

The Influence of Channel, Flooding, and Repair on Effective Couple Conflict Communication

NICOLE KASHIAN

Florida International University, USA

This study examines the influence of face-to-face (FtF) communication and mediated communication on effective conflict communication among married and dating couples, and whether flooding or repair were mechanisms for effective conflict communication. A national sample of couples who primarily used mediated communication or FtF communication in a recent conflict discussion participated. Individuals who reported primarily using FtF communication experienced a negative relationship between flooding and effective conflict communication. This relationship was not significant for individuals who primarily used mediated communication, suggesting that mediated communication might buffer the negative effect of flooding on effective conflict communication. Repair also mediated the indirect effect of channel on effective conflict communication for individuals with low and high levels of relational satisfaction, suggesting mediated communication facilitates repair among dissatisfied couples, and FtF communication facilitates repair among satisfied couples. This study emphasizes the importance of channel, reduced flooding, repair, and relational satisfaction for effective conflict communication.

Keywords: mediated communication, conflict, effective communication, flooding, repair, satisfaction

Mediated communication plays an important role in conflict management among romantic couples. National survey research has shown that 23% of young adults (ages 18 to 29) and 9% of all adults have resolved an argument with their romantic partner online or by text messaging that they have had difficulty resolving in person (Lenhart & Duggan, 2014), and couples have reported using text messaging very often or often during conflict (Scissors, Roloff, & Gergle, 2014). Previous research suggests that certain aspects of mediated communication, such as asynchronicity, reduced cognitive load, and fewer nonverbal cues can facilitate effective conflict communication. For example, experimental research has shown that satisfied individuals tend to make more favorable attributions for their partners' conflict behavior when they use asynchronous communication in conflict (Kashian & Walther, 2018). Moreover, members of couples report using mediated communication in conflict to avoid conflict escalation, manage their emotions (Scissors & Gergle, 2013), generate desired messages, and because it is easier (Caughlin, Basinger, & Sharabi, 2017).

Nicole Kashian nicole.kashian@gmail.com

Date submitted: 2019-06-11

Copyright © 2019 (Nicole Kashian). Licensed under the Creative Commons Attribution Non-commercial No Derivatives (by-nc-nd). Available at <http://ijoc.org>.

Despite the prevalence of couple conflict and couples' increasing use of technology-mediated communication to manage conflict, little research has systematically examined whether and how mediated communication can influence effective couple conflict communication. This article explores two possible mechanisms for effective conflict communication: reduced flooding and repair attempts. Flooding refers to an internal state of feeling overwhelmed by negative emotions, and repair refers to actions that prevent negative conflict interactions from escalating out of control (Gottman, 2011). Research has shown that members of couples report less arousal and domination (i.e., mutual attempts to be in control and "win" an argument) in couple conflict when they use mediated communication than when they use face-to-face (FtF) communication (Makki, 2019), and people who use video chat in conflict report more communication satisfaction than those who use FtF communication (Shin, Liu, Jang, & Bente, 2017). Research suggests that features of mediated communication might buffer the negative impact of couple conflict. This study examines whether mediated communication influences effective conflict communication as well as the mechanisms for this phenomenon.

Mediated Communication and Effective Conflict Communication

The hyperpersonal model (Walther, 1996) is a useful framework to understand the potential benefits of mediated couple conflict. The model explains how individuals adapt to and exploit the features of mediated communication to create positive outcomes due to interrelated sender, channel, receiver, and feedback effects. Although the hyperpersonal model in its original form does not directly address ongoing relationships, several studies have extended the model to relational maintenance activities (e.g., Edwards, Bybee, Frost, Harvey, & Navarro, 2017; Jiang & Hancock, 2013).

The sender effect of the hyperpersonal model refers to selective self-presentation. Selective self-presentation occurs when users of mediated communication reveal as much or as little information as they choose depending on the number of cues present in an interaction. For instance, senders who use text or voice communication can mask involuntary cues, such as gestures or facial expressions, that could reveal undesirable affect or contradict a conciliatory tone in a message that might escalate the conflict. Research has shown that members of couples report that they use technology in conflict so that their partners do not judge their nonverbal feedback (Caughlin et al., 2017), and so that they are not exposed to their partners' negative feedback that might detract from their own self-presentation (Frisby & Westerman, 2010).

The channel effect refers to the affordances offered by mediated communication. The asynchronous nature of text-based communication gives partners more time to construct messages that accomplish their communication goals, while the editable nature of text-based communication allows partners to revise messages for desired intent. Another benefit of text-based communication is the extra effort partners can put toward message construction through the redirection of cognitive resources that they would have otherwise used to coordinate FtF communication. Instead of searching for nonverbal feedback, managing timing, and being attentive, interactants can focus on message assembly. Indeed, research has shown that members of couples report using technology in conflict to give themselves extra time to formulate an effective comeback or an excuse (Caughlin et al., 2017) rather than giving an immediate response that they might regret if they were in person (Scissors & Gergle, 2013). For couples who use audio channels, the reduced cue environment also allows partners to consult with prepared notes or take notes about their forthcoming response without being seen. Overall, the channel offers many affordances for couple conflict.

The receiver effect refers to receivers' idealization of the sender. Receivers often interpret their partners' messages to be overly positive via mediated communication due to senders' selective self-presentation and a reduced cue environment that masks information that might contradict senders' selective self-presentation. Receivers who use text-based mediated communication do not hear harsh tones; and receivers who use text or voice communication do not see negative facial expressions or aggressive gestures. Research has shown that people in close relationships view misunderstandings to be less serious via mediated communication (text messages, instant messaging, e-mail, social media) than via FtF communication (Edwards et al., 2017), suggesting that mediated communication lessens the negative perception of conflict. Research has shown that frequent mediated communication in long-distance relationships can lead to unrealistic expectations due to idealization and instability upon reunion, though this same study also found that moving to the same location was a significant predictor of stability (Stafford & Merolla, 2007). More recent research has shown that long-distance couples (vs. geographically close couples) who experience idealization and spend more time together face-to-face report greater relational commitment and relational length (Jiang & Hancock, 2013). Thus, it is possible that partners can adjust their expectations upon reunion.

The feedback loop refers to the reciprocal influence interactants have on each other in mediated communication. Enhancements provided by senders' selective self-presentation, receiver idealization, and channel effects are theorized to form a feedback system by which mediated communication intensifies and magnifies the dynamics created by each part of the model. This part of the model has not been tested in the context of couple conflict, though research has shown that strangers who have conflict via video chat evaluate their partners to be more likable and trustworthy than those who have conflict FtF (Shin et al., 2017), suggesting feedback effects. While intensification of interpersonal dynamics can be either positive or negative, intensification is likely to be positively biased for those who are in a romantic relationship.

It is important to note that the same qualities of mediated communication that the hyperpersonal model asserts facilitate more positive communication, such as asynchronicity and reduced nonverbal cues, have also been theorized to contribute to misunderstandings and less effective communication known as the cues-filtered-out perspective. The cues-filtered-out perspective refers to a group of theories that assume mediated communication hinders effective communication due to its reduced nonverbal cues (gestures, smiles, pats on the back, nods to show attentiveness, eye contact, etc.), in comparison to channels that offer the transmission of more nonverbal cues such as FtF communication. Theories that fall into this perspective have received mixed empirical support, often opposite of predictions, as research has shown that individuals can use mediated communication to achieve effective task as well as social and relational communication outcomes (e.g., Kanawattanachai & Yoo, 2007; Markus, 1994; Rea, Behnke, Huff, & Allen, 2015).

In light of inconsistent findings, the cues-filtered-in perspective was formed. The cues-filtered-in perspective refers to a group of theories that assume people adapt to media and exploit its features to achieve effective communication regardless of the number of cues a medium transmits. The hyperpersonal model falls into this perspective because it posits that interrelated sender, receiver, channel, and feedback effects facilitate more positive communication than FtF communication. Because this line of research suggests that members of couples benefit from using mediated communication in conflict due to its affordances, and the hyperpersonal model explains how people adapt to and use media features to achieve effective communication, the hyperpersonal model is a useful framework to explore mediated conflict communication. It is possible that

mediated communication offers unique affordances to potentially buffer the negative effect of couple conflict among flooded individuals due to interrelated channel, sender, receiver, and feedback effects. Reduced flooding and increased repair attempts are two explanatory factors for effective couple conflict communication.

Flooding, Repair Attempts, and Effective Conflict Communication

Reduced Flooding

Flooding is one reason that individuals might benefit from using mediated communication in couple conflict. Per the theory of marital dissolution and stability (Gottman, 1993), flooding occurs when individuals are overwhelmed by their partners' and their own negative emotions in response to diffuse physiological arousal or a heightened state of arousal. This sense of being overwhelmed and unsafe happens to people in the face of strong negative emotion in reciprocally negative escalating exchanges. These exchanges tend to include destructive communication in the form of criticism and name-calling for example. People often feel that their partners' negative emotions are unexpected ("My partner's negativity came from out of nowhere"), intense, and disorganizing. As a result, partners will do anything to terminate the interaction, run away, or withdraw ("I felt like running away during our fight").

Not surprisingly, flooding can be detrimental to couple conflict. Flooding reduces people's ability to process information, attend to and listen to their partners, problem solve, empathize, and use humor. Individuals often become defensive, generate negative attributions for their partners' behavior, repeat themselves, and wish to escape—all of which decrease effective conflict communication (Gottman, 2011). Longitudinal research has shown that the more aroused married couples are during conflict, which stimulates flooding, the more their marital satisfaction declines over the next three years due to isolating and distancing themselves from each other, regardless of couples' initial levels of marital satisfaction (Levenson & Gottman, 1985). Similarly, cross-sectional research of serial conflict has shown that destructive communication facilitates flooding and avoidant behavior (Liu & Roloff, 2016).

One solution to flooding is taking breaks during conflict. Research has shown that couples who take breaks during conflict and reduce their heart rate to normal resting levels generate less negative behavior than couples who do not take breaks (Tabares, 2008). Because text-based mediated communication can facilitate a natural break in couple conflict due to its asynchronous nature, text-based mediated communication could reduce flooding and facilitate more effective conflict communication. Couples who use text-based or voice communication might also experience less flooding due to the reduced-cue environment. Decreasing the amount of potentially negative cues individuals send and receive in conflict can serve as a mini break to a conflict interaction. For instance, members of couples report that they are better able to control their emotions when they do not have to see their partner in person ("That was a fight I couldn't handle in person 'cause I couldn't even handle looking at him. It just made me feel sick to my stomach"; Scissors & Gergle, 2013, p. 242). Likewise, individuals report greater arousal for FtF conflict communication than for voice, text-based (Makki, 2019), and video chat conflict communication (Shin et al., 2017). This research suggests that the asynchronous nature of text-based mediated communication and the reduced-cue environment of mediated communication can reduce flooding by facilitating breaks in conflict communication. Thus, the following hypothesis is proposed:

H1: Individuals who use mediated communication in couple conflict will experience a weaker negative relationship between flooding and effective conflict communication than those who use FtF communication in couple conflict.

Repair Attempts

Repairing negativity is another reason that individuals might benefit from using mediated communication in couple conflict. Repair refers to any action that lessens negative affect or increases positive affect during a conflict interaction (Gottman, Driver, & Tabares, 2015). Repair attempts have been categorized as cognitive and affective attempts. Cognitive repair attempts appeal to logic and rationality and include actions such as compromise, defining the conflict, making promises to change, and seeking information. Affective repairs create emotional closeness and include actions such as agreement, self-disclosure, taking responsibility, understanding, and empathy. Research has shown that repair attempts that induce emotional connection (e.g., taking responsibility, agreement, affection, empathy), induce neutral affect, or induce positive affect are the most effective repair attempts because they remove the threat of the conflict interaction (Gottman et al., 2015).

Mediated communication might afford users more opportunity to generate repair attempts due to the sender, receiver, channel, and feedback effects of the hyperpersonal model. Due to the asynchronous nature of text-based mediated communication, users can write messages that are thoughtful (channel effect), present themselves positively (sender effect), and presumably elicit reciprocal repair attempts (receiver effect). Using text-based or voice communication, users can refrain from sending or receiving negative nonverbal cues that might escalate the conflict (sender effect) and use cognitive resources that would have otherwise been spent monitoring facial expressions and gestures to produce repair attempts (channel effect). Due to these affordances, mediated communication users potentially have a greater opportunity to initiate repair attempts and prevent the conflict from spiraling out of control. Because repair attempts and mediated communication facilitate effective conflict communication, it is likely that mediated channels strengthen the positive relationship between repair and effective conflict communication. Therefore, the following hypothesis is proposed:

H2: Individuals who use mediated communication in couple conflict will experience a stronger positive relationship between repair and effective conflict communication than those who use FtF communication in couple conflict.

Reduced Flooding, Repair Attempts, and Relational Satisfaction

Not all attempts at repair are successful. Gottman's (1999) sound relationship house theory predicts that the quality of couples' friendship should determine how successful repair attempts are. The rationale for this theory is that the more satisfied couples are in their relationship, the more they perceive their partners' repair attempts as positive, per sentiment override (Weiss, 1980). Sentiment override posits that the more satisfied individuals are in their relationships, the more positive they perceive their partners' behavior to be regardless of their partners' actual behavior. Conversely, the less satisfied couples are in their relationship, the more they perceive their partners' positive actions such as repair attempts as negative.

It is well established that the nature of relationships influences conflict perceptions. For instance, a review of empirical studies has shown that individuals in nondistressed marriages are more likely to make internal attributions for their partners' positive conflict behaviors, whereas individuals in distressed marriages are more likely to make external attributions for their partners' positive conflict behaviors (Bradbury & Fincham, 1990). Similarly, satisfied dating couples accord their partners more responsibility for positive behaviors and less responsibility for negative behaviors (Fletcher, Fincham, Cramer, & Heron, 1987), and relational satisfaction has been shown to predict married couples' attributions for their partners' conflict behavior 18 months later (Fincham, Harold, & Gano-Phillips, 2000; Karney & Bradbury, 2000). It is likely that relational satisfaction moderates the impact of channel, flooding, and repair on effective conflict communication.

This study proposes a moderated mediation model for effective conflict communication such that the indirect effect of channel on effective conflict communication through flooding and repair depends on individuals' degree of relational satisfaction. It is expected that individuals with higher levels of relational satisfaction and who use mediated communication experience more repair, less flooding, and more effective conflict communication than individuals who use primarily FtF communication in couple conflict. Therefore, the following hypotheses are proposed:

- H3: Flooding mediates the relationship between channel and effective conflict communication depending on relationship satisfaction such that individuals with greater relational satisfaction who use mediated communication experience less flooding and more effective conflict communication than those who use FtF communication.*
- H4: Repair mediates the relationship between channel and effective conflict communication depending on relationship satisfaction such that individuals with greater relational satisfaction who use mediated communication experience more repair and effective conflict communication than those who use FtF communication.*

Method

Sampling Procedure

To explore the impact of channel, flooding, repair, and relational satisfaction on effective conflict communication, a national sample of dating and married couples was recruited through Qualtrics after receiving approval from the institutional review board. Qualtrics partners with more than 20 sample providers to supply a network of diverse, quality respondents. Sample partners maintain full psychodemographic profiles on respondents and randomly select respondents for surveys for which respondents are likely to qualify. Potential respondents are invited to surveys in various ways such as e-mail, a panel portal, and text messages. Invitations include the length of the survey and incentives for taking the survey, such as cash, airline miles, gift cards, redeemable points, charitable donations, sweepstakes entrance, and vouchers. To avoid self-selection bias, survey invitations do not include specific details about the content of the survey and are kept very general. Qualtrics collects dyadic data using the same survey link for both partners. To ensure that both partners participate in the study, Qualtrics analyzes each dyad's data for duplicate entries. Members of couples who

report identical demographic information (e.g., gender, age, race, and education) are not included in the final data set. Members of couples are also instructed to complete the survey in private.

Several screener questions were used to recruit couples for this study. Invitations were sent to one member of the dyad, but only individuals who affirmed that both members of the couple would participate in the study were allowed to participate. To reduce memory bias, only couples who engaged in a conflict discussion with their partner in the last 24 hours were allowed to participate, because the longer people wait to recall information, the more inaccurate they report information (Sudman & Bradburn, 1973). To ensure that dyads were reporting on the same conflict discussion, only couples who reported the same conflict topic and reported using the same channel for the majority of their conflict discussion qualified for the study. Quota sampling was used to maintain equal numbers of couples using primarily mediated communication or FtF communication in their conflict discussion.

Of the 895 members of couples who initiated the survey, 111 couples finished the survey (12.40%). The low response rate was due to the difficulty of getting both partners to participate in the study. Two couples who reported that they used two different channels in their recent conflict discussion were not included in the final analysis, bringing the sample size from 111 dyads to 109 dyads. The response time for this study ranged from 10.75 minutes to 22.77 hours, with a mean of 65.66 minutes or 1.09 hours ($SD = 161.48$ minutes or 2.69 hours). Qualtrics screened out respondents who completed the survey in less than 10 minutes. The survey assessed the channel couples used the most during their most recent conflict, flooding, repair, relational satisfaction, effective conflict communication, and demographic information.

Participants

In total, 109 dyads ($N = 218$) were included in the final analysis: 99 male-female couples, eight female-female couples, and two male-male couples. Ages ranged from 23 to 82 years ($M = 43.50$, $SD = 13.56$). Participants primarily identified as White (72.5%), followed by Hispanic (10.1%), Black or African American (8.7%), Asian (7.3%), American Indian or Alaskan Native (0.5%), and Other (0.9%), such as American. The largest subset of participants had completed a four-year college degree (38.1%), followed by some college (20.6%), a master's degree (15.1%), high school (11.9%), a two-year college degree (7.3%), a professional degree (JD, MD; 5.0%), a doctoral degree (1.4%), and less than high school (0.5%). Couples' relationship length ranged from seven months to 47 years ($M = 14.22$ years, $SD = 12.40$ years). Most participants were married (86.7%), followed by never married (9.2%), divorced (2.8%), separated (0.9%), or widowed and now in a committed relationship (0.5%).

Procedure

Individuals completed an online survey about their most recent conflict with their partner. The majority of individuals agreed (40.4%) or strongly agreed (21.1%) that their topic of disagreement was very serious. Individuals' perception of conflict seriousness was significantly greater than the midpoint of a 5-point scale, $t(217) = 11.64$, $p < .001$ ($M = 3.48$, $SD = 1.24$). Moreover, there were no significant differences in individuals' perceptions of the seriousness of their conflict topic between mediated communication ($M = 3.46$, $SD = 1.27$) and FtF communication, $t(216) = 0.22$, $p = .82$ ($M = 3.50$, $SD = 1.22$). Couples did not use one channel over

the other based on topic seriousness. Couples, however, reported that their conflict discussion took longer using mediated communication ($M = 80.88$ minutes, $SD = 157.81$ minutes) than using FtF communication ($M = 38.65$ minutes, $SD = 51.67$ minutes), $t(126) = 2.68, p = .01$.¹ This is in line with social information processing theory that states mediated communication takes longer than FtF communication (Walther, 1992). Members of couples reported using more than one mode of communication in their conflict discussion, such as FtF communication (71%), text messaging (48%), the phone (12%), video chat (3%), and e-mail (4%). However, when members of couples were asked what mode of communication they *primarily* used in their serious conflict with their partner, they reported using either FtF communication or mediated communication. As stated, quota sampling was used to maintain equal numbers of couples using primarily mediated communication or FtF communication in their conflict discussion.

Measures

Confirmatory Factor Analysis

A confirmatory factor analysis using iterated centroid estimation from the *lessR* package (Version 3.8.9; Gerbing, 2019) in R tested the four-factor measurement model (flooding, repair, relational satisfaction, and communication effectiveness) for internal consistency and parallelism. The initial output indicated poor fit of the model, with the number of absolute residuals greater than 0.05 = 420 and the proportion of absolute residuals greater than 0.05 = 0.37. The initial fit statistics from *Lavaan* 0.6-5 (Rosseeel, 2019) for R with maximum likelihood estimation are: root mean square error of approximation = .07, $p < .001$; comparative fit index = .84; and standardized root mean square residual = .05. Items with large residual errors were removed for each factor until the number of absolute residuals greater than 0.05 = 51 and the proportion of absolute residuals greater than 0.05 = 0.20 to retain as many items as possible and achieve good fit statistics. After removing 10 flooding items (66% of the items), 13 repair items (65% of the items), and two communication effectiveness items (25% of the items), the respecified model provided good fit for the data: root mean square error of approximation = .05, $p = .16$; comparative fit index = .96; and standardized root mean square residual = .04. Details of the 23 items that were retained for the final analysis, descriptive statistics, and reliability statistics are presented below. All scale responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*) unless otherwise stated. Higher scores represent greater agreement or amount.

Channel

The primary channel couples used during conflict was assessed by asking individuals what mode of communication they used the most in the most serious conflict they had had with their partner in the last 24 hours. A little over half of the participants reported they used primarily FtF communication (51.4%), followed by text messaging (42.4%), e-mail (3.7%), and voice communication (2.8%). To perform the analysis, communication channel was effect-coded (FtF communication = .5, and mediated communication/text messaging, e-mail, and voice communication = $-.5$).

¹ Because Levene's test indicated unequal variances ($F = 8.65, p = .004$), degrees of freedom were adjusted from 216 to 126.

Flooding

Five items assessed flooding, or the feeling of being overwhelmed by negative emotions (Gottman, 1999). Example items are: "I felt overwhelmed by our argument," "My partner's negativity came from out of nowhere," "I felt like running away after the conflict," and "Small issues suddenly became big ones" ($\alpha = .86$; $M = 2.65$; $SD = 1.15$).

Repair Attempts

Seven items assessed repair attempts, or actions that prevent negative conflict interactions from escalating out of control (Gottman, 1999). To ensure respondents answered items about their most recent serious conflict with their partner, the question stem asked participants to indicate the degree to which they agreed with each of the statements in regard to the most serious conflict that they had had with their partner in the last 24 hours. Example items are: "When I comment on how we could communicate better, my partner listens to me," "When emotions run hot, expressing how upset I feel makes a real difference," and "If I keep trying to communicate, it will eventually work" ($\alpha = .92$; $M = 3.65$; $SD = 0.95$).

Relational Satisfaction

Five items from Rusbult, Martz, and Agnew's (1998) relational satisfaction scale assessed the "positive versus negative affect experienced in a relationship" (p. 359). Per Rusbult et al., only the global satisfaction items were used in the final analysis. Example items are: "I feel satisfied with our relationship," "My relationship is close to ideal," "Our relationship makes me happy," and "Our relationship does a good job fulfilling my needs for intimacy, companionship, etc." ($\alpha = .95$; $M = 3.95$, $SD = 1.07$).

Effective Conflict Communication

Six bipolar adjectives from Spitzberg's (1982) semantic differential communication effectiveness scale assessed effective conflict communication, or the degree to which interactants accomplished their communication goal. Individuals were asked how effective their most serious conflict discussion was with their partner in the last 24 hours. Example items include ineffective/effective, inadequate/adequate, unsuccessful/successful, useless/useful, and disadvantageous/advantageous. Responses ranged from 1 to 7 ($\alpha = .95$; $M = 4.75$; $SD = 1.63$).

Covariates

To control for spurious effects, several covariates were assessed: conflict intensity, length of conflict, marital status, length of relationship, and demographic characteristics, such as age, education, gender, and race.

Results

To prepare the data for analysis, all the variables were grand-mean-centered to aid interpretation (Cohen, Cohen, West, & Aiken, 2003). The data were analyzed using multilevel modeling to account for the interdependence of the dyadic data. The intraclass correlation for effective conflict communication is $r = .75$, $p < .001$, suggesting nonindependence in the data. To determine covariates, the researcher computed bivariate correlations between potential continuous covariates and each outcome variable (effective conflict communication, flooding, and repair), a point biserial correlation between gender and each outcome variable, and an independent-samples Kruskal-Wallis test for the categorical variables marital status, race, and education. The distribution of effective communication was not the same across categories of education ($\chi^2 = 16.31$, $p = .01$), and correlations were also significant between effective communication and conflict length ($r = -.22$), conflict intensity ($r = -.25$); flooding and relationship length ($r = -.19$), conflict intensity ($r = .37$), and age ($r = -.22$); and repair and conflict intensity ($r = -.27$). Thus, all the significant covariates were included in the analysis.

The first hypothesis predicted that individuals who use mediated communication in couple conflict will experience a weaker negative relationship between perceived flooding and effective conflict communication than those who use FtF communication in couple conflict. The actor-partner interdependence model examined how each partner's degree of flooding related to the other partner's perception of effective conflict communication. The model controlled for age, education, relationship length, conflict intensity, length of conflict, and relational satisfaction. As shown in Table 1, the interaction between actor flooding and channel on effective conflict communication was significant, $b = -.36$, $t(193) = -2.18$, $p = .03$, as was the association between actor flooding and effective conflict communication, $b = -.29$, $t(194) = -3.04$, $p = .003$, and the association between partner flooding and effective conflict communication, $b = -.17$, $t(194) = -2.07$, $p = .03$.

The relationship between flooding and effective conflict communication was stronger for actors than for partners. The more flooding people experience during conflict, the less effective conflict communication they report. The interaction between partner flooding and channel on effective conflict communication was not significant ($p = .48$), nor was the main effect of channel on effective conflict communication ($p = .19$). For parsimonious reasons, partner flooding and the interaction between partner flooding and channel on effective conflict communication were removed from the model before probing the interaction.

A simple slopes analysis revealed that the conditional effect of flooding on effective conflict communication was significant only during FtF communication, $b = -0.47$, $t(197) = -3.77$, $p < .001$. Individuals who used FtF communication ($b = -.47$, $p < .001$) experienced a stronger negative relationship between flooding and effective conflict communication than those who used mediated communication ($b = -.11$, $p = .35$). Individuals who used FtF communication reported more effective conflict communication during lower levels of flooding and less effective conflict communication during higher levels of flooding. Mediated communication did not moderate the relationship between flooding and effective conflict communication. The data do not support H1.

Table 1. Estimates for a Multilevel Model of Flooding, Channel, and Effective Conflict Communication (H1).

Fixed effects	β	<i>b</i>	<i>SE</i>	<i>df</i>	<i>t</i>
Intercept		5.45	0.47	176	11.46**
Age	-.15	-0.01	0.00	145	-1.95
Education	-.00	0.00	0.05	193	0.14
Relationship length	.05	0.00	0.00	124	0.64
Conflict intensity	-.01	-0.02	0.07	192	-0.27
Conflict length	-.11	-0.00	0.00	119	-1.68
Relational satisfaction	.37	0.56	0.10	202	5.59**
Channel	.09	0.31	0.23	103	1.31
Actor flooding	-.20	-0.29	0.09	194	-3.04**
Partner flooding	-.12	-0.17	0.08	194	-2.07*
Actor flooding × channel	-.12	-0.36	0.16	193	-2.18*
Partner flooding × channel	.04	0.11	0.16	192	0.70
Random effects		Estimate	<i>SE</i>	<i>LL</i>	<i>UL</i>
Residual		0.48	0.06	0.36	0.64
Dyad intercept		1.00	0.18	0.70	1.42

Note. *LL* = lower limit; *UL* = upper limit. * $p < .05$. ** $p < .01$.

The next hypothesis predicted that individuals who use mediated communication in couple conflict will experience a stronger positive relationship between repair attempts and effective conflict communication than individuals who use FtF communication in couple conflict. Again, the researcher used the actor-partner interdependence model for the analysis and controlled for the same variables as in the first analysis. As shown in Table 2, the interaction between actor repair and channel on effective conflict communication was not significant ($p = .13$), nor was the interaction between partner repair and channel on effective conflict communication ($p = .12$).

The next two hypotheses, H3 and H4, predicted a moderated mediation effect such that the indirect effect of channel through repair and flooding on effective conflict communication depends on relational satisfaction. In other words, repair and flooding mediate the relationship between channel (antecedent) and effective conflict communication (outcome) contingent on whether relational satisfaction (moderator) interacts with channel (antecedent) on repair and/or flooding (mediators). Because the data are dyadic and not independent, multilevel mediation analysis with maximum likelihood estimation, using a 2-1-1 design with only random intercepts, was used to test these hypotheses. Multilevel mediation analysis extends the classic mediation model that assumes independent observations to clustered data by using multilevel modeling. The researcher used the MLmed macro to conduct the analysis (Rockwood & Hayes, 2017). MLmed uses a normal-theory test and Monte Carlo confidence intervals with 10,000 samples to assess indirect effects. Uncentered variables were used in the mediation analysis because MLmed estimates within-group effects by within-group centering variables prior to the analysis, and between-group effects are estimated using group means as outlined in Zhang, Zyphur, and Preacher (2009). The model included the maximum number of covariates: conflict length, conflict intensity, and age.

Table 2. Estimates for a Multilevel Model of Repair, Channel, and Effective Conflict Communication (H2).

Fixed effects	β	<i>b</i>	<i>SE</i>	<i>df</i>	<i>t</i>
Intercept		5.58	0.45	175	12.26**
Age	-.17	-0.02	0.00	142	-2.32*
Education	-.03	-0.04	0.05	200	-0.77
Relationship length	.16	0.00	0.00	126	2.03*
Conflict intensity	-.01	-0.02	0.07	198	-0.37
Conflict length	-.13	-0.00	0.00	119	-2.03*
Relational satisfaction	.22	0.33	0.11	202	2.93**
Channel	.08	0.28	0.22	104	1.26
Actor repair	.30	0.51	0.12	183	4.03**
Partner repair	.22	0.38	0.11	175	3.46**
Actor repair × channel	.09	0.33	0.21	175	1.51
Partner repair × channel	-.09	-0.33	0.22	174	-1.53
Random effects		Estimate	<i>SE</i>	<i>LL</i>	<i>UL</i>
Residual		0.49	0.07	0.37	0.65
Dyad intercept		0.83	0.15	0.57	1.20

Note. *LL* = lower limit; *UL* = upper limit. * $p < .05$. ** $p < .01$.

There was a positive association between partner repair and effective conflict communication, $b = 0.38$, $t(175) = 3.46$, $p = .001$, and between actor repair and effective conflict communication, $b = 0.51$, $t(183) = 4.03$, $p < .001$. One's own perception of repair attempts is more strongly related to effective conflict communication than one's partner's perception of repair attempts. The data do not support H2.

The interaction between channel and relational satisfaction on repair was significant, $b = .25$, $SE = 0.08$, $t(212) = 2.90$, $p = .004$. Thus, the channel did have different effects on repair, depending on an individual's relational satisfaction. As such, there was evidence of moderated mediation, 95% CI [0.06, 0.41], $b = 0.22$, and mediation for repair, 95% CI [-1.57, -0.15], $b = -0.80$, $SE = 0.35$, $z = -2.26$, $p = .02$, but not for flooding, 95% CI [-0.05, 0.20], $b = 0.04$, $SE = 0.06$, $z = 0.76$, $p = .48$. The relationship between channel and effective conflict communication is mediated by repair, and this mediation effect depends on relationship satisfaction.

Results also revealed a main effect of channel on repair, $b = -0.91$, $t(203) = -2.50$, $p = .01$. Given the coding scheme, users reported more repair using mediated communication (effect code = -.5) than when using FtF communication (effect code = .5). There was also an association between relational satisfaction and repair, $b = 0.50$, $t(214) = 11.41$, $p < .001$. The more relational satisfaction people reported, the more repair attempts they reported. The relationship between repair and effective conflict communication was also significant, $b = 0.88$, $t(108) = 5.73$, $p < .001$. The more repair attempts people reported, the more effective conflict communication they reported. The main effect of channel on effective conflict communication was not significant ($p = .40$). A respecification of the model without flooding provided better model fit (Model 1 Akaike information criterion = 1,645.04; Model 2 Akaike information criterion =

1,076.54). The best-fitting model does not include flooding as a mediator. Flooding was removed from the model before probing the interaction.

A simple slopes analysis of the interaction between channel and relational satisfaction on repair revealed that the conditional effect of channel on repair was statistically significant when individuals had relatively high or relatively low levels of relational satisfaction. Among individuals in the 84th percentile of relational satisfaction, the conditional effect of channel on repair was significant ($b = 0.35, p = .02$, indirect effect = $.37, p = .02$); among individuals in the 70th percentile of relational satisfaction, the conditional effect of channel on repair was significant ($b = 0.30, p = .03$, indirect effect = $.30, p = .04$); but among individuals in the 65th percentile of relational satisfaction, the conditional effect of channel on repair was not significant ($b = .26, p = .05$). It was not until individuals were in the fifth or lower percentile of relational satisfaction that the conditional effect of channel on repair was again significant ($b = -.51, p = .03$, indirect effect = $-.54, p = .03$). Given the coding scheme, it appears that people with very low levels of relational satisfaction used mediated communication for repair, whereas people with very high levels of relational satisfaction used FtF communication for repair. In turn, these repair attempts facilitated effective conflict communication. The data do not support H3 or H4.

Discussion

This research examines the influence of face-to-face and mediated communication on effective conflict communication among married and dating couples, and whether flooding and repair were mechanisms for effective conflict communication. Couples who reported using primarily FtF communication in their most recent conflict discussion experienced a negative relationship between flooding and effective conflict communication. This relationship was not significant for couples who used mediated communication, suggesting that mediated communication might buffer the negative effect of flooding on effective conflict communication. Repair also mediated the indirect effect of communication channel on effective conflict communication for individuals with relatively low and relatively high levels of relational satisfaction. This effect suggests that mediated communication facilitates repair among dissatisfied couples, and FtF communication facilitates repair among satisfied couples. Overall, this study emphasizes the importance of channel, reduced flooding, repair, and relational satisfaction for effective conflict communication.

The literature is clear that flooding has a negative impact on couple conflict. Per the theory of marital dissolution and stability (Gottman, 1993), couples who experience more flooding in conflict decline in marital happiness over time due to isolating and distancing themselves from each other in response to flooding during conflict (Levenson & Gottman, 1985). The data from this study corroborate the premise behind the theory of marital dissolution and stability in that the results show a negative relationship between flooding and effective conflict communication, affirming the negative impact of flooding on couple conflict.

At the same time, the data suggest that mediated communication might buffer the negative impact of flooding on effective conflict communication (H1). Contrary to the prediction, individuals who used mediated communication in couple conflict did not experience a weaker negative relationship between flooding and effective conflict communication than those who used FtF communication in couple conflict. Rather, individuals who used mediated communication in couple conflict experienced no relationship

between flooding and effective conflict communication, whereas couples who used FtF communication in couple conflict experienced increases and decreases in effective conflict communication depending on the degree of flooding they experienced in the conflict. The data suggest that mediated communication might be beneficial in couple conflict, because it appears to prevent the negative impact of flooding on effective conflict communication altogether.

These results are consistent with previous research that has examined the impact of mediated communication on couple conflict. Research has shown that members of couples report less arousal and domination (i.e., attempts to control and "win" the argument) in couple conflict when they use mediated communication than when they use FtF communication (Makki, 2019). Moreover, these same members of couples report greater levels of separation (i.e., mutual attempts to separate and "cool off") when they use FtF communication than when they use mediated communication in couple conflict. It is possible that mediated communication performs a neutralizing function for couple conflict, while FtF communication performs a growth function. The reduced cue and asynchronous nature of mediated communication might prevent couples from experiencing the deleterious effect of flooding in conflict by reducing couples' exposure to cues that can activate arousal and flooding. The data also suggest that FtF communication can be helpful or harmful in couple conflict depending on one's tendency to experience flooding during conflict. For partners who experience flooding during conflict, it might be beneficial to use mediated channels, or to take breaks during conflict if mediated communication is not possible. On the other hand, for partners who do not experience flooding during conflict, it might be beneficial to use FtF communication during conflict.

These results are consistent with the hyperpersonal model in the broad sense that the model asserts that individuals experience favorable outcomes using mediated communication due to interrelated sender, channel, receiver, and feedback effects. In accordance with the sender effect, senders who used text or voice communication could have masked nonverbal cues that might have revealed undesirable affect or attitude, giving partners less reason to become upset and escalate the conflict. In line with the channel effect, couples could have redirected the cognitive resources they would have otherwise used to coordinate FtF conversations to produce more thoughtful messages and reduce conflict escalation. Moreover, receivers using mediated communication might have viewed the conflict as less intense because they received fewer negative cues and more thoughtful messages. Overall, these effects might have attenuated the negative relationship between flooding and effective conflict communication in mediated communication. Future research could assess the degree to which each of these interrelated effects contributes to communication outcomes in couple conflict.

The significant results of the moderated mediation model are surprising, because they are the opposite of what was predicted (H4). The hypothesis predicted that repair would mediate the indirect effect between channel and effective conflict communication, such that individuals with higher levels of relational satisfaction who used mediated communication would report more repair and effective conflict communication than those who used FtF communication. The data reveal that repair mediated the indirect effect of channel on effective conflict communication depending on relational satisfaction, as expected. However, unexpectedly, individuals with higher levels of relational satisfaction reported more repair and effective conflict communication when they primarily used FtF communication, and individuals with lower levels of relational satisfaction reported more repair and effective conflict communication when they

primarily used mediated communication in couple conflict. Although surprising, the data are in line with one of the predictions of the communication orientation model (Swaab, Galinsky, Medvec, & Diermeier, 2012).

The communication orientation model posits that the relationship between communication channel and negotiation outcomes is moderated by communication orientation. The model predicts that individuals with noncooperative orientations (i.e., people who are concerned only for themselves) experience more effective outcomes when they use asynchronous (versus synchronous) communication and/or nonvisual (versus visual) communication, because these forms of mediated communication reduce access to cues that increase competition and detract from positive outcomes. This proposition of the model is consistent with this study's results in that less-satisfied couples reported more repair and effective conflict communication when they used mediated communication than when they used FtF communication. However, this model falls short of explaining why satisfied couples reported more repair and effective conflict communication when they used FtF communication, because the model predicts that people with cooperative orientations (i.e., people who have high concern for their partners and themselves) experience the same outcome across channels due to sentiment override. This study's results are also inconsistent with experimental research that has found that satisfied couples who use asynchronous media in couple conflict report more positive appraisals of the conflict than do dissatisfied couples (Kashian & Walther, 2018). More research is needed to explain and duplicate these findings.

The results also support Gottman's (1999) sound relationship house theory, which asserts that relational satisfaction is an important factor for successful repair attempts and effective conflict communication. Off-line research has shown that the more relational satisfaction individuals have, the more they engage in repair and experience effective conflict communication (Gottman et al., 2015). At the same time, these relationships appear to be complicated by the channel that couples primarily use in conflict.

Notably, flooding did not mediate the relationship between channel and effective conflict communication, nor did relational satisfaction moderate the relationship between channel and flooding in the moderated mediation model (H3). This finding is consistent with previous longitudinal research that has shown the more flooding couples experience during conflict, the more their marital satisfaction declines over time regardless of their initial levels of relational satisfaction (Levenson & Gottman, 1985).

This study is not without limitations. First, the data are from a cross-sectional survey, so the results are correlational and not causal in nature. There could be spurious effects influencing the outcome variable despite the covariates used in the study. Future research could employ an experimental design to examine causality. Another limitation is the nature of the conflict studied. It is unknown whether the conflict couples reported on were serial conflicts that can be managed over time and through multiple channels. Future research could employ a longitudinal design to examine potential serial conflicts and channel use. It is also possible that individuals used different channels to accomplish different goals in couple conflict. Future research could incorporate a multiple goals perspective to couple conflict. Breaks in the conflict discussion were not measured in this study, although part of the rationale states that the asynchronous nature of texting and the reduction of cues using voice communication can facilitate natural breaks in negative affect. To test this notion, future research could ask members of couples whether and for how long they take breaks during conflict.

An additional limitation is that the sample only included people who reported relatively high relational satisfaction. Couples who broke up or whose relationship was seriously damaged by the recent argument likely did not participate in the study. The results might have been different if the survey had included people who ended their relationship during the conflict or within the 24-hour period. The current study's results are limited to those whose relationships were still intact and not harmed. Additionally, the number of items that were removed from Gottman's (1999) flooding and repair scales to obtain model fit was relatively high given that these scales are published. Over 50% of the flooding and repair scale items were removed after a confirmatory factor analysis tested the fit of the four-factor model (flooding, repair, effective communication, relational satisfaction). Because there were a large number of absolute residuals (i.e., the difference between the observed and the predicted correlations), it is likely that the data contained a large amount of sampling error. Although Gottman's (1999) flooding and repair scales have been used in previous couple research (e.g., Cornelius, Shorey, & Beebe, 2010; Hooper, Spann, McCray, & Kimberly, 2017), confirmatory factor analyses do not appear to have been conducted, or results are not reported or have been sparsely reported. Future research would benefit from further factor analyses on the flooding and repair questionnaires to understand the nature of the inconsistency in these scales.

Moreover, because participants responded based on the mode of communication they used the most in their most serious conflict with their partner, this might introduce bias into the design if, for example, a participant used 51% FtF communication and 49% e-mail. Future research could use a diary study to assess the exact use of each channel in couple conflict interaction. Last, the choice between FtF and mediated communication is often made by the conflict initiator. It is possible that the hypothesized effects are about the conflict initiator's choice of medium, though research has shown that individuals report initiating conflict with their partners' preferred mode for conflict management in mind (Scissors & Gergle, 2013).

This study contributes to research on mediated couple conflict. The results affirm that relational satisfaction is an important factor for effective repair attempts and effective conflict communication, that flooding has a negative impact on effective conflict communication, and that mediated communication has the potential to be advantageous in couple conflict by way of reduced flooding and increased repair attempts among individuals who are relatively less satisfied. More research is needed to advance understanding about the impact of mixed media on couple conflict.

References

- Bradbury, T. N., & Fincham, F. D. (1990). Attributions in marriage: Review and critique. *Psychological Bulletin, 107*, 3–33. doi:10.1037/0033-2909.107.1
- Caughlin, J. P., Basinger, E. D., & Sharabi, L. L. (2017). The connections between communication technologies and relational conflict: A multiple goals and communication interdependence perspective. In J. A. Samp (Ed.), *Communicating interpersonal conflict in close relationships: Contexts, challenges and opportunities* (pp. 57–72). New York, NY: Routledge.

- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple correlation/regression analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum.
- Cornelius, T. L., Shorey, R. C., & Beebe, S. M. (2010). Self-reported communication variables and dating violence: Using Gottman's marital communication conceptualization. *Journal of Family Violence, 25*, 439–448. doi:10.1007/s10896-010-9305-9
- Edwards, R., Bybee, B. T., Frost, J. K., Harvey, A. J., & Navarro, M. (2017). That's not what I meant. *Journal of Language and Social Psychology, 36*, 188–210. doi:10.1177/0261927x16662968
- Fincham, F. D., Harold, G. T., & Gano-Phillips, S. (2000). The longitudinal association between attributions and marital satisfaction: Direction of effects and role of efficacy expectations. *Journal of Family Psychology, 14*, 267–285. doi:10.1037/0893-3200.14.2.267
- Fletcher, G. J., Fincham, F. D., Cramer, L., & Heron, N. (1987). The role of attributions in the development of dating relationships. *Journal of Personality and Social Psychology, 53*, 481–489. doi:10.1037/0022-3514.53.3.481
- Frisby, B. N., & Westerman, D. (2010). Rational actors: Channel selection and rational choices in romantic conflict episodes. *Journal of Social and Personal Relationships, 27*, 970–981. doi:10.1177/0265407510378302
- Gerbing, D. W. (2019). Less code, more results (3.8.9) [R Package]. Retrieved from <https://CRAN.R-project.org/>
- Gottman, J. M. (1993). A theory of marital dissolution and stability. *Journal of Family Psychology, 7*, 57–75. doi:10.1037/0893-3200.7.1.57
- Gottman, J. M. (1999). *The marriage clinic: A scientifically-based marital therapy*. New York, NY: W. W. Norton.
- Gottman, J. M. (2011). *The science of trust: Emotional attunement for couples*. New York, NY: W. W. Norton.
- Gottman, J. M., Driver, J., & Tabares, A. (2015). Repair during marital conflict in newlyweds: How couples move from attack–defend to collaboration. *Journal of Family Psychotherapy, 26*, 85–108. doi:10.1080/08975353.2015.1038962
- Hooper, A., Spann, C., McCray, T., & Kimberly, C. (2017). Revisiting the basics: Understanding potential demographic differences with John Gottman's four horsemen and emotional flooding. *Family Journal, 25*, 224–229. doi:10.1177/1066480717710650

- Jiang, C. 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. doi:10.1111/jcom.12029
- Kanawattanachai, P., & Yoo, Y. (2007). The impact of knowledge coordination on virtual team performance over time. *MIS Quarterly*, 31, 783–808. doi:10.2307/25148820
- Karney, B. R., & Bradbury, T. N. (2000). Attributions in marriage: State or trait? A growth curve analysis. *Journal of Personality and Social Psychology*, 78, 295–309. doi:10.1037/0022-3514.78.2.295
- Kashian, N., & Walther, J. B. (2018). The effect of relational satisfaction and media synchronicity on attributions in computer-mediated conflict. *Communication Research*. Advance online publication. doi:10.1177/0093650218789581
- Lenhart, A., & Duggan, M. (2014, February 11). *Couples, the Internet, and social media: How American couples use digital technology to manage life, logistics, and emotional intimacy within their relationships*. Washington, DC: Pew Research Center. Retrieved from <http://www.pewinternet.org/2014/02/11/couples-the-internet-and-social-media/>
- Levenson, R. W., & Gottman, J. M. (1985). Physiological and affective predictors of change in relationship satisfaction. *Journal of Personality and Social Psychology*, 49, 85–94. doi:10.1037/0022-3514.49.1.85
- Liu, E., & Roloff, M. E. (2016). Regret for complaint withholding. *Communication Quarterly*, 64, 72–92. doi:10.1080/08824096.2015.1089849
- Makki, T. (2019, May). *The role of communication channels in conflict communication: Differences in arousal, communication outcomes, and conflict strategies across channels*. Paper presented at the meeting of the International Communication Association, Washington, DC.
- Markus, M. L. (1994). Electronic mail as the medium of managerial choice. *Organization Science*, 5, 502–527. doi:10.1287/orsc.5.4.502
- Rea, J., Behnke, A., Huff, N., & Allen, K. (2015). The role of online communication in the lives of military spouses. *Contemporary Family Therapy*, 37, 329–339. doi:10.1007/s10591-015-9346-6
- Rockwood, N. J., & Hayes, A. F. (2017, May). *MLmed: An SPSS macro for multilevel mediation and conditional process analysis*. Poster presented at the annual meeting of the Association of Psychological Science, Boston, MA.
- Rosseel, Y. (2019). Lavaan (0.6-5) [R Package]. Retrieved from <http://lavaan.org>

- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*, 357–387. doi:10.1111/j.1475-6811.1998.tb00177.x
- Scissors, L. E., & Gergle, D. (2013). "Back and forth, back and forth": Channel switching in romantic couple conflict. In *Proceedings of the 2013 Conference on Computer Supported Cooperative Work* (pp. 237–248). New York, NY: Association for Computing Machinery. doi:10.1145/2441776.2441804
- Scissors, L. E., Roloff, M. E., & Gergle, D. (2014). Room for interpretation. In *Proceedings of the 32nd Annual ACM Conference on Human Factors in Computing Systems* (pp. 3953–3962). Toronto, Canada: CHI.
- Shin, S. Y., Liu, W., Jang, J. W., & Bente, G. (2017). The benefits of distance and mediation: How people react to conflicts in video chat vs. FtF. *Computers in Human Behavior, 73*, 1–8. doi:10.1016/j.chb.2017.03.022
- Spitzberg, B. (1982, May). *Relational competence: An empirical test of a conceptual model*. Paper presented at the annual meeting of the International Communication Association, Boston, MA.
- Stafford, L., & Merolla, A. J. (2007). Idealization, reunions, and stability in long-distance dating relationships. *Journal of Social and Personal Relationships, 24*, 37–54. doi:10.1177/0265407507072578
- Sudman, S., & Bradburn, N. M. (1973). Effects of time and memory factors on response in surveys. *Journal of the American Statistical Association, 68*, 805–815. doi:10.1080/01621459.1973.10481428
- Swaab, R. I., Galinsky, A. D., Medvec, V., & Diermeier, D. A. (2012). The communication orientation model explaining the diverse effects of sight, sound, and synchronicity on negotiation and group decision-making outcomes. *Personality and Social Psychology Review, 16*, 25–53. doi:10.1177/1088868311417186
- Tabares, A. A. (2008). *How couples praise and complain: An examination of two brief marital interventions* (Unpublished doctoral dissertation). University of Washington, Seattle.
- Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction. *Communication Research, 19*, 52–90. doi:10.1177/009365092019001003
- Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research, 23*, 3–43. doi:10.1177/009365096023001001

Weiss, R. L. (1980). Strategic behavioral marital therapy: Toward a model for assessment and intervention. In J. P. Vincent (Ed.), *Advances in family intervention, assessment and theory* (pp. 229–271). Greenwich, CT: JAI Press.

Zhang, Z., Zyphur, M. J., & Preacher, K. J. (2009). Testing multilevel mediation using hierarchical linear models: Problems and solutions. *Organizational Research Methods, 12*, 695–719.
doi:10.1177/1094428108327450