, were more likely to report that they easily fall in love, and that their romantic relationships were greater in obsessive preoccupation, emotional highs and lows, jealousy, sexual attraction, desire for union and reciprocation, and love at first sight. Attachment-anxious individuals are also more likely to endorse the love style of mania (Collins & Read, 1990; Levy & Davis, 1988), which is characterized by obsessive, dependent, possessive love (Lee, 1977). Mania, in turn, is associated with a higher likelihood of spying on one's partner (Goodboy et al., 2010), suggesting that frequently checking a partner's Facebook page and feeling jealous may simply reflect the infatuated tendencies of people who are high in attachment anxiety. Avoidant individuals, on the other hand, are more likely to report that they fall in love less easily and frequently, that finding someone to fall in love with is rare, that romantic love as depicted in movies does not really exist, and that romantic love does not last (Hazan & Shaver, 1987). As such, lower Facebook jealousy and surveillance may reflect their relatively tepid feelings for their partner. Higher levels of passion and love, then, may explain why anxious individuals experience greater Facebook jealousy and surveillance than avoidant individuals.

Predictions for intimacy and commitment were more speculative. Highly anxious individuals desire excessive closeness with their partner, but they often do not experience as much intimacy and commitment as they would like (Mikulincer & Erev, 1991). In fact, they tend to be ambivalent about commitment because they fear rejection (Joel, MacDonald, & Shimotomai, 2011). Highly avoidant individuals, meanwhile, tend to report desiring, and experiencing, lower levels of intimacy and commitment in their relationships (Mikulincer & Erev). In terms of the predicted associations with Facebook activity, intimacy might be positively related to Facebook surveillance because visiting a partner's Facebook page may

express and reinforce feelings of proximity with a loved-one. From this perspective, looking at a partner's Facebook page may reflect healthy intimacy rather than dysfunctional suspicion and paranoia. On the other hand, highly intimate and committed relationships might afford enough proximity and security to reduce Facebook surveillance and jealousy. Due to these conflicting possibilities, we examined the association of attachment anxiety with Facebook jealousy and surveillance via intimacy and commitment on an exploratory basis. Because highly avoidant individuals tend to be lower, not higher, in commitment, we ruled out commitment as a mediator of the predicted negative association of avoidance with Facebook jealousy and surveillance. We did consider the possibility, however, that the tendency of highly avoidant individuals to limit intimacy and maintain emotional distance may translate into avoiding their partner's Facebook page.

Gender Differences

In line with the findings of Muise et al. (2009), we expected that women would report spending more time on Facebook and greater Facebook jealousy than men. Accordingly, we also hypothesized that women would report greater Facebook surveillance. We did not expect to find any gender differences in attachment style or the relationship quality components, nor did we did expect the associations of attachment style and the relationship quality components with Facebook jealousy and surveillance to be moderated by gender.

The Present Research

We conducted two studies to test the hypothesis that anxious attachment is positively related, and avoidant attachment negatively related, to Facebook jealousy and surveillance. To our knowledge, these are the first studies to examine attachment style as a predictor of Facebook jealousy and surveillance, and to probe different components of relationship quality as potential

mediators. Such research is warranted because of Facebook's increasing ubiquity and the

relatively unexamined role that it plays in romantic relationships. This research also extends the

literature on attachment style as a predictor of surveillance behaviors in response to romantic

jealousy (e.g., Guerrero & Affifi, 1998) by examining a new form of surveillance that is

distinctive for its anonymity, ease of use, and low risk of detection. We sought to examine

whether these unique characteristics of Facebook surveillance have made it a commonplace

behavior within many romantic couples, perhaps even reflecting healthy relationship functioning,

or, like other forms of surveillance – such as checking a partner's email or phone – it is more

common among jealous, attachment-anxious partners or those involved in dissatisfying,

mistrustful relationships. In Study 1, we investigated whether attachment dispositions were

associated with Facebook jealousy and surveillance, and whether any of Fletcher et al.'s (2000)

relationship quality components mediated these associations. Study 2 aimed to replicate and

build on the findings of Study 1 by collecting data from *both* relationship partners and testing

whether attachment styles predicted Facebook jealousy and the frequency of checking the

partner's Facebook page over a one-week period.

Study 1

Participants

The sample consisted of 255 participants (201 women, 54 men). They were recruited

through posting a link to an online survey on two websites that host online psychology surveys

(Social Psychology Network Online Social Psychology Studies, Psychological Research on the

Net), and through the personal contacts of the fourth author. Participants indicated that they were

daily users of Facebook and were involved in a romantic relationship with a partner who also had

a Facebook account. Men and women did not significantly differ in age ($M = 21.44$, $SD = 7.02$

and $M = 22.53$, $SD = 5.16$, respectively) or length of relationship in months ($M = 20.23$, $SD = 22.82$ and $M = 29.37$, $SD = 34.74$, respectively). 69% of participants indicated that they were dating their current partner and no one else, 9% were cohabitating, 8% were married, 7% were engaged, and 7% were dating their current partner and others. Relationship status was controlled in the following analyses by creating an effect-coded variable to differentiate more committed relationships (1 = cohabitating, engaged, or married) from less committed relationships (-1 = exclusive and non-exclusive dating). 66% of participants were North American, 22% were British, 7% were European, 2% were from Australia or New Zealand, and the remaining 3% were from the Middle East, Africa, East Asia, Southeast Asia, or Latin America.

Procedure and Materials

An online survey was created through a survey-development website (www.surveymonkey.com). The following measures were presented to participants in English.

Attachment Style. The Experiences in Close Relationships–Revised (ECR-R) Questionnaire (Fraley, Waller, & Brennan, 2000) is comprised of 18 items that measure attachment anxiety (e.g., "When I show my feelings for romantic partners, I'm afraid they will not feel the same about me"), and 18 items that measure attachment avoidance (e.g., "I prefer not to be too close to romantic partners"). Responses were measured with a 5-point Likert scale (1 = *Strongly disagree*, 5 = *Strongly agree*). Cronbach's alpha was .91 for anxiety and for avoidance.

Self-Esteem. The Rosenberg Self-Esteem Inventory (RSEI; Rosenberg, 1965) consists of 10 items (e.g., "On the whole, I am satisfied with myself") that are answered on a 4-point Likert scale ranging from 1 (*Strongly disagree*) to 4 (*Strongly agree*). Internal consistency was high (a = .90). Self-esteem was controlled in the following regression models to ensure that any

associations of attachment anxiety or avoidance with Facebook jealousy were attributable to attachment style rather than self-esteem.

