Room for Interpretation: The Role of Self-Esteem and CMC in Romantic Couple Conflict

Lauren Scissors, Michael E. Roloff, Darren Gergle
Northwestern University
2240 Campus Drive, Evanston, IL 60208 USA
{l-scissors, m-roloff, dgergle}@northwestern.edu

ABSTRACT
This work explores the role of communication technologies during romantic couple conflict, and the impact that self-esteem has on behavior, preferences for communication channels, and attitudes about mediated communication during conflict. Results revealed that lower levels of self-esteem and communicating via text messaging (vs. face-to-face) were associated with increased distancing and perceived partner distancing behaviors. Lower levels of self-esteem and using mediated communication were also associated with a greater likelihood of thinking that a conflict had a negative impact on the relationship. Yet, there was no evidence to suggest that individuals with lower levels of self-esteem exhibited more negative behaviors and perceptions in text-based communication than in FtF communication. In addition, lower levels of self-esteem were associated with increased use of and preferences for text-based mediated communication over FtF communication during conflict. Overall, this study suggests that both self-esteem and communication channel impact the nature of romantic couple conflict.

Author Keywords
Self-esteem; conflict; computer-mediated communication (CMC); romantic couples; relationships; CSCW

ACM Classification Keywords
H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION
Relationships can enrich our lives in many ways; however, they are not always rosy. Conflict is inevitable in romantic relationships, and how partners handle conflict can greatly impact relational outcomes (see [20] for a review) and mental and physical well-being [9]. Yet, the vast majority of our understanding of romantic couple conflict is based on conflicts that occur face-to-face (FtF).

Recent studies indicate, however, that couples use a host of communication technologies for managing conflicts (e.g., [5], [23]). Given the myriad differences between mediated and FtF communication, communication channel likely influences the nature of romantic couple conflict. In addition, it is important to remember that individuals utilize and experience communication channels in different ways. For instance, imagine that you texted your partner but your partner took a while to respond. You may conclude that there is a reasonable explanation for the delay, but another individual might immediately think the worst of their partner. This example highlights the fact that CMC can be more ambiguous than FtF communication since communicators are not co-located and certain nonverbal social cues like facial expressions, body language, and tone of voice are not typically transmitted (see [18] for a discussion). This ambiguity may be particularly salient for individuals who are prone to negative interpretations.

In fact, being biased toward negative interpretations of a partner's communication and behavior is a key attribute of individuals with low self-esteem (LSEs). Self-esteem is a trait that plays a significant role in romantic relationships, particularly in threatening contexts like conflict, with lower levels of self-esteem being associated with a number of harmful relational behaviors (e.g., [1], [14]). While LSEs' insecurities may cause them to prefer using technology during conflicts in order to distance themselves from potentially hurtful behavior, it may be that individuals' negative biases are actually *heightened* when communicating through technology, since there is more room for interpretation of a partner's behavior.

The goals of this paper are to understand how self-esteem and communication channel impact the nature of couple conflict. More specifically, we aim to investigate how self-esteem and communication channel impact one's behavior and perception of one's partner's behavior during conflict, perception of how the conflict impacts the relationship, and overall preferences and experiences during conflict with one's romantic partner. These investigations will increase our understanding of how technologies impact relational partners' abilities to communicate and carry out relationship work.

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RELATED WORK

Self-Esteem and Romantic Relationships

Previous research has demonstrated that LSEs tend to have trouble in their romantic relationships [15]. LSEs are biased toward negative interpretations of their partners' behavior and are sensitive to feelings of threat and rejection. A key component in how LSEs function in their close relationships has to do with how they interpret communication and behavior from their partners. Murray and colleagues found that LSEs "read too much into problems" with their partners, interpreting the problems as signs of fading feelings or commitment [16], p.256. Furthermore, LSEs over-interpret their dating partners' negative moods, internalizing responsibility and hurt feelings when the cause of the mood was actually ambiguous [1]. This line of work suggests that LSEs tend to overanalyze situations with their partners, and tend to believe the worst in ambiguous situations.

When faced with potential threats, LSEs distance themselves from or behave badly towards their partners in order to derogate the relationship and preserve their sense of self ([10],[14],[16]). In fact, LSEs' "oversensitivity to rejection manifests in defensive behaviors that … undermine the well-being of the relationship" [10], p.232. These "distancing behaviors" (see [6]) can be harmful to relationships. Alternatively, individuals with high self-esteem (HSEs) tend to be less sensitive to relationship threats and actually draw closer to their partners in these situations [16]. The fact that they feel self-assured likely helps HSEs to diminish threats or signs of rejection in order to focus on the positive aspects of the relationship. It is unclear, however, how common these distancing behaviors are across different communication channels.

