Self-Disclosure and Relational Outcomes:
The Context-Dependent Disclosure Intimacy Satisfaction (CDDIS) Model

By

© 2016

Juwon Lee

Submitted to the graduate degree program in Psychology and the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

_____

Chairperson Dr. Omri Gillath

_____

Dr. Glenn Adams

_____

Dr. Monica Biernat

_____

Dr. Christian Crandall

_____

Dr. Jeffrey Hall

Date Defended: April 28, 2016

The Dissertation Committee for Juwon Lee

certifies that this is the approved version of the following dissertation:

Self-Disclosure and Relational Outcomes:
The Context-Dependent Disclosure Intimacy Satisfaction (CDDIS) Model

_____

Dr. Omri Gillath

Date approved: May 13, 2016

Abstract

To further the understanding of disclosure's role in close relationships I conducted five studies guided by a new theoretical model—the Context-Dependent Disclosure, Intimacy, Satisfaction (CDDIS) model. According to the CDDIS model, disclosure, intimacy, and satisfaction are all connected, and the valence and strength of associations between the constructs depend on the context in which disclosure occurs. Furthermore, the model suggests a developmental trajectory, where disclosure leads to intimacy in one's relationship, which in turn leads to satisfaction. Specifically I tested three hypotheses: (1) Levels of disclosure are directly associated with levels of intimacy, (2) the strength and valence of these associations between disclosure and intimacy depend on context, and (3) levels of disclosure are indirectly associated with levels of satisfaction. I tested the influence of context on the model by comparing disclosure in online vs. offline contexts, and disclosure in romantic vs. friend relationships. I also examined how different content (self-focused vs. partner-focused) influences the model. The five studies revealed that greater disclosure was associated with higher intimacy when done offline (Studies 1 and 4), and lower intimacy when done online (Studies 1-4), in both the discloser (Study 1) and partner (Studies 2-4). The negative association of online disclosure and intimacy was present in romantic relationships, but not in friendships (Study 1), and it did not hold when the disclosure content focused on one's partner (Study 5). One factor that helped explain the differences between the outcomes of online and offline disclosure was perceived inclusivity of recipients (Study 4). Finally, as expected, the association between disclosure and satisfaction was mediated through intimacy (Studies 1-5). Implications for disclosure, relational processes, and close relationships are discussed.

Key words: Self-disclosure, context, online, intimacy, satisfaction, close relationships

Acknowledgements

I would like to first and foremost thank my graduate advisor, Dr. Omri Gillath, for all the support and guidance he has given me, both academic and nonacademic, throughout my six years of graduate school. He has truly been someone I could rely on for anything, and a great source of attachment security. The gratitude I have for him will not lose its strength over the course of my career.

I would also like to thank my other academic mentors I have met before and during my time at the University of Kansas, which include but are not limited to: Dr. Jun-Young Lee, my committee members (Drs. Glenn Adams, Monica Biernat, Christian Crandall, Jeffrey Hall), my program professors (Drs. Nyla Branscombe, Mark Landau, Rachel McDonald, Ludwin Molina), and psychology department professors (Dr. Pascal Deboeck).

Last but not least, I am very thankful for my graduate colleagues, friends, and family. It would have been difficult for me to reach this stage if I did not have their instrumental and emotional support.

Table of Contents

Introduction

Self-disclosure[1] plays a central role in people's interpersonal lives (e.g., Derlega, Winstead, & Greene, 2008; Sprecher, Felmlee, Metts, & Cupach, 2015). There are at least two lines of research that highlight disclosure's importance (Bauminger, Finzi-Dottan, Chason, & Har-Even, 2008; Derlega, Winstead, & Greene, 2008). First, disclosure has been studied as an outcome or an index. For example, women tend to disclose more than men, and those who are comfortable with closeness disclose more than those who are not (Derlega et al., 2008). A second line focuses on disclosure's role as a cause or predictor for other constructs. For example, disclosure can predict liking and closeness between two people (Sprecher, Treger, Wondra, Hilaire, & Wallpe, 2013). In the current work I focus on disclosure as a cause or predictor, and specifically the predictor of relational outcomes (e.g., Gore, Cross, & Morris, 2006).

Most of the theory regarding disclosure and relational outcomes proposes that more disclosure leads to positive outcomes such as higher intimacy and liking (Collins & Miller, 1994; Laurenceau, Feldman Barrett, & Pietromonaco, 1998). The body of research on the topic, however, has contrasting findings (e.g., Finkenauer & Hazam, 2000), and a model that incorporates these discrepancies has not been convened. In the current paper I review the existing work on disclosure as a predictor, particularly of relational outcomes. I then suggest a model to integrate this work: The model connects disclosure to relational processes (e.g., intimacy), without making any assumptions regarding the valence being positive or the strength of the associations. Rather, the model posits that the effects of disclosure depend on context. Furthermore, the model goes beyond intimacy and connects disclosure to relational outcomes (e.g., satisfaction). Thus, the full model connects disclosure to relational outcomes via relational processes. After establishing the model, I compare its functioning in different contexts (offline

vs. online, friend vs. romantic relationships) and content (self-focused vs. partner-focused). I then expand the model to include an explaining variable (inclusivity of recipients) to shed further light on the differences between the disparate contexts. I begin by briefly reviewing the literature on disclosure.

Disclosure Theory and Research

Disclosure is defined as the sharing of information about oneself with another person (Derlega, Winstead, & Greene, 2008; Jourard, 1964). Disclosure can happen between different relationship partners, such as romantic partners or a client and a therapist, and within various interactions or contexts, such as offline versus online (e.g., Nguyen, Bin, & Campbell, 2012). The personal information disclosed can include basic overt facts such as demographics (age, sex, height), or more covert pieces of information, such as attitudes and opinions, values, beliefs, feelings, needs, fantasies and fears. The information being disclosed can vary in its *breadth*—the amount of information, time spent communicating, and topic variety, and in its *depth*—with some disclosure topics being more secretive and relevant to the innermost self than others (Altman & Taylor, 1973; Taylor, 1968). For example, disclosure about personal feelings, desires, thoughts, fantasies, and values is regarded as being at a deeper, more inner level than revelations on mere facts. Much research has been done on the factors affecting the breadth and depth of disclosure. For example, people disclose more to those whom they like (Collins & Miller, 1994), who reciprocate with a similar depth (Derlega & Chaikin, 1977), and in dyads as opposed to in groups (Solano & Dunnam, 1985).

As mentioned above, researchers have treated disclosure in at least two ways: as an *outcome* and as a *predictor*. As an outcome, researchers have looked for factors affecting the tendency to disclose, and the kind of disclosure people engage in. For example, in their *social*

penetration model Altman and Taylor (1973) report that as a relationship grows, the range of different topics disclosed and time spent on each topic tends to increase, and disclosure becomes more reciprocal (Derlega & Chaikin, 1975). As a predictor, researchers have associated disclosure with various benefits. For example, it was demonstrated that disclosure increases self-worth (Toma & Hancock, 2013) as well as psychological and physical health (Frattaroli, 2006). Importantly for the current paper, disclosure has been associated with various relational constructs, as I review below.

Disclosure and Close Relationships

Disclosure has been shown to relate with a whole host of positive relational variables, such as liking (Sprecher et al., 2013), intimacy (Laurenceau et al., 1998), satisfaction (Finkenauer, Engels, Branje, & Meeus, 2004), and perceived relationship significance (Gore et al., 2006). Experimental studies manipulated either the depth or breadth of disclosure, and generally found that variations in disclosure depth, but not breadth, accounted for differences in relational outcomes (Collins & Miller, 1994). Despite the relatively broad literature on disclosure in general (e.g., Allen, Priess, Gayle, & Burrell, 2002) or on disclosure and relational processes and outcomes, there are very few models that attempt to explain the associations between disclosure and relational constructs.

One of the early models—the *person-situation interactional model*—was developed by Chelune and colleagues (Chelune, Robison, & Kommor, 1984), and focuses on the association between disclosure and intimacy—*feelings of closeness and connectedness* (Sternberg, 1986). Chelune et al. proposed that intimacy is developed via the communication of self-relevant information. This communication involves not only the disclosure of personal information from the discloser's side, but also the understanding of the message's intended meaning from the

recipient's side. This interpretation is based on the factors such as the disposition of the discloser and/or physical setting. For example, someone visiting an ophthalmologist for an eye-glasses prescription is not expected to talk about romantic problems. If the interpretation of the message fits with the discloser's intention then the recipient's intimacy is likely to increase. However, if the interpretation is different from what the discloser intended, this may negatively affect the recipient's intimacy. The model suggests that relational expectations and attributions, such as not presuming a job applicant will discuss his recent vacation, are combined with the message content to affect intimacy.

Reis and Shaver (1988) also developed a model describing the associations between disclosure and intimacy: the *interpersonal process of intimacy* model. The model focuses on the discloser's intimacy rather than the recipient's intimacy. According to the model, intimacy develops through a dynamic process of disclosure and responsiveness. An individual discloses personal information to the recipient; the information is then interpreted by the recipient based on the recipient's disposition and situational features (an *interpretive filter*); the recipient then provides a response. If this response is interpreted by the discloser's interpretive filter as understanding, validating, and caring (*high perceived responsiveness*), it leads to higher intimacy (Laurenceau et al., 1998; Reis & Shaver, 1988).

These models which highlight the positive associations between self-disclosure and intimacy have received ample support both in romantic (Laurenceau et al., 1998) and non-romantic (such as friendships; Bauminger et al., 2008) relationships. The associations described in these models are in line with the broader literature connecting disclosure with various beneficial effects to the self, relationships, and relationship partners (Frattaroli, 2006; Laurenceau, Feldman Barrett, & Rovine, 2005; Tamir & Mitchell, 2012).

However, not all studies about disclosure show that it has beneficial impact on relationships, and some studies even report negative relational consequences. For example, the literature on revealing secrets to close others suggest that the interpersonal consequences may be positive (e.g., greater satisfaction; Vangelisti & Caughlin, 1997), negative (e.g., greater relationship distress or undermining the relationship; Cameron, Holmes, & Vorauer, 2009; Caughlin, Afifi, Carpenter-Theune, & Miller, 2005), or inconsequential (no relation to closeness; Afifi & Steuber, 2010). Likewise, research on keeping secrets, rather than disclosing them, suggests there are both positive (e.g., protecting the relationship, maintaining a sense of privacy) and negative (e.g., distancing and hurt feelings) relational consequences of nondisclosure (Caughlin, Scott, Miller, & Hefner, 2009; Kelly, 1999; Kelly & McKillop, 1996).

Although the two models described above (Chelune et al., 1984; Reis & Shaver, 1988) provide a good foundation for the understanding of disclosure's role in close relationships, they suffer from a few limitations. First, both models highlight the positive associations between disclosure and intimacy. In other words, they focus on the contribution of disclosure to the development of intimacy, and disregard the way disclosure may lead to negative outcomes. As such, it is difficult to use these models to explain the negative relational consequences of disclosure cited above (Cameron et al., 2009; Caughlin et al., 2005). Second, the models focus solely on intimacy, and do not consider other relational processes and outcomes. As reviewed above, disclosure was found to relate with relational processes and outcomes such as liking and satisfaction (Collins & Miller, 1994; Gore et al., 2006). Third, while both models imply that context may influence the association between disclosure and intimacy, context does not play a central role in either model. For example, in Reis and Shaver's (1988) model, *partner responsiveness* is likely to be context dependent. In contexts that have lower norms of

responding, such as online social networks (e.g., Utz, 2015) and other non-dyadic settings (e.g., Solano & Dunnam, 1985), partners are not expected to respond and thus responsiveness might play a smaller role. However, this possibility is not discussed in the literature.

This last point is especially important as both existing models on the effects of disclosure (Chelune et al., 1984; Reis & Shaver, 1988) were structured and tested using mainly offline data. As I review below, a lot of the disclosure taking place these days is done online. This new context could potentially affect the associations described in the models. To deal with these limitations, in the following sections I propose an alternative model to explain the associations between disclosure and intimacy, broaden it to include associations with satisfaction, and test the fit of the model to different contexts. The new model focuses on how the context of disclosure moderates the association with intimacy, and in turn with satisfaction.

The Role of Context

The context of relational processes is defined as properties of the setting that afford the expression of motives and goals (Gibson, 1979; Reis, 2008). Setting can be defined broadly as cultural patterns (Adams, Anderson, & Aduno, 2004), or more narrowly as the effects of a one-time event, such as sitting next to a stranger on a plane, or a friend who needs support (Derlega et al., 1993; Kelley et al., 2003). The mixed findings regarding disclosure and relational outcomes suggest the link is complicated, and its valence and strength may be moderated by the context.

Supporting this notion, Finkenauer and Hazam (2000) found contextual measures of disclosure and secrecy (such as selectively disclosing and keeping secret topics) predicted marital satisfaction beyond dispositional disclosure. A study by Serewicz and Canary (2008) regarding family in-laws found disclosure regarding acceptance of the participant positively

associated with in-law satisfaction, whereas malicious disclosure about the participant negatively associated with in-law satisfaction.

Cross-cultural research on disclosure and relational outcomes has also found the association between disclosure and relational outcomes to differ according to the context. Kurtis and Adams (2015) found that compared to participants in the United States (who are higher in independence), participants in Ghana (who are higher in interdependence) showed a weaker positive association between self-disclosure and satisfaction in their romantic relationships. The notion that self-disclosure may have more positive effects in relatively individualistic cultures is supported by Yum and Hara (2006). They investigated associations between disclosure and trust in Korea, Japanese, and American participants, and only found a positive correlation among the Americans. These findings suggest the context has an important role in the association between disclosure and relational outcomes.

Disclosure, Intimacy, and Satisfaction

Relationship satisfaction is thought to be a relational outcome which concerns the degree of overall positive experience in people's interpersonal relationships, particularly romantic, friend, and other close relationships (Rusbult, 1983). Relational satisfaction has received ample attention (Bradbury, Fincham, & Beach, 2000; Karney & Bradbury, 1995), as it is thought to have important implications both at the individual and relational level. For example, satisfaction was shown to predict relationship quality (Fletcher et al., 2000) and other outcomes, such as relationship stability and dissolution (Gottman & Levenson, 1992). Satisfaction was also shown to predict personal outcomes, such as stress (Bloom, Asher, & White, 1978), mental health (Beach, Katz, Kim, & Brody, 2003) and life satisfaction (Diener & Diener, 1995). Due to its central role in people's lives, I focus on relational satisfaction in the new model.

Research has already shown that disclosure is associated with relational satisfaction. For example, Jorgensen and Gaudy (1980), Hendrick (1981), Hansen and Schuldt (1984), and Finkenauer and Hazam (2000) found disclosure positively predicted marital satisfaction, and Meeks, Hendrick, and Hendrick (1998) found it predicted greater relationship satisfaction in dating couples. Finkenauer and colleagues (2004) showed that a greater amount of disclosure associated with higher satisfaction in family relationships, and Jones (1991) found self-disclosure positively predicted friendship satisfaction.

How might disclosure affect satisfaction? One theory (the *investment model*; Rusbult, 1983) about how level of satisfaction is determined suggests it involves the ratio of rewards to costs in a relationship. For example, if two people share few interests with each other (low reward) but argue frequently (high costs), they are likely to experience low satisfaction. Related to this, higher levels of intimacy have been shown to act as a reward in close relationships, and especially in romantic relationships (Hand & Furman, 2009). If indeed intimacy acts as a reward, then more disclosure, which was already shown to increase intimacy, should also lead to an increase in satisfaction. Conversely, less disclosure is likely to result in a decrease in intimacy, and in turn a decrease in satisfaction.

The Context-Dependent Disclosure, Intimacy, Satisfaction (CDDIS) Model

Based on this conceptualization, I suggest the *Context-Dependent Disclosure, Intimacy, Satisfaction* (CDDIS) *model*. According to the CDDIS model, (1) disclosure is directly related to intimacy and indirectly to satisfaction; 2) the associations between disclosure and intimacy, and disclosure and satisfaction depend on the context. It has already been suggested and shown that disclosure is separately and uniquely associated with intimacy (Laurenceau et al., 2005; Reis & Shaver, 1988) and satisfaction (Derlega, Metts, Petronio, Margulis, 1993; Finkenauer et al.,

2004). In addition, intimacy has been shown to associate with satisfaction (Fletcher, Simpson, & Thomas, 2000). However, it is unknown whether once people's disclosure changes, and their intimacy level changes, if they are also likely to experience changes in relationship satisfaction. Based on existing models and findings I expected that disclosure would lead to intimacy, and once intimacy was established, it would lead to satisfaction. I tested these predictions in the studies below.

Testing the new model will allow me to achieve a few things: First, it will demonstrate that the association between disclosure and intimacy is not straightforwardly positive or negative, but depends on the context. This will integrate and explain the mixed findings regarding disclosure and relational outcomes. Second, it will broaden previous models by including both a relational process (intimacy) and relational outcome (satisfaction), and shed light on their associations. Third, whereas intimacy and satisfaction, along with trust, love, and commitment, are all thought to associate (Fletcher et al., 2000), here I will test whether disclosure affects intimacy, and indirectly affects satisfaction. If intimacy, rather than disclosure itself, functions as a relational reward (Hand & Furman, 2009), then an increase in disclosure that does not heighten intimacy should not result in an increase in satisfaction. In other words, I predict a full mediation of the association between disclosure and satisfaction via intimacy.

Why should one examine mediation? Previous research already provides initial support for the idea of intimacy as a mediator of satisfaction. First, Sprecher and Hendrick (2004) found that intimacy, once established in a relationship, predicts higher levels of relationship satisfaction (see also Tolstedt & Stokes, 1983). Similar findings regarding intimacy predicting satisfaction were found both among romantic couples (e.g., Greeff & Malherbe, 2001; Hassebrauck & Fehr,

2002; Patrick, Sells, Giordano, & Tollerud, 2007) and friends (e.g., Jones, 1991; Sanderson, Rahm, & Beigbeder, 2005).

Second, the role of intimacy as a mediator between disclosure and satisfaction is supported by studies showing intimacy to mediate associations between other predictors and satisfaction. For example, Cordova, Gee, and Warren (2005) and Mirgain and Cordova (2007) found that intimacy mediates the association between emotional skillfulness and relationship satisfaction. More recently, Hand, Thomas, Buboltz, Deemer, and Buyanjargal (2013) found that intimacy mediated the association between online social networks use and relationship satisfaction (although they did not find any significant direct effects on satisfaction). These studies support the proposition that intimacy will mediate the association between disclosure and satisfaction.

In the current investigation, I propose that these associations between disclosure, intimacy, and satisfaction are not identical across contexts, but dependent on the context properties. In the next section, I describe how two kinds of contexts, online vs. offline, can yield different associations with disclosure.

Online vs. Offline Disclosure

Today, with the ubiquity of the internet (Bødker, Gimpel, & Hedman, 2014) and immense upsurge in the availability and usage of communication technology (Dutta, Geiger, & Lanvin, 2015), many social interactions and relationships are taking place partially or completely online, highlighting the importance of this context for relationships. With the many online platforms available for disclosure of personal information, and the high usage of these platforms, more and more people are disclosing online (Barak & Gluck-Ofri, 2007; Joinson, Reips,

Buchanan, & Paine Schofield, 2010). Online disclosure can occur in a myriad of ways, such as emails, text messages, online forums, online social networks, in-game chats, and online classes.

Although online disclosure is very common, the majority of the work on disclosure and its association with relational constructs was conceptualized and tested using offline data—i.e., data based on offline interactions and relationships only. Assessing the similarity of online and offline disclosure is important because different contexts can differentially shape thinking and behaving (Adams et al., 2004; Bahns, Pickett, & Crandall, 2011; Hutchby, 2001). A traditional model of disclosure such as the *intimacy process model* (Reis & Shaver, 1988) may not capture all the features of online disclosure, and so might be unfit to explain relational outcomes of online disclosure. For example, Utz (2015) found that entertaining and positively valenced public online disclosure made on Facebook predicted greater feelings of connection in friends, even in the absence of any response (i.e., no *perceived responsiveness*) from the recipients (see also Nguyen et al., 2012). The CDDIS model, conceived to overcome these issues, will be able to be used to explain the association of disclosure and intimacy in both offline and online contexts.

