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# *Communication During Serial Arguments*

## Connections With Individuals' Mental and Physical Well-Being

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Often individuals are unable to resolve an interpersonal conflict in a single episode and go on to have reoccurring argumentative episodes about that issue. Roloff and Johnson (2002) define such serial arguing as "argumentative episodes focused on a given issue that occur at least twice" (p. 108). Serial arguing often involves repeated communication sequences that adversely impact relationships and personal well-being (Johnson & Roloff, 2000; Malis & Roloff, 2006a, 2006b). In this chapter, we examine how destructive and constructive communication sequences enacted during episodes of serial arguing are related to psychological and physical health.

First, we examine literature focused on communication patterns enacted during serial arguing. We then review studies indicating that destructive communication processes are related to poor psychological and physical well-being. Next, we present evidence concerning the health impact of engaging in constructive conflict processes. From that analysis, we posit hypotheses and present a study that compares constructive and destructive conflict processes in serial arguments.

## Communication Patterns During Serial Arguments

Although serial argument episodes are focused on the same issue, the communication patterns evident within them can vary (Roloff & Johnson, 2002). In some cases, individuals engage in mutual hostility in which, across the serial episodes, they threaten, insult, and express their anger toward one another. Johnson and Roloff (2000) found that hostility occurring during serial arguments was positively related to individuals experiencing harm to their relationship. However, a constructive communication pattern, including expressing feelings and suggesting solutions, may occur during serial arguing that has a positive effect on solving relational problems. Constructive communication was positively related to individuals being optimistic about their serial arguments being resolvable (Johnson & Roloff, 1998).

There is evidence that mutual hostility and constructive communication may be related to stress and stress-related health problems in different ways.

### HOSTILITY AND WELL-BEING

When arguing, individuals often engage in verbal attacks. Resick et al. (1981) found that arguments, relative to nonconflict interactions, contain higher levels of criticism, disagreement, and sarcasm spoken at a higher level of volume. These behaviors can lead to problematic sequences enacted by both conversation partners. For example, distressed spouses, more so than those who are nondistressed, engage in cross-complaining, in which one spouse's relational complaint is met with a countercomplaint by the partner (Gottman, Markman, & Notarius, 1977). Hence one spouse might complain that his or her partner never helps around the house, and the other counters by noting that the spouse only spends money but does not generate any family income. Often the participants do not stay focused on a single complaint about the partner's behavior but rather escalate the conflict by adding different issues. Or when addressing a single problem, they fight back, which leads to problem escalation (Revenstorf, Vogel, Wegener, Hahlweg, & Schindler, 1980), with each partner rejecting the other's complaint while continuing to repeat his or her own complaint. For example, one spouse may complain, "You spend too much money," to which the partner replies, "You don't know what you are talking about." This pattern is then repeated throughout the conversation and for both partners' complaints. Perhaps the most damaging sequence has been termed the "four horsemen" and is a predictor of divorce (Gottman, 1994). In this case, a partner begins the argument with harsh criticism (e.g., "You are lazy"), which prompts defensiveness ("You are always criticizing me, I work really hard") that is followed by contempt ("Quit whining") and ends with stonewalling (silence).

Mutual hostility may be stressful. Verbal attacks are likely to be perceived as intentional and hurtful (Vangelisti & Young, 2000). Moreover, negativity expressed within interpersonal interactions is related to negative affect (Räikkönen, Matthews, Flory, & Owens, 1999), and negative interactions have a longer-lasting impact on one's feelings than positive exchanges (Newsom, Nishishiba, Morgan, & Rook, 2003). Indeed, individuals who experience criticism from their spouses are more likely to be distressed at a later point in time (Manne, 1999).

Hostility is linked to individuals' self-reports of illness (Lawler et al., 2003). Intensity of negative affect expressed during conflict is linked to decreases in immune functioning and increases in blood pressure (Kiecolt-Glaser et al., 1993). Similarly, individuals with a dominating conflict style experience more work-related stress as a result of increases in relational conflicts (Friedman, Tidd, Currall, & Tsai, 2000). Finally, aggression in adults is positively related to electrodermal activity (EDA) reactivity, which is a common measure of psychophysiological response (Lorber, 2004).