CMC, Relationships, and Conflict

As computer-mediated communication and other text-based technologies proliferated, scholars began to examine technology's role in couple conflict. A 2010 study found that nearly two-thirds of participants had used a mediated channel (e.g., text messaging, phone, instant messenger (IM), social network sites (SNS), email) during a conflict with their partner, with text messaging and phone being the most common [5]. Moreover, a 2013 market research report found that 30% of 16- to 24-year-olds and 12% of adults in the UK felt it was acceptable to have an argument via private text-based communications [17]. Another study demonstrated that, in some cases, individuals make more positive partner attributions when communicating about a conflict via CMC than when communicating FtF [24].

Yet, there are also drawbacks to using CMC during conflict. For instance, Burge and Tatar found that couples discussing a conflict via mediated communication (phone and IM) may experience significantly lower mood states than couples who communicated FtF [2]. Another study found that when individuals choose email (over FtF) to discuss a conflict, they perceive their partners and themselves as more avoidant [12]. In addition, Coyne and colleagues found that using text messaging to discuss serious issues or broach a potentially confrontational topic with one's partner was associated with increased levels of negative communication in the relationship overall [3]. Using CMC is typically thought of as a convenient way to avoid or ignore one's communication partner in face-threatening situations like conflict (e.g., [11],[18]), since lack of immediacy and reduced cues provide more opportunities for ambiguity. Studies have also found that relational tensions can arise about the use of technologies themselves (e.g., [26]). Scissors and Gergle, however, found that there were both benefits and drawbacks to using CMC during couple conflict [23]. They also found that while some individuals preferred to use CMC during conflict, others preferred FtF communication [23]. Yet, this study was based on interviews and did not systematically explore attitudes and behaviors in mediated couple conflict, nor did it uncover what personality variables might be associated with the variance in preferences for technology during conflict.

CMC, Relationships, and Self-Esteem

A handful of studies have investigated the connection between self-esteem and CMC in relationships. Ehrenberg and colleagues found that lower levels of self-esteem were associated with increased time spent using IM and stronger IM addictive tendencies, though these results were not detected for text messaging and talking on the phone [4]. In a 2004 study, Joinson found that, in hypothetical situations involving interpersonal risk or face-threat (e.g., asking for a pay raise, asking for a date), LSEs showed a stronger preference for email and weaker preference for FtF communication compared to HSEs [8]. Since LSEs are more sensitive to negative feedback, it may be that the separation CMC provides acts as a "buffer" [18] that makes LSEs feel more secure in threatening situations. In addition, the distance and visual anonymity that CMC provides likely makes it easier for LSEs to enact their self-protection strategies. Although these findings suggest that LSEs are drawn to mediated communication in risky interpersonal situations, the current work expands on Joinson's study by specifically looking at conflict and by exploring additional channels (IM, SNS and text messaging) along with the previously explored channels (FtF, email, and phone). We also analyze actual situations with relational partners, as opposed to hypothetical scenarios.

In another study of individuals in dating relationships, increased frequency of text messaging was associated with more positive relationships for highly avoidant participants but not for less avoidant participants [13]. (Avoidance is a dimension of attachment anxiety, a trait that plays a similar role to self-esteem in romantic relationships.) In addition, greater use of SNS was associated with increased levels of intimacy and support in relationships for anxiously attached

participants but not for securely attached participants [13]. These findings suggest that the use of text-based communication may lead to positive relational outcomes for people who feel insecure in their relationships. This work, however, did not focus specifically on self-esteem or conflict. It may be that given the heightened emotional states, feelings of threat, and potential impact of a conflict on the relationship that these findings may be different in the context of conflict communication.

Theoretical Motivation

Since text-based communication does not require individuals to be co-present, it may be easier to disengage from conversation in text-based CMC than in FtF communication. The increased ambiguity of CMC may make individuals feel more distant from their partners, even if their partners are not purposefully avoiding them. This suggests that conflicts that occur in CMC may be experienced as more negative than conflicts that occur FtF.

Given that LSEs are prone to interpreting their partners' communication and behavior negatively in ambiguous contexts, it stands to reason that the more ambiguous the context, the more room for (mis)interpretation. And since text-based communication transmits fewer social cues (e.g., tone of voice, body language, facial expressions) that help individuals interpret communication, we argue that LSEs' biases will be heightened in CMC. In other words, the effects of self-esteem on various behaviors and interpretations should be stronger in CMC than FtF. In fact, Walther's Hyperpersonal model of communication posits that, in CMC, all individuals are prone to "making exaggerated attributions based on limited information" [19], p.216. Walther theorizes that individuals "decode text-based cues" and "encode relational messages" in the process of forming an impression of their communication partner and managing their relationship, and that they may do so in biased ways [25], p.67. Therefore, although mediated environments might lead LSEs to focus more strongly on the negative, the lack of nonverbal cues may help to further bolster HSEs' ability to ignore relationship threats and focus on their partners' past caring actions.