Online disclosure does seem to have different characteristics compared to offline disclosure, mainly due to differences in *structural features of the message medium* (Rains & Karmikel, 2008). For example, Facebook or Twitter allows people to disclose a lot of information (Nosko et al., 2010), in a way that is accessible to many recipients (Christofides, Muise, & Desmarais, 2012; Peluchette & Karl, 2008; Taraszow, Aristodemou, Shitta, Laouris, & Arsoy, 2010). Further, this disclosure does not highlight the need to get feedback from each of the recipients (less conversational; Rau, Gao, & Ding, 2008). These contextual differences may shape perceptions and responses involving relational processes in a certain way (Adams et al., 2004; Hutchby, 2001), yielding different relational outcomes.

As previously described, online disclosure can occur in many ways. Offline disclosure can also occur in numerous ways, such as in dyads (one-to-one) or groups (one-to-many). Because there are many difference kinds of disclosure regardless of the online or offline medium, in the current paper I focus on comparing two specific types. I focus on online disclosure that is in a one-to-many format viewable (*masspersonal communication*; O'Sullivan, 2005) and relevant to a broad population who uses online social networks (i.e., not only gamers or members of a specific forum). I concentrated on this type of disclosure because first, it is relevant to many people, increasing exponentially in its usage (Joinson et al., 2010). Moreover, not only is it increasing in its consumption, but also in research, with 3,650,000 search results of "Facebook" and "Twitter" on Google Scholar as of April, 2016, and previous findings showing (as I review below) this type of disclosure to have numerous outcomes for individuals and relationships, making its study important. I compare this online disclosure to offline dyadic face-to-face disclosure, as offline disclosure has been the most researched in its processes and outcomes in a dyadic form (for a review see Derlega et al., 2008). I am aware the two types of disclosure being compared differ in many ways in addition to online vs. offline, such as being inclusive vs. exclusive, and occurring in a dyad vs. group. I further elaborate on this in the discussion.

Outcomes of Online Disclosure

Existing research suggests that online disclosure may be beneficial, at least to the self. For example, Tamir and Mitchell (2012) found that online disclosure was intrinsically rewarding to the discloser, and Toma and Hancock (2013) found that online disclosure satisfied the need for self-worth. When it comes to relationships, however, the findings are less conclusive. Some studies show that online disclosure is related to positive relational outcomes. For example,

Saslow, Muise, Impett, and Dubin (2012) showed that online disclosure about the romantic relationship was associated with higher satisfaction. Papp, Danielewicz, and Cayemberg (2012) found that disclosing one's romantic relationship status online was correlated with greater relationship satisfaction in both the user and his or her partner.

A number of other studies, however, have found online disclosure and related constructs to be associated with negative relational outcomes. For example, Papp et al. (2012) found that disagreement between partners regarding their relationship status posted on Facebook results in tension, which in turn associated with lower relationship satisfaction. Studies about online social network usage have found a mix of self- and perceived partner- associations with negative emotions (Muise et al., 2009), infidelity and breakup (Clayton, 2014; Clayton, Nagurney, & Smith, 2013), and important to the current project, lower intimacy and satisfaction (Hand et al., 2013). Together these studies depict an inconsistent set of findings, leaving the unanswered question of whether disclosure done online will have positive or negative outcomes for relationships.

The Current Paper

My first goal in the current paper was to test the main proposition of CDDIS model: The association between disclosure and intimacy will depend on the context. Furthermore, the context will interact with the disclosure content to determine the valence and strength of the association between disclosure and intimacy. My second goal was to test the proposition that the association between disclosure and satisfaction will be mediated by intimacy. My third goal was to test one feature of disclosure (inclusivity of recipients) as a potential mechanism to explain some of the context effects.

I predicted that: (1) Online disclosure will be associated with relationship intimacy in a different (either neutral or negative) way from offline disclosure. This association will be found in both the discloser and his or her partner, and will be stronger in romantic relationships as compared with friendships. These effects will also depend on the specific content (low vs. high depth, self-focused vs. partner-focused) of the disclosure. (2) The association between disclosure (both offline and online) and satisfaction will be mediated by intimacy. (3) Inclusivity of the disclosure will partially account for the association between online disclosure and intimacy.

Study 1

Existing models of disclosure and intimacy, although mentioning the importance of context (e.g., Chelune et al., 1984), have not investigated the effects of context on the associations between disclosure and intimacy. This is especially important because one aspect of the context in which these associations were studied previously—offline—is different than the context where much of disclosure is done these days—online. This difference may influence the associations described by my model.

To study this possibility, I focused on online disclosure via Facebook. I decided to use Facebook as my focus of research due to its prevalence and high familiarity (Wilson, Gosling, & Graham, 2012). Facebook is an online social network mainly consisting of individual 'walls' (or 'timelines,' starting from 2011) and a 'news feed.' Each user has her own 'wall' or page in which she can upload (post) information about herself through text, pictures, or links to other websites. Other users can view the content of the 'walls' through visiting individual 'wall' pages or viewing the 'news feed' page, in which updates from multiple users are displayed collectively. Obviously there are other ways to disclose online, and Facebook has other unique characteristics except merely being online (e.g., such as being able to read news articles and seeing who is

connected to your contacts; Wilson et al., 2012), yet being so prevalent and familiar overcame those limitations.

Disclosing online has different characteristics and features than disclosing offline (e.g., greater number of recipients). In light of these differences, I expected the association between disclosure and relational constructs to manifest differently as a function of whether the disclosure was done offline or online. With regard to offline disclosure, I expected to replicate previous findings on the positive effects of disclosure on relationships (e.g., Jones, 1991; Laurenceau et al., 2005), such that higher disclosure would result in higher intimacy and satisfaction. As for online disclosure, I were unsure whether I will get the same positive correlations (Toma & Hancock, 2013) or different ones, such as negative correlations as suggested by the work of Muise et al. (2009).

I also examined the influence of context as it reflects in relationship type. Whereas close relationships share many characteristics, such as intimacy, trust, and closeness, they also differ from each other. For example, romantic relationships are typically viewed in terms of passion and commitment whereas friendships are largely viewed in terms of affiliation (Davis, 1985; Davis & Todd, 1982; Davis & Todd, 1985, Sternberg, 1986). Thus, different types of close relationships are known to have disparate rules, different characteristics, and generate differing expectations (Giordano, 2003). For instance, people expect more from their romantic partner as compared with their friends, with regard to dimensions such as exclusivity, discretion, commitment, and relationship maintenance behaviors (e.g., Arriaga & Agnew, 2001; Furhman, Flannagan, & Matamoros, 2009). In addition, violations of relational expectations by a romantic partner are viewed much more negatively compared to the same violations done by a friend (Bevan, 2003; Flannagan, Marsh, & Fuhrman, 2005). In light of these differences I expected

relationship type to moderate the associations described in the model, such that the connections will be stronger in romantic relationships as compared with friendships.

In addition, I aimed to the suggested disclosure, intimacy, and satisfaction mediation. The existing models reviewed above (Chelune et al., 1984; Reis & Shaver, 1988) both suggest that disclosure associates with or facilitates intimacy. These suggestions, as well as the idea that intimacy associates with satisfaction, received supported from different studies (e.g., Laurenceau et al., 2005; Mirgain & Cordova, 2007). The two existing models, however, did not go beyond the link between disclosure and intimacy to examine the connections with relational outcomes, such as satisfaction. I specifically tested in Study 1 whether intimacy mediates the association between disclosure and satisfaction. Rather than disclosure affecting both intimacy and satisfaction in parallel, I expected disclosure to affect satisfaction indirectly via intimacy, which functions as a reward in relationships (Hand & Furman, 2009). Whereas Reis and Shaver (1988) focused on the effects of disclosure done by the self, Chelune and colleagues (1984) focused on the effects of disclosure done by one's partner (see also Manne et al., 2004, who examined this in breast cancer patients and their partners). I followed Reis and Shaver in Studies 1 and 2, and Chelune et al.'s approach in Studies 3-5.

Method

Participants. One hundred and eighty-nine undergraduate students (66 men and 114 women, nine did not report gender) ranging in age from 18-31 (median = 19), participated in the study to earn course credit in their introductory psychology class. At the time, 106 were involved in a romantic relationship for over three months and 83 were single. Out of all participants, 64 consented to temporarily allow the researcher access to their Facebook profiles via a virtual friendship with the researcher's Facebook account, but only 48 actually allowed access.

Materials and procedure. After consenting, participants completed a battery of self-report measures including: a Facebook usage measure (assessing the amount of online disclosure) and measures assessing offline self-disclosure and relationship components (i.e., intimacy and satisfaction). Offline disclosure was measured to verify that my effects were due to online behavior and not general disclosure. After completing these measures, participants provided demographics and were asked to provide their consent to allow the researcher to view their Facebook page. They were then debriefed and thanked.

Online (Facebook and Twitter) self-disclosure measure. Specifically constructed for the current study, this 8-item measure assessed participants' usage of Facebook and Twitter (see Appendix 1). Based on my definition of online self-disclosure as disclosure done in a public online space, the scale was created to capture the depth level of self-disclosure the participants put forth on their Facebook 'walls' (personal webpages on the online social network site). They were asked to think of their personal use of this website, and then rate on a 1 (*not true of me at all*) to 7 (*definitely true of me*) scale the degree to which each item pertained to them. Items on the questionnaire included questions on how revealing and personal the type of information participants tended to post (upload) on their profiles is (e.g., "status updates", pictures, and links). The Cronbach alpha for the measure was adequate ($\alpha = .77$) and hence one score of online self-disclosure was calculated by averaging the 8 items. Higher scores represented higher depth of online disclosure.

Offline Self-disclosure Scale. I used a 10-item self-report measure (Miller, Berg, & Archer, 1983) to assess offline disclosure (see Appendix 2). Participants completed the measure twice, once for a same-sex close friend and once for an opposite-sex close friend or their romantic partner. Participants were asked to think about the close other and then rate on a 0 (*do*

not discuss at all) to 4 (*discuss fully and completely*) scale the amount to which they discuss

certain topics with that person (face-to-face). The topics included things such as: deepest

feelings, what they like and dislike about themselves, and things that are important to them in

life. Higher ratings on these items reflect a higher depth level of offline self-disclosure. Single

participants completed the measure in regard to a same-sex and opposite-sex close friend,

coupled participants completed it in regard to a same-sex close friend and their romantic partner.

In the current study, Cronbach alphas for the offline self-disclosure scale were both high with

regard to a male and female close other (α = .93 and .94, respectively).

    Perceived Relationship Quality Components Inventory. The Perceived Relationship

Quality Components Inventory (PRQC; Fletcher et al., 2000) assesses levels of intimacy,

commitment, trust, love, passion, and satisfaction in people's close relationships. In the current

study, I used only the intimacy and satisfaction subscales (see Appendix 3). Participants were

asked to rate items such as "How intimate is your relationship?," "How satisfied are you with

your relationship?" on a scale of 1 (*not at all*) to 7 (*extremely).* Higher ratings on these items

reflect higher intimacy and satisfaction in their relationship. Participants were asked to complete

this scale twice, once thinking about their romantic partner (if they did not have one they skipped

this part), and once thinking about their best friend. Cronbach alphas for intimacy and

satisfaction in friendship were .70 and .97, respectively; and .89 and .98 for intimacy and

satisfaction with a romantic partner, respectively.

    Finally, participants provided their demographics (gender, age, and relationship status;

see Appendix 5) before moving on to a second informative consent form. The form explained to

participants that the purpose of the current study was to better understand peoples' use of social

networking websites (e.g., Facebook) and how it may be associated with intimacy and

satisfaction in close relationships. The consent form explained how the researchers were

planning to investigate the amount of self-disclosure that individuals exhibit on their Facebook

profiles and in an effort to not rely solely on self-report measures, the researchers would like to

view the participants' actual public Facebook profiles (i.e., 'walls' or 'timelines').

Objective ratings of online self-disclosure. After assuring the participants that all of the

information obtained from their profiles would be used strictly for research purposes, and that

the access they provided would be terminated following the study's conclusion, participants were

asked to provide researcher access to their public Facebook profiles by way of befriending a

temporary researcher account. Through this temporary account, research assistants were able to

view participants' public profiles and create screen snapshots of each profile's first page. Two

independent raters then viewed the screen snapshots and rated the extent to which each profile

exhibited various aspects of self-disclosure. The raters evaluated the screen snapshots using the

same items of the Facebook self-disclosure measure (described previously). I then calculated an

overall score by averaging all the items. This score represented the objective rating of a

participant's online disclosure. Higher scores on these scales reflected a higher amount of

objective self-disclosure on participants' Facebook accounts.

Results and Discussion

Preliminary analysis: Objective ratings of online self-disclosure. I sought to compare

self-reported online disclosure, assessed via the measure constructed for the current study, and

objective or other-evaluated disclosure assessed by the two independent raters. I first tested the

reliability (intraclass correlation) between the two raters, and found it to be high: .97, which

indicates a high level of inter-rater consistency on the average of all the ratings. This allowed me

to average the raters' rating of each item. I then averaged all of the averaged items to get one

total score representing the objective rating of a participant's online disclosure. I then correlated the objective ratings with the self-reported online self-disclosure scores. The correlation was relatively high, $r(46) = .51$, $p < .01$, suggesting that the subjective scale I created is valid, and participants were both aware and open about their levels of self-disclosure. Because less than half of the people provided me with access to their Facebook page (a total of 48 pages were viable for analysis), I did not use the objective measure in other analyses.[2] The correlation between the offline and online disclosure (via the self-report measure) scores was $r(46) = .17$, $p = .02$. Although positive, the correlation was not very high, which suggests that online and offline disclosure are potentially working via different processes and may have different associations with relational processes and outcomes (e.g., intimacy and satisfaction).

Next I examined the associations between disclosure and relationship-related variables. To do that, I ran four regression analyses: one predicting intimacy and another predicting satisfaction, within each relationship context (friendship and romantic relationship). I excluded four participants who were outliers on intimacy (defined as the residuals being over three standard deviations). In each regression, I controlled for gender based on the literature on gender differences in disclosure effects (e.g., Dindia & Allen, 1992). I included the mean offline self-disclosure (computed by averaging the offline self-disclosure scores to a male and to a female close other) and the amount of online self-disclosure.

The regression predicting intimacy with a romantic partner showed a main effect for online self-disclosure, $B = -.23$, $t(98) = -2.42$, $p = .02$, in that the more one discloses online, the less intimacy he or she reports with his or her romantic partner. In addition, there was a main effect for offline self-disclosure, $B = .24$, $t(98) = 2.38$, $p = .02$, such that the more one tends to disclose offline, the greater the reported intimacy with the partner.

The regression for satisfaction within one's romantic relationships had a similar pattern of results. The effect of online self-disclosure was significant, $B = -.28$, $t(98) = -2.87$, $p = .005$, such that the more people disclosed online, the lower their satisfaction was in their romantic relationship. The effect of offline self-disclosure was positive and significant, $B = .30$, $t(98) = 2.78$, $p = .006$, such that the greater one's reported offline disclosure, the higher was satisfaction with the partner.

The regression for the intimacy within a friendship revealed a marginal effect for gender, $B = .38$, $t(172) = 1.93$, $p = .055$, such that women reported greater intimacy in friendships. There was also an effect of offline disclosure, $B = .36$, $t(172) = 4.39$, $p < .001$, such that the more one disclosed offline, the greater intimacy was reported in friendships. However, there was no main effect for online disclosure, $B = -.001$, $t(172) = -0.01$, $p = .99$. Similarly, the regression for satisfaction in friendships revealed a significant effect for offline disclosure, $B = .42$, $t(171) = 5.32$, $p < .001$, showing that greater offline disclosure predicted higher satisfaction in friendships. However, again there was no main effect for online disclosure, $B = -.05$, $t(171) = -0.71$, $p = .48$. In all of the regressions, no other effects were significant (see Table 1).

In addition, I decided to run the regression analyses on friendship intimacy and satisfaction again, this time only with participants who were in a romantic relationship. Since the romantic intimacy and satisfaction analyses were done only using coupled (vs. single) participants, and the friendship intimacy and satisfaction analyses were done with the total sample, discrepancies in factors determining romantic vs. friendship intimacy and satisfaction may be due to participants' relationship status rather than qualitative differences in friendships vs. romantic relationships. Results showed similar findings to the total sample results (see Table 1).

Mediation analysis. To test whether intimacy mediates the association between online self-disclosure and romantic relationship satisfaction, I used Hayes' (2013) PROCESS macro for estimating indirect effects in simple mediation models (Model 4), while controlling for gender and offline disclosure, and using 10,000 bootstrap samples. As expected, I found that intimacy with one's partner mediated the association between online self-disclosure and satisfaction in one's romantic relationship. The indirect effect of online self-disclosure was negative and statistically different from zero, $B = -.16$, $SE = .07$, 95% CI [-.2958, -.0314] (see Figure 1).

Similarly, intimacy mediated the association between offline self-disclosure and satisfaction. Using the same procedure and controlling for gender and online self-disclosure, I found the indirect effect of offline self-disclosure was positive and statistically different from zero, $B = .19$, $SE = .09$, 95% CI [.0319, .3730] (see Table 2).[3]

The results of Study 1 replicated past findings showing that greater offline disclosure predicts higher intimacy and satisfaction in close relationships. Online disclosure, however, was negatively associated with relationship intimacy, and satisfaction. Importantly, this was found only in romantic relationships and not in friendships. The association between online disclosure and satisfaction was mediated by intimacy and the associations held even when offline disclosure was controlled for. The findings support the proposition of the CDDIS model that context matters for the association of disclosure on relationship-related variables.

Study 2

Study 1, while providing initial support for the CDDIS model, could not tell me anything about the effects of the person's behavior on his or her partner's intimacy and satisfaction. According to Reis and Shaver's model (1988) and Laurenceau et al.'s (1998; 2005) findings, intimacy is affected by both the self and partner/recipient's disclosure (see also Manne et al.,

2004). In addition, findings regarding disclosure in cross-sex relationships by Morry (2005) suggest that relationship satisfaction is influenced by both partners' disclosure patterns. These theoretical models and findings highlight the importance of the interplay between the partners, which raises the need to examine the effects of online self-disclosure on one's partner. Hence in Study 2, I examined how online self-disclosure of one partner influences the intimacy and satisfaction of the other partner.

Previous studies such as Hand and colleagues (2013) have examined the associations between online social network **use** and partner's intimacy and satisfaction. Their results provide initial support to my claims. That said, Hand et al.'s work has a few limitations: First, they measured usage and not disclosure. Second, they did not directly measure usage done by one partner and intimacy and satisfaction of the other, but instead collected individuals' perceptions of their partner's usage and then following their rating of intimacy and satisfaction. Potentially, participants might have been biased in their perceptions, either because they do not know what their partners do online, or they do not know how much their partners are actually online. So for example, the partners might be consuming information rather than disclosing (Ramirez Jr. et al., 2007). To overcome these limitations I reached out to both partners in Study 2. I used the self-reported online self-disclosure of a participant, on the one hand, and then directly assessed his or her partner's intimacy and satisfaction on the other. Doing so is likely to yield a more accurate test of how one's reported amount (versus amount perceived by the partner) of online self-disclosure associates with the partner's relationship quality.[4]

Following the work of Muise et al. (2009) and my own Study 1 findings, I expected that higher online self-disclosure would be negatively associated with partner's intimacy and relationship satisfaction. Based on the findings of Study 1, I also expected the association

between online self-disclosure and partner's satisfaction would be mediated by the partner's intimacy. Following the lack of effects for online disclosure on friends in Study 1, I focused only on romantic relationships in Study 2.