Although research has not directly related mutual hostility to personal health, we believe that it suggests the following hypothesis:

*Hypothesis 1: Mutual hostility will be positively related to stress and stress-related health problems.*

## CONSTRUCTIVE COMMUNICATION AND HEALTH

Some couples engage in constructive communication that prevents conflict escalation. For example, rather than cross-complaining or problem escalation, nondistressed spouses engage in validation loops in which they acknowledge each other's complaints and are willing to discuss them (Gottman et al., 1977). So when one spouse accuses the other of not helping around the house, the partner responds, "I understand; let's talk about how we can share the load." When doing so, they validate each other while avoiding conflict escalation.

Constructive communication may reduce stress. Although constructive relational partners are expressing their concerns and feelings, they are also focused on resolving the problem rather than winning the fight or hurting each other. By validating each other's viewpoint and offering to work together to address emotional complaints, they may emotionally soothe each other (Gottman, Coan, Carrere, & Swanson, 1998). Indeed, constructive disagreements, including problem solving and generating constructive solutions, is correlated with normalized blood pressure (Davidson, MacGregor, Stuhr, Dixon, & MacLean, 2000), suggesting that expressing disagreement in a constructive way has benefits for individuals' health. Indeed, Robles, Shaffer, Malarkey, and Kiecolt-Glaser (2006) state that the absence of constructive communication during interactions interrupts individuals' "normal physiological regulation" (p. 322). Thus

the presence of constructive communication such as suggesting solutions and being supportive of the partner during conflict encourages "adaptive physiological responses to interpersonal conflict" (Robles et al., 2006, p. 305).

Hence we expect that constructive communication has a calming effect on disputants.

*Hypothesis 2: Constructive communication will be negatively related to stress and stress-related health problems.*

## INTERPLAY OF CONSTRUCTIVE AND DESTRUCTIVE COMMUNICATION

Both constructive and destructive conflict strategies can occur in the same interaction. For example, individuals may begin an argument with a highly confrontational, negative tone and then become more conciliatory if the partner is responsive. Or they can begin the conversation with a conciliatory tone and become more negative if encountering resistance. We know of no research investigating the possible interplay between destructive and constructive conflict strategies in serial arguments and their association with physical and mental health.

Thus far, we have predicted that destructive conflict strategies will have a negative impact, and constructive strategies a positive impact, on individuals' health. However, there is consistent evidence indicating that the deleterious effects of bad events on individuals are of greater magnitude than the beneficial effects of good events (see Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). For example, Gottman (1991) reports that to offset the relational harm of one negative statement, spouses must engage in at least five positive statements. Also, negative social interactions have greater impact on individuals' well-being than do their positive social interactions (Rook, 1984). Finally, conflict can involve harsh criticism and negative affect that undermines a partner's mental health, and this effect is greater than when partners are socially supportive (Vinokur & van Ryn, 1993).

Based on the aforementioned evidence, one might expect that the negative impact of destructive conflict would be much stronger than the positive impact of constructive conflict. However, we believe that the effect is more complex. Because hostility and constructive communication can co-occur, hostility might alter the relationship between constructive communication and stress. The initial reaction to a partner's destructive behavior is to reciprocate; thus individuals must exert self-control in order to respond constructively (Finkel & Campbell, 2001). This self-control may become a source of stress as individuals inhibit their natural tendencies to attack back and shift their focus to constructing a positive response. If so, the positive effect of constructive conflict strategies would be diminished as the frequency of hostility increases. We expect a two-way interaction of constructive communication and hostility on well-being.

*Hypothesis 3: Hostility will moderate the relationship between constructive communication and stress-related health problems such that the negative relationship between constructive communication and stress problems will decrease as hostility increases.*

## Method

### PARTICIPANTS

Undergraduate students at a medium-sized, private, midwestern university received course credit for participating in this study. In total, 219 participants completed the questionnaires. Participants were allowed to report on either a current dating relationship or one that had terminated. Roughly the same number chose each type (broken up: $n = 106$, 49%; intact: $n = 112$, 51%; 1 participant did not indicate the state of the relationship). Of the 219 questionnaires, 82 were completed by men (37%) and 137 were completed by women (63%). The participants' mean age was 19.8 years ($SD = 1.18$).

### PROCEDURE

Upon arrival at a lab, participants signed consent forms, completed questionnaires, and were briefed.