Research Questions and Hypotheses

Distancing Behaviors

Because LSEs are more likely to distance themselves from their partner under threat, and because mediated communication may make it easier to avoid communicating with one's partner, we predict:

H1a: Lower levels of self-esteem will be associated with increased distancing behaviors during conflict.

H1b: Distancing behaviors will be more likely to occur in text-based CMC than in FtF communication.

Theories of CMC suggest that mediated communication has more ambiguity than FtF communication, which may leave more room for interpretation, leading biases to be enhanced. Because these enhanced biases may then lead LSEs to draw away from their partners, we predict:

H1c: Lower levels of self-esteem will be more strongly associated with distancing behaviors in text-based CMC than in FtF communication.

Perceived Partner Distancing Behaviors

In addition to exploring participants' distancing behavior, we also examine the *perceptions* participants have of their *partners'* distancing behavior. Because LSEs are more likely to have negative interpretations of their partners' behavior, and because mediated communication makes it easier to avoid communicating with one's partner we predict:

H2a: Lower levels of self-esteem will be associated with a greater likelihood of perceiving partner distancing behaviors.

H2b: Partner distancing behaviors will be more likely to be perceived in text-based CMC than in FtF communication.

Because mediated communication has more room for interpretation than FtF communication, which may enhance biases, we predict:

H2c: Lower levels of self-esteem will be more strongly associated with perceiving partner distancing behaviors in text-based CMC than in FtF communication.

Perceived Impact of Conflict on Relationship

We also examine how conflicts impact participants' subsequent impressions of their relationships. Because LSEs are biased toward negative interpretations, we predict:

H3a: Lower levels of self-esteem will be associated with more negative assessments of the conflict's impact on the relationship.

Though previous research findings are mixed, because using CMC during conflict is associated with multiple negative outcomes (e.g., [2], [3], [12]), we predict:

H3b: Conflicts in mediated communication will be associated with more negative assessments of the conflict's impact on the relationship than will FtF conflicts.

Because LSE's negative interpretations may be stronger in more ambiguous communication channels, we predict:

H3c: Lower levels of self-esteem will be more strongly associated with negative assessments of the conflict's impact on the relationship for conflicts in mediated communication than for FtF conflicts.

Preferences and Overall Behavior

Lastly, we examine individuals' preferences for and use of CMC during conflict with their partners in general. Because LSEs tend to prefer CMC over FtF communication for a variety of reasons, we predict that:

H4a: Lower levels of self-esteem will be associated with stronger preferences for text-based CMC over FtF during conflict.

H4b: Lower levels of self-esteem will be associated with a greater likelihood of using text-based CMC over FtF during conflict.

METHOD

Participants

Participants (N = 182) were students and community members of a Midwestern, midsized university and were recruited via flyers and listservs. Some participants (26%) were from a student subject pool, for which they were required to participate in research for course credit; 74% were non-subject pool participants. Seventy-three percent of participants were female (27% male). Age ranged from 18 to 64, (M = 21.9).[1] Forty-nine percent of participants were Caucasian (6% African-American, 28% Asian/ Pacific Islander, 5% Hispanic/Latino (non-white), 10.4% Mixed Race/ Other; 2% missing). The majority (164) of participants' partners were of the opposite sex and 8 participants' partners were of the same sex. Individuals were prevented from participating if they had never been in a romantic relationship.

Eighty-six percent of participants reported on a current relationship and 14% reported on a past relationship. Thirty-one percent reported on a long-distance relationship and 69% reported on a non-long-distance relationship (1 missing). The majority (69%) of participants were "seriously dating" their partners (23% "casually dating", 3% "engaged", 4% "married"; 1% missing). In addition, 86% were not cohabitating with their partners and 14% of participants were cohabitating. Relationship length ranged from 1 to 360 months (30 years), (M = 19.4 months).

Procedure

Participants completed an online survey and were asked to report on a current romantic relationship. If they were not currently in a romantic relationship, they could report on a past romantic relationship. Upon completion, participants were either awarded course credit (if they participated as part of the subject pool) or a virtual $10 Amazon gift card.

Participants filled out a series of questions about themselves and their relationship. Then, participants were asked to describe the most recent conflict they had with their partner in which a communication technology such as texting, email, or IM was used to communicate in some capacity. Participants could report on a conflict where only one technology was used, where multiple technologies were used, or where technology and FtF communication were both used. If participants never engaged in a conflict where technology was used, they reported on the most recent conflict that occurred during FtF communication. They were then asked a series of questions about the conflict, including questions about which technologies were used and when, their behaviors and their partner's behaviors during the conflict, what channel was used during attempted conflict resolution, whether the conflict was resolved, and how they perceived the conflict impacted the nature of the relationship. Finally, participants filled out a series of questions about their attitudes and preferences regarding the use of CMC during conflict with their partner.

Measures

All items were scored on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*) unless otherwise indicated.