Relationship Quality. The six-item short form of the Perceived Relationship Quality Components (PRQC) Inventory (Fletcher et al., 2000) assesses six components of relationship quality: satisfaction, commitment, intimacy, trust, passion, and love (e.g., "How committed are you to your relationship?"). Each item was measured with a 5-point Likert scale (1 = *Not at all*, 5 = *A great deal*). The PRQC Inventory was designed to reduce item overlap between components, and Fletcher et al.'s (2000) factor analyses revealed that the best-fitting model allowed the six components to form quasi-independent lower-level factors that also loaded on a higher-order factor of global relationship quality.

Facebook Jealousy. The 27-item Facebook Jealousy Scale (Muise et al., 2009) assesses emotional and sexual jealousy experienced while using Facebook (e.g., "How likely are you to feel threatened if your partner added a previous romantic or sexual partner to his or her Facebook friends?" and "How likely are you to look at your partner's Facebook page if you are suspicious of their activities?"). Responses were measured with a 7-point Likert scale (1 = *Very unlikely*, 7 = *Very likely*). Internal consistency was high (a = .96). Participants also indicated how much time they spent actively using Facebook on a typical day.

Facebook surveillance. A single item asked, "How often do you look at your partner's page?" A 5-point Likert scale was anchored with *Never* (1) and *Very often* (5).

Results and Discussion

Means and standard deviations are reported in Table 1. Men reported having a significantly greater number of Facebook friends than women, and women reported significantly greater commitment than men. Pearson's correlations are reported in Table 2[2], and the results of

hierarchical regression models that tested the predictors of Facebook jealousy and surveillance are reported in Table 3. Sex was effect-coded (1 = male, -1 = female). In both models, the control variables were entered in the first step, followed by the main effects of anxious and avoidant attachment in the second step, and the main effects of the six relationship quality components in the third step. Two-way interactions of anxious and avoidant attachment with sex were entered in a fourth step, but none were significant and are therefore not reported. Results from Step 1 of the first model revealed that Facebook jealousy was higher in women, people whose relationship status indicated lower commitment, and those who were lower in self-esteem. Confirming hypotheses, Step 2 showed that attachment anxiety was positively associated and attachment avoidance negatively associated with Facebook jealousy.

Step 3 showed that trust was the only relationship quality component that predicted Facebook jealousy over and above the control and attachment variables, suggesting it had the potential to mediate the association of anxiety with Facebook jealousy. As shown in Figure 1, Baron and Kenny's (1986) conditions for testing mediation were satisfied: the independent variable (anxious attachment) significantly predicted the mediator (trust) and the dependent variable (Facebook jealousy), and the mediator significantly predicted the dependent variable when the independent variable was controlled. To test mediation, trust was added to Step 2 of the regression model, resulting in a reduction in the coefficient of anxiety from .64 ($p < .0001$) to .58 ($p < .0001$). The Sobel test was significant ($z = 2.41$, $p = .02$), supporting partial mediation.

As shown in Table 3, the results of the second regression model showed that Facebook surveillance was greater in people whose relationship status indicated lower commitment, and as predicted, it was positively associated with anxious attachment and negatively associated with

avoidant attachment. None of the relationship quality components significantly predicted

Facebook surveillance over and above the control and attachment variables.

In sum, the results of Study 1 confirmed that attachment anxiety and avoidance were

significantly related to Facebook jealousy and surveillance, and further, that more anxious

individuals may have experienced greater Facebook jealousy at least in part because they trusted

their partners less. Contrary to hypotheses, the associations of attachment style with Facebook

jealousy and surveillance were not mediated by passion and/or love. In spite of its strengths,

Study 1 was limited in several ways: men were underrepresented; results may not generalize

beyond people who checked Facebook on a daily basis; Facebook surveillance was rated

retrospectively and on a relatively subjective rating scale; and we did not control for the romantic

partner's attachment style, perceived relationship quality, or Facebook activity, which may

potentially influence one's own Facebook jealousy. Study 2 sought to redress these limitations

and to replicate and extend the findings of Study 1.

Study 2

In Study 2, we collected data from both members of heterosexual romantic couples over a

one-week period. Analyses were based on the Actor-Partner Interdependence Model (APIM;

Kashy & Kenny, 2000) because dyads were the unit of analysis rather than individuals. The

APIM allowed us to test *actor* effects, which refer to the association of the participant's own

independent variables with his/her own dependent variables, controlling for the partner's

variables, and *partner* effects, which refer to the association of the partner's independent

variables with the actor's dependent variables, controlling for the actor's variables. More

specifically, we hypothesized that actors who were higher in anxiety, lower in avoidance, and

less trusting would report greater Facebook jealousy and more frequently check their partner's

Facebook page over the course of one week. Furthermore, we hypothesized that actors would report greater Facebook jealousy and surveillance to the extent that their *partners* reported lower relationship quality, especially commitment. We also explored whether partner's attachment style and amount of time spent on Facebook contributed to actor's Facebook jealousy and surveillance. Similar to Study 1, we examined whether the relationship quality components mediated the putative association of anxiety and avoidance with Facebook jealousy and surveillance. Study 2 introduced several additional improvements on Study 1: trait neuroticism was controlled because it tends to be associated with attachment anxiety; we included participants who did not necessarily use Facebook on a daily basis; and Facebook surveillance was measured more precisely by obtaining daily ratings of the number of times participants looked at their partner's Facebook page.

Method

Participants

Data was collected from 108 heterosexual couples as part of a larger study on romantic couples living in the United Kingdom. They were recruited through an online advertisement posted on the authors' university intranet page and through a website that posts classified advertisements (www.gumtree.co.uk). 68 couples who indicated that both partners had a Facebook account were retained for analysis.[3] 78% of participants indicated that they checked their Facebook account on a daily basis, 17% checked once every few days, 1% checked once a week, 1% checked once every few weeks, 1% checked once a month, and 3% checked once every few months. These frequencies did not significantly differ for men and women, although women were slightly more likely to check Facebook on a daily basis (87%) than men (70%). Men and women did not significantly differ in age (Ms = 26.93 and 25.36; SDs = 5.11 and 4.84,

respectively). 49% of participants were born in Europe, 14% in the United Kingdom, 10% in

North America, 8% in Australia or New Zealand, 4% in Latin America, 5% in East Asia, 4% in

Africa, 2% in South Asia, 2% in the Middle East, and 1% in Southeast Asia. An effect-coded

variable that contrasted people born in Western countries (1) with people born in non-Western

countries (-1) was included in the following regression models. 32% of participants indicated

that they were exclusively dating their partner, 37% were cohabitating, 11% were engaged, and

20% were married. The mean length of relationships was 28.62 months ($SD = 24.06$).