Because I measured the relationship intimacy and satisfaction of the participants' romantic partners, I decided to control for participants' attachment styles. Studies have suggested that relational personality traits, such as attachment style, play a central role in the tendency to disclose, the amount of information being disclosed, and reactions to disclosure by others (e.g., Bradford, Feeney, & Campbell, 2002; Keelan, Dion, & Dion, 1998; Mikulincer & Nachshon, 1991; Pistole, 1993; Wei, Russell, & Zakalik, 2005). Attachment style has also been associated with online relational behavior (such as checking one's partner Facebook page) in romantic relationships (Marshall, Bejanyan, Di Castro, & Lee, 2012), and with relational satisfaction. Thus, attachment anxiety was associated with lower satisfaction as manifested in feeling rejected (e.g., Kafetsios & Nezlek, 2002), and attachment avoidance was associated with overall lower subjective quality of interactions with romantic partners (Sibley & Liu, 2006). For a more stringent test of the effects that participants' tendency to disclose online had on their partner's intimacy and satisfaction, I aimed to control for the contribution of attachment style and examine whether my effects would still hold.

Method

Participants. Seventy-two undergraduate students (22 men and 50 women) ranging in age from 18-25, median = 19, participated in the study to earn course credit in their introductory psychology class. All were involved in a romantic relationship for more than three months ($M = 16.87$, $SD = 12.65$, range 3-55).[5] All participants consented to allow the experimenter to contact

their partner and get him/her to complete the PRQC (Fletcher et al., 2000) intimacy and satisfaction subscales for me (in return for an additional credit).

Materials and procedure. After consenting, participants completed a battery of self-report measures similar to the one I used in Study 1, including: a Facebook usage measure (assessing online self-disclosure; see Appendix 1), a measure assessing offline self-disclosure (see Appendix 3), and an adult attachment scale. After completing these measures, participants provided demographics (see Appendix 5) and were asked to provide their partner's contact information. Partners, contacted via e-mail, were asked to complete the intimacy and satisfaction subscales of the PRQC (Fletcher et al., 2000; see Appendix 3). Cronbach alphas for all scales in the current study were adequate to high: for the online self-disclosure, alpha was .72; for offline (male and female) self-disclosure tendencies, they were .91 and .92, respectively; for intimacy and satisfaction of partner they were .75 and .97, respectively.

Adult attachment style. The Experiences in Close Relationships scale (ECR; Brennan, Clark, & Shaver, 1998), a 36-item self-report measure of adult attachment, was used to evaluate participants' attachment anxiety and avoidance (18 items in each subscale; see Appendix 4). Participants were asked to rate on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale their agreement with each of the items regarding their close relationships. For example, the item "I worry that others won't care about me as much as I care about them" reflects attachment anxiety, whereas "Just when someone starts getting close to me, I find myself pulling away" represents attachment avoidance. Higher scores on each scale reflect higher attachment insecurity, whereas lower scores on both scales reflect attachment security. In the current study, alphas for both scales were high (.93 and .91 for anxiety and avoidance; the two scores were moderately correlated $r(70) = .35$, $p = .001$).

Results and Discussion

As in Study 1, I examined the associations between online self-disclosure and relationship-related variables; however, this time the DVs were obtained from the participants' partners rather than the participants themselves. To do that, I ran two regression analyses: one predicting intimacy and the other predicting satisfaction within the romantic relationship. In each regression, I entered gender, attachment avoidance and anxiety, mean offline self-disclosure (computed again by averaging self-disclosure scores to a male and a female close other), and the amount of online self-disclosure. I excluded seven participants who were outliers on intimacy (again having residuals being over three standard deviations).

The regression predicting intimacy with a romantic partner revealed a main effect for online self-disclosure, $B = -.28$, $t(58) = -2.96$, $p = .004$, such that the more one discloses online, the less intimacy his or her partner reported. In addition, there was a main effect for attachment anxiety, $B = .20$, $t(58) = 2.60$, $p = .01$, such that the more anxiously attached someone was, the higher intimacy his or her partner reported. There was also an effect for avoidance, $B = -.37$, $t(58) = -3.76$, $p < .001$, such that the more avoidant a person was, the less intimacy his or her partner reported.

The regression for satisfaction within one's romantic relationships also showed a significant main effect for online self-disclosure, $B = -.21$, $t(58) = -2.04$, $p = .046$, such that the more one disclosed online, the lower his or her partner's satisfaction was. No other effects were significant in both analyses (see Table 3).

Mediation analysis. As in Study 1, I wanted to see whether the association between online self-disclosure and partner's satisfaction were mediated by partner's intimacy in the relationship. I employed the same statistical procedures for estimating indirect effects as in Study

1 (PROCESS Model 4), controlling for gender, attachment anxiety and avoidance, offline self-disclosure, and using 10,000 bootstrap samples. As expected, partner's intimacy mediated the association between (the participant's) online self-disclosure and the partner's relationship satisfaction. The indirect effect of online self-disclosure was again negative and statistically different from zero, $B = -.18$, $SE = .06$, 95% CI [-.3307, -.0795] (see Figure 2). However, the association between offline self-disclosure and the partner's satisfaction (controlling for gender, attachment anxiety and avoidance, and online self-disclosure) was not significantly mediated by intimacy, presumably because offline disclosure did not have any significant effects on intimacy or satisfaction.

Study 2 focused on the associations between online self-disclosure and relationship intimacy and satisfaction felt by one's partner, i.e. the disclosure recipient. Like in Study 1, I found that higher online self-disclosure negatively associated with intimacy and satisfaction; however this time those were the partner's intimacy and satisfaction rather than the self. This finding suggests that the influence of online self-disclosure extends beyond the discloser to his or her partner. In addition, mediation analysis showed that the association between online self-disclosure and the partner's satisfaction in the relationship happens through the partner's felt intimacy to the discloser.

The findings of this study are relevant not only to online disclosure, but also to offline disclosure. Previous studies (e.g., Laurenceau et al., 2005; Laurenceau et al., 1998) examining the effects of one's offline disclosure on the partner did not assess the extent of self-perceived disclosure, but rather the amount of offline disclosure perceived by the partner. As I did not see an effect of self-perceived offline disclosure on the partner's intimacy and satisfaction, this

suggests that the amount of disclosure perceived by the partner might matter more for relationship intimacy and satisfaction than actual disclosure.

This discrepancy in the measured constructs may explain why I get significant results for offline self-disclosure on the participant's own intimacy and satisfaction (Study 1), but not on his or her partner's intimacy and satisfaction. In line with this conclusion, Sprecher and Hendrick (2004) reported similar discrepancies between the association of self and partner reports: self- and perceived partner- disclosure positively predicted the self's relationship esteem, but partner-reported partner-disclosure had no association with the self's relationship esteem.

In Studies 1 and 2, I focused on reported online self-disclosure, and found that the amount of disclosure was related to self and partner relationship intimacy and satisfaction. In line with previous research focusing on perceived disclosure (Chelune et al., 1984; Manne et al., 2004), I next examined the associations between partner's disclosure as perceived by the self (*perceived online disclosure*), and the self's relational intimacy and satisfaction. I also sought to manipulate the depth of online disclosure to see its causal effects on intimacy and satisfaction, which would further demonstrate the interaction of disclosure content and context on relationship constructs.

Study 3

The effect of partner disclosure on the self has been theorized (Chelune et al., 1984) and supported (Laurenceau et al., 1998; 2005; Manne et al., 2004) by studies finding perceived partner-disclosure to be associated with intimacy in romantic couples. However, these studies (1) did not use online disclosure, (2) did not explicitly test causality, and (3) did not measure if there any effect on satisfaction. To test whether perceived partner online disclosure will have an effect on the recipient's intimacy and satisfaction, in Study 3 I went back to measuring the recipient's

intimacy and satisfaction as a function of his or her perception of their partner's online disclosure.

In order to establish causality of effects, I used an experimental approach—manipulated the level of disclosure one's partner supposedly engaged in online—and subsequently measured their intimacy and satisfaction.

To do this, I constructed mock Facebook pages ('walls' or 'timelines') representing either high or low levels of the owner's self-disclosure. In line with Collins and Miller's (1994) review on experimental manipulations of disclosure depth, a high depth level of disclosure was operationalized by including more personal and emotional information on the page; whereas low depth disclosure was operationalized by including less personal and emotional information (see details below). I conducted a pretest of the primes in order to make sure they only differed in the perceived disclosure level. This was important because public high depth disclosure can be seen as being inappropriate (Bazarova, 2012). To preclude this, I included three questions about the appropriateness of the messages in the pretest.

I next exposed participants in romantic relationships to one of these pages (high vs. low disclosure) and asked them to imagine that the page belonged to their partner. After this priming procedure, I measured participants' relationship intimacy and satisfaction. I predicted that exposure to the Facebook page inducing higher perceived partner online disclosure would result in lower intimacy and satisfaction, as compared with exposure to the low disclosure Facebook page. Again, I expected both the effect of the disclosure prime on satisfaction to be mediated by intimacy.

Method

Participants. 132 adults (55 men and 77 women), ages 18 to 69 (median = 22),

participated in the study on a voluntary basis. Participants were recruited using a snowballing

procedure. All participants were involved in a romantic relationship for more than three months

($M = 52.09$, $SD = 84.68$, range 3 - 564) at the time of the study.

Materials and procedure. Participants were exposed to one of two mock Facebook

pages (see details below) with related instructions. They then completed a battery of self-report

measures similar to the one I used in Studies 1 and 2 including: measures assessing intimacy and

satisfaction in close relationships (modified to fit the instructions of the prime; see Appendix 6),

offline self-disclosure (see Appendix 2), and demographics (see Appendix 5). At the end of the

study they were given a debriefing form and thanked. Cronbach alphas for all scales in the

current study were adequate to high, reflecting high reliability: for intimacy and satisfaction

alphas were .94 and .92, respectively.

Mock Facebook wall pages. Using actual Facebook page screenshots and a photo-editing

program (Adobe Photoshop, 2012), I constructed two versions of mock Facebook 'wall' pages

(see Appendix 7). The pages were made so they were similar in all components, including

information breadth, with the exception of the depth of self-disclosure. Breadth was

operationalized via the number of posts, and depth via the topics. The owner of the 'wall' had a

gender-neutral name ("Alex"), was of college age (birth year 1991, age 21 at time of study as the

majority of my participants were expected to be students), and had posted from six to nine

updates. In the high disclosure condition, the 'wall' was comprised of pictures of people posing

for the camera during a party (which were taken from the Internet) and status updates containing

personal information (e.g., "Getting close to my goal weight!," "So I had a pretty bad fight with

Mom," "Had a really nice night today, you guys are awesome!" "3 hours of training at work,

pretty interesting," "This psyc class is frustrating… I'm just mad that's all"). In the low disclosure

condition, the 'wall' was made of pictures of puzzles, news article links (likewise taken from the

Internet) and status updates containing relatively impersonal information [e.g., "Perfect weather

today," "I love beer"]. Both 'walls' were constructed with materials from actual Facebook pages

and in an initial pretest with nine participants, all of them expressed the 'walls' seemed to be

actual pages of real people.

In a between-subjects pretest of the primes, 31 participants (5 men and 14 women,

median age = 24, range 20-45) answered 15 questions (e.g., "How much do you think this person

is self-disclosing?") regarding the walls, using a 7-point Likert scale, ranging from 1 (*Not at all*)

to 7 (*Very much*). I found no significant differences between the 'walls'' various aspects, such as

such as liking of the 'wall' owner, obnoxiousness of owner, and amount of information the

'wall' contained (controlled for equal breadth of disclosure). However, as intended, the 'walls'

differed on how much the owner was perceived to be self-disclosing, $t(29) = 2.73$, $p = .01$,

Cohen's $d = -1.01$, in that the owner of the high disclosure 'wall' was rated as disclosing more

($M = 4.72$, $SD = 1.36$) than the low disclosure 'wall' ($M = 3.46$, $SD = 1.13$) (see Table 4 for full

array of pretest questions asked).[5]

In the actual study, participants were presented with one of the mock 'wall' pages using a

computer screen and received the following instructions: "Try to imagine that the following

Facebook wall is your partner's. During the last few weeks, your partner has been constantly

posting personal information like that shown in the example below." The word "personal" was

only included in the high disclosure condition. This was in order to increase the strength of my

manipulation.

Results and Discussion

To test whether perceived online disclosure on Facebook predicted relationship intimacy and satisfaction, I ran two regression analyses: one predicting intimacy, and the other predicting satisfaction. I entered gender, offline self-disclosure, and disclosure prime (dummy coded as high = 1 vs. low disclosure = 0). Five participants were excluded from the analysis due to being outliers on intimacy (having residuals greater than three standard deviations).

The regression predicting intimacy revealed a main effect for prime, $B = -.70$, $t(123) = -2.55$, $p = .01$, such that those exposed to the high disclosure prime reported lower intimacy ($M = 4.03$, $SD = 1.64$) compared to those exposed to the low disclosure prime ($M = 4.57$, $SD = 1.55$). The prime also significantly predicted differences in satisfaction, $B = -.79$, $t(123) = -3.05$, $p = .003$, such that those exposed to the high disclosure prime reported lower satisfaction ($M = 3.98$, $SD = 1.57$), compared to participants exposed to the low disclosure prime ($M = 4.57$, $SD = 1.53$). No other effects were significant (see Table 5).

Mediation analysis. As in previous studies, I tested whether the effects of perceived online disclosure on satisfaction were mediated by intimacy. The same Hayes (2013) procedure (Model 4) for estimating indirect effects with 10,000 bootstrap samples was used, and gender and offline disclosure were controlled for. The results showed that intimacy mediated the effects of the disclosure prime on satisfaction. The indirect effect of the prime was negative and statistically significant, $B = -.60$, $SE = .24$, 95% CI [-1.0756, -.1282] (see Figure 3).

There was no mediation of intimacy regarding offline self-disclosure in this study, probably because there was no significant effect of offline self-disclosure on both intimacy and on satisfaction.

Study 3 investigated the associations between perceived online disclosure and relationship intimacy and satisfaction by using an experimental design. I hypothesized and found

support for the claim that being exposed to the information that one's partner highly discloses online would lower intimacy and satisfaction in individuals' romantic relationships. In addition, I replicated the mediating effects of intimacy in the link between online disclosure and relationship satisfaction. Study 3 allowed me to deal with issues of directionality and causality, demonstrating that indeed manipulating the level of perceived partner online disclosure leads to decreases in intimacy and satisfaction.

So far, across three studies, I have found that high online disclosure associates with lower intimacy and satisfaction in the romantic relationships. This is in contrast to the association of intimacy with offline disclosure (as shown in Study 1 and in research such as Sprecher & Hendrick, 2004), supporting the context effects proposed by the CDDIS model. In the next study, I tried to explain these negative context effects differences using a situational feature of online disclosure that could account them: the *inclusivity* of recipients.

Study 4

One key structural feature of online disclosure is the high inclusivity of disclosure recipients. *Inclusivity* refers to the extent that the disclosure is available to or restricted in its recipients. A disclosure made to one recipient is low in inclusivity, whereas a disclosure available to many people is high in inclusivity. The idea of inclusivity has been studied in communication studies using concepts such as *media reach*—the size of a medium's attainable audience—(Baym, 2015) and *imagined audience*—those for whom the message is constructed—(Marwick, 2011). Inclusivity has also been studied in psychology using *personalism*, which involves the concept of being included (feeling the message was personal; Jones & Archer, 1976) and was recently used as a way to study group size effects (Bazarova, 2012). However, inclusivity is different from these constructs. For example, it differs from *media reach* in that it

refers to the current number of recipients, rather than the maximum possible via the medium. It also differs from *imagined audience*, which is decided and perceived by the discloser. Inclusivity is also decided by the discloser, but importantly for my work, it can and often is perceived by both the discloser and the recipient.

Public disclosure via online social networks has a higher inclusivity (Christofides, Muise, & Desmarais, 2012; Peluchette & Karl, 2008; Taraszow, Aristodemou, Shitta, Laouris, & Arsoy, 2010) as compared with dyadic offline disclosure. For example, Facebook and Twitter tend to have numerous recipients, with an average of over 300 people for a typical disclosure in each service as of 2014, and a maximum at several thousands or millions, respectively (Maxie, 2014; Smith, 2014).

Research suggests despite this higher inclusivity, the breadth or depth of online disclosure is similar to offline dyadic disclosure (Nosko, Wood, & Molema, 2010). However, higher inclusivity could affect the overall interpretation of the content. Interpretation of disclosure is often influenced by expectations and schemas (Chelune et al., 1984; Reis & Shaver, 1988). These expectations may include some about disclosure inclusivity. For most monogamous romantic relationships, being exclusive (or low on inclusivity) is an important characteristic (e.g., Baxter & Bullis, 2008; Simpson, 1987), and couples are expected to be exclusively interested in each other (Derlega & Chaikin, 1975). A recent survey reported that exclusivity (or low inclusivity) is associated with feeling special and assured regarding one's romantic partner (Conley, Moors, Matsick, & Ziegler, 2013). Violations of expectations regarding romantic relationships are associated with strong negative feelings (Bevan, 2003; Flannagan, Marsh, & Fuhrman, 2005), which may decrease intimacy, and in turn, satisfaction (Sanford & Rowatt, 2004).

In line with this research, Bazarova (2012), who manipulated the inclusivity of the disclosure) and found that observers judged the discloser and recipient to possess lower friendship intimacy when the message was having many recipients as opposed to having one recipient. However, Bazarova did not test whether this applied to romantic relationships. As romantic relationships have stronger norms regarding exclusivity (low inclusivity; Conley et al., 2013), there is likely to be a greater negative effect of high inclusivity. In addition, assuming the role of an observer is one step removed from imagining yourself in the actual situation, so the effects here might be again stronger, and potentially higher on validity. More importantly, Bazarova did not test whether perceptions of disclosure inclusivity accounted for the difference in intimacy ratings.

Perceptions of low inclusivity (or high exclusivity) in disclosure are likely to positively affect relational outcomes, whereas perceiving disclosure as high in inclusivity is likely to result in negative relational outcomes. As the type of online disclosure I am interested in here is usually done in front of a broader audience, my participants will likely perceive their partner's disclosure as being high on inclusivity. I predicted that this will result in lower intimacy and in turn lower satisfaction in the relationship, as compared with disclosure that is low in inclusivity.

Method

Participants. 143 adults (76 men and 66 women, 1 unreported, median age = 30, range 19-70) took part in the study, for compensation via Amazon mTurk. Four people were excluded because they were not in an exclusive relationship of at least three months. All others were presently involved in a romantic relationship which had lasted more than three months ($M =$ 73.46 months, $SD = 74.38$, range 3-417).

Materials and procedure. Participants were exposed to one of ten mock Facebook messages and instructions (see details below). Next, they answered a question regarding how inclusive/exclusive they thought the message using a 7-point Likert scale ranging from 1 (*Not at all exclusive*) to 7 (*Very exclusive*). Participants then completed the intimacy ($\alpha = .93$) and satisfaction ($\alpha = .95$) items of the PRQC (see Appendix 3) and the offline self-disclosure measure ($\alpha = .89$; see Appendix 2). Finally, participants answered demographic questions (see Appendix 5), and were debriefed and thanked.

Mock Facebook messages. I created five different pairs of mock Facebook messages to use in the primes. The posts were made to vary only in the depth of self-disclosure and in the inclusivity of the disclosure. To manipulate inclusivity, I altered the instructions of the primes. There were five levels of inclusivity, ranging from low to high. The lowest inclusivity primes instructed participants to imagine that their partner had sent the messages only to them; second lowest—to them and one other recipient; medium inclusivity—to them and 4 others; second highest—to them and 19 others; and the highest inclusivity primes—to them and 24 others (how these numbers were determined is explained below). To manipulate disclosure, I differed the message content of the primes. High-disclosure primes contained more emotional content and personal information (e.g., "Had a real nice night tonight! You guys are awesome.") relative to the low-disclosure primes, which were more impersonal (e.g., "Let's go team! Great win tonight."). Therefore, there were ten different primes (see Appendix 8), resulting in a 2 (levels of disclosure) x 5 (levels of inclusivity) study design.