Self-Esteem. Participants completed a 10-item version of the Rosenberg self-esteem scale [21], which included items like "On the whole, I am satisfied with myself" and "I take a positive attitude toward myself" (α = .86).

Relationship Satisfaction. Participants completed Rusbult et al.'s 10-item scale measuring relationship satisfaction [22], which included items like "My partner fulfills my needs for intimacy" and "I feel satisfied with our relationship" (α = .94).

Distancing Behaviors. Distancing can take many forms [6]. We were interested in two types of distancing behaviors salient in mediated communication: delaying and ignoring. We asked participants two yes/no questions for each communication channel that was used during the conflict: "When communicating via (channel) …" "did you purposefully delay your responses?" and "did you purposefully ignore your partner?"

Perceived Partner Distancing Behaviors. Participants were asked two yes/no questions for each communication mode that was used during the conflict: "When communicating via X …" "did you feel like your partner was purposefully delaying his/her responses?", and "did you feel like your partner was purposefully ignoring you?"

Perceived Impact of Conflict on Relationship. Participants completed a 3-item scale measuring the conflict's impact on relational quality [7]: "After this conflict, did your relationship become …" "*more distant* (1) or *closer* (7)?", "*weaker* (1) or *stronger* (7)", and "*more sad* (1) or *happier* (7)?" (α = .97). They also completed a 4-item measure of the conflict's damage to the relationship: "The initial argument about this topic …" "was very damaging to our relationship"; "was not at all damaging to our relationship" (reverse scored), "had a severely negative impact on our relationship", "had almost no negative impact on our relationship" (reverse scored), (α = .89).

[1] A few participants were much older than the rest of the sample. Excluding these participants from analyses did not alter any findings so they remained in the final data set.

Preferences and Overall Behavior. A series of questions was created to understand participants' preferences and behaviors during conflict with their partner overall, not just during the incident on which they mainly reported: "When having a conflict with my partner, I would rather communicate with my partner via mediated communication than in a FtF setting", "When having a conflict with my partner, I tend to avoid FtF communication in favor of communicating via mediated communication", "When trying to resolve a conflict with my partner, I tend to communicate FtF rather than through a mediated communication", "When trying to resolve a conflict with my partner, I prefer to communicate FtF rather than through a mediated communication", "When having a conflict with my partner, it is easier to say what I really feel via mediated communication than in a FtF setting", and "There are certain types of fights or conflicts that should never be discussed via mediated communication". (For each item, "mediated communication" was followed by "such as email, instant messenger, or text messaging").

Analysis

To test hypotheses about distancing and perceived partner distancing behaviors, we conducted four mixed effects logistic regression models, one for each of the four items measuring distancing and perceived partner distancing behaviors, with self-esteem and communication channel as the main independent variables. This approach allowed us to address the dichotomous nature of the distancing behavior variables. This approach also allowed us to account for the fact that some participants used multiple channels during a conflict and reported on distancing and perceived partner distancing behaviors in each channel that was used. To clarify, the "channel" variable does not represent individuals who *only* used FtF or *only* used a form of CMC, but rather individuals who used FtF or CMC *at some point* during the conflict episode.

To test hypotheses about the perceived impact of the conflict on the relationship, we conducted two standard OLS regression models, one for relational quality and one for damage to the relationship, with self-esteem, communication channel, and whether or not the conflict was resolved as the main independent variables.

To test hypotheses about preferences and overall behavior during conflict, we conducted six regression models, one for each of the items detailed in the Measures section, with self-esteem as the main independent variable. In all models, we included three control variables: relationship satisfaction, current/past relationship, and long-distance/non-long-distance relationship.

RESULTS

Use of Technology with Partner

When asked if they had ever used a technology with their partner, 85% had used email, 99% had talked on a cell phone, 98% had used text messaging, 89% had used an SNS, and 86.8% had used IM. Of those who used a given technology with their partner, text messaging was the most likely to be used "often" or "very often" (90%), followed by IM (65%), SNS (62%), cell phone (62%), and email (40%).

Use of Technology with Partner during Conflict

Using technology during conflict was fairly common. Participants were asked whether a communication channel was used during conflict in the past six months. FtF was the most likely channel to be used (82%), followed by text messaging (64%), cell phone (60%), IM (37%), SNS (29%), other/video chat (22%), and email (21%). Of individuals who used a channel, the following percent of participants used the channel "often" or "very often": FtF (61%), cell phone (49%), text messaging (47%), IM (29%), SNS (27%), and email (19%).