Procedure and Materials

First, participants were emailed a link to an intake questionnaire that assessed Facebook

jealousy, length of time spent on Facebook and frequency of using Facebook, attachment style,

global ratings of relationship quality, self-esteem, neuroticism, and demographic characteristics.

When both partners had completed the intake questionnaire, they began the diary phase of the

study the following day. Every day for one week, they were emailed a link to an online diary

record. They were instructed to complete the record at night before going to bed. If they forgot to

complete a record one day, they were asked to skip that day rather than complete it by memory

the following day. Participants who did not submit a daily record were emailed a reminder to

complete their diaries on time. Each partner was paid £5 for completing the intake questionnaire,

and £1 for each diary record, thus providing an incentive to complete the diary records on a daily

basis. At the end of the one-week period, participants were thanked, fully debriefed, and paid.

All of the following questionnaires were presented to participants in English.

Intake Questionnaire

Attachment Style. The 36-item Experiences in Close Relationships – Revised (ECR-R) Questionnaire (Fraley et al., 2000), using the same response format as in Study 1, was high in internal consistency (a = .88 for both anxiety and avoidance).

Global Relationship Quality. The full 18-item version of the Perceived Relationship Quality Components (PRQC) Inventory (Fletcher et al., 2000) assesses global relationship satisfaction, commitment, intimacy, trust, passion, and love with three items each. It used the same response format as in Study 1. Cronbach's alpha coefficients ranged from .71 (trust) to .94 (satisfaction).

Self-Esteem. The Self-Liking Self-Competence Scale (SLSC; Tafarodi & Swann, 1995) assesses two dimensions of self-esteem with 8 items each: self-liking (e.g., "I feel great about who I am") and self-competence (e.g., "I perform well at many things"). The self-liking subscale was highly reliable (a = .91), but the self-competence subscale was not (a = .26). As such, only the self-liking subscale was included in the analyses.

Neuroticism. 7 items (a = .85) from the Berkeley Personality Profile (Harary & Donahue, 1994) assess trait neuroticism (e.g., "I get nervous easily"). Responses were measured with a 5-point Likert scale (1 = *Strongly disagree*, 5 = *Strongly agree*).

Facebook Jealousy. The Facebook Jealousy Scale (Muise et al., 2009), utilizing the same response format as in Study 1, was highly reliable (a = .96). Participants were also asked how many minutes they spent actively checking Facebook on a typical day, and how frequently they used Facebook by indicating one of 6 response options that ranged from *daily* to *once a year*.

Daily Diary Record

Facebook surveillance was assessed with the item, "How many times did you look at your partner's Facebook page today?" The 6-point scale ranged from *0* (1) to *5 or more times* (6).

To control for the possibility that partners looked at each other's pages as a byproduct of using

Facebook email or instant messaging to communicate with each other, one item asked

participants to indicate how much time they spent communicating with their partner that day

through the social networking website. Six response options ranged from *None* (1) to *More than*

10 hours (6). Using the same response options, additional items asked participants how much

time they spent that day communicating with their partner through phone, email, text messaging,

instant messaging, and Skype (summing these five modes of communication within each day for

a total score), and how much time they spent interacting face-to-face. We reasoned that couples

who communicate heavily through technology may be more prone to checking each other's

Facebook pages, whereas couples who spent more time in face-to-face interactions may be less

prone.

The diary record also measured each of the 6 relationship quality components with the

six-item short-form of the PRQC. Responses were based on a 5-point Likert scale (1 = *Not at all*,

5 = *A great deal*). It was slightly modified to refer to perceived relationship quality on that

particular day instead of globally (e.g., "How committed did you feel to your relationship

today?"). An additional item measuring jealousy was also included ("How much jealousy did

you experience in your relationship today?"). These items were included to assess whether daily

perceptions of relationship quality contributed to variance in Facebook surveillance over and

above the global ratings of relationship quality as measured at intake.

Finally, the diary record assessed daily variation in mood with the 10-item International

Positive and Negative Affect Schedule Short-Form (I-PANAS-SF; Thompson, 2007).

Respondents indicate on a 5-point scale (1 = *Not at all*, 5 = *A great deal*) how much each of 5

items assessing positive affect (e.g., "Inspired"; a = .74) and 5 items assessing negative affect

(e.g., "Upset"; a = .80) describe how they felt that day. This scale was included to control for the potential effect of mood on Facebook surveillance.

Results and Discussion

Data Analytic Strategy

In dyadic designs, observations are non-independent because romantic partners tend to mutually influence each other's scores. To account for non-independence, we tested two multilevel models, each based on a different nested data structure. The first model tested the predictors of Facebook jealousy, and consisted of a two-level data structure in which person was nested within dyad. The variables included in this model were measured during the intake phase of the study; no daily diary variables were included. Person-level variables – attachment anxiety, avoidance, the global relationship quality components, and Facebook jealousy – were the lower-level units of analysis (Level 1), and dyad was the upper-level unit of analysis (Level 2).

The second multilevel model tested the predictors of Facebook surveillance, and consisted of a three-level data structure based on intake and daily diary variables. In dyadic daily diary designs, observations are not only interdependent between dyad members, but also within person, such that an individual's observations on one day are likely to be associated with their observations on another day (Kenny, Kashy, & Cook, 2006). In this data structure, each individual's daily observations are nested within person, and person is nested within dyad. Accordingly, daily diary scores for the relationship quality components and Facebook surveillance were the lower level units of analysis (Level 1), person-level variables – attachment avoidance, anxiety, and the global relationship quality components – were the middle level unit of analysis (Level 2), and dyad was the highest level unit of analysis (Level 3). The analyses for

Facebook surveillance were based on 413 daily interactions that consisted of two complete

observations (male score, female score).

The following analyses were guided by the Actor-Partner Interdependence Model (Kashy

& Kenny, 2000), following the recommendations of Kenny et al. (2006) and Campbell and

Kashy (2002) for conducting hierarchical linear modeling with dyadic data using PROC MIXED

in SAS. Because dyadic data allows for random intercepts but not random slopes (Kenny et al.,

2006), we conducted random intercept-only models. All continuous predictors were centered on

the grand mean, and degrees of freedom for the multilevel analyses were based on the

Satterthwaite approximation. Means and standard deviations for the intake variables are reported

in Table 4, and correlations between intake variables are reported in Table 5.

Predictors of Facebook Jealousy

Predictors of Facebook jealousy were entered into the multilevel analysis in four steps.