The number of recipients assigned to each condition were based on a pretest of 53 participants (32 men and 21 women, median age = 19, range 18-28), set to determine the numbers of recipients that would produce different perceptions of inclusivity. Participants of the

pretest were randomly presented with 4 of 12 primes that contained mock Facebook messages that varied only in the number of recipients from 1 to 250 (1, 2, 3, 4, 5, 10, 20, 25, 50, 75, 100, 150, and 250). The highest number, 250, was decided on because in the year of the study (2014), this was the maximum number of recipients Facebook allowed a group message to be sent to. I started from 1 recipient (dyad) to 2 (triad; based on Solano & Dunnam, 1985), and then increased the numbers until 250. For each of the primes, participants were asked to rate how exclusive they thought the message was, on a 7-point scale from 1 (*Not exclusive at all*) to 7 (*Very exclusive*). I examined the data using a scatterplot to determine the cutoff numbers in which the pretest scores became similar. Through this process, I decided on the final numbers of 1, 2, 5, 20, and 25.

In a second between-subjects pretest, 20 participants (9 males, median age= 30, range 19-60) were asked to evaluate six aspects of the high vs. low disclosure messages. As expected, those exposed to the high-disclosure messages perceived the sender as more disclosing ($M =$ 4.80, $SD = 1.14$) relative to those exposed to the low disclosure messages ($M = 2.90$, $SD = 1.60$), $t(18) = -3.07$, $p = .007$, Cohen's $d = -1.45$ (see Table 6 for full array of questions).

Results and Discussion

To see if my inclusivity prime changed perceptions of inclusivity (manipulation check), I conducted a one-way analysis of variance (ANOVA) with inclusivity prime as a predictor. I used the exclusivity question, with answers recoded so that high scores reflected high perceptions of inclusivity. Results showed the primes did differ on perceived inclusivity, $F(4, 127) = 4.78$, p = .002. Post-hoc analysis using Tukey's HSD test showed the lowest inclusivity prime (1 recipient; $M = 4.14$, $SD = 1.85$) significantly differed from the 20 recipient ($M = 5.93$, $SD = 1.46$) prime, $p = .001$, and marginally different from the 25 recipient prime ($M = 5.43$, $SD = 1.90$), p

= .05, in that inclusivity was lower in the 1 recipient compared to the 20 and 25 recipient primes (see Table 7 for means and SDs of all inclusivity conditions).

To test my hypothesis that inclusivity accounts for the negative effects of high online disclosure on relationship intimacy and satisfaction, I ran two hierarchical regression analyses, the first one predicting intimacy and the second one predicting satisfaction. I excluded six participants who were outliers on intimacy, defined as the residuals being more than three standard deviations. In the first step of each regression, I entered gender, offline disclosure, online disclosure level (coded as high = 1 vs. low = 0), and inclusivity level (dummy coded into four separate variables with the lowest inclusivity level as the baseline). In the second step I entered the interaction terms of disclosure level and each of the dummy codes for the four higher inclusivity levels.

The regression analysis predicting intimacy with a romantic partner revealed a main effect of the highest (25 recipients) inclusivity level prime, $B = -.86$, $t(124) = -2.21$, $p = .03$, such that participants who were exposed to the highest (25 recipients) inclusivity level prime reported lower intimacy ($M = 4.46$, $SD = 1.68$) than did participants exposed to the lowest (1 recipient) inclusivity prime ($M = 5.31$, $SD = 1.54$). This effect was qualified by an interaction with online disclosure level (high/low), $B = -1.58$, $t(120) = -2.02$, $p = .046$. Probing the interaction using Preacher, Curran, and Bauer's (2006) web computational tool found that the effect of the highest inclusivity prime was only significant in the high disclosure condition, $B = -1.67$, $t(120) = -3.00$, $p = .003$. Offline disclosure positively predicted intimacy, $B = .87$, $t(120) = 5.45$, $p < .001$, such that the greater the level of offline disclosure, the more intimacy the participant reported. No other effects were significant, including disclosure level.

The regression analysis for satisfaction revealed similar results, with a main effect of the highest (25 recipients) inclusivity level, $B = -.83$, $t(124) = -2.11$, $p = .04$, such that participants who saw the highest inclusivity instructions reported lower satisfaction ($M = 4.57$, $SD = 1.51$) than did participants exposed to the lowest inclusivity prime ($M = 5.36$, $SD = 1.72$). This effect was also qualified by an interaction with online disclosure level, $B = -1.90$, $t(120) = -2.43$, $p = .02$. Again, probing the interaction using the same web calculator (Preacher et al., 2006) showed the effect of highest inclusivity level on satisfaction was only significant in the high disclosure condition, $B = -1.81$, $t(120) = -3.24$, $p = .002$. The interaction term of the 20 recipient prime and disclosure was also significant, $B = -1.62$, $t(120) = -2.23$, $p = .03$, suggesting that these effects of inclusivity may start as early as 20 recipients are included (see Figures 4 and 5 for scatterplot and means according to inclusivity condition for intimacy and satisfaction, respectively).

Offline disclosure also positively predicted satisfaction, such that higher levels of offline disclosure were associated with higher reported satisfaction, $B = .93$, $t(120) = 5.85$, $p < .001$. No other effects were significant (see Table 8).

Mediation analysis. I again tested whether the effects of perceived online disclosure on satisfaction were mediated through intimacy. To do this, I again used the Hayes (2013) PROCESS Model 4. For this model, I used the interaction term of disclosure level and the dummy variable of the highest inclusivity prime (25 recipients) as the predictor. This was because the negative effect of online disclosure on intimacy and satisfaction was conditional on inclusivity level. I included as covariates gender and offline disclosure level, and used 10,000 bootstrap samples. The mediator was intimacy, and the dependent variable was satisfaction. The indirect effect was negative and statistically significant, $B = -1.33$, $SE = .56$, 95% CI [-2.5097,

-.2967], demonstrating the effect of the high disclosure and highest inclusivity prime on satisfaction was through intimacy (see Figure 6), which supports the CDDIS model.

I also ran another mediation analysis to see if the CDDIS model held for offline disclosure. Controlling for gender and using 10,000 bootstrap samples, results showed the indirect effect of offline self-disclosure was positive and statistically different from zero, $B = .70$, $SE = .14$, 95% CI [.4118, 9825], supporting the CDDIS model (see Table 2).

In Study 4 I found that as predicted, perceptions of a partner's high online disclosure led to lower intimacy and satisfaction in the relationship, but only when the disclosure was also high in inclusivity. There was no main effect of online disclosure level, which was expected because the findings in Study 3 of high disclosure leading to lower intimacy and satisfaction was contingent on the messages being highly inclusive. This study again supported the intimacy mediation proposed by the CDDIS model, with the association of disclosure (regarding online, only the high inclusivity disclosure) and satisfaction being mediated by intimacy.

One interesting fact about the results of Studies 1-4 is that the information one discloses online did not necessarily have to be about the romantic relationship or partner to negatively affect intimacy and satisfaction. In my first two studies, I assessed the degree of participants' online self-disclosure but did not specify whether the information disclosed was about the romantic relationship or partner. Rather, I assessed a more general manner of online disclosure depth. One might suggest that the negative impact of high online disclosure on romantic relationships may be due to the partner's concern that the discloser will reveal information about the relationship/partner that should have been kept private. However, in Studies 3 and 4, the high disclosure information presented was not about the owner's romantic relationship or partner, and still, I found that high online disclosure of information (that did not involve the romantic

relationship) negatively affected the relationship. These findings suggest that highly disclosing any information about the self may hurt one's relationship. The CDDIS model implies the content of disclosure interacts with its context to affect the recipient's interpretation of it. Study 5 was conducted to test this proposition.

Study 5

One way to categorize the content of self-disclosure is as information that focuses solely on the self (personal disclosure), versus information regarding relationships/interactions with others (relational self-disclosure; Baxter, 1987; Berg & Archer, 1982; Derlega et al., 2008). Although not much research has been done on this topic, personal disclosure may have negative interpersonal consequences. For example, it may be seen as bragging, which may lead to being perceived negatively (Tal-Or, 2010), or as being selfish/self-centered or narcissistic, which has various negative outcomes for relationships (Campbell & Foster, 2002). If so, it is possible that perceiving your partner to disclose mainly about his or her self has more negative effects on relationships compared to disclosing content that is not self-focused. In addition, by viewing the self-focused public online disclosure, the partner may feel left out of the discloser's life. This feeling of exclusion (Finkenauer et al., 2009) caused by the interaction of the disclosure content (self-focused) and context (online) may exacerbate the negative effects of disclosure. Conversely, if your partner discloses information focusing on the romantic relationship, this may result in a more positive interpretation of the online disclosure, which may cancel out its negative effects.

Recent research supports this idea, showing that positive online disclosure about one's romantic relationship and/or partner may be beneficial to the relationship. Displaying pictures taken with one's partner or disclosing the romantic relationship status on online social networks

predicted higher relationship satisfaction for both the discloser and the partner (e.g., Papp et al., 2012; Saslow et al., 2012). In another study, when participants imagined that their romantic partners did not have any couple photos on Facebook, or that their partners had privately viewable pictures of themselves with an alternative mate on the site, feelings of anger and jealousy increased (Muscanell, Guadagno, Rice, & Murphy, 2013). This suggests that the content of personal information disclosed may indeed matter for the effect of perceived online disclosure on relationship quality. In other words, any negative effect of online disclosure may be cancelled out by positive relational content. Thus, one potential difference between studies showing positive outcomes of online disclosure (e.g., Papp et al., 2012; Saslow et al., 2012) and negative outcomes (e.g., Hand et al., 2013; Muise et al., 2009) is the content of disclosure. Studies involving disclosure about the relationship or relationship partner are likely to have positive outcomes; whereas studies focused on disclosure about the self are likely to have negative ones. In Study 5 I investigated this possibility, examining whether the content or focus of the information disclosed online affects the disclosure outcomes.

I further wanted to examine whether disclosing about one's partner or relationships has unique positive effects, or whether disclosing about anyone else in addition to or instead of oneself (e.g., a friend) would also result with positive outcomes. To test this, I constructed two new mock Facebook 'walls' with status updates that had highly disclosing information about one's romantic relationship/partner (high disclosure partner-focused prime) or one's friendships/friends (high disclosure friend-focused prime). The effects of the partner-focused and friend-focused primes on relationship intimacy and satisfaction were compared to that of the self-focused disclosure prime. I focused only on comparing high disclosure conditions in Study 5

because Studies 3 and 4 showed that the negative effects of disclosure on relationship outcomes happened mainly in the high self-disclosure conditions.

I hypothesized that compared to the self-focused prime, the partner-focused prime would increase romantic intimacy and satisfaction, whereas the friend-focused prime would show no difference with the self-focused prime. In addition, I predicted that as in previous studies, the effects of the online disclosure prime on satisfaction, as well as the association between offline disclosure and satisfaction, would be mediated by intimacy.

Method

Participants. 67 adults (24 men and 42 women, one unreported), median age = 26.50, range 18-61, participated in this study. The participants were recruited from Amazon mTurk and were paid a small amount ($0.45) in compensation. All were involved in a romantic relationship for over three months, ranging from three to 243 months ($M = 48.82$, $SD = 49.99$). I excluded one participant because the person did not complete the dependent measure.

Materials and procedure. Participants completed the study using an online survey software (Qualtrics). They were randomly assigned to one of three conditions: a high disclosure self-focused prime, a high disclosure partner-focused prime, or a high disclosure friend-focused prime (see details below). As in Study 3, participants were given one of the mock 'wall' pages with instructions asking them to study the 'wall,' while imagining their partner was its owner, and the message on it were either only about the partner, both partners, or the partner and friend(s). The instructions were identical to the ones used in the high disclosure condition of Study 3. Participants then completed the intimacy ($\alpha = .92$) and satisfaction ($\alpha = .95$) items of the PRQC (see Appendix 6) and the offline self-disclosure measure ($\alpha = .88$; see Appendix 2), as in

previous studies. Finally, participants answered demographic questions (see Appendix 5), were debriefed and thanked.

   Primes. The high disclosure self-focused prime was the same high disclosure prime used in Study 3. For the high disclosure partner-focused prime, the same format was used, but the status updates were changed to reveal information about the partner/relationship, such as "The weekend was good, my partner and I both enjoyed a nice boat ride!" and "Studying in the library today with my partner... this psych textbook is so boring..." In addition, the pictures in the 'wall' were changed to those of a couple. The same format was used for the high disclosure friend-focused prime, with the updates modified to display information about the owner's friends, such as "The weekend was good, my friends and I enjoyed a nice boat ride!" and "Studying in the library today with my friends... this psych textbook is so boring..." For this prime, the pictures on the 'wall' were identical to the high disclosure self-focused prime's (see Appendix 9).

   A between-subjects pretest of the three primes was done with 32 participants (12 men and 20 women, median age = 24, range 19-56). The questions included those used in the prime pretest of Study 3. In addition, I added two questions asking the extent to which the romantic partner would feel "left out" after seeing the 'wall,' and the extent the romantic partner seems involved in the owner's life. These questions were used in order to determine if the relational prime was indeed "partner-focused," i.e., contained relatively more information about the romantic relationship and partner. I also included three questions regarding the appropriateness of the 'wall' content. The pretest results showed that the primes did not differ on any aspects, such as how much participants perceived the 'wall' owner to be disclosing, how personal the content of the 'wall' seemed to be, and appropriateness of the 'wall' content (see Table 9 for full array of questions). However, as I intended, the three 'walls' differed on how much the partner

would feel "left out" after seeing the 'wall' ($F(2, 29) = 4.53$, $p = .02$), and how involved the romantic partner seemed to be in the owner's life ($F(2, 29) = 15.55$, $p < .001$). Post-hoc analysis using Tukey's HSD test found the high disclosure partner-prime to would make the partner feel relatively less "left out" ($M = 3.45$, $SD = 1.44$) than the high disclosure self prime ($M = 1.82$, $SD = 1.08$), $p = .02$, and the high disclosure friend prime ($M = 1.82$, $SD = 1.08$), $p = .02$. The romantic partner was seen to be more involved in the owner's life in the partner-prime ($M = 5.45$, $SD = 1.57$) compared to the self- ($M = 2.80$, $SD = 1.03$) and friendship- ($M = 2.36$, $SD = 1.50$) primes, both $ps < .001$.

Results and Discussion

To test whether self-focused vs. partner-focused vs. friend-focused high online disclosure had different effects on intimacy and satisfaction, I ran two analysis of covariance (ANCOVA) models, one predicting intimacy, and one predicting satisfaction. I included gender, offline self-disclosure, and prime type as predictors.

The ANCOVA predicting intimacy revealed a main effect for prime type, $F(2, 61) = 7.71$, $p = .001$. Main effects pairwise comparisons using Fisher's LSD test showed significance differences between the partner-focused prime ($M = 5.85$, $SD = 0.94$) and self-focused prime ($M = 4.29$, $SD = 1.70$), $p < .001$, and friend-focused prime ($M = 4.88$, $SD = 1.56$), $p = .02$, such that being exposed to the partner-focused prime led participants to report higher intimacy compared to both the self-focused and friend-focused primes. In addition, offline self-disclosure marginally positively predicted intimacy, such that the higher one's tendency to disclose offline, the higher was one's reported intimacy with the partner, $F(1, 61) = 3.66$, $p = .06$. No other effects were significant.

The ANCOVA for satisfaction revealed a similar pattern, with a main effect for prime type, $F(2, 61) = 5.03$, $p = .01$. Pairwise comparisons again using Fisher's LSD test showed differences between the partner-focused prime ($M = 5.71$, $SD = 1.12$) and self-focused prime ($M = 4.41$, $SD = 1.89$), $p = .003$, and friend-focused prime ($M = 4.89$, $SD = 1.49$), $p = .045$, such that being exposed to the partner-focused prime led participants to report higher satisfaction compared to both other primes. Offline self-disclosure also predicted satisfaction, in that higher offline self-disclosure was associated with greater satisfaction with the partner, $F(2, 61) = 8.23$, $p = .006$. No other effects were significant in both analyses (see Table 10).

Mediation analysis. As in the previous studies, I tested whether intimacy mediates the effects of prime on satisfaction. Since this time the independent variable was a categorical predictor with three levels, I used the corresponding macro in PROCESS for multicategorical variables with Model 4 (Hayes, 2013; Hayes & Preacher, 2013). As in previous studies, I controlled for gender and offline self-disclosure, and used 10,000 bootstrap samples. Results showed that intimacy indeed mediated the effect of the high disclosure partner-focused prime on satisfaction, when compared to the high disclosure self-focused prime. The indirect effect of the relational prime compared to the self-focused prime was positive and statistically different from zero, $B = 1.61$, $SE = .39$, 95% CI [.8508, 2.3688] (see Figure 7). In other words, compared to the partner-focused prime, the indirect effect of the self-focused disclosure prime on satisfaction was negative.

However, again probably due to the fact that offline disclosure had no significant effect on intimacy, the association between offline self-disclosure and satisfaction was not mediated by intimacy.

Study 5 showed that unlike the self-focused prime, exposure to the partner-focused prime resulted with increase in intimacy and satisfaction rather than decrease. The means in the self-focused prime condition were lower ($M = 4.29$, $SD = 1.70$ for intimacy; $M = 4.41$, $SD = 1.89$ for satisfaction) than the means for the partner-focused prime ($M = 5.85$, $SD = 0.94$ for intimacy; $M = 5.71$, $SD = 1.12$ for satisfaction), which were similar to the means of intimacy and satisfaction in Study 1 ($M = 5.92$, $SD = 1.15$ for intimacy; $M = 5.79$, $SD = 1.24$ for satisfaction) and Study 2 ($M = 6.35$, $SD = 0.71$ for intimacy; $M = 6.45$, $SD = 0.07$ for satisfaction).[7] This suggests that while high levels of online self-focused disclosure decrease relationship intimacy and satisfaction, including the partner or the relationship in the disclosure neutralizes these negative effects.

As predicted by the CDDIS model, the effect of self-focused disclosure on satisfaction was again mediated by intimacy: Perceiving your partner to highly disclose online about him- or herself with no reference to the relationship or relationship partner lowered intimacy, which led to a decrease in satisfaction. My results imply that perceiving your partner to highly disclose online about his or her friendships do not have the same beneficial effects as witnessing him or her disclosing about you and or your relationship.

General Discussion

In the current work, I proposed the CDDIS model to explain the associations between disclosure and relational processes, such as intimacy, and relational outcomes, such as satisfaction. In five studies, I examined the fit of the model to different contexts (online vs. offline disclosure, romantic relationships vs. friendships), and different content (self-focused vs. partner-focused). As expected, I found that effects of high disclosure differed as a function of the context and content. I also identified an aspect of disclosure—inclusivity—that accounted for the

differences between offline and online disclosure. I took a multi-method, multi-level approach to my research. My studies included self-report measures, partner reports, and objective ratings made by independent judges, and were comprised of correlational and experimental designs. In addition, the studies focused on the effects on both the discloser and the discloser's partner. Finally, the studies assessed both actual and perceived online disclosure. Taking this approach allowed me to generate a thorough and comprehensive depiction of the associations between disclosure and relational processes and outcomes, and shed light on the effects of context and content on those associations.