### MEASURES: PREDICTORS

As part of a larger study on serial arguing, participants reported on a serial argument that had occurred in either a current or a previous dating relationship. The following definition was provided to help them recall such an incident: "A serial argument exists when individuals argue or engage in conflict about the same topic over time, during which they participate in several (at least two) arguments about the topic." Then participants were asked to think of a recent episode of a serial argument and to answer questions about the communication they and their partners enacted during the episode as well as measures of stress and stress-related problems that occurred afterward. Participants described the most recent argumentative episode because it should be easiest to recall, and research indicates that the most recent episode is similar to typical disagreements about the issue (Malis, 2006).

#### *Mutual Hostility and Constructive Communication*

Items from Christensen's Communication Pattern Questionnaire (CPQ; Christensen & Heavey, 1993; Christensen & Sullaway, 1984) assessed destructive

and constructive communication. Participants indicated (1 = *very little*, 7 = *very much*) the degree to which argumentative episodes were hostile—for example, "How much did both you and your partner call each other names, swear at each other, or verbally attack each other?" and "How much did you and your partner threaten each other with negative consequences"—(four items, $M = 2.65$, $SD = 1.33$, $\alpha = .78$), and the degree to which they engaged in constructive communication—for example, "How much did both you and your partner suggest possible solutions and compromises?" and "How much did you and your partner express your feelings to each other?"—(two items, $M = 4.59$, $SD = 1.51$, $\alpha = .68$).

## DEPENDENT MEASURES

### *Stress*

The Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983) assesses the degree to which situations in a person's life are stressful on 5-point scales (1 = *never,* 5 = *very often*). The scale was adapted for this study to assess the degree to which individuals felt life events were stressful right after their most recent episode of their serial argument (e.g., "After your last argument, how often have you felt nervous and 'stressed'?" $M = 2.63$, $SD = 0.62$, $\alpha = .88$).

We also measured stress-related illness (e.g., Lawler et al., 2003), anxiety (Bancila, Mittelmark, & Hetland, 2006; see National Institute of Mental Health [NIMH], 1999), sleep disruption (e.g., Brissette & Cohen, 2002), intrusive thoughts and hyperarousal (e.g., NIMH, 1999), and interference with life activities (e.g., Repetti, 1994).

### *Anxiety and Sleep Disruption*

The degree to which individuals experienced anxiety and sleep disruption after the most recent serial arguing episode was assessed via related questions. Responses were in a 4-point format (1 = *did not have*, 2 = *had but not diagnosed*, 3 = *diagnosed, but not treated*, 4 = *diagnosed and treated;* Rich, 1989). Respondents answered three items that indicated the degree to which they suffered from sleep problems after the most recent argumentative episode (problems sleeping, problems falling asleep, problems staying asleep) and four items that indicated the degree to which they suffered from anxiety after their most recent episode (worrying a lot, panic attacks, high anxiety, and anxiety disorder). Because very few participants reported being diagnosed (responses 3 and 4), the responses to each item were converted into a dichotomy (0 = *did not have*, 1 = *had*), regardless of whether diagnosed or treated. An index was formed from the responses to the three sleep items ($M = 0.89$, $SD = 1.14$, $\alpha = .81$) and the four anxiety items ($M = 0.22$, $SD = 0.29$, $\alpha = .73$).

*Distress*

Distress was measured with the Impact of Event Scale–Revised (IES-R; Weiss & Marmar, 1997). The IES "is a widely used questionnaire that quantifies the frequency of intrusive thoughts and avoidance behaviors" (Hall et al., 1997, p. 108), as well as hyperarousal due to a specific event. For the purposes of this study, the event is identified as the individuals' "most recent argument."

Participants indicated (1 = *not at all*, 5 = *extremely*) the degree to which, after the most recent episode, they suffered from intrusive thoughts, feelings, and images associated with the episode (e.g., "I thought about it when I didn't mean to," eight items, $M = 2.29$, $SD = 0.83$, $\alpha = .89$), felt hyperaroused (e.g., "I was jumpy and easily startled," six items, $M = 1.79$, $SD = 0.71$, $\alpha = .80$), and tried to avoid/suppress thoughts and feelings about the argument (e.g., "I tried not to think about it," eight items, $M = 2.33$, $SD = 0.80$, $\alpha = .83$).