Control variables (Level 1) were entered at Step 1, and included actor's sex, age, Western vs.

non-Western cultural background, neuroticism, self-esteem, length of relationship, relationship

status, actor's and partner's frequency of using Facebook (1 = daily, -1 = not daily), and number

of minutes spent actively using Facebook on a typical day. Main effects of actor's and partner's

anxiety and avoidance (Level 1) were entered at Step 2, and main effects of actor's and partner's

global relationship quality components (Level 1) were entered at Step 3. Interactions of the main

effect variables with sex were entered at Step 4, but none were significant and are therefore not

reported. As seen in Table 6, Facebook jealousy was positively predicted by actor's attachment

anxiety, and negatively predicted by actor's frequency of using Facebook,[4] actor's trust, and

partner's intimacy.

Actor's trust and partner's intimacy represented two potential mediators of the association of actor's anxiety with increased Facebook jealousy because they were the only global relationship quality predictors that significantly predicted Facebook jealousy over and above the independent variable (actor's anxiety). It was necessary for each to be negatively associated with actor's anxiety to fulfill Baron and Kenny's (1986) criteria for mediation, but this association was only significant for actor's trust. As shown in Figure 2, when actor's trust was added to Step 2 of the regression model (controlling for partner's trust), the coefficient for actor's anxiety dropped from .97 ($p < .0001$) to .79 ($p < .0001$). The Sobel test was significant, $z = 1.93$, $p = .05$. Similar to the results of Study 1, then, attachment anxiety was related to greater Facebook jealousy at least in part because more anxious people trusted their partners less.

Predictors of Facebook Surveillance

Because the diary period lasted for only one week, the following analyses excluded five couples who indicated that one partner checked Facebook less than once a week. 89% of the remaining women and 67% of men indicated that they checked Facebook on a daily basis; this gender difference was significant ($x^2(1) = 75.24$, $p < .0001$). Participants indicated in 67% of the daily diary records that they had not checked their partner's Facebook page that day, whereas they checked once in 23% of the records, twice in 6% of records, three times in 3% of records, four times in 1% of records, and checked five or more times in 1% of records. These frequencies did not significantly differ by sex ($x^2(5) = 4.70$, $p = .45$). Correlations of men's and women's intake variables with frequency of checking partner's Facebook page are reported in Table 5.

The predictors of Facebook surveillance, a diary-level variable (Level 1), consisted of person-level variables (Level 2: control variables, attachment avoidance and anxiety, global relationship quality components) and diary-level variables (Level 1: daily relationship quality

components). The control variables were entered in Step 1, main effects for actor's and partner's

attachment variables in Step 2, main effects for actor's and partner's global relationship quality

components in Step 3, and main effects for actor's and partner's daily ratings of relationship

quality components in Step 4. The control variables were the same as in the previous analysis for

Facebook jealousy, but we controlled for several additional variables (all Level 1 diary

variables): actor's assessment of how much time was spent that day communicating with the

partner through social networking sites and other technology (e.g., email, text messaging), length

of time spent in face-to-face interaction with the partner that day, and actor's daily positive and

negative affect.[5] Interactions of the global and daily relationship quality components with sex

were added to Step 3 and Step 4, respectively, after the main effects had already been assessed

(due to space limitations, Table 6 does not report interactions with sex, and it only reports the

main effects of daily relationship quality that were significant).

　　　As reported in Table 6, actors engaged in greater Facebook surveillance if they were

male, used Facebook on a daily basis, spent more time on Facebook, and had partners who spent

more time on Facebook. Confirming hypotheses, actor's anxiety was positively related to

Facebook surveillance, and actor's avoidance was negatively related. Actors were also higher in

Facebook surveillance when partners reported less global commitment, but more global love.

Neither of these two variables was significantly associated with actor's anxiety or avoidance,

however, indicating that they did not fulfill Baron and Kenny's (1986) criteria for mediation. In

addition, actor's daily love and jealousy were positively associated with Facebook surveillance,

whereas partner's daily jealousy was negatively associated. Further analyses revealed that only

actor's daily jealousy satisfied the criteria for mediation, as shown in Figure 3.[6] When actor's

daily jealousy was added to Step 3 of the regression model (controlling for partner's daily

jealousy), the coefficient for actor's anxiety decreased from .23 ($p < .01$) to .19 ($p < .05$). The

Sobel test was significant ($z = 2.54$, $p = .01$), suggesting that attachment-anxious people more

frequently checked their partner's Facebook page at least in part because they experienced

intensified jealousy on a daily basis.[7]

Finally, several of the global relationship components significantly interacted with sex:

actor's love ($b = -.32$, $p < .05$), actor's passion ($b = .28$, $p < .0001$), and partner's passion ($b = -.31$, $p < .0001$). Analysis of these interactions showed that actor's passion was positively

associated with men's Facebook surveillance ($b = .23$, $p < .01$) and negatively associated with

women's surveillance ($b = -.32$, $p < .01$). The reverse pattern was observed for partner's passion,

which was negatively associated with men's Facebook surveillance ($b = -.28$, $p < .01$) and

positively associated with women's surveillance ($b = .33$, $p < .0001$). Furthermore, actor's global

love was significantly associated with women's surveillance ($b = .54$, $p < .05$) but not with

men's. Additional analyses showed that sex did not interact with any of the attachment variables

or the daily relationship quality components, nor did it moderate any mediating relationships

between attachment style, global relationship quality, and Facebook surveillance. Independent of

attachment style, then, actors checked their partner's Facebook page more frequently if they

reported more daily jealousy, and if their partner reported less global commitment and less daily

jealousy, but more global love. Men who reported greater global passion and women who

reported greater global love also checked their partner's Facebook page more frequently.

General Discussion

Taken together, these studies showed that anxious attachment is positively associated,

and avoidant attachment negatively associated, with Facebook jealousy and surveillance.

Attachment-anxious individuals experienced heightened Facebook jealousy at least in part

because they trusted their partners less. This pattern of results emerged in both studies in spite of

their different sample characteristics: participants in Study 1 were predominantly North

American, university-aged individuals who used Facebook on a daily basis, whereas the sample

in Study 2 consisted of predominantly European, slightly older, more seriously involved

romantic couples who varied more widely in the frequency of their Facebook use. These results

were also consistent with the findings of Muise et al. (2009), who found that trust was the only

relational factor that predicted Facebook jealousy. Results from Study 2 further revealed that

attachment-anxious individuals tended to check their partner's Facebook page more frequently at

least in part because they felt more jealousy on a daily basis, whereas attachment-avoidant

individuals appeared to avoid looking at their partner's Facebook page altogether.