As predicted by the CDDIS model, all five studies supported the proposition that context affects the associations between disclosure, intimacy, and satisfaction. In Study 1, using a measure developed to assess disclosure on Facebook, I found high online self-disclosure to predict lower intimacy and satisfaction in the discloser's romantic relationships. This was not the case though in the discloser's friendships. Conversely, high offline self-disclosure predicted higher intimacy and satisfaction in the discloser's romantic and friend relationships. In addition, I was able to validate my newly developed self-report measure of online self-disclosure using objective ratings. In Study 2, I discovered that higher online self-disclosure was linked to lower intimacy and satisfaction in the discloser's partner. Study 3, which focused on perceived online disclosure by one's romantic partner, showed that high perceived online disclosure leads to reporting lower relationship intimacy and satisfaction. Study 4 demonstrated that the effects of online disclosure on romantic processes and outcomes was in part due to perceptions of the disclosure as high on inclusivity. Study 5 showed that the content of perceived online disclosure moderated the effects of online disclosure, suggesting that researchers should look at both effects

of disclosure content and context and their interaction between. All five studies showed that the effects of online self- or partner- disclosure on satisfaction were fully mediated by intimacy.

Contributions of the CDDIS Model

   Extension to different contexts. In testing the CDDIS model, I examined and compared four different contexts: online vs. offline, and friendships vs. romantic relationships. I found that online disclosure resulted in lower intimacy, which in turn resulted with lower satisfaction in romantic relationships. These results are the opposite of the findings regarding offline disclosure, which show that disclosure positively associates with relationship intimacy and satisfaction (e.g., Keelan et al., 1998; Laurenceau et al., 1998; Sprecher & Hendrick, 2004). Those findings may have encouraged scholars to think that intimacy and disclosure overlap (Altman & Taylor, 1979). The negative associations between online disclosure to intimacy and satisfaction in the current studies contradict this idea, and instead support the alternative that disclosure and intimacy are distinct constructs. Further, the negative associations I found highlight the importance of context for the understanding of the connections between disclosure and relational constructs, which is the focus of the CDDIS model.

   Context is likely affecting the associations between disclosure and relational processes and outcomes by influencing people's expectations, perceptions, and beliefs surrounding the disclosure. These changes in expectations, perceptions, and beliefs can affect the interpretation of the disclosure content and in turn the valence and strength of disclosure's associations with relational constructs. This might be why the perceived inclusivity of recipients accounted for the negative association of online disclosure with intimacy and satisfaction in Study 4. In romantic relationships, one wants to have a special role as the disclosure recipient, rather than being one

out of many. Seeing one's partner disclosing online may make a person interpret or feel as if the self is one of many, rather than special or unique, which is likely to result in negative outcomes.

Such interpretation is more likely to have negative outcomes in relationships which harbor expectations regarding exclusivity and feeling special. This notion is supported by my findings, showing that online disclosure had a negative association with intimacy in romantic relationships, but not within friendships. In North American culture, romantic relationships are seen as more exclusive and entail greater expectations compared to friendships (Arriaga & Agnew, 2001; Furhman et al., 2009). In comparing the two different relational contexts, I was able to show that the strength of the association between online disclosure and intimacy was significantly stronger within romantic relationships, which emphasizes the importance of the relational context.

Extension to different content. I also found that content of disclosure moderated the effects of disclosure, specifically online disclosure. The negative association between online disclosure and intimacy I found when the content was focused on the self, was not found with partner-focused content. This implies not only the depth but also the subject of the disclosure is important. Disclosing about the self in a public space, such as an online social network, without including information about one's partner or relationships may lead the partner to feel excluded or left out. Studies have shown that perceived partner exclusion is associated with lower relationship well-being (Finkenauer, Kerkhor, Righetti, & Branje, 2009), similar to studies about general exclusion on ostracism (Williams, 2007). Conversely, disclosure about the relationship seems to be interpreted by the partner as inclusive and caring, and is likely to validate the relationship and the partner, which is beneficial to romantic relationships (e.g., Gable, Gonzaga,

& Strachman, 2006). This, in turn, is likely to result in heightened intimacy (at least as compared to the self-focused disclosure), and satisfaction.

Extension to other relational processes and outcomes. Although previous models of disclosure and relational constructs (e.g., Chelune et al., 1984; Reis & Shaver, 1988) have explained the association between disclosure and the development of intimacy, they did not discuss much of the long-term or downstream effects of this process. Satisfaction is a central outcome of close relationships, linked to many other relational outcomes such as relationship stability and dissolution (Berscheid & Lopes, 1997; Karney & Bradbury, 1995). The CDDIS model connects both disclosure and intimacy to satisfaction, illustrating the implications of disclosure for both relationship development and maintenance. Rather than limiting the model to intimacy (like Altman & Taylor, 1983; Chelune et al., 1984; Reis & Shaver, 1988) or to intimacy and satisfaction, I suggest that other processes and outcomes are also likely related to disclosure and future studies could add different ones and test their associations and whether the pattern identified here (i.e., mediation model) still holds for other processes and outcomes.

The importance of mediation. These associations I found and the mediation I identified suggest that the process that leads from disclosure to satisfaction is a gradual one unfolding step by step, via intimacy, rather than a direct one. Moreover, my results show intimacy fully accounts for the association between disclosure and satisfaction. In other words, disclosure does not seem to affect satisfaction unless it increases intimacy first.

Finding support for the CDDIS model reinforces the notion that intimacy increases satisfaction by functioning as a reward (Hand & Furman, 2009), which is evidenced by the fact that the association between intimacy and satisfaction was always positive in my mediation models. In addition, the mediation highlights the way that disclosure affects intimacy, and shows

that the link with intimacy is important for predicting disclosure's effects on satisfaction. If disclosure increases intimacy, satisfaction will also increase; conversely, if disclosure decreases intimacy, satisfaction will correspondingly decrease. This implies studies that seek to investigate determinants of satisfaction would benefit from examining determinants of intimacy.

Importantly, existing models of disclosure (Altman & Taylor, 1983; Chelune et al., 1984; Reis & Shaver, 1988) do not explicitly connect the disclosure process to relational outcomes, whereas the CDDIS model does. This grants my study findings practical implications for close relationships. Couples will benefit from changing minute things in day-to-day behaviors, such as including your partner when disclosing online and regulating the group size when making high-depth disclosures. This can help increase intimacy and ultimately bring more satisfaction in relationships.

Despite these encouraging results, to fully test the mediation model a longitudinal design should be used. In future studies, scholars should monitor people's relationship formation and maintenance, and assess the effects of changes in disclosure, first on intimacy, and then once the relationship is more developed, on satisfaction and potentially other relational outcomes.

Contribution of the Current Paper

Our studies suggest the field of close relationship research should be updated to encompass recent and upcoming technologies. A recent search using the word "Facebook" on Google Scholar as of April, 2016, gave over 5,110,000 results. However, most of the papers were in areas such as communication studies, information science, and computer science. As many relationships are now being formed, maintained, and even dissipated online (Anthenunis, Valkenburg, & Peter, 2012; Collins & Gillath, 2012), close relationship researchers should look into how relational processes unfold and are affected by this different context. My paper takes

into account this promising literature on new telecommunications platforms and combines it with the large body of research on disclosure outcomes, in a way that can be more broadly used for relationship research and research in social and personality psychology in general. In addition, my paper emphasizes the effects of the context, especially the (assumed or perceived) presence of others on dyadic processes. This highlights the bigger picture of social connections, which is similar to what social networks research endeavors to do (e.g., Scott & Carrington, 2011). As such, my paper is also a further step into integrating different disciplines of research (such as communication studies, sociology, and psychology).

Establishing Causality and Directionality

Compared to the experimental literature on offline disclosure and relational variables (e.g., Collins & Miller, 1994), no studies—to my knowledge—have previously manipulated perceptions of online disclosure and measured relationship constructs. To overcome this limitation, I used experimental methods (in addition to correlational methods), and provided evidence to support both causality and directionality in the CDDIS model. This establishes that changes in (perceptions of partner) disclosure influenced intimacy and subsequently satisfaction, instead of disclosure changing as a result of intimacy or satisfaction levels. I hope other researchers will follow suit and use more experimentation in this investigation regarding online disclosure.

Non-dyadic Contexts and Dyadic Processes

Although self-disclosure in relationship research has typically been studied in dyads, i.e., a one discloser-one recipient format (e.g., Sprecher et al., 2015), online disclosure tends to occur in a one-to-many format. I, however, chose to examine the implications of online disclosure to dyadic processes and outcomes. So whereas the context may have been non-dyadic, the

implications were fully focused on relational processes and outcomes. The relational constructs being studied (intimacy and satisfaction) are those between the discloser and his or her partner. I did not intend to and did not generalize the results to intimacy and satisfaction between the discloser and a group of recipients, although this might be an interesting endeavor for future investigations.

The approach I took here is similar to that done by Rubin (1976), who examined how the reciprocity of self-disclosure is affected by the presence of another person in addition to the discloser and receiver (see also work on stereotype and prejudice; Blanchard, Crandall, Brigham, & Vaughn, 1994). Likewise, the CDDIS, which is a model of dyadic processes, can be applied to online social networks, which are non-dyadic contexts.

Limitations

There are a few limitations to the current studies. First, I focused on using Facebook to test my hypotheses about the effects of public online disclosure. Although Facebook is the most widely used online social networking site (Brenner, 2012), I acknowledge there are various other ways to disclose online, such as post on public online forums, send e-mails, texts, etc. Future studies should examine whether my findings hold in other forms of online disclosure. This may be important because the Facebook disclosure I assessed and offline dyadic disclosure have many more differences than merely being online and offline. For example, disclosure on Facebook occurs in a group setting, whereas offline disclosure often occurs in a one-to-one setting. In addition, as I showed, the Facebook disclosure is high on inclusivity, whereas offline dyadic disclosure is more exclusive. In Facebook the responses that are being made to disclosures tend to convey less information and are likely to be less clear. For example, people provide fewer nonverbal cues in online compared to offline interactions, such as body language

and intonation, which can make the message harder to interpret (Bordia, 1997; Walther, 1996). These differences may also account for the different relational outcomes compared with offline disclosure.

A second limitation has to do with the fact that the mediation model worked for offline disclosure in only two (Studies 1 and 4) of my five studies. This might be due to the fact that the scale I used to measure offline disclosure (Miller et al., 1983) asks participants to think of the extent they have disclosed to a close other, rather than specifically designating the partner. If the participant did not think of his or her partner when answering the measure, it is understandable that the scores did not predict intimacy or satisfaction in the romantic relationship. In Study 1, I specifically asked the participants to report disclosure done to the partner, which might account for the significant mediation in that study.

In addition, although I have presumed participants would report their amount of offline disclosure in response to the measure, Miller's scale does not specify "offline" or "face-to-face" disclosure in its instructions. Rather, this may reflect a more general disposition of participants to disclose to general others. To control for that, future studies should ask participants to report the amount of <u>offline</u> disclosure done <u>specifically to the partner</u>.

A third limitation has to do with the 'wall' primes used in Studies 3 and 5. The 'walls' had the age of the presumed partner as in his/her early twenties. This may have been a problem for some of my older participants (although the median age was always in the 20's). As people tend to form close relationships with those similar to them (Bahns, Crandall, Gillath, & Preacher, 2016), the effect of the primes may have been weaker among older participants.

Fourth, my research was based on the assumption that the partner would be aware of/subjected to the discloser's online disclosure. If one's romantic partner does not use online

social network sites such as Facebook, it is possible that online disclosure would have less of an impact on the relationship than was found in my studies.

Fifth, the negative effects of high online personal disclosure on romantic relationships may not apply to long-distance relationships. Long-distance relationships are different from geographically close relationships in that the involved parties do not spend as much time face-to-face (Stafford, 2010; Stafford & Merolla, 2007), and try to compensate by purposely disclosing more to their partner in non-face-to-face ways (Jiang & Hancock, 2013). In the context of long-distance relationships, high online disclosure may have positive rather than negative effects. In support of this idea, in Study 5, when I took out those in long distance relationships ($N = 9$), I had a stronger effect of the relational prime on both intimacy and satisfaction. This shows that the type of romantic relationship (whether long-distance or not) is likely to moderate the effects of online disclosure. I, however, did not have enough participants here to test this prediction.

Future Directions

There are many ways further research can be done on the CDDIS model. Although I have specifically focused on the associations between disclosure, intimacy, and satisfaction, the CDDIS model may be applied to many other relational process and outcomes. For example, future studies may seek to identify the associations between disclosure, liking (relational process), and commitment (relational outcome) or stress, relationship dissolution, etc.

In addition, other situational features of online disclosure that may affect the link between disclosure and intimacy, such as the ambiguity of recipients, or lower responsiveness, should be tested. For example, the recipients of online disclosure are often ambiguous (Tufekci, 2008). Muise and colleagues (2009), who found a positive association between Facebook use and jealousy, suggested that because recipients of a partner's public online disclosure are ambiguous,

and may include past romantic and sexual partners, such disclosure can have negative outcomes—i.e., jealousy. This kind of ambiguous jealousy-evoking situation (Sheets, Fredendall, & Claypool, 1997) may increase suspicion and in turn affect the partner's interpretation in a negative way, decreasing intimacy. Jealousy has also been shown to associate with lower satisfaction in romantic couples (e.g., Andersen, Eloy, Guerrero, & Spitzberg, 1995; Barelds & Barelds-Dijkstra, 2007), which may explain my findings about online disclosure and satisfaction.

Recipients of online disclosure also tend to show lower responsiveness (Rau, Gao, & Ding, 2008; Ramirez Jr., Zhang, McGrew, & Lin, 2007). This may happen because not everyone to whom the message is sent receives it, and those who do receive it, not all respond, due to factors such as lack of interest, time constrains, or processes such as diffusion of responsibility (Barron & Yechiam, 2002; Darley & Latane, 1968). Indeed, people were found to respond only to a small part of the information they are exposed to online (Pempek et al., 2009). However, the discloser may interpret this lack of response as disinterest or neglect, which may lower his or her relational intimacy.

Further on, the context of disclosure can extend to situational circumstances such as ecological affordances for mobility, relationship developmental stage, point in life course, and relationship type, all which might have differential influences on the association between disclosure and intimacy. The CDDIS model harbors much potential for testing these contexts.

Table 1.

Study 1 Regression Analyses Predicting Relationship Intimacy and Satisfaction in Romantic

Relationships and Friendships

	Total Sample				Coupled Sample	
	Intimacy with Partner	Satisfaction with Partner	Intimacy with Friend	Satisfaction with Friend	Intimacy with Friend	Satisfaction with Friend
Predictor	*B*	*B*	*B*	*B*	*B*	*B*
Gender	0.02	0.06	0.38	0.07	0.57*	0.19
Offline self-disclosure	0.24*	0.30**	0.36***	0.42***	0.51***	0.51***
Online self-disclosure	-0.23*	-0.28**	-0.001	-0.05	-0.11	-0.17
R^2	.10	.13	.15	.16	.24	.22
N	102	102	185	184	102	102

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

Table 2.

Magnitude and Confidence Intervals of the Mediation Effects of Offline Self-Disclosure on Satisfaction through Intimacy (Studies 1 & 4), Controlling for Gender and Online Self-Disclosure

	Bootstrap Results for Mediation Effects		
		95% Confidence Interval (CI)	
Study 1	Effect Size (*SE*)	Lower	Upper
Total Effect	0.32 (.12)	.0771	.5678
Direct Effect	0.13 (.09)	-.0498	.3148
Indirect Effect	0.19 (.09)	.0319	.3730
Study 4			
Total Effect	0.82 (.16)	.5058	1.1440
Direct Effect	0.12 (.08)	-.0446	.2856
Indirect Effect	0.70 (.14)	.4118	.9825

Note. Effects for which the confidence interval does not include zero are seen as significant.

Table 3.

Study 2 Regression Analyses Predicting Romantic Partner's Relationship Intimacy and

Satisfaction

Predictor	Partner's Intimacy	Partner's Satisfaction
	B	B
Gender	-0.16	-0.20
Attachment avoidance	-0.37***	-0.19
Attachment anxiety	0.20*	0.04
Offline self-disclosure	0.14	0.20
Online self-disclosure	-0.28**	-0.21*
R^2	.31	0.15
N	66	66

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

Table 4.

Study 3 Prime Pretest Analysis Results

Question	Low disclosure (N = 13) Mean (SD)	High disclosure (N = 18) Mean (SD)	t(29)	p	Cohen's d
What do you think is the age of the 'wall' owner?	21.31 (0.75)	21.44 (1.04)	-0.40	.69	-0.15
After seeing the 'wall,' how appealing does its owner look to you?	3.46 (1.20)	3.22 (1.31)	0.52	.80	0.19
After seeing the 'wall,' think about its potential owner and tell us how interested you think you'll be in forming a long-term romantic relationship with him/her?	2.08 (1.32)	2.44 (1.20)	-0.81	.43	-0.30
After seeing the 'wall,' how much do you think you'd like its owner?	3.77 (1.30)	3.67 (1.46)	0.20	.84	0.07
On a scale of 1 (not at all) to 7 (very much), how	3.77 (1.79)	3.50 (1.42)	0.47	.64	0.17

obnoxious do you think
the owner of this 'wall' is?

After seeing this 'wall,' how warm/cold does its owner look to you? On a 1 (very cold) to 7 (very warm) scale?	4.77 (0.83)	4.33 (1.14)	1.17	.25	0.43
On a scale of 1 (not at all) to 7 (very much), how much do you think this person is self-disclosing?	3.46 (1.13)	4.72 (1.36)	-2.73	.01	-1.01
How much information do you feel this 'wall' contains?	3.46 (1.45)	3.72 (1.36)	-0.51	.61	-0.20
After seeing the 'wall,' how would you rate your positive mood right now? Please use the following scale, from 1 (not positive at all) to 7 (very positive) scale?	4.62 (0.65)	4.22 (0.81)	1.45	.16	0.54
After seeing the 'wall,' how would you rate your	2.85 (1.14)	2.83 (1.47)	0.03	.98	0.01

negative mood right now? Please use the following scale, from 1 (not negative at all) to 7 (very negative) scale?					
How appealing does this 'wall' look to you?	3.23 (1.36)	3.11 (1.23)	0.26	.80	0.10
On a scale of 1 (not at all) to 7 (very much), how interesting is the content of this 'wall'?	3.31 (1.25)	2.89 (1.32)	0.89	.38	0.33
How aesthetically pleasing does this 'wall' look to you?	3.39 (1.45)	3.39 (1.42)	-0.01	.99	-0.004

Question	Low disclosure (N = 18) Count	High disclosure (N = 13) Count	$\chi^2(3, N = 31)$	p	ϕ
What do you think is the gender of the 'wall' owner?	"Male" = 11, "Female" = 1,	"Male" = 8, "Female" = 5, "Could be either" = 4,	5.27	.15	.41

"Could be either" = 1, "Couldn't tell" = 0	"Couldn't tell" = 1

Table 5.

Study 3 Regression Analyses Predicting Relationship Intimacy and Satisfaction

Predictor	Intimacy	Satisfaction
	B	*B*
Gender	0.04	0.03
Offline self-disclosure	-0.01	0.07
Disclosure prime	-0.70*	-0.79**
R²	0.05	0.07
N	127	127

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

Table 6.

Study 4 Message Pretest Analysis Results

Question	Low disclosure (N = 10) Mean (SD)	High disclosure (N = 10) Mean (SD)	t(18)	p	Cohen's d
Think about the message's sender and tell us how interested you think you'll be in forming a long-term romantic relationship with him/her?	1.70 (1.60)	2.10 (1.20)	-0.73	.48	-0.34
After reading the message, how much do you think you'd like the sender?	3.80 (1.14)	4.40 (0.84)	-1.34	.20	-0.63
On a scale of 1 (not at all) to 7 (very much), how obnoxious do you think the sender of the message is?	2.70 (1.89)	3.40 (1.78)	-0.85	.40	-0.40
On a scale of 1 (not at all) to 7 (very much), how much do you think the	2.90 (1.60)	4.80 (1.14)	-3.07	.007	-1.45

sender of the message is self-disclosing?					
How much information do you feel this message contains?	2.70 (1.89)	3.60 (1.51)	-1.60	.13	-0.75

Question	Low disclosure (N = 10) Count	High disclosure (N = 10) Count	$\chi^2(3, N = 20)$	p	φ
What do you think is the gender of the message sender?	"Male" = 4, "Female" = 2, "Could be either" = 3, "Couldn't tell" = 1	"Male" = 4, "Female" = 4, "Could be either" = 2, "Couldn't tell" = 0	1.87	.60	.31

Table 7.