Participants also reported on a specific conflict incident. Of all specific conflict incidents, 63% of participants used FtF communication, 22% used IM, 13% used email, 15% used SNS, 40% used cell phone, 57% used text messaging, and 8% used another communication channel. Twenty-eight percent of reported conflicts used only one channel while 72% used two or more channels.[2]

Self-Esteem and Control Variables

Across participants, the mean self-esteem was 5.15 (SD = 0.95, range: 2.5 to 7) and the mean relationship satisfaction was 5.50 (SD = 1.22). There was a small but significant correlation between self-esteem and relationship satisfaction (r = 0.22, $p < .01$). People in current relationships had higher self-esteem than people in past relationships (M = 5.21, SD = 0.91; M = 4.82, SD = 1.11; $t(180) = -1.84$, $p < .05$). People in current relationships also had higher levels of relationship satisfaction than people in past relationships (M = 5.64, SD = 1.11; M = 4.73, SD = 1.51, $t(180) = -3.67$, $p < .01$). Participants in long-distance relationships did not differ in levels of self-esteem (M = 5.02, SD = 0.92; M = 5.20, SD = 0.96, $t(180) = 1.17$, p = 0.88) or relationship satisfaction (M = 5.51, SD = 1.12; M = 5.49, SD = 1.27, $t(180) = -.04$, p = 0.47) from non-long-distance couples. There was a small but significant correlation between age and self-esteem (r = .16, $p < .05$), and a one-way ANOVA revealed that men (M = 5.19, SD = .87) and women (M = 5.12, SD = .97) did not differ in their levels of self-esteem [$F(2, 179) = 1.64$, $p > .05$]. Age and gender were included in all of the following analyses but were not significant predictors of any outcome variables and are thus not discussed.

[2] Sixteen percent of participants reported on a conflict where FtF was the only channel used. Excluding these participants from analyses did not alter any findings so they remained in the final data set.

Distancing and Perceived Partner Distancing Behaviors

We asked participants who used a certain channel during the conflict whether they purposefully delayed their responses, purposefully ignored their partners, thought their partners purposefully delayed their responses, or thought their partners purposefully ignored them when communicating in that channel. Both purposefully delaying responses and ignoring one's partner were more common in mediated communication than in FtF communication, with IM, text messaging, and email being the most common channels in which participants delayed their responses and ignored their partners (see Figure 1). Delaying responses was almost twice as common in IM, text messaging, and email as it was in FtF communication and ignoring one's partner was more than twice as common in text messaging and email than it was FtF. Thinking one's partner delayed his/her responses or ignored him/her was also more common in several mediated communication channels than it was in FtF communication (see Figure 2).

Since FtF and text messaging were the two most commonly used channels during conflict (see Use of Technology with Partner During Conflict), we explored the role of text messaging vs. FtF ("channel") and self-esteem on distancing behavior. Results revealed that lower levels of self-esteem were associated with an increased likelihood of purposefully delaying one's responses (*odds ratio* = .69, $z = -2.29$, $p < .05$) and ignoring one's partner (*odds ratio* = .69, $z = -2.02$, $p < .05$) (H1a supported) (see Table 1).

There was also a main effect of communication channel, such that individuals were 2.81 times more likely to report purposefully delaying their responses ($z = 3.50$, $p < .01$) and 3.81 times as likely to report purposefully ignoring their partners in text messaging than in FtF communication ($z = 4.19$, $p < .01$) (H1b supported).

For perceived partner distancing behavior, participants were 3.38 times more likely to report that their partner purposefully delayed his/her responses in text messaging than in FtF ($z = 4.20$, $p < .01$) and 2.88 times more likely to report that their partner purposefully ignored them when communicating via text messaging than when communicating FtF ($z = 3.25$, $p < .01$) (H2b supported). Self-esteem was not significantly associated with thinking one's partner purposefully delayed his/her responses but was significantly associated with a greater likelihood of thinking one's partner purposefully ignored him/her (*odds ratio* = .47, $z = -3.45$, $p < .01$; H2a supported).

In all four models, none of the control variables (relationship satisfaction, current/past relationship, and long-distance/non-long-distance relationship) were significant predictors of the DVs. In addition, while we expected to find that self-esteem would have a greater influence on distancing and perceived distancing behaviors in text messaging than it would in FtF communication (H1c and H2c), we found no evidence to support these hypothesized interactions.

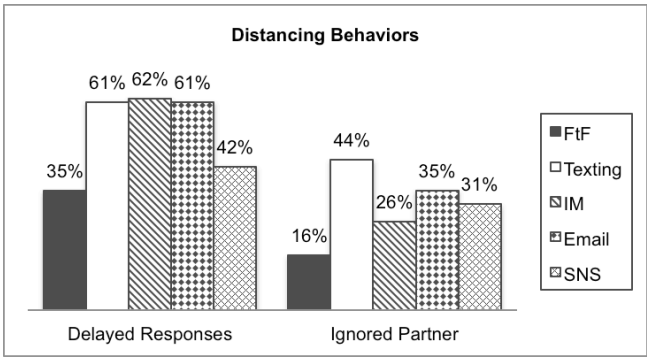

Figure 1. Percent of participants who exhibited distancing behaviors, by channel.