That global trust and daily jealousy were the only relationship quality variables to

partially mediate the association of anxiety with Facebook jealousy and surveillance is consistent

with attachment theory. Because of their negative self-models, attachment-anxious people tend

to feel that they are unworthy of love, and as such, that their partners may leave them for

someone else (Mikulincer & Shaver, 2007). Lack of trust and heightened jealousy may lead

highly anxious individuals to hypervigilantly check their partner's Facebook page, and

ambiguous cues that are perceived as threatening may intensify anxiety, jealousy, and mistrust in

a vicious circle. To the extent that anxious individuals react in a hypersensitive, angry,

destructive manner to the partner's "inappropriate" Facebook activity, the partner's commitment

may decrease and thus confirm the anxious individual's negative relationship expectations in a

process of behavioral confirmation (Downey, Freitas, Michaelis, & Khouri, 1998). Contrary to

hypotheses, there was no evidence that anxious people were higher in Facebook jealousy and

surveillance because of infatuated love; jealousy and mistrust better accounted for this pattern of

results than passion and love. These findings therefore extend research that has linked attachment

anxiety to surveillance behaviors in response to romantic jealousy (Guerrero, 1998; Guerrero &

Afifi, 1998) by highlighting Facebook's utility as a new, easy-to-use weapon that attachment-

anxious individuals may add to their arsenal of surveillance tactics.

Contribution of Relationship Quality Components to Facebook Jealousy and Surveillance

It is noteworthy that in Study 2, several of the relationship quality components

significantly predicted Facebook jealousy and surveillance over and above the attachment

variables, even though they did not qualify as mediators. Specifically, partner's global intimacy

and commitment were negatively associated with actor's Facebook jealousy and surveillance,

respectively, whereas partner's global love, women's global love, actor's daily love, and men's

global passion were positively associated with actor's Facebook surveillance. Regardless of

one's chronic attachment style, then, partner's intimacy and commitment may neutralize actor's

Facebook jealousy and surveillance. Actors may be less driven to look at their partner's

Facebook page out of jealous insecurity, and less likely to interpret ambiguous information on

Facebook as relationship-threatening, if their partner's closeness and devotion allows them to

feel secure in the relationship.

These results further suggest that Facebook jealousy and especially surveillance may be

dually-motivated: consistent with Sternberg's (1986) distinction, the more pragmatic, cognitive,

"warm" and "cold" components of relationship quality (intimacy and commitment, respectively)

may decrease Facebook jealousy and surveillance because they increase felt security, whereas

the sexual, affective, "hot" components (passion and love) may increase the desire to look at a

romantic partner's Facebook page. Looking at a partner's Facebook page, then, may not

necessarily reflect "surveillance" per se because it is not always motivated by attachment

insecurity or poor relationship quality; rather, people in love may simply find it rewarding to see each other's status updates, photos, or a public declaration that they are involved in a relationship together. Looking at a partner's Facebook page may also reflect a type of symbolic proximity-seeking behavior with a loving, responsive partner. It is important to note that these findings emerged when relationship status and length were controlled in the analyses, dismissing the possibility that love and passion may drive the frequency of checking a partner's Facebook page upwards in relatively new relationships, whereas commitment may drive Facebook checking downwards in relatively more established, long-lasting relationships.

In sum, Facebook surveillance was not only the domain of anxious, jealous individuals or those whose partners were lacking commitment; it was also more prevalent among passionate and loving partners. As such, this modern, easily accessed and undetectable type of surveillance may diverge from more effortful forms of surveillance that are unilaterally negative (e.g., following a partner or going through his/her belongings). Further research would do well to differentiate between benign, even positive forms of Facebook surveillance, and more negative, pernicious forms.

Gender Differences

Several significant gender differences emerged in both studies. In Study 1, men reported having significantly more Facebook friends than women, and were less committed to their relationships. In Study 2, women reported spending significantly more minutes on Facebook and greater Facebook jealousy than men, consistent with the findings of Muise et al. (2009). Men were also significantly less likely than women to use Facebook on a daily basis. After controlling for men's less frequent use and less time spent on Facebook, the analyses revealed that men actually looked at their partner's Facebook page significantly more often on a daily basis than

did women. This suggests that men may spend a greater proportion of their time on Facebook looking at their partner's page compared to women. Men's frequency of checking their partner's Facebook page was associated with passion, suggesting that men's sexual interest may have lead them to look for visual cues of their partner, such as Facebook photos. That men reported lower Facebook jealousy in spite of more frequently checking their partner's Facebook page lends further support to this speculation. Note, however, that there were no gender differences in Facebook surveillance in Study 1, suggesting that the results of Study 2 must be viewed cautiously.

Interestingly, when men were high in global passion, both men and women looked at the other's Facebook page more frequently, whereas when women were high in global passion, both men and women looked at the other's Facebook page *less* often. That men were particularly likely to look at their partner's Facebook page when their own passion was high and their partner's passion was low suggests a certain fascination with non-reciprocating partners. Women, however, were more likely to look when their own passion was low but their partner's passion was high. Because this finding is open to interpretation (for instance, perhaps women were flattered by the attention of passionate men, and visited their Facebook pages for an ego boost), additional research is needed to corroborate these gender differences in an independent sample.

Limitations and Future Directions

Notwithstanding the strengths of these studies, some caution is still warranted when interpreting results. First, these studies were correlational, and therefore could not establish the causal direction between variables. We made the assumption that anxiety led to lower trust and greater daily jealousy, which in turn led to greater Facebook jealousy and surveillance, but it is

just as plausible to surmise that anxiety led people to look at their partner's Facebook page more often, feel more Facebook jealousy when ambiguous cues were appraised as threatening, and subsequently trusted their partners less and experienced greater daily jealousy. An experiment that manipulated anxiety or avoidance, the relationship quality components, or even exposure to a partner's Facebook page could help to establish the direction of causality between these variables.

The present results may have also been limited by the selection of measures. It is noteworthy that none of the relationship quality components completely mediated the association of attachment styles with Facebook jealousy or surveillance, suggesting that alternative measures may have produced stronger results. For example, the passion and love components of the Perceived Relationship Quality Components Inventory might better reflect the love style of eros – physical attraction and sexual desire – than the obsessive, preoccupied love style of mania. The Love Attitudes Scale (Hendrick & Hendrick, 1986) or the Passionate Love Scale (Hatfield & Sprecher, 1986) might be better able to assess whether the heightened Facebook jealousy and surveillance of attachment-anxious individuals is driven by passionate, infatuated love. Moreover, we did not include a measure of chronic jealousy, as Muise et al. (2009) did in their study. It is possible that the association of daily jealousy with checking partner's Facebook page may have been attenuated if chronic jealousy were controlled. The association of insecure attachment styles with chronic jealousy, however, suggests that it may not contribute much variance to the dependent variables over and above anxiety and avoidance.