Study 4 Means and Standard Deviations of Intimacy, Satisfaction, and Perceived Inclusivity of

Messages According to Number of Recipients

		1 recipient (N = 29)	2 recipients (N = 23)	5 recipients (N = 27)	20 recipients (N = 30)	25 recipients (N = 24)
Intimacy	Low disclosure	5.07 (1.79)	5.33 (1.52)	5.71 (1.51)	5.64 (1.66)	4.86 (1.67)
	High disclosure	5.57 (1.22)	5.12 (1.54)	5.26 (1.66)	5.56 (1.17)	4.03 (1.66)
Satisfaction	Low disclosure	4.96 (1.85)	5.36 (1.35)	5.83 (1.41)	5.64 (1.88)	5.00 (1.48)
	High disclosure	5.79 (1.52)	5.15 (1.31)	5.56 (1.51)	5.16 (1.55)	4.12 (1.47)
Perceived inclusivity		4.14 (1.85)	4.82 (1.40)	4.70 (1.81)	5.93 (1.46)	5.42 (1.86)

Table 8.

Study 4 Hierarchical Regression Analyses Predicting Relationship Intimacy and Satisfaction

	Intimacy		Satisfaction	
Predictor	ΔR^2	B	ΔR^2	B
Step 1	.25***		.25***	
Gender		0.11		-0.11
Offline self-disclosure		0.86***		0.90***
Online disclosure level		-0.16		-0.14
2 recipient prime		0.17		0.20
5 recipient prime		0.41		0.57
20 recipient prime		0.36		0.10
25 recipient prime		-0.86*		-0.83*
Step 2	.03		.04	
Gender		0.17		-0.06
Offline self-disclosure		0.87***		0.93***
Online disclosure level		0.66		0.93
2 recipient prime		0.51		0.63
5 recipient prime		0.91		1.08*
20 recipient prime		0.82		0.89
25 recipient prime		-0.10		0.09

2 recipient prime*Disclosure	-0.72	-0.89
5 recipient prime*Disclosure	-1.03	-1.05
20 recipient prime*Disclosure	-0.93	-1.62*
25 recipient prime*Disclosure	-1.58*	-1.90*
Total R^2	.28	.29
N	133	133

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

Table 9.

Study 5 Prime Pretest Analysis Results

Question	Self-focused high disclosure (N = 10) Mean (SD)	Partner-focused high disclosure (N = 11) Mean (SD)	Friend-focused high disclosure (N = 11) Mean (SD)	F(2, 29)	p	η²
What do you think is the age of the 'wall' owner?	22.60 (2.01)	21.18 (1.89)	23.36 (2.69)	1.34	.28	.08
After seeing the 'wall,' how appealing does its owner look to you?	3.50 (0.84)	3.55 (1.44)	4.55 (1.13)	2.19	.13	.13
After seeing the 'wall,' how much do you think you'd like its owner?	3.80 (1.23)	4.27 (2.00)	4.27 (0.91)	0.36	.70	.02
On a scale of 1 (not at all) to 7 (very much), how	3.80 (1.40)	2.91 (1.58)	3.45 (1.70)	0.87	.43	.06

obnoxious do you think the owner of this 'wall' is?						
After seeing this 'wall,' how warm/cold does its owner look to you? On a 1 (very cold) to 7 (very warm) scale?	4.40 (1.08)	5.18 (1.47)	4.82 (0.75)	1.23	.31	.08
On a scale of 1 (not at all) to 7 (very much), how much do you think this person is self-disclosing?	4.20 (0.79)	4.18 (0.98)	3.73 (1.56)	0.57	.57	.04
How much information do you feel this 'wall' contains?	3.80 (1.32)	3.64 (1.03)	4.00 (1.27)	0.25	.78	.02
After seeing the 'wall,' how would you rate your	4.10 (1.20)	4.45 (1.92)	5.18 (0.75)	1.69	.20	.10

positive mood right now? Please use the following scale, from 1 (not positive at all) to 7 (very positive) scale?						
After seeing the 'wall,' how would you rate your negative mood right now? Please use the following scale, from 1 (not negative at all) to 7 (very negative) scale?	2.70 (1.34)	2.91 (1.87)	2.09 (1.30)	0.85	.44	.06
How appealing does this 'wall' look to you?	3.40 (0.84)	3.55 (1.64)	4.09 (1.14)	0.89	.42	.06
On a scale of 1 (not at all) to 7 (very much), how	3.20 (1.32)	3.00 (1.48)	3.27 (1.56)	0.10	.90	.01

interesting is the

content of this

'wall'?

|					
How aesthetically pleasing does this 'wall' look to you?	3.30 (1.32)	3.36 (1.57)	4.64 (1.29)	3.35	.05	.19
After seeing this 'wall,' to what extent do you think the owner's romantic partner would feel "left out"?	3.90 (1.45)	1.91 (0.94)	4.45 (1.81)	9.39	.001	.39
After seeing this 'wall,' to what extent do you think the owner's romantic partner is involved in the owner's life?	2.80 (1.45)	5.45 (1.57)	2.36 (1.50)	15.55	< .001	.52
How appropriate is the content on this 'wall'?	4.70 (1.49)	5.73 (1.56)	5.73 (1.49)	1.58	.22	.10

	Self-focused high disclosure	Partner-focused high disclosure	Friend-focused high disclosure			
I find the posts on this 'wall' to be inappropriate.	2.30 (1.49)	1.73 (0.91)	1.64 (1.03)	1.00	.38	.06
I find the posts on this 'wall' to be too revealing.	3.20 (1.69)	1.91 (1.04)	2.18 (1.40)	2.47	.10	.15

Question	Self-focused high disclosure ($N = 10$)	Partner-focused high disclosure ($N = 11$)	Friend-focused high disclosure ($N = 11$)	$\chi^2(6, N = 31)$	p	ϕ
	Count	Count	Count			
What do you think is the gender of the 'wall' owner?	"Male" = 9, "Female" = 1, "Could be either" = 0, "Couldn't tell" = 0	"Male" = 7, "Female" = 3, "Could be either" = 1, "Couldn't tell" = 0	"Male" = 7, "Female" = 2, "Could be either" = 2, "Couldn't tell" = 0	5.46	.49	.37

Table 10.

Study 5 ANCOVA Models Predicting Relationship Intimacy and Satisfaction

|	Intimacy					Satisfaction				
Predictor	*df*	*Error*	*F*	*p*	η_p^2	*df*	*Error*	*F*	*p*	η_p^2
Main effects										
Prime	2	61	7.71	.001	.20	2	61	5.03	.01	.14
Covariates										
Gender	1	61	0.28	.60	.01		61	1.10	.30	.02
Offline disclosure	1	61	3.66	.06	.06		61	8.23	.01	.12
Corrected Model	4	61	4.88	.002	.24	4	61	9.96	.002	.24
N		66					66			
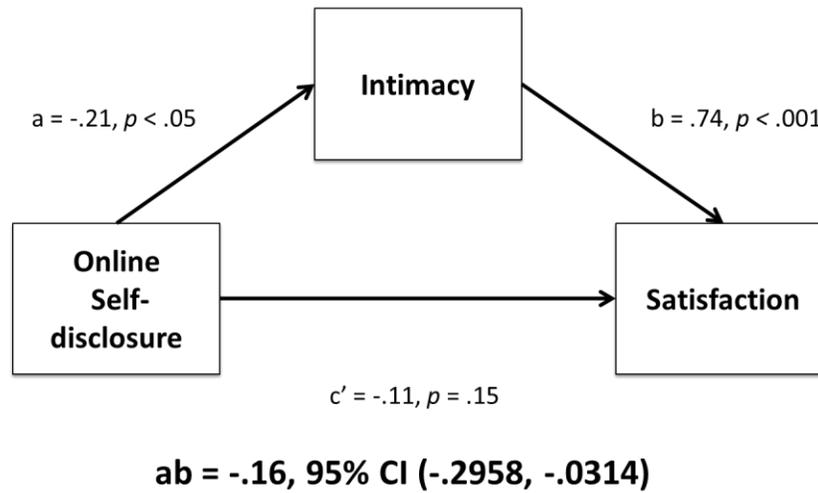
Figure 1. Study 1 mediation analysis results. a = direct effect of online self-disclosure on intimacy; b = direct effect of intimacy on satisfaction; c′ = direct effect of online self-disclosure on satisfaction; ab = indirect effect of online self-disclosure on satisfaction. In all paths, gender and offline self-disclosure was controlled.
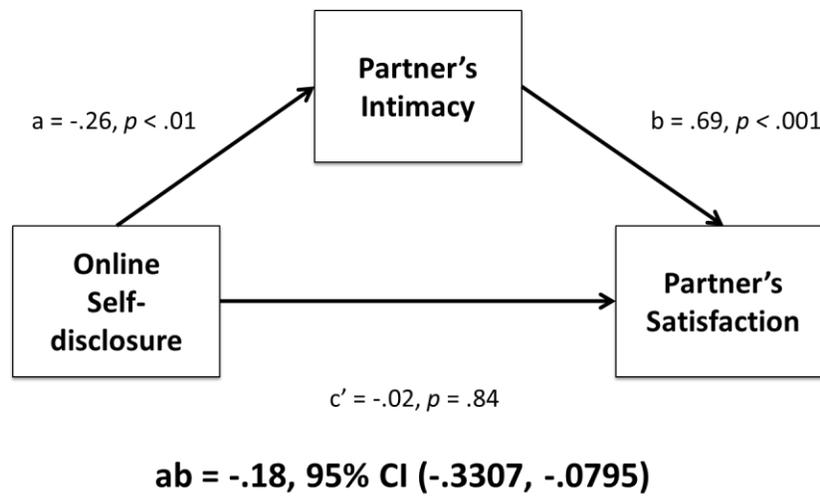
Figure 2. Study 2 mediation analysis results. a = direct effect of online self-disclosure on partner intimacy; b = direct effect of partner intimacy on partner satisfaction; c′ = direct effect of online self-disclosure on partner satisfaction; ab = indirect effect of online self-disclosure on partner satisfaction. In all paths, gender and offline self-disclosure was controlled.
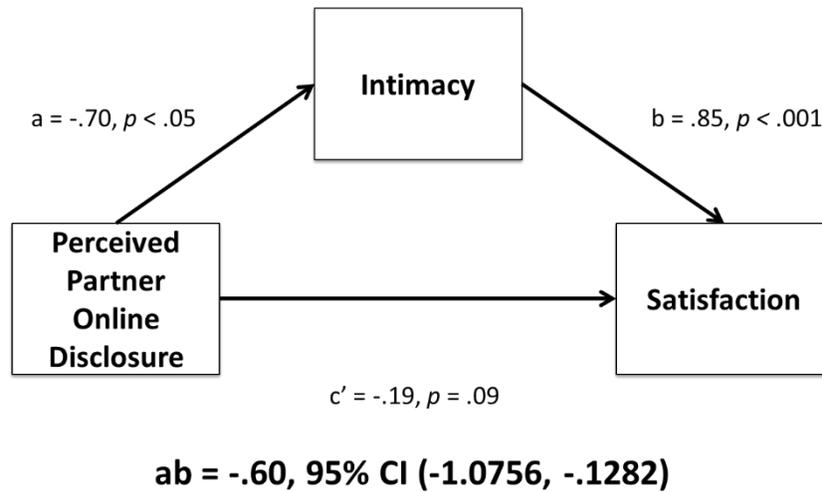
Figure 3. Study 3 mediation analysis results. a = direct effect of perceived partner online disclosure on intimacy; b = direct effect of perceived partner online disclosure on satisfaction; c′ = direct effect of perceived partner online disclosure on satisfaction; ab = indirect effect of perceived partner online disclosure on satisfaction. In all paths, gender and offline self-disclosure was controlled.
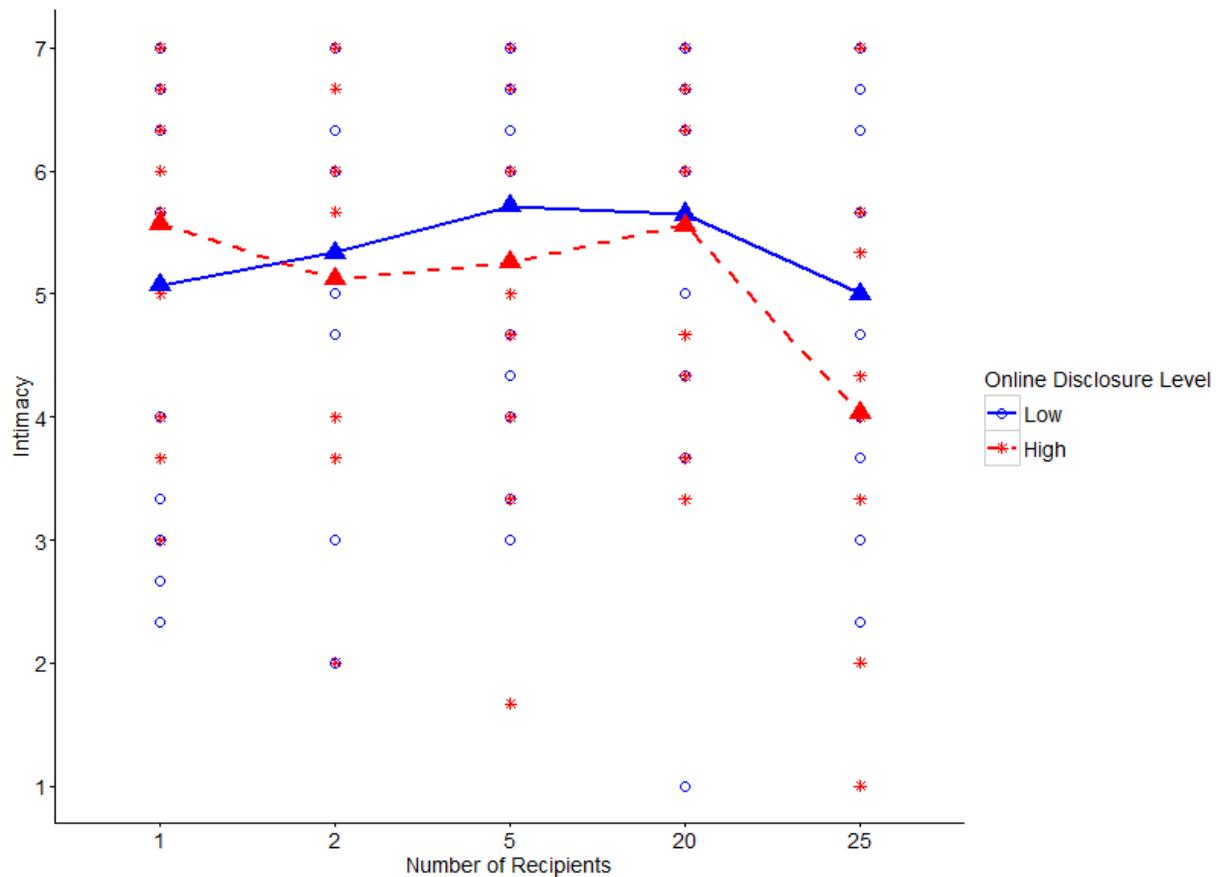
Figure 4. Study 4 means for intimacy in each of the prime conditions.
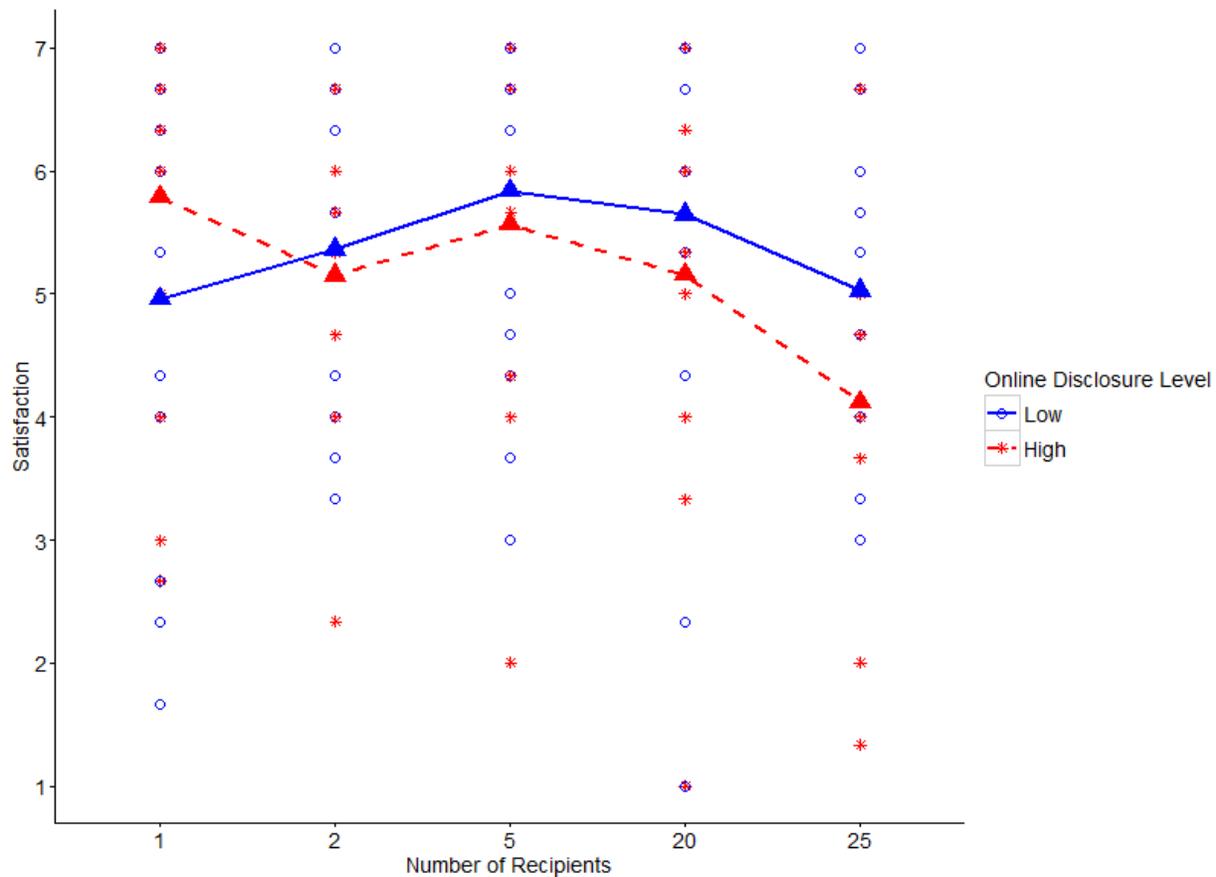
Figure 5. Study 4 means for satisfaction in each of the prime conditions.

ab = -1.33, 95% CI (-2.5097, -.2967)
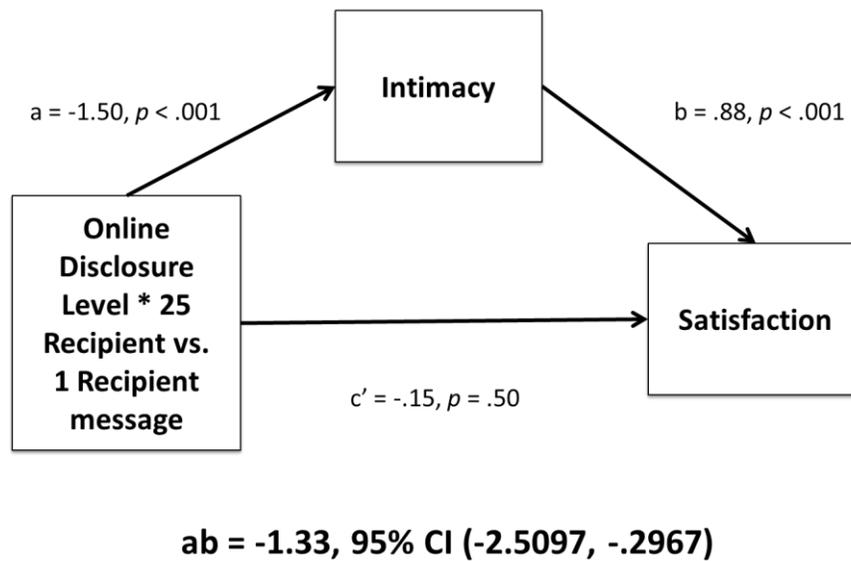
Figure 6. Study 4 mediation analysis results. a = direct effect of interaction term of online disclosure level and 25 recipient message compared to 1 recipient message on intimacy; b = direct effect of intimacy on satisfaction; c′ = direct effect of interaction term of online disclosure level and 25 recipient message compared to 1 recipient message on satisfaction; ab = indirect effect of interaction term of online disclosure level and 25 recipient message compared to 1 recipient message on satisfaction. In all paths, gender and offline self-disclosure was controlled.
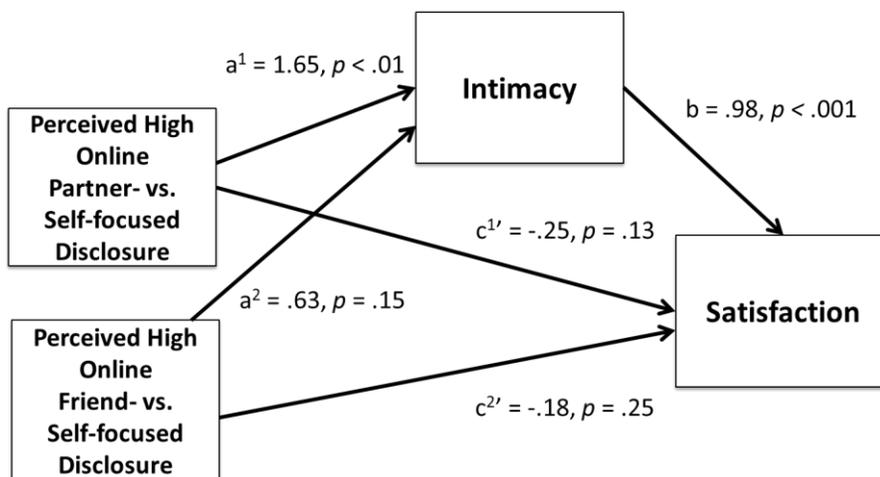
$a^1b = 1.61$, 95% CI (.8508, 2.3688)

$a^2b = .62$, 95% CI (-.3692, 1.6041)

Figure 7. Study 5 mediation analysis results. a^1 = direct effect of partner-focused prime compared to self-focused prime on intimacy; a^2 = direct effect of friend-focused prime compared to self-focused prime on intimacy; b = direct effect of intimacy on satisfaction; $c^{1\prime}$ = direct effect of partner-focused prime compared to self-focused prime on satisfaction; $c^{2\prime}$ = direct effect of friend-focused prime compared to self-focused prime on satisfaction; a^1b = indirect effect of partner-focused prime compared to self-focused prime on satisfaction; a^2b = indirect effect of friend-focused prime compared to self-focused prime on satisfaction. In all paths, gender and offline self-disclosure was controlled.

References

Adams, G., & Anderson, S. L., & Adonu, J. K. (2004). The cultural grounding of closeness and intimacy. In D. Mashek & A. Aron (Eds.), *Handbook of closeness and intimacy* (pp. 321–339). Mahwah, NJ: Lawrence Erlbaum Associates.

Afifi, T. D., & Steuber, K. (2010). The cycle of concealment model. *Journal of Social and Personal Relationships*, *27*, 1019-1034.

Adobe Photoshop (Version CS6) [Software]. (2012).

Allen, M., Priess, R. W., Gayle, B. M., & Burrell, N. (2002). *Interpersonal communication research: Advances through meta-analysis.* Mahwah: NJ, Lawrence Erlbaum Associates, Inc.

Altman, I., & Taylor, D. (1973). *Social penetration: The development of interpersonal relationships.* New York: Holt, Rinehart, & Winston.

Andersen, P. A., Eloy, S. V., Guerrero, L. K., & Spitzberg, B. H. (1995). Romantic jealousy and relational satisfaction: A look at the impact of jealousy experience and expression. *Communication Reports, 8*, 77-85.

Anthenunis, M. L., Valkenburg, P. M., & Peter, J. (2012). The quality of online, offline, and mixed-mode friendships among users of a social networking site. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 6*, article 1. doi: 10.5817/CP2012-3-6

Arriaga, X. B., & Agnew, C. R. (2001). Being committed: Affective, cognitive, and conative components of relationship commitment. *Personality and Social Psychology Bulletin, 27,* 1190-1203.

Bahns, A. J., Crandall, C. S., Gillath, O., & Preacher, K. J. (2016, February 1). Similarity in relationships as niche construction: Choice, stability, and influence within dyads in a free

choice environment. *Journal of Personality and Social Psychology.* Advance online

publication. http://dx.doi.org/10.1037/pspp0000088

Bahns, A. J., Pickett, K. M., & Crandall, C. S. (2012). Social ecology of similarity: Big schools,

small schools and social relationships. *Group Processes & Intergroup Relations*, *15,* 119-

131.

Barelds, D. P. H., & Barelds-Dijkstra, P. (2007). Relations between different types of jealousy

and self and partner perceptions of relationship quality. *Clinical Psychology &*

Psychotherapy, *14*, 176-188.

Barron, G., & Yechiam, E. (2002). Private e-mail requests and the diffusion of responsibility.

Computers in Human Behavior, 18, 507-520.

Bauminger, N., Finzi-Dottan, R., Chason, S., & Har-Even, D. (2008). Intimacy in adolescent

friendship: The roles of attachment, coherence, and self-disclosure. *Journal of Social and*

Personal Relationships, *25*, 409-428.

Baxter, L. A. (1987). Self-disclosure and relationship disengagement. In V. G. Derlega & J. H.

Berg (Eds.), *Self-disclosure: Theory, research, and therapy* (pp. 155-174). New York:

Plenum.

Baxter, L. A., & Bullis, C. (1986). Turning points in developing romantic relationships. *Human*

Communication Research, *12*, 469-493.

Bazarova, N. N. (2012). Public intimacy: Disclosure interpretation and social judgments on

Facebook. *Journal of Communication*, *62*, 815-832.

Baym, N. K. (2015). *Personal connections in the digital age.* Hoboken, NJ: John Wiley & Sons,

Inc.

Beach, S. R., Katz, J., Kim, S., & Brody, G. H. (2003). Prospective effects of marital satisfaction on depressive symptoms in established marriages: A dyadic model. *Journal of Social and Personal Relationships*, *20*, 355-371.

Berg, J. H., & Archer, R. L. (1980). Disclosure or concern: A second look at liking for the norm-breaker. *Journal of Personality, 48,* 346-356.

Berscheid, E., & Lopes, J. (1997). A temporal model of relationship satisfaction and stability. In R. J. Sternberg & M. Hojjat (Eds.), *Satisfaction in close relationships* (pp. 129-159). New York, NY, US: Guilford Press.

Bevan, J. L. (2003). Expectancy violation theory and sexual resistance in close, cross-sex relationships. *Communication Monographs, 70,* 68-82.

Blanchard, F. A., Crandall, C. S., Brigham, J. C., & Vaughn, L. A. (1994). Condemning and condoning racism: A social context approach to interracial settings. *Journal of Applied Psychology*, *79*, 993-997.

Bloom, B. L., Asher, S. J., & White, S. W. (1978). Marital disruption as a stressor: A review and analysis. *Psychological Bulletin*, *85*, 867-894.

Bordia, P. (1997). Face-to-face versus computer-mediated communication: A synthesis of the experimental literature. *Journal of Business Communication*, *34*, 99-118.

Bradbury, T. N., Fincham, F. D., & Beach, S. R. (2000). Research on the nature and determinants of marital satisfaction: A decade in review. *Journal of Marriage and Family, 62*, 964-980.

Bradford, S. A., Feeney, J. A., & Campbell, L. (2002). Links between attachment orientations and dispositional and diary-based measures of disclosure in dating couples: a study of actor and partner effects. *Personal Relationships, 9*, 491-506.

Brennan, K., Clark, C., & Shaver, P. (1998). Self-report measurement of adult attachment: An

    integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and*

    close relationships (pp. 46-76). New York, NY, US: Guilford Press.

Brenner, J. (2012, November). *Pew internet: Social networking.* Retrieved from

    http://pewinternet.org/Commentary/2012/March/Pew-Internet-Social-Networking-full-

    detail.aspx

Cameron, J. J., Holmes, J. G., & Vorauer, J. D. (2009). When self-disclosure goes awry:

    Negative consequences of revealing personal failures for lower self-esteem individuals.

    Journal of Experimental Social Psychology, *45*, 217-222.

Campbell, W. K., & Foster, C. A. (2002). Narcissism and commitment in romantic relationships:

    An investment model analysis. *Personality and Social Psychology Bulletin, 28*, 484-495.\

Caughlin, J. P., Afifi, W. A., Carpenter-Theune, K. E., & Miller, L. E. (2005). Reasons for, and

    consequences of, revealing personal secrets in close relationships: A longitudinal study.

    Personal Relationships, *12*, 43-59.

Caughlin, J. P., Scott, A. M., Miller, L. E., & Hefner, V. (2009). Putative secrets: When

    information is supposedly a secret. *Journal of Social and Personal Relationships*, *26*,

    713-743.

Chelune, G. J., Robinson, J. T., & Kommor, M. J. (1984). A cognitive interactional model of

    intimate relationships. In V. J. Derlega (Ed.), *Communication, intimacy, and close*

    relationships (pp. 11-40). New York: Academic Press.

Christofides, E., Muise, A., & Desmarais, S. (2012). Hey mom, what's on your Facebook?

    Comparing Facebook disclosure and privacy in adolescents and adults. *Social*

    Psychological and Personality Science, *3*, 48-54.

Clayton, R. B. (2014). The third wheel: The impact of Twitter use on relationship infidelity and divorce. *Cyberpsychology, Behavior, and Social Networking*.

Clayton, R. B., Nagurney, A., & Smith, J. R. (2013). Cheating, breakup, and divorce: Is Facebook use to Blame?. *Cyberpsychology, Behavior, and Social Networking*. Advance online publication. doi:10.1089/cyber.2012.0424.

Collins, T. J., & Gillath, O. (2012). Attachment, breakup strategies, and associated outcomes: The effects of security enhancement on the selection of breakup strategies. *Journal of Research in Personality*, *46,* 210-222.

Collins, N. L., & Miller, L. C. (1994). Self-disclosure and liking: A meta-analytic review. *Psychological Bulletin*, *116*, 457-475.

Conley, T. D., Moors, A. C., Matsick, J. L., & Ziegler, A. (2013). The fewer the merrier?: Assessing stigma surrounding consensually non-monogamous romantic relationships. *Analyses of Social Issues and Public Policy*, *13*, 1-30.

Cordova, J. V., Gee, C. B., & Warren, L. Z. (2005). Emotional skillfulness in marriage: Intimacy as a mediator of the relationship between emotional skillfulness and marital satisfaction. *Journal of Social and Clinical Psychology*, *24*, 218-235.

Darley, J. M., & Latané, B. (1968). When will people help in a crisis? *Psychology Today, 2*, 54-57.

Davis, K. E. (1985). Near and dear: Friendship and love compared. *Psychology Today, 19*, 22-30.

Davis, K. E., & Todd, M. (1982). Friendship and love relationships. In K. E. Davis (Ed.), *Advances in descriptive psychology* (Vol. 2, pp. 79-122). Greenwich, CT: JAI Press.

Davis, K. E., & Todd, M. J. (1985). Assessing friendship: Prototypes, paradigm cases and

  relationship description. In S. Duck & D. Perlman (Eds.), *Understanding personal*

  relationships: An interdisciplinary approach (pp. 17-38). Thousand Oaks, CA, US: Sage.

Derlega, V. J., & Chaikin, A. L. (1975). *Sharing intimacy: What I reveal to others and why.*

  Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Derlega, V. J., Metts, S., Petronio, S., Margulis, S. T. (1993). *Self-disclosure.* Newbury Park,

  CA: Sage Publications, Inc.

Derlega, V. J., Winstead, B. A., & Greene, K. (2008). Self-disclosure and starting a close

  relationship. In S. Sprecher, A. Wenzel, & J. Harvey (Eds.), *Handbook of relationship*

  initiation (pp. 153-174). New York, NY, US: Psychology Press.

Diener, E., & Diener, M. (1995). Cross-cultural correlates of life satisfaction and self-esteem.

  Journal of Personality and Social Psychology, 68, 653–663.

Dindia, K., & Allen, M. (1992). Sex differences in self-disclosure: A meta-analysis.

  Psychological Bulletin, *112*, 106-124.

Dutta, S., Geiger, T., & Lanvin, B. (2015). The Global Information Technology Report 2015. In

  World Economic Forum. Retrieved from

  http://www3.weforum.org/docs/WEF_Global_IT_Report_2015.pdf

Finkel, E. J., Eastwick, P. W., Karney, B. R., Reis, H. T., & Sprecher, S. (2012). Online dating:

  A critical analysis from the perspective of psychological science. *Psychological Science*

  in the Public Interest, *13*, 3-66.

Finkenauer, C., & Hazam, H. (2000). Disclosure and secrecy in marriage: Do both contribute to

  marital satisfaction?. *Journal of Social and Personal Relationships*, *17*, 245-263.

Finkenauer, C., Kerkhof, P., Righetti, F., & Branje, S. (2009). Living together apart: Perceived concealment as a signal of exclusion in marital relationships. *Personality and Social Psychology Bulletin*, *35*, 1410-1422.

Flannagan, D., Marsh, D., & Fuhrman, R. (2005). Judgments about the hypothetical behaviors of friends and romantic partners. *Journal of Social and Personal Relationships, 22,* 797-815.

Fletcher, G. J., Simpson, J. A., & Thomas, G. (2000). The measurement of perceived relationship quality components: A confirmatory factor analytic approach. *Personality and Social Psychology Bulletin, 26,* 340-354.

Forest, A. L. & Wood, J. V. (2012). When social networking is not working: Individuals with low self-esteem recognize but do not reap the benefits of self-disclosure on Facebook. *Psychological Science*, *23*, 295-302. doi: 10.1177/0956797611429709

Frattaroli, J. (2006). Experimental disclosure and its moderators: A meta-analysis. *Psychological Bulletin*, *132*, 823-865.

Gable, S. L., Gonzaga, G. C., & Strachman, A. (2006). Will you be there for me when things go right? Supportive responses to positive event disclosures. *Journal of Personality and Social Psychology*, *91*, 904-917.

Giordano, P. C. (2003). Relationships in adolescence. *Annual Review of Sociology*, *29,* 257-281.

Gore, J. S., Cross, S. E., & Morris, M. L. (2006). Let's be friends: Relational self-construal and the development of intimacy. *Personal Relationships*, *13*, 83-102.

Gottman, J. M., & Levenson, R. W. (1992). Marital processes predictive of later dissolution: behavior, physiology, and health. *Journal of Personality and Social Psychology*, *63*, 221-233.

Greeff, A. P. & Malherbe, H. L. (2001). Intimacy and marital satisfaction in spouses. *Journal of Sex &Marital Therapy*, *27*, 247-257.

Hand, L. S. & Furman, W. (2009). Rewards and Costs in Adolescent Other-sex Friendships: Comparisons to Same-sex Friendships and Romantic Relationships. *Social Development*, *18*, 270-287.

Hand, M. M., Thomas, D., Buboltz, W. C., Deemer, E. D., & Buyanjargal, M. (2013). Facebook and romantic relationships: Intimacy and couple satisfaction associated with online social network use. *Cyberpsychology, Behavior, and Social Networking*, *16*, 8-13.

Hansen, J. E., & Schuldt, W. J. (1984). Marital self-disclosure and marital satisfaction. *Journal of Marriage and the Family*, *46,* 923-926.

Hassebrauck, M. & Fehr, B. (2002). Dimensions of relationship quality. *Personal Relationships*, *9*, 253-270.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* New York: Guilford.

Hayes, A. F. & Preacher, K., J. (2013). Statistical mediation analysis with a multicategorical independent variable. *British Journal of Mathematical and Psychology.* DOI: 10.1111/bmsp.12028

Hendrick, S. S. (1981). Self-disclosure and marital satisfaction. *Journal of Personality and Social Psychology*, *40,* 1150-1159.

Jiang, L. & Hancock, J. T. (2013). Absence makes the communication grow fonder: Geographic separation, interpersonal media, and intimacy in dating relationships. *Journal of Communication*, *63,* 556-577.

Jones, D. C. (1991). Friendship satisfaction and gender: An examination of sex differences in contributors to friendship satisfaction. *Journal of Social and Personal Relationships*, *8*, 167-185.

Jorgensen, S. R., & Gaudy, J. C. (1980). Self-disclosure and satisfaction in marriage: The relation examined. *Family Relations*, *29,* 281-287.

Kafetsios, K. & Nezlek, J. B. (2002). Attachment styles in everyday social interaction. *European Journal of Social Psychology*, *32*, 719-735.

Karney, B. R. & Bradbury, T. N. (1995). The longitudinal course of marital quality and stability: A review of theory, methods, and research. *Psychological Bulletin*, *118*, 3-34.

Keelan, J. P. R., Dion, K. K., & Dion, K. L. (1998). Attachment style and relationship satisfaction: Test of a self-disclosure explanation. *Canadian Journal of Behavioural Science, 30,* 24-35.

Kelley, H. H., Holmes, J. G., Kerr, N. L., Reis, H. T., Rusbult, C. E., & Van Lange, P. A. M. (2003). *An atlas of interpersonal situations.* Cambridge, UK: Cambridge University Press.

Kelly, A. E. (1999). Revealing personal secrets. *Current Directions in Psychological Science*, *8*, 105-109.

Kelly, A. E., & McKillop, K. J. (1996). Consequences of revealing personal secrets. *Psychological Bulletin*, *120*, 450-465.

Kurtiş T. & Adams, G. (2015). Interdependence and relationality across dimensions of culture and gender. *Psychology & Society, 7,* 29-50.

Laurenceau, J. P., Feldman Barrett, L., & Pietromonaco, P. R. (1998). Intimacy as an interpersonal process: The importance of self-disclosure, partner disclosure, and

perceived partner responsiveness in interpersonal exchanges. *Journal of Personality and Social Psychology, 74,* 1238-1251.

Laurenceau, J. P., Feldman Barrett, L., & Rovine, M. J. (2005). The interpersonal process model of intimacy in marriage: A daily-diary and multilevel modeling approach. *Journal of Family Psychology*, *19*, 314-323.

Manne, S., Ostroff, J., Rini, C., Fox, K., Goldstein, L., & Grana, G. (2004). The interpersonal process model of intimacy: The role of self-disclosure, partner disclosure, and partner responsiveness in interactions between breast cancer patients and their partners. *Journal of Family Psychology*, *18*, 589-599.

Marshall, T. C., Bejanyan, K., Di Castro, G., & Lee, R. A. (2012). Attachment styles as predictors of Facebook-related jealousy and surveillance in romantic relationships. *Personal Relationships*, *20,* 1-22. doi: 10.1111/j.1475-6811.2011.01393.x

Meeks, B. S., Hendrick, S. S., & Hendrick, C. (1998). Communication, love and relationship satisfaction. *Journal of Social and Personal Relationships*, *15*, 755-773.

Marwick, A. E. (2011). I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society*, *13*, 114-133.

Mikulincer, M. & Nachshon, O. (1991). Attachment styles and patterns of self-disclosure. *Journal of Personality and Social Psychology, 61,* 321-331.

Miller, L., Berg, J., & Archer, R. (1983). Openers: Individuals who elicit intimate self-disclosure. *Journal of Personality and Social Psychology, 44,* 1234-1244.