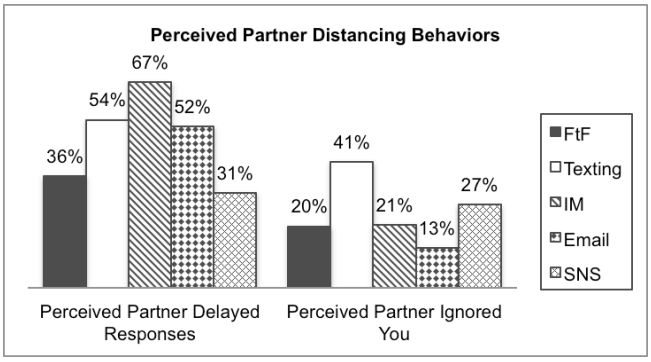

Figure 2. Percent of participants who perceived partner distancing behaviors, by channel.

	Delayed Responses	Ignored Partner	Perceived Partner Delayed Responses	Perceived Partner Ignored You
Variable	Odds ratio (z)			
Self-esteem	.69 (−2.29)*	.69 (−2.02)*	.79 (−1.41)	.47 (−3.45)**
Channel (text)	2.81 (3.50)**	3.81 (4.19)**	3.38 (4.20)**	2.88 (3.25)**

** = $p < .05$, ** = $p < .01$*

Table 1. Self-esteem and channel predicting distancing and perceived partner distancing behavior.

Perceived Impact of Conflict on the Relationship

How are self-esteem and communication channel related to how participants view the impact of the conflict on the relationship? In these models, we operationalized channel as "resolution channel" (i.e., the communication channel that was used during the attempted resolution of the conflict), since the last channel used may be more likely to impact participants' impressions of the conflict. In addition, since all of the mediated channels represent a type of reduced-cues environment, we grouped text messaging, IM, email, SNS, phone, and other (video chat) into "mediated communication" for resolution channel, making resolution channel a binary variable comparing mediated to FtF communication. We also included participants' impressions

	Conflict's impact on Relational Quality	Conflict's Damage to Relationship
Variable	*b (SE)*	*b (SE)*
Self-esteem	0.04 (0.12)	−0.27* (0.12)
Resolution channel (FtF)	0.35** (0.13)	−0.02 (0.13)
Self-esteem × Resolution channel	0.15 (0.12)	−0.16 (0.12)
Relationship satisfaction	0.40** (0.09)	−0.41** (0.09)
Long-distance relationship	0.33* (0.13)	0.01 (0.14)
Current relationship	0.74** (0.16)	−0.35* (0.16)
Conflict resolved	0.57** (0.13)	−0.38** (0.13)
R-squared	0.47	0.35
Adj. R-squared	0.44	0.31
N	150	150

** = $p < .05$, ** = $p < .01$*

Table 2. Self-esteem and channel predicting perceptions of the conflict's impact on the relationship overall.

of whether the conflict was resolved, reasoning that unresolved conflicts might have a more negative impact on the relationship than would resolved conflicts. We conducted two standard OLS regression models, one predicting the conflict's impact on relational quality and one predicting the conflict's damage to the relationship. Results revealed that conflicts where resolution was attempted FtF were more likely to be associated with a perceived increase in relational quality than conflicts where resolution was attempted in mediated communication (b = .35, t = 2.76, $p < .01$), supporting H3b (see Table 2). However, no relationship was detected between self-esteem and ratings of the conflict's impact on relational quality.

Resolution channel did not significantly impact perceptions that the conflict was damaging to the relationship. Lower levels of self-esteem, however, were associated with higher ratings of a conflict's perceived damage to the relationship ($b = -.27$, $t = -2.20$, $p < .05$), supporting H3a.

In both of these models, we found no evidence to support the hypothesized interactions of self-esteem × resolution channel. Higher relationship satisfaction, reporting on a current relationship (vs. past), and thinking the conflict was resolved were associated with higher ratings of the conflict's impact on relational quality and lower ratings of the conflict's damage to the relationship (see Table 2). In addition, participants reporting on a long-distance relationship reported higher ratings of the conflict's impact on relational quality.

Preferences and Overall Behavior during Conflict

When it comes to overall experiences with their romantic partners, self-esteem seems to influence both attitudes and behaviors regarding the use of different communication channels during conflict. Lower levels of self-esteem were associated with a *preference* for mediated over FtF communication during a conflict with their partner (supporting H4a), even when accounting for relationship satisfaction, distance, and recency of the relationship (see Table 3). In addition, when it comes to *behavior,* lower levels of self-esteem were associated with a greater likelihood of avoiding FtF communication in favor of communication via mediated communication during a conflict, supporting H4b. Relationship satisfaction was also a significant predictor of avoiding FtF during conflict, such that lower levels of relationship satisfaction were associated with a greater likelihood of avoiding FtF in favor of CMC.

We also looked at preferences and behavior for a specific stage of conflict: conflict resolution. For conflict resolution, higher levels of self-esteem were associated with a greater likelihood of *preferring* to communicate FtF over text-based communication, lending further support to H4a. Higher levels of relationship satisfaction were also associated with a greater likelihood of preferring to communicate FtF over mediated communication during conflict resolution (see Table 3). However, self-esteem was not significantly associated with *behavior* (a tendency to communicate via FtF over CMC) during conflict resolution. People in current relationships and people in non-long-distance relationships were more likely to tend to resolve conflicts FtF (vs. CMC) than people in past relationships, and people in long-distance relationships (see Table 3).

We asked two additional questions to further understand individuals' preferences and attitudes about using CMC during conflict with their partners (see Table 3). Individuals with lower levels of self-esteem were more likely to agree that it is easier to say what one really feels via text-based communication than FtF during conflict with one's partner. Higher levels of self-esteem were also associated with a greater likelihood of agreeing that "There are certain types of fights or conflicts that are better discussed via a mediated communication". Participants in non-long-distance relationships were also more likely to agree with this statement than those in long-distance relationships.

DISCUSSION

Results revealed that, in many cases, both communication channel and self-esteem were associated with behavior and communication technology preferences in the context of romantic couple conflict. When it comes to one's own behavior, lower levels of self-esteem were associated with increased distancing behaviors - purposefully delaying one's responses and ignoring one's partner. This verifies existing literature about self-esteem in romantic relationships. We also found that distancing behaviors were more common in text messaging than in FtF

	Conflict		Conflict Resolution		Attitudes about Conflict	
	Preference for text-based comm. over FtF during conflict	*Avoidance of* FtF in favor of text-based comm. during conflict	*Preference for* FtF over text-based comm. during conflict resolution	*Use of* FtF over text-based comm. during conflict resolution	"Easier to say what I really feel" via text-based comm. than FtF	"Certain types of fights or conflicts … should never be discussed" via text-based comm.
Variable	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*	*b (SE)*
Self-esteem	−0.44** (0.14)	−0.50** (0.14)	0.23* (0.11)	0.14 (0.13)	−0.50** (0.15)	0.35** (0.12)
Relationship satisfaction	−0.03 (0.11)	−0.24* (0.11)	0.17* (0.09)	0.06 (0.10)	−0.18 (0.12)	−0.10 (0.10)
Long-distance relationship	0.15 (0.13)	0.05 (0.13)	−0.04 (0.11)	−0.35** (0.13)	0.12 (0.15)	−0.34** (0.12)
Current relationship	−0.06 (0.18)	0.03 (0.19)	0.26 (0.15)	0.65** (0.18)	0.27 (0.20)	0.30 (0.17)
R-squared	0.080	0.122	0.097	0.140	0.085	0.11
Adj. R-squared	0.058	0.102	0.076	0.114	0.064	0.09
N	175	176	175	174	176	177

** = p < .05, ** = p < .01*

Table 3. Effect of self-esteem on preferences for text-based and FtF communication during conflict with partner.

communication. Yet, interestingly, we did not detect an interaction effect; lower levels of self-esteem were not more strongly associated with distancing behaviors in text messaging than they were in FtF communication. Given that text messaging is a more ambiguous channel than FtF, it is surprising that LSEs' interpretation biases are not heightened in text messaging.

In addition, lower levels of self-esteem were associated with an increase in perceiving that one's partner purposefully ignored them, though self-esteem was not associated with perceiving one's partner purposefully delayed his/her responses. Perceived partner distancing behaviors (both delaying and ignoring) were more common in text messaging than FtF. These are novel findings, suggesting that individuals are more likely to perceive distancing behavior from their partners in mediated communication vs. FtF communication.

Perceived distancing behavior may have been more common in text messaging than in FtF because it may be easier to delay one's responses or ignore one's partner via text (vs. FtF). And, if more partner distancing is exhibited, it makes sense that more partner distancing will be perceived. However, the current findings only reflect perceptions of partner distancing behavior and not the actual amount of partner distancing behavior that occurred. It could be that individuals perceive distancing behaviors when they do not actually occur, or fail to perceive distancing behaviors when they do actually occur. Therefore, it may be that the increased room for interpretation in text messaging, rather than actual partner behavior, is driving the results.

Taken together, results suggest that using text messaging during a conflict can be potentially harmful, as doing so is associated with increased distancing and some perceived partner distancing behaviors. Yet, using texting is no more harmful to LSEs than it is to HSEs. Or, put another way, using texting is not more helpful to HSEs than it is to LSEs when it comes to distancing behaviors.

When it comes to perceptions of how a conflict impacts one's relationship, findings were mixed, but self-esteem was associated with ratings of perceived increased relational quality (supporting H3a), and communication channel was associated with lower ratings of perceived relational damage (supporting H3b). It may be that the differences in immediacy and physical proximity between mediated and FtF communication are more closely related to perceptions of relational quality (e.g., closeness, strength) while the negative biases associated with lower levels of self-esteem are more closely related to perceptions of damage or harm. Yet, evidence does suggest that both self-esteem and channel are related to how one projects the effect of the conflict on the relationship.

Again, LSEs' perceptions of how the conflict impacted the relationship were not more negative in mediated communication than they were in FtF communication. It may be that self-esteem is a strong trait that manifests across communication channels. Or, it is possible that, while CMC provides more room for interpretation than FtF communication, it does not provide so much more room that LSEs' interpretations are further altered.

We also found that lower levels of self-esteem were significantly associated with *preferring* text-based mediated communication over FtF communication during both conflict and conflict resolution (H4a supported). But do LSEs report *using* mediated communication over FtF communication during conflict? Findings here are mixed, providing partial support for H4b. While lower levels of self-esteem were associated with greater likelihood of actually avoiding FtF in favor of CMC during conflict, self-esteem was not significantly associated with a greater likelihood of using mediated communication when trying to resolve a conflict with one's partner. While responses to these two items were significantly positively correlated (r = .69, p < .0001), it may be that even though LSEs prefer CMC, they may fight against those preferences and actually choose FtF communication for resolution, since individuals tend to feel that FtF is the most desired resolution channel [23]. Or it might be that their partners' prefer FtF communication and those partner preferences are driving what actually occurs during the conflict.

Although we have been discussing FtF as a better channel for conflict communication, lower levels of self-esteem were associated with agreeing that it is easier to say what one really feels via CMC than FtF during a conflict. That LSEs feel more comfortable expressing themselves through mediated communication is a clear benefit to using mediated communication during conflict, since withholding the expression of a conflict can be harmful in a relationship (see [20] for a discussion). Along these lines, LSEs also have a more accepting attitude about using CMC during conflict. So, instead of having a preference for CMC during conflict but feeling like it is inappropriate, it seems that LSEs prefer mediated communication and also feel that it is an acceptable form of communication.

LSEs might prefer mediated channels during a conflict for a number of other reasons. The increased distance and fewer cues might make LSEs feel safer from negative feedback. They might also feel they can dampen negative interpretations in CMC since they do not have to interact directly with their partners. Or, LSEs may subconsciously seek situations in which they have more room to convince themselves that their biases are true. HSEs are less likely to prefer CMC, perhaps because they do not have these self-protective motivations and thus less need for ambiguity.

Overall, findings suggest that individuals with lower levels of self-esteem have a preference for CMC in multiple aspects of conflict communication, whereas individuals with higher levels of self-esteem have a preference for FtF communication during conflict. These preferences seem to reflect the increased levels of comfort and/or control that CMC provides. In some cases, using CMC might be helpful for LSEs. For instance, LSEs find it easier to say what they really feel. Yet, contrary to predictions, using CMC was not more harmful for LSEs than it was for HSEs, suggesting that text-based CMC does not necessarily exacerbate the negative biases and tendencies that LSEs possess.

Limitations

There are several limitations to this work. First, the sample included undergraduate students and was a relatively young sample. Second, because of our study design, we are unable to comment on the causal nature of the relationships between self-esteem, communication channel, and the various dependent variables we explored in our models. Third, because individuals were reporting on past experiences with their partners, responses may be influenced by memory biases or by one's current mood toward one's partner. In addition, because participants reported on the most recent conflict where technology was used, the results on how often certain mediated channels were used are likely inflated, and should be interpreted within the constraints of the study design. Finally, it is important to note that this data reflects individuals' perceptions of partner behavior and of a conflict's impact on their relationship, rather than actual partner behavior or actual impact of a conflict on the relationship.

Implications for Design

The key insight for designers and users of interpersonal communication technologies is to consider the potential benefits and drawbacks of using text-based technologies during important or sensitive conversations. Although using text-based CMC is associated with more distancing and perceived distancing behaviors, it also allows individuals with lower levels of self-esteem to feel more comfortable saying what they really feel during conflict. Designers could incorporate features that minimize negative behaviors and encourage positive behaviors. Also, this work can provide insight into what types of individuals choose text-based CMC during interpersonal conflict with close relational partners, which can in turn inform how designers provide customization options for users.

CONCLUSION

This study demonstrates that both self-esteem and communication channel impact behaviors, perceived behaviors, and perceived relational consequences in romantic couple conflict. However, communication channel does not exacerbate biases stemming from individual difference variables, suggesting that, for individuals with lower levels of self-esteem, using text-based CMC during conflict is no better or worse than communicating FtF. Yet, individuals with lower levels of self-esteem do have a preference for CMC over FtF in multiple aspects of conflict communication. Overall, CMC does seem to provide room for negative interpretation during couple conflict.

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