Another limitation is that the relationship quality components were highly inter-correlated. Multicollinearity between predictor variables can produce unstable regression coefficients, suggesting that these results should be replicated using alternative, less correlated

measures. It is worth noting, however, that Fletcher et al. (2000) found less item overlap between

relationship components as measured with the PRQC Inventory compared to other measures of

relationship quality. They also confirmed the quasi-independence of the six components through

factor analysis.

The present findings suggested several additional avenues for future research. For one, it

is worthwhile to investigate whether the tendency of highly anxious individuals to keep tabs on

their current partner through Facebook may mean that they are also more likely to monitor the

Facebook activities of ex-partners, and remain attached to ex-partners as a result. A recent study

found that more than half of participants had contacted ex-partners through Facebook, and a third

of these monitored their ex-partner's Facebook activities (Chaulk & Jones, 2011) – a tendency

that may be more pronounced amongst highly anxious individuals. Even though highly anxious

people tend to sustain greater attachments to ex-partners, this attachment may be neutralized if

they are led to believe that alternative romantic partners are available (Spielmann, MacDonald,

& Wilson, 2009). Similarly, anxious people might break an attachment to an ex-partner if they

defriend ex-partners on Facebook, go for longer periods of time without checking the ex-

partner's page, and attend to the available alternative partners amongst their own Facebook

friends. More darkly, it is possible that highly anxious individuals are more likely to cyberstalk

ex-partners on Facebook. Future studies might fruitfully investigate whether checking a partner's

Facebook page, a lower form of relational intrusion (Chaulk & Jones, 2011), escalates to higher

forms by utilizing a longitudinal research design.

Additionally, that people who are high in anxiety tend to engage in greater jealousy-

induction than people who are high in avoidance (Whitson & Mattingly, 2010) suggests that

highly anxious individuals may attempt to induce jealousy in their partner through their

Facebook activity. It is also possible that when feeling threatened, anxious individuals may express hyperactivating strategies through the medium of Facebook. As such, further research could investigate whether anxious people are more likely to post photos, comments, or status updates intended to make their partners jealous, or to express hostile, needy, or attention-seeking behaviors through Facebook.

Concluding Remarks

Before the advent of Facebook, anxious individuals' mistrust and jealousy may have led them to monitor a romantic partner's activities through other forms of intrusive behavior, such as checking their partner's pockets, wallet, or mobile phone. In the past few years, the possibility of monitoring a partner's activities through Facebook has complemented or even supplanted this hypervigilant behavior because it may reliably yield attachment-relevant cues with minimal effort and little to no risk that one's snooping will be discovered. Avoidant individuals, in contrast, are likely to eschew the potentially threatening information furnished by their partner's Facebook page and thus experience less Facebook jealousy. Competing relational pressures may also influence Facebook jealousy and surveillance, with commitment and intimacy exerting downward pressure, and feelings of love and passion exerting upward pressure. Overall, the current studies contribute to our nascent understanding of the role that social networking websites like Facebook play in romantic relationships.

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Footnotes

[1] In both of the studies reported here, we tested whether the components of relationship quality moderated rather than mediated the associations of anxiety and avoidance with Facebook jealousy and surveillance. The interactions of the relationship components with anxiety and avoidance were not significant, suggesting that neither trust, satisfaction, nor any of the other components were differentially associated with Facebook jealousy and surveillance for anxious and avoidant individuals. As such, the interactions will not be mentioned further.

[2] Although Table 2 shows that the correlation of attachment avoidance with Facebook jealousy was not significant for women or men, a multiple regression analysis revealed that avoidance significantly predicted Facebook jealousy when attachment anxiety was included as a second covariate in the model (avoidance: $\beta = -.17$, $p < .01$; anxiety: $\beta = .63$, $p < .0001$). Controlling for attachment anxiety, then, helped to pull out the main effect of avoidance.

[3] Couples were excluded if one partner did not have a Facebook account or did not clearly indicate how many minutes he/she spent on Facebook in a typical day. A multilevel model examined whether the couples who were included in this study differed in relationship quality (i.e., total scores on the PRQC) from couples who were excluded. Sex, age, cultural background, length of relationship, relationship status, self-esteem, and neuroticism were controlled in the model. Results did not reveal a significant group difference in relationship quality ($p = .87$).

[4] This unexpected finding should be interpreted cautiously until it can be replicated in another sample. One possibility, however, is that people who do not use Facebook on a daily

basis are exposed to a greater accumulation of potentially jealousy-inducing information in one session than people who are exposed to less information more frequently (i.e., on a daily basis).

[5] Because most of the control variables did not significantly predict the dependent variables, they are not reported in Table 6. To sum up the significant findings, Facebook jealousy was predicted by actor's age ($b = -.04$, $p < .05$), cultural background ($b = -.28$, $p < .05$) and neuroticism ($b = .41$, $p < .01$), whereas Facebook surveillance was predicted by the amount of time that partners spent communicating with each other through technology ($b = .05$, $p < .001$) and actor's negative affect ($b = .12$, $p < .01$).

[6] Because the independent variable is an upper level predictor (Level 2), and the mediator and dependent variable are Level 1 variables, this is an example of upper level mediation (Kenny, Kashy, & Bolger, 1998). Multilevel modeling is appropriate for testing upper level mediation (Krull & MacKinnon, 2001).

[7] Figures 2 and 3 depict actor-mediated actor effects; there was no evidence of partner-mediated actor effects (see Avivi, Laurenceau and Carver (2009) for elaboration of actor- and partner-mediated actor and partner effects).

Table 1

Study 1: Descriptive statistics

	Men		Women		t(253)
	M	*SD*	*M*	*SD*	
Self-esteem	3.09	.60	3.18	.62	-1.00
Minutes on Facebook	97.50	85.14	92.60	74.99	.41
Number of friends	515.77	435.04	397.78	278.06	2.41*
Facebook jealousy	3.58	1.37	3.89	1.27	-1.58
Facebook surveillance	3.81	1.21	3.72	1.17	.52
Attachment anxiety	2.39	.83	2.32	.78	.59
Attachment avoidance	2.01	.73	2.01	.70	.01
Intimacy	4.13	1.12	4.39	.87	-1.83[†]
Satisfaction	4.02	1.21	4.04	1.02	-.16
Commitment	4.17	1.21	4.47	.90	-2.07*
Trust	4.04	1.27	4.04	1.04	-.05
Passion	4.11	1.11	4.18	.94	-.45
Love	4.37	1.09	4.50	.87	-.94

[†]$p < .10$. *$p < .05$.

Table 2

Study 1: Pearson's correlations

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Anxiety		.30*	-.46**	-.38**	-.19	-.15	-.09	-.06	.05	.60**	.35*
2. Avoidance	.45**		-.61**	-.66**	-.77**	-.70**	-.68**	-.65**	-.11	-.04	-.23
3. Trust	-.46**	-.44**		.77**	.56**	.54**	.58**	.52**	-.06	-.18	.04
4. Satisfaction	-.43**	-.52**	.62**		.72**	.56**	.70**	.77**	-.04	-.01	.13
5. Commitment	-.27**	-.43**	.61**	.71**		.65**	.63**	.83**	.15	.14	.24†
6. Intimacy	-.26**	-.46**	.48**	.63**	.58**		.72**	.54**	-.03	.21	.14
7. Passion	-.18*	-.35**	.38**	.63**	.54**	.67**		.73**	-.01	.21	.21
8. Love	-.24**	-.51**	.48**	.64**	.69**	.53**	.52**		-.03	.23†	.23†
9. FB minutes	.13	.06	-.01	-.02	.01	-.02	-.05	-.09		.12	.28*
10. FB jealousy	.55**	.13†	-.36**	-.27**	-.15*	-.12†	-.03	-.08	.11		.54**
11. FB surveil.	.21**	-.10	-.13†	-.08	.02	.06	.03	.02	.11	.40**	

Note. Women's data is presented below the diagonal, and men's data is presented above the diagonal. FB minutes = minutes per day spent actively using Facebook. FB jealousy = Facebook jealousy. FB surveil. = Facebook surveillance.

$^\dagger p < .10$. $^* p < .05$. $^{**} p < .01$.

Table 3

Study 1: Standardized regression coefficients for the predictors of Facebook jealousy and surveillance

Predictors	Facebook Jealousy	Facebook Surveillance
Step 1		
Sex	-.13*	-.03
Age	-.03	-.02
Relationship status	-.17*	-.31***
Relationship length	.08	.03
Self-esteem	-.21**	-.10†
Minutes on Facebook	.07	.10
Number of Facebook friends	.10	.11†
Step 2		
Anxiety	.64***	.27***
Avoidance	-.15*	-.28***
Step 3		
Intimacy	.03	.01
Satisfaction	-.08	-.11
Commitment	.08	.18†
Trust	-.23**	-.08
Passion	.09	-.03
Love	.07	-.04

$^{\dagger}p < .10.$ *$p < .05.$ **$p < .01.$ ***$p < .001.$

Table 4

Study 2: Descriptive statistics

	Men		Women		t(136)
	M	*SD*	*M*	*SD*	
Facebook jealousy	2.64	1.27	3.23	1.28	2.72**
Minutes on Facebook	64.20	73.37	96.74	106.80	2.09*
Self-esteem	3.49	.33	3.29	.43	-3.07**
Neuroticism	2.43	.70	3.06	.75	5.14***
Attachment anxiety	2.07	.61	2.31	.72	2.15*
Attachment avoidance	2.03	.64	1.93	.56	-.96
Global intimacy	4.50	.68	4.49	.66	-.09
Global satisfaction	4.40	.84	4.34	.79	-.45
Global commitment	4.51	.73	4.55	.63	.29
Global trust	4.36	.75	4.29	.73	-.54
Global passion	3.92	1.01	3.90	.91	-.15
Global love	4.53	.71	4.61	.60	.70

*p < .05. **p < .01. ***p < .001.

Table 5

Study 2: Pearson's correlations among actor's variables. All variables were measured in the intake questionnaire except frequency of checking partner's Facebook page.

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Anxiety	**.39****	.40**	-.36**	-.35**	-.18	-.23†	-.07	-.28*	.29*	.45**	.13**
2. Avoidance	.42**	**.20***	-.58**	-.60**	-.56**	-.67**	-.43**	-.64**	.04	.29*	.01
3. Trust	-.50**	-.45**	**.29****	.68**	.53**	.67**	.38**	.65**	.10	-.29*	.05
4. Satisfaction	-.54**	-.55**	.63**	**.44****	.62**	.87**	.62**	.75**	.06	-.17	.09*
5. Commitment	-.40**	-.71**	.55**	.74**	**.32****	.72**	.30*	.82**	.08	-.10	.01
6. Intimacy	-.45**	-.62**	.61**	.80**	.80**	**.50****	.62**	.75**	.08	-.07	.08†
7. Passion	-.44**	-.47**	.44**	.74**	.56**	.71**	**.62****	.37**	.06	.10	.17***
8. Love	-.37**	-.60**	.57**	.64**	.85**	.74**	.56**	**.37****	.04	-.11	.01
9. FB minutes	.07	-.10	.02	.05	.15	.13	.05	.13	**.41****	.35**	.31***
10. FB jealousy	.48**	.01	-.43**	-.28*	-.17	-.13	-.17	-.22†	.01	**.18***	.21***
11. FB checking	.09*	-.08†	-.01	.05	.12**	.09*	.07†	.11*	.08†	.13**	**.26*****

Note. Women's data is presented below the diagonal, and men's data is presented above the diagonal. Correlations along the diagonal are between dyad members. FB minutes = minutes per day spent actively using Facebook. FB jealousy = Facebook jealousy. FB checking = frequency of checking partner's Facebook page.

†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 6

Study 2: Unstandardized regression coefficients for the predictors of Facebook jealousy and surveillance (i.e., the frequency of checking partner's Facebook page)

Predictors	Facebook Jealousy		Facebook Surveillance	
	b	SE	b	SE
Step 1				
Intercept	4.35	.59	1.24	.10
Sex	-.13	.12	.07*	.03
Actor: Frequency of using Facebook	-.27*	.13	.10†	.05
Partner: Frequency of using Facebook	-.11	.13	-.02	.05
Actor: Time spent on FB	.01	.01	.09***	.02
Partner: Time spent on FB	.01	.01	.04*	.02
Step 2				
Actor's anxiety	.97***	.19	.26***	.07
Actor's avoidance	-.12	.17	-.22***	.06
Partner's anxiety	-.11	.17	-.01	.06
Partner's avoidance	-.06	.18	-.08	.06
Step 3				
Global Trust				
Actor	-.51**	.18	-.12†	.07
Partner	.24	.19	-.14†	.07
Global Satisfaction				
Actor	-.16	.24	.05	.09
Partner	.45†	.24	-.01	.09
Global Commitment				
Actor	.04	.28	-.19†	.11
Partner	.02	.27	-.36***	.11
Global Intimacy				
Actor	.23	.31	.14	.12
Partner	-.64*	.30	-.11	.12
Global Passion				
Actor	.01	.16	.07	.06
Partner	.02	.15	.08	.05
Global Love				
Actor	.05	.27	.11	.12
Partner	-.09	.27	.65***	.12
Step 4				
Daily Love				
Actor			.13*	.06
Partner			.06	.06
Daily Jealousy				
Actor			.13**	.04
Partner			-.09*	.04