*Health Interference*

To assess individuals' limitations due to their mental and physical health, items were adapted from the SF-36 (Ware & Sherbourne, 1992) and targeted participants' feelings following their most recent serial argument episode. The following three subscales were used: (1) experiencing interference with activities due to emotional problems, (2) experiencing interference with activities due to physical problems, and (3) pain interfering with daily activities. For the emotional interference, there were three items (1 = *not at all*, 5 = *extremely*) assessing the degree to which individuals had problems with their work, school, or other daily activities due to emotional problems ($M = 2.07$, $SD = 1.00$, $\alpha = .93$). Four items (1 = *not at all*, 5 = *extremely*) assessed how much participants' physical health has caused them to cut down on work, school, and other activities after their most recent argumentative episode ($M = 2.57$, $SD = 1.00$, $\alpha = .93$). The pain subscale consisted of two items assessing the degree to which participants felt pain (1 = *none*, 5 = *very severe*) and how much pain interfered with completing normal daily activities (1 = *not at all*, 5 = *extremely*; $M = 2.85$, $SD = 1.48$, $\alpha = .74$).

## Results

Bivariate correlations among the measures were computed, and then moderated regression analyses were used to test the hypotheses. Our two independent variables, mutual hostility and constructive communication, were not significantly correlated ($r = .11$, $p = .12$). The relationships between our dependent variables are summarized in Table 5.1. All of the dependent variables are correlated with one another, suggesting that the problems measured were interrelated and constitute a constellation of stress-related outcomes.

**Table 5.1** Correlations Between Dependent Variables

| *Variable* | *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8* | *9* |
|---|---|---|---|---|---|---|---|---|---|
| 1. Stress | – | .53*** | .60*** | .37*** | .33*** | .52*** | .51*** | .32*** | .31*** |
| 2. Intrusive thoughts | | – | .79*** | .58*** | .33*** | .39*** | .55*** | .45*** | .30*** |
| 3. Hyperarousal | | | – | .59*** | .45*** | .49*** | .64*** | .54*** | .32*** |
| 4. Avoidance | | | | – | .22** | .25*** | .51*** | .40*** | .34*** |
| 5. Sleep problems | | | | | – | .35*** | .27*** | .30*** | .24*** |
| 6. Anxiety | | | | | | – | .36*** | .31*** | .22** |
| 7. Interference with activities due to emotional problems | | | | | | | – | .66*** | .33*** |
| 8. Interference with activities due to physical problems | | | | | | | | – | .31*** |
| 9. Pain | | | | | | | | | – |

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

## EXPLORATORY ANALYSES TO ELUCIDATE POTENTIAL CONTROL VARIABLES

Because of the nature of our method, it is possible that our independent variables are correlated with other variables, and if so, these factors could confound the interpretation of the statistics used to test our hypotheses. We focused on five factors: relationship status, frequency of episodes, cause of the argument, gender, and who initiated the argument. Only two were significantly correlated. First, because approximately half of the sample reported on failed relationships, we determined whether those in intact versus terminated relationships might show different patterns of communication during their arguments. To some extent they did. Respondents whose relationship had terminated were significantly more likely, $t(216) = 2.20$, $r^2 = .02$, $p < .05$, to report that they engaged in mutual hostility during argumentative episodes ($M = 2.86$, $SD = 1.30$) than were those whose relationships were still intact ($M = 2.46$, $SD = 1.32$). However, relational status was not significantly related to mutual constructive communication.

Second, argument frequency was examined because it implies an inability to manage one's serial argument, and this could make partners more volatile during episodes. Respondents were asked at two different points in the questionnaire to estimate how many same-topic argumentative episodes had occurred, and the two responses were averaged. Respondents reported about a serial argument in which they had disagreed on an average of 12.18 occasions ($SD =$ 18.47). On average, respondents indicated that they had been arguing about this issue for 9 months ($SD = 10.8$). Frequency was significantly and positively correlated with mutual hostility ($r = .25$, $p < .001$), but it was not significantly related to constructive communication.

Because relational status and argument frequency were significantly related to mutual hostility, we statistically controlled for these variables when testing our hypotheses.

## HYPOTHESIS TESTING

We tested our hypotheses with moderated regression. On Step 1, we entered our two control variables: relational status (terminated = 0, intact = 1) and the number of argumentative episodes that had occurred. On Step 2, we entered hostility and constructive communication. On Step 3, we entered the interaction term of hostility and constructive communication. Standardized regression weights ($\beta$) are reported for the tests of Hypotheses 1 and 2, but when testing Hypothesis 3, unstandardized regression coefficients ($B$) are reported for interaction terms (Aiken & West, 1991). When the interaction term was statistically significant, we analyzed its form by examining the relationship between constructive communication and the dependent variable at low (1 *SD*

below the *M*), average (*M*), and high (1 *SD* above the *M*) levels of hostility (Aiken & West, 1991). One-tailed *t* tests were employed for all hypothesized relationships.