Mirgain, S. A. & Cordova, J. V. (2007). Emotion skills and marital health: The association between observed and self-reported emotion skills, intimacy, and marital satisfaction. *Journal of Social and Clinical Psychology*, *26*, 983-1009.

Morry, M. M. (2005). Allocentrism and friendship satisfaction: The mediating roles of disclosure and closeness. *Canadian Journal of Behavioural Science/Revue Canadienne des Sciences du Comportement*, *37*, 211-222.

Muise, A., Christofides, E., & Desmarais, S. (2009). More information than you ever wanted: does Facebook bring out the green-eyed monster of jealousy?. *CyberPsychology & Behavior*, *12*, 441-444.

Muscanell, N. L., Guadagno, R. E., Rice, L., & Murphy, S. (2013). Don't it make my brown eyes green? An analysis of Facebook use and romantic jealousy. *Cyberpsychology, Behavior, and Social Networking*, *16*, 237-242.

Nguyen, M., Bin, Y. S., & Campbell, A. (2012). Comparing online and offline self-disclosure: A systematic review. *Cyberpsychology, Behavior, and Social Networking*, *15*, 103-111.

Nosko, A., Wood, E., & Molema, S. (2010). All about me: Disclosure in online social networking profiles: The case of Facebook. *Computers in Human Behavior*, *26*, 406-418.

O'Sullivan, P. B. (2005, May). *Masspersonal communication: Rethinking the mass interpersonal divide*. Paper presented at the 55th Annual Conference of the International Communication Association, New York, NY

Papp, L. M., Danielewicz, J., & Cayemberg, C. (2012). "Are I Facebook official?" Implications of dating partners' Facebook use and profiles for intimate relationship satisfaction. *Cyberpsychology, Behavior, and Social Networking*, *15*, 85-90.

Parker, J. G., Low, C. M., Walker, A. R., & Gamm, B. K. (2005). Friendship jealousy in young adolescents: Individual differences and links to sex, self-esteem, aggression, and social adjustment. *Developmental Psychology, 41,* 235-250.

Patrick, S., Sells, J. N., Giordano, F. G., & Tollerud, T. R. (2007). Intimacy, differentiation, and personality variables as predictors of marital satisfaction. *The Family Journal*, *15*, 359-367.

Peluchette, J. & Karl, K. (2008). An examination of student attitudes regarding use and appropriateness of content. *Cyber Psychology & Behavior, 11,* 95-97.

Pempek, T., Yermolayeva, Y., & Calvert, S. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology, 30*, 227-238.

Pistole, M. C. (1993). Attachment relationships: Self-disclosure and trust. *Journal of Mental Health Counseling, 15*, 94-106.

Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). Computational tools for probing interaction effects in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics*, *31*, 437-448.

Qualtrics (2013). Qualtrics [computer software]. Provo, Utah, USA.

Ramirez Jr, A., Zhang, S., McGrew, C., & Lin, S. F. (2007). Relational communication in computer-mediated interaction revisited: A comparison of participant–observer perspectives. *Communication Monographs*, *74*, 492-516.

Rau, P. L. P., Gao, Q., & Ding, Y. (2008). Relationship between the level of intimacy and lurking in online social network services. *Computers in Human Behavior*, *24*, 2757-2770.

Reis, H. T. (2008). Reinvigorating the concept of situation in social psychology. *Personality and Social Psychology Review*, *12*, 311-329.

Reis, H. & Shaver, P. (1988). Intimacy as an interpersonal process. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research, and interventions* (pp. 367-389)*.* Oxford, England: John Wiley & Sons.

Rubin, Z. (1976). Naturalistic studies of self-disclosure. *Personality and Social Psychology Bulletin, 2,* 260-263.

Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology*, *45*, 101-117.

Sanderson, C. A., Rahm, K. B., & Beigbeder, S. A. (2005). The link between the pursuit of intimacy goals and satisfaction in close same-sex friendships: An examination of the underlying processes. *Journal of Social and Personal Relationships*, *22*, 75-98.

Sanford, K., & Rowatt, W. C. (2004). When is negative emotion positive for relationships? An investigation of married couples and roommates. *Personal Relationships*, *11*, 329-354.

Saslow, L. R., Muise, A., Impett, E. A., & Dubin, M. (2013). Can you see how happy we are? Facebook images and relationship satisfaction. *Social Psychological and Personality Science*, *4*, 411-418.

Scott, J., & Carrington, P. J. (2011). *The Sage handbook of social network analysis.* London, United Kingdom: Sage Publications.

Serewicz, M. C. M., & Canary, D. J. (2008). Assessments of disclosure from the in-laws: Links among disclosure topics, family privacy orientations, and relational quality. *Journal of Social and Personal Relationships*, *25*, 333-357.

Sheets, V. L., Fredendall, L. L., & Claypool, H. M. (1997). Jealousy evocation, partner reassurance, and relationship stability: An exploration of the potential benefits of jealousy. *Evolution and Human Behavior*, *18*, 387-402.

Sibley, C. G., & Liu, J. H. (2006). Working models of romantic attachment and the subjective quality of social interactions across relational contexts. *Personal Relationships*, *13*, 243-259.

Simpson, J. A. (1987). The dissolution of romantic relationships: Factors involved in relationship stability and emotional distress. *Journal of Personality and Social Psychology*, *53*, 683-692.

Solano, C. H., & Dunnam, M. (1985). Two's company: Self-disclosure and reciprocity in triads versus dyads. *Social Psychology Quarterly, 48,* 183-187.

Sprecher, S., Felmlee, D., Metts, S., & Cupach, W. (2015). Relationship initiation and development. In M. Mikulincer, S. Shaver, J. Simpson, & J. Dovidio (Eds.), *APA handbook of personality and social psychology, Volume 3: Interpersonal relations.* (pp. 211-245). Washington, DC: American Psychological Association.

Sprecher, S., & Hendrick, S. S. (2004). Self-disclosure in intimate relationships: Associations with individual and relationship characteristics over time. *Journal of Social and Clinical Psychology*, *23*, 857-877.

Sprecher, S., Treger, S., Wondra, J. D., Hilaire, N., & Wallpe, K. (2013). Taking turns: Reciprocal self-disclosure promotes liking in initial interactions. *Journal of Experimental Social Psychology*, *49*, 860-866.

Stafford, L. (2005). *Maintaining long-distance and cross-residential relationships*. Mahwah, NJ: Erlbaum.

Stafford, L. (2010). Geographic distance and communication during courtship. *Communication Research*, *37*, 275-297. doi: 10.1177/0093650209356390

Sternberg, R. J. (1986). A triangular theory of love. *Psychological Review*, *93*, 119-135.

Tal-Or, N. (2010). Bragging in the right context: Impressions formed of self-promoters who create a context for their boasts. *Social Influence, 5*, 23-39.

Taylor, R. B., de Soto, C. B., & Lieb, R. (1979) Sharing secrets: Disclosure and discretion in dyads and triads. *Journal of Personality and Social Psychology, 37,* 1196-1203.

Tamir, D. I., & Mitchell, J. P. (2012). Disclosing information about the self is intrinsically rewarding. *Proceedings of the National Academy of Sciences*, *109*, 8038-8043.

Taraszow, T., Aristodemou, E., Shitta, G., Laouris, Y., & Arsoy, A. (2010). Disclosure of personal and contact information by young people in social networking sites: An analysis using Facebook profiles as an example. *International Journal of Media & Cultural Politics*, *6*, 81-101.

Tolstedt, B. E., & Stokes, J. P. (1983). Relation of verbal, affective, and physical intimacy to marital satisfaction. *Journal of Counseling Psychology*, *30*, 573-580.

Toma, C. L., & Hancock, J. T. (2013). Self-Affirmation Underlies Facebook Use. *Personality and Social Psychology Bulletin*, *39*, 321-331.

Tufekci, Z. (2008). Can you see me now? Audience and disclosure regulation in online social network sites. *Bulletin of Science, Technology & Society*, *28*, 20-36.

Utz, S. (2015). The function of self-disclosure on social network sites: Not only intimate, but also positive and entertaining self-disclosures increase the feeling of connection. *Computers in Human Behavior*, *45*, 1-10.

Vangelisti, A. L., & Caughlin, J. P. (1997). Revealing family secrets: The influence of topic, function, and relationships. *Journal of Social and Personal Relationships*, *14*, 679-705.

Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal and hyperpersonal interaction. *Communication Research, 23,* 1-43.

Wei, M., Russell, D., & Zakalik R. (2005). Adult attachment, social self-efficacy, self-disclosure, loneliness, and subsequent depression for freshman college students: A longitudinal study. *Journal of Counseling Psychology, 52*, 602-614.

Williams, K. D. (2007). Ostracism. *Annual Reviews of Psychology*, *58*, 425-452.

Wilson, R. E., Gosling, S. D., & Graham, L. T. (2012). A review of Facebook research in the social sciences. *Perspectives on Psychological Science*, *7*, 203-220. doi: 10.1177/1745691612442904

Yum, Y., & Hara, K. (2005). Computer-mediated relationship development: A cross-cultural comparison. *Journal of Computer-Mediated Communication, 11,* 133-152.

Footnotes

[1] For the sake of brevity, I refer to self-disclosure as "disclosure" in the document.

[2] Since I had a positive correlation between the objective ratings and the self-report scale scores, I ran regression analyses on the dependent variables including the objective ratings as predictors. Despite the positive correlation, however, the objective ratings alone did not significantly predict intimacy or satisfaction in individuals' romantic relationships or friendships. It is very likely that this was due to the small amount of screen snapshots that were available to evaluate, and that the result would have been different had there been a larger sample size.

[3] For all mediation analyses, I tested the reverse mediation of disclosure associating with intimacy through satisfaction. For all the analyses, the reverse indirect effect was significant. From a developmental perspective, the notion that disclosure increases intimacy, which in turn contributes to satisfaction, receives more support (Hand & Furman, 2009; Rusbult, 1983) than the reverse mediation. The statistical support for the reverse might be due to the fact that intimacy and satisfaction were measured at the same time. Future studies should further test this by measuring intimacy and satisfaction at different time points.

[4] It might be the case that reported online disclosure is actually less accurate than a partner's report, as people can be biased about themselves as well. However, the results of Study 1 suggest that my measure is doing a relatively accurate job assessing disclosure, as it is correlated ($r(46) = .51$, $p < .01$) with objective ratings of neutral raters.

[5] I collected relationship length only for Studies 2-4. In Study 2, I used it in an additional analysis where results showed the effect of online self-disclosure on intimacy ($B = -0.34$, $t(50) = -3.33$, $p = .002$) and satisfaction ($B = -0.28$, $t(50) = -2.54$, $p = .01$) remained significant when controlling for length. In Study 3, the effect of the disclosure prime on intimacy ($B = -0.69$, $t(122) = -2.48$, p

= .02) and satisfaction (B = -0.78, $t(122)$ = -2.99, p = .003) held when controlling for length. In Study 4, the interaction effect of the highest inclusivity prime and disclosure on intimacy (B = -1.44, $t(119)$ = -1.87, p = .065) became marginal, and satisfaction (B = -1.78, $t(119)$ = -2.30, p = .02) remained significant with length controlled. Finally, in Study 5, when controlling for length, the main effect of the prime on intimacy ($F(2, 60)$ = 8.24, p = .001) and satisfaction ($F(2, 60)$ = 5.18, p = .008) remained significant.

[6] In the prime pretest of Studies 3 and 5, the majority of participants thought the 'wall' owner was male. However, there were no gender effects in the results of the actual studies, which imply that even the male participants, who were supposed to imagine their female partners were the 'wall' owners, had no issue doing so.

[7] I am aware that the means for intimacy and satisfaction are lower in Study 3 as compared to Studies 1 and 2. This might be due to the fact that the former is an experimental study in which I am priming participants with perceptions of their partner's online disclosure, whereas the first two studies are correlational surveys. Furthermore, Study 3 focused on perceiving one's partner as disclosing, whereas in Studies 1 and 2 participants reported on their own disclosure, so potentially the difference between reporting on one's self-disclosure as opposed to observing one's partner disclose might account for these differences in the means.

Appendix 1

Online (Facebook and Twitter) Self-disclosure Measure

Think of your use of social networking sites such as Facebook and Twitter. Then rate the following items on how often they pertain to you. Write the number in the space provided, using the following rating scale:

1	2	3	4	5	6	7
Not true of me at all	....	....	*Neutral/ Mixed*	....	....	*Definitely true of me*

_____ 1. I believe another Facebook user can get a pretty good sense of who I am after simply viewing the information I have disclosed on my Facebook profile.

_____ 2. I believe another Facebook user would have a difficult time knowing who I am after simply viewing the information I have disclosed on my Facebook profile. (Reverse-scored)

_____ 3. I frequently post pictures and links that summarize the events of my daily life.

_____ 4. When I update my Facebook or Twitter "status", I tend to post something that displays the emotional state I am currently in.

_____ 5. When I update my Facebook or Twitter "status", I tend to post my opinion of something that my Facebook friends may find relevant.

_____ 6. When I update my Facebook or Twitter "status", I am doing so to express myself to anyone that may be interested.

_____ 7. When I update my Facebook or Twitter "status", I am not afraid to post something I consider personal.

_____ 8. When I update my Facebook or Twitter "status", I try to stay away from anything I consider at all personal. (Reverse-scored)

Appendix 2

Offline Self-Disclosure Scale (Miller, Berg, & Archer, 1983)

Think of someone who is very close to you, like a best friend, or your partner, and indicate the extent to which you have disclosed to that person, using the following rating scale:
0 (haven't discussed this topic at all) to 4 (you have discussed this topic fully and completely).

	Haven't discussed at all				*Discussed fully and completely*
1. My personal habits.	0	1	2	3	4
2. Things I have done which I feel guilty about.	0	1	2	3	4
3. Things I wouldn't do in public.	0	1	2	3	4
4. My deepest feelings.	0	1	2	3	4
5. What I like and dislike about myself.	0	1	2	3	4
6. What is important to me in life.	0	1	2	3	4
7. What makes me the person I am.	0	1	2	3	4
8. My worst fear.	0	1	2	3	4
9. Things I have done which I am proud of.	0	1	2	3	4
10. My close relationships with other people.	0	1	2	3	4

Appendix 3

Items from the Perceived Relationship Quality Components Inventory

(Fletcher, Simpson, & Thomas, 2000) for Studies 1, 2, & 4

Intimacy items:

1. How intimate is your relationship?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

2. How close is your relationship?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

3. How connected are you to your partner?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

Satisfaction items:

4. How satisfied are you with your relationship?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

5. How content are you with your relationship?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

6. How happy are you with your relationship?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

Appendix 4

Experiences in Close Relationships Scale (Brennan, Clark, & Shaver, 1998)

The following statements concern how you generally feel in close relationships (e.g., with romantic partners, close friends, or family members). Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

1	2	3	4	5	6	7
Disagree Strongly	*Disagree*	*Disagree Slightly*	*Neutral/ Mixed*	*Agree Slightly*	*Agree*	*Agree Strongly*

___ 1. I prefer not to show others how I feel deep down.

___ 2. I worry about being rejected or abandoned.

___ 3. I am very comfortable being close to other people.

___ 4. I worry a lot about my relationships.

___ 5. Just when someone starts to get close to me I find myself pulling away.

___ 6. I worry that others won't care about me as much as I care about them.

___ 7. I get uncomfortable when someone wants to be very close to me.

___ 8. I worry a fair amount about losing my close relationship partners.

___ 9. I don't feel comfortable opening up to others.

___ 10. I often wish that close relationship partners' feelings for me were as strong as my feelings for them.

___ 11. I want to get close to others, but I keep pulling back.

___ 12. I want to get very close to others, and this sometimes scares them away.

___ 13. I am nervous when another person gets too close to me.

___ 14. I worry about being alone.

___ 15. I feel comfortable sharing my private thoughts and feelings with others.

___ 16. My desire to be very close sometimes scares people away.

___ 17. I try to avoid getting too close to others.

___ 18. I need a lot of reassurance that close relationship partners really care about me.

___ 19. I find it relatively easy to get close to others.

___ 20. Sometimes I feel that I try to force others to show more feeling, more commitment to our relationship than they otherwise would.

1	2	3	4	5	6	7
Disagree Strongly	*Disagree*	*Disagree Slightly*	*Neutral/ Mixed*	*Agree Slightly*	*Agree*	*Agree Strongly*

___ 21. I find it difficult to allow myself to depend on close relationship partners.

___ 22. I do not often worry about being abandoned.

___ 23. I prefer not to be too close to others.

___ 24. If I can't get a relationship partner to show interest in me, I get upset or angry.

___ 25. I tell my close relationship partners just about everything.

___ 26. I find that my partners don't want to get as close as I would like.

___ 27. I usually discuss my problems and concerns with close others.

___ 28. When I don't have close others around, I feel somewhat anxious and insecure.

___ 29. I feel comfortable depending on others.

___ 30. I get frustrated when my close relationship partners are not around as much as I would like.

___ 31. I don't mind asking close others for comfort, advice, or help.

___ 32. I get frustrated if relationship partners are not available when I need them.

___ 33. It helps to turn to close others in times of need.

___ 34. When other people disapprove of me, I feel really bad about myself.

___ 35. I turn to close relationship partners for many things, including comfort and reassurance.

___ 36. I resent it when my relationship partners spend time away from me.

Appendix 5

Demographic Questions

1. Please write down your age: _____

2. Please indicate your gender: Male / Female / Other

3. How long have you been in your current relationship? _____ years _____months

4. How many other romantic relationships have you had in the past? _____

5. Of those prior relationships, how many have lasted over 3 months? _____

6. Please indicate your predominant sexual orientation:

_____ Heterosexual   _____ Homosexual   _____Bisexual   _____Other

7. Please indicate your ethnicity:

_____ American Indian or Alaskan Native

_____ Asian

_____ Black or African American

_____ Hispanic or Latino

_____ Native Hawaiian or Other Pacific Islander

_____ White

_____ Other

5. Religion: _____

Appendix 6

Items adapted from the Perceived Relationship Quality Components Inventory

(Fletcher, Simpson, & Thomas, 2000) for Studies 3 & 5, with Instructions

Instructions: <u>Assuming that the example we gave is your partner's wall, and he/she had been posting such information during the last few weeks,</u> please answer how it would make you feel with regard to your relationship:

Intimacy items:

1. How intimate will your relationship be?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

2. How connected will you be to your partner?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

3. How close will your relationship be?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

Satisfaction items:

4. How happy will you be with your relationship?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

5. How satisfied will you be with your relationship?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

6. How content will you be with your relationship?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

Appendix 7

Study 3 Low Disclosure and High Disclosure Primes

Low Disclosure

High Disclosure

Appendix 8

Study 4 Low Disclosure and High Disclosure Messages with Inclusivity Prime Instructions

Low Disclosure

Message 1:

"3 hours of training at work...it took a long time. Lots of information to take in, but its all new to me."

Message 2:

"Let's go team! Great win tonight!"

High Disclosure

Message 1:

"3 hours of training at work...pretty interesting. I'm learning a bunch of new things that I never expected to. If you wanna see something scary google electronic accidents"

Message 2:

"Had a real nice night tonight! You guys are awesome!"

1 Recipient Instructions

Imagine that you have received the following Facebook messages from your partner. The

messages have been sent only to you.

2 Recipient Instructions

Imagine that you have received the following Facebook messages from your partner. The

messages have been sent to you and one other person.

5 Recipient Instructions

Imagine that you have received the following Facebook messages from your partner. The

messages have been sent to you and four other people.

**20 Recipient Instructions**

Imagine that you have received the following Facebook messages from your partner. The

messages have been sent to you and 19 other people.

25 Recipient Instructions

Imagine that you have received the following Facebook messages from your partner. The

messages have been sent to you and 24 other people.

Appendix 9

Study 5 Partner- and Friend-focused Primes

Partner-focused Prime

Friend-focused Prime