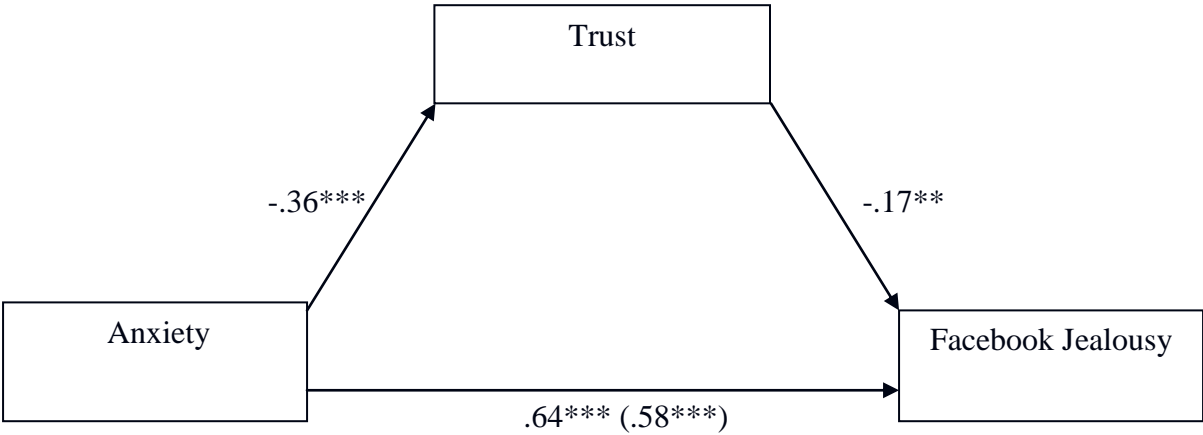$^\dagger p < .10.$ *$p < .05.$ **$p < .01.$ ***$p < .001.$
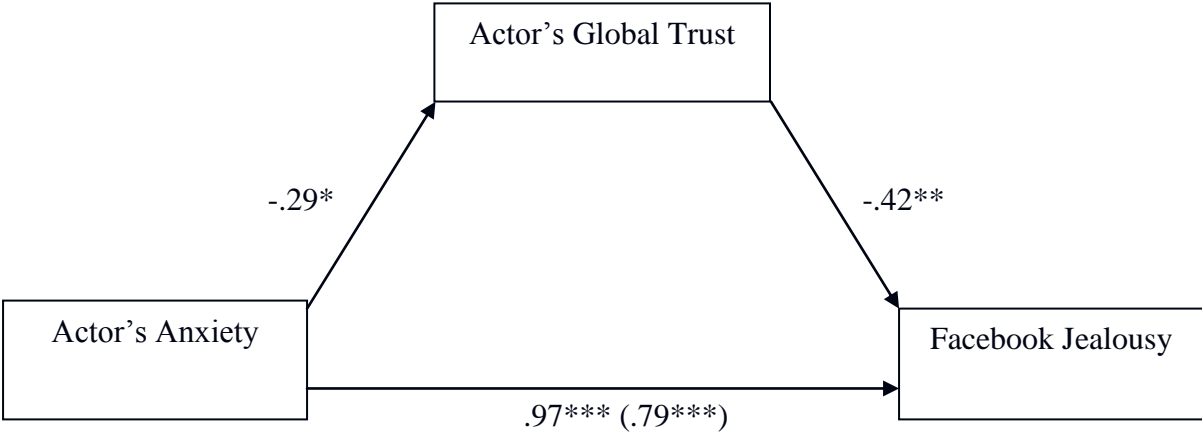
Figure Captions

Figure 1. Testing trust as a mediator of the association of anxiety with Facebook jealousy in Study 1. Note: The coefficient in parentheses refers to the association between anxiety and Facebook jealousy after trust was introduced into the model (Sobel's z = 2.41, p = .02).

Figure 2. Testing actor's global trust as a mediator of the association of actor's anxiety with Facebook jealousy in Study 2. Note: The coefficient in parentheses refers to the association between actor's anxiety and Facebook jealousy after actor's global trust was introduced into the model (Sobel's z = 1.93, p = .05).
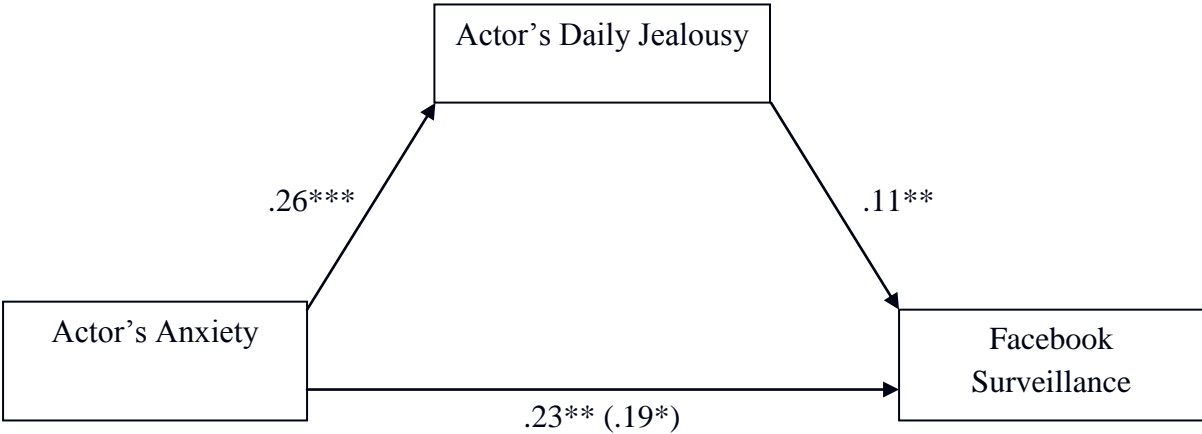
Figure 3. Testing actor's daily jealousy as a mediator of the association of actor's anxiety with Facebook surveillance in Study 2. Note: The coefficient in parentheses refers to the association between actor's anxiety and Facebook surveillance after actor's daily jealousy was introduced into the model (Sobel's z = 2.54, p = .01).

**p < .01, ***p < .0001

p < .05, **p* < .01, ***p* < .001

Actor's Daily Jealousy

Actor's Anxiety

Facebook Surveillance

.26***

.11**

.23** (.19*)

*p < .05, **p < .01, ***p < .0001