See Table 5.2 for a summary of the nine regression analyses. Although not hypothesized, when entered on the first step, the control variables accounted for a significant increment of variance when predicting five of the nine dependent variables: intrusive thoughts, hyperarousal, avoidance, interference with activities due to emotional problems, and pain. For all nine dependent variables, the additive model containing mutual hostility and constructive communication accounted for a significant increment of variance. In only three cases (intrusive thoughts, hyperarousal, and interference with daily activities due to emotional problems) did the interaction term of mutual hostility and constructive communication account for a significant increment of variance.

### *Control Variables*

Relational status was significantly related to three dependent variables. Individuals whose relationship had ended reported more intrusive thoughts ($M = 2.42$, $SD = 0.81$), more avoidance ($M = 2.55$, $SD = 0.80$), and more pain ($M = 3.22$, $SD = 1.44$) than did those whose relationship was intact: intrusive thoughts: $M = 2.17$, $SD = 0.83$; avoidance: $M = 2.12$, $SD = 0.75$; pain: $M = 2.51$, $SD = 1.43$. Frequency of episodes was positively related to hyperarousal, life interference due to emotional problems, and pain (see Table 5.2). The more episodes the participants reported, the more likely they were to experience hyperarousal, interference with daily activities due to emotional problems, and pain.

### *Hypothesis 1*

Hypothesis 1 predicted that mutual hostility would be positively related to stress and stress-related problems. Consistent support is found for the hypothesis across eight of the dependent measures. The regression weight for hostility is positive and statistically significant when predicting stress, hyperarousal, avoidance, sleep problems, anxiety, interference with activities due to emotional problems, interference with activities due to physical problems, and physical pain. The regression weight for intrusive thoughts was positive but only approached statistical significance, $\beta = .13$, $t(207) = 1.92$, $p = .06$ (see Table 5.2). Thus the more individuals engaged in hostility during their serial arguments, the more likely they experienced stress, a hyperaroused state, avoidance, problems sleeping, anxiety, interference with daily life due to both emotional and physical problems, pain, and intrusive thoughts.

*(Text continues on page 111)*

**Table 5.2** Summary of Regression Analysis of Communication on Control Variables, Hostility, and Constructive Communication

| *Variable* | *df* | $R^2$ | $R^2\Delta$ | $F\Delta$ | *t* | β | *B* |
|---|---|---|---|---|---|---|---|
| *Stress* | | | | | | | |
| Step 1: Control variables | 2, 207 | .00 | .00 | 0.47 | | | |
| Relational status | | | | | 0.06 | .00 | |
| Number | | | | | 0.97 | .07 | |
| Step 2: Predictor variables | 4, 205 | .06 | .06 | 5.99** | | | |
| Hostility | | | | | 3.46*** | .25 | |
| Constructive | | | | | –0.72 | –.05 | |
| Step 3: Interaction term | 5, 204 | .08 | .02 | 3.39 | 1.84 | | .05 |
| *Intrusive thoughts* | | | | | | | |
| Step 1: Control variables | 2, 207 | .05 | .05 | 5.16** | | | |
| Relational status | | | | | –2.42* | –.17 | |
| Number | | | | | 1.92 | .13 | |
| Step 2: Predictor variables | 4, 205 | .12 | .07 | 8.54*** | | | |
| Hostility | | | | | 3.87*** | .27 | |
| Constructive | | | | | 0.80 | .05 | |
| Step 3: Interaction term | 5, 204 | .15 | .03 | 6.18* | 2.49* | | .08 |
| *Hyperarousal* | | | | | | | |
| Step 1: Control variables | 2, 207 | .03 | .03 | 3.55* | | | |
| Relational status | | | | | –0.93 | –.06 | |
| Number | | | | | 2.42* | .17 | |

*(Continued)*

**Table 5.2** (Continued)

| *Variable* | *df* | $R^2$ | $R^2\Delta$ | $F\Delta$ | *t* | β | *B* |
|---|---|---|---|---|---|---|---|
| *Hyperarousal* | | | | | | | |
| Step 2: Predictor variables | 4, 205 | .14 | .11 | 12.71*** | | | |
| Hostility | | | | | 4.87*** | .33 | |
| Constructive | | | | | –2.09* | –.14 | |
| Step 3: Interaction term | 5, 204 | .16 | .02 | 4.04* | 2.01* | | .06 |
| *Avoidance* | | | | | | | |
| Step 1: Control variables | 2, 207 | .09 | .09 | 10.15*** | | | |
| Relational status | | | | | –4.04*** | –.27 | |
| Number | | | | | 1.66 | .11 | |
| Step 2: Predictor variables | 4, 205 | .19 | .10 | 12.48*** | | | |
| Hostility | | | | | 4.89*** | .33 | |
| Constructive | | | | | –1.81* | –.11 | |
| Step 3: Interaction term | 5, 204 | .20 | .01 | 2.62 | 1.62 | | .05 |
| *Sleep problems* | | | | | | | |
| Step 1: Control variables | 2, 202 | .01 | .01 | 0.63 | | | |
| Relational status | | | | | –0.78 | –.06 | |
| Number | | | | | 0.75 | .05 | |
| Step 2: Predictor variables | 4, 200 | .02 | .02 | 1.64 | | | |
| Hostility | | | | | 1.67* | .12 | |
| Constructive | | | | | –1.00 | –.07 | |
| Step 3: Interaction term | 5, 199 | .03 | .01 | 2.08 | 1.44 | | .07 |

| *Variable* | *df* | $R^2$ | $R^2\Delta$ | $F\Delta$ | *t* | β | *B* |
|---|---|---|---|---|---|---|---|
| *Anxiety* | | | | | | | |
| Step 1: Control variables | 2, 200 | .01 | .01 | 1.32 | | | |
| Relational status | | | | | 0.49 | .03 | |
| Number | | | | | 1.58 | .11 | |
| Step 2: Predictor variables | 4, 198 | .05 | .04 | 3.85* | | | |
| Hostility | | | | | 2.52** | .19 | |
| Constructive | | | | | 0.70 | .05 | |
| Step 3: Interaction term | 5, 197 | .06 | .01 | 2.95 | 1.71 | | .02 |
| *Interference with activities due to emotional problems* | | | | | | | |
| Step 1: Control variables | 2, 207 | .03 | .03 | 3.43* | | | |
| Relational status | | | | | –0.94 | –.06 | |
| Number | | | | | 2.37* | .16 | |
| Step 2: Predictor variables | 4, 205 | .12 | .09 | 10.24*** | | | |
| Hostility | | | | | 4.52*** | .31 | |
| Constructive | | | | | –0.58 | –.04 | |
| Step 3: Interaction term | 5, 204 | .14 | .02 | 4.28* | 2.07* | | .08 |

*(Continued)*

**Table 5.2** (Continued)

| *Variable* | *df* | $R^2$ | $R^2\Delta$ | $F\Delta$ | *t* | β | *B* |
|---|---|---|---|---|---|---|---|
| *Interference with activities due to physical problems* | | | | | | | |
| Step 1: Control variables | 2, 207 | .01 | .01 | 1.34 | | | |
| Relational status | | | | | –1.43 | –.10 | |
| Number | | | | | 0.66 | .05 | |
| Step 2: Predictor variables | 4, 205 | .06 | .05 | 5.04** | | | |
| Hostility | | | | | 3.15*** | .23 | |
| Constructive | | | | | –0.88 | –.06 | |
| Step 3: Interaction term | 5, 204 | .07 | .01 | 2.82 | 1.68 | | .06 |
| *Pain* | | | | | | | |
| Step 1: Control variables | 2, 207 | .11 | .11 | 13.07*** | | | |
| Relational status | | | | | –3.65*** | –.24 | |
| Number | | | | | 3.28*** | .22 | |
| Step 2: Predictor variables | 4, 205 | .23 | .12 | 15.33*** | | | |
| Hostility | | | | | 5.23*** | .36 | |
| Constructive | | | | | –1.23 | –.08 | |
| Step 3: Interaction term | 5, 204 | .23 | .00 | 1.14 | 1.07 | | .06 |

NOTE: Control variables = relational status, number of times argument occurred. Predictor variables = hostility, constructive communication. Interaction term = hostility multiplied by constructive communication.

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

*Hypothesis 2*

Hypothesis 2 predicted that constructive communication will be negatively related to stress and stress-related problems. Support for the hypothesis is only found in two of the regressions. Statistically significant negative regression coefficients were uncovered between constructive communication and hyperarousal, and constructive communication and avoidance. Thus the more constructive communication that occurred during episodes, the less likely the participants felt hyperaroused and tried to avoid thoughts and feelings about the arguments.

*Hypothesis 3*

Hypothesis 3 predicted that hostility will moderate the relationship between constructive communication and stress-related problems such that the negative relationship between constructive communication and stress problems would decrease as hostility increased. Significant interactions only occurred when predicting intrusion, hyperarousal, and interference with activities due to emotional problems. With regard to intrusion, when entered on Step 3, the interaction term was statistically significant, $B = .08$, $t(204) = 2.49$, $p = .01$. When hostility was low, constructive communication was negatively and not significantly related to intrusion, $B = -.03$, $t(204) = -0.77$, $p = .44$. When hostility was at an average level, constructive communication was positively and marginally significantly related to intrusive thoughts, $B = .07$, $t(204) = 1.82$, $p = .07$. Finally, when hostility was high, constructive communication was positively and significantly related to intrusion, $B = .18$, $t(204) = 2.55$, $p = .01$.

With regard to hyperarousal, when entered on Step 3, the interaction term accounted for a significant amount of variance, $B = .06$, $t(204) = 2.01$, $p = .05$. When hostility was low, constructive communication was negatively and significantly related to hyperarousal, $B = -.11$, $t(204) = -2.88$, $p = .004$. When hostility was at an average level, constructive communication was negatively and not significantly related to hyperarousal, $B = -.03$, $t(204) = -1.01$, $p = .32$. When hostility was at a high level, constructive communication was positively and not significantly related to hyperarousal, $B = .04$, $t(204) = 0.66$, $p = .51$.

With regard to interference with daily activities due to emotional problems, when entered on Step 3, the interaction term accounted for a significant amount of variance, $B = .08$, $t(204) = 2.07$, $p = .04$. When hostility was low, constructive communication was marginally negatively related to interference, $B = -.09$, $t(204) = -1.69$, $p = .096$. When hostility was at an average level, constructive communication was positively and not significantly related to interference, $B = .02$, $t(204) = 0.38$, $p = .70$. When hostility was at a high level, constructive communication was also positively and not significantly related to interference, $B = .004$, $t(204) = 1.48$, $p = .14$.

In these cases, the interactions were disordinal (i.e., the direction of the relationship between constructive communication and the dependent variable changed from negative to positive as the degree of hostility increased). These results suggest that benefits of constructive communication largely disappear with increasing levels of mutual hostility.

## Discussion

Our first hypothesis was strongly supported. Hostility was positively related to eight of the mental and physical well-being indicators. The more likely people were to engage in mutual negative communication in the form of yelling at one another, threatening each other, calling each other names, swearing at each other, or verbally attacking each other during their serial argument episodes, the more likely they experienced stress, hyperarousal, avoiding thoughts about the encounter, problems sleeping, high anxiety, cutting down on daily activities, such as work, due to emotional problems, cutting down on daily activities due to physical health problems, and physical pain. These findings are consistent with other research on arguing and health (e.g., Kiecolt-Glaser et al., 1993). In addition, this evidence indicates that hostile communication during serial arguments can damage relational and personal health.

Although only two statistically significant relationships were uncovered for constructive communication, they were in the direction we hypothesized. Constructive communication was related to individuals experiencing less hyperarousal and less avoidance but not the other indicators of well-being. In three cases, we found evidence that the presence of hostile communication lessened the positive impact of constructive communication on intrusive thoughts, hyperarousal, and interference in daily activities due to emotional problems.

Overall, these results support the notion that bad is stronger than good (Baumeister et al., 2001). Mutual hostility reflects a pattern of hurtful behavior and was consistently a significant predictor of stress and stress-related problems, whereas constructive communication was not. Furthermore, in three cases, the presence of mutual hostility seemed to overwhelm the positive impact of constructive communication.

### APPLIED IMPLICATIONS

Given our findings, what should individuals do to reduce the likelihood of negative health consequences resulting from serial arguing? It is more important to reduce negative actions such as mutual hostility than it is to enact positive ones such as acting in a constructive manner. Mutual hostility can overwhelm and alter the impact of constructive communication. Unless a

couple can control their negative emotional outbursts, there is little health benefit arising from dealing with the conflict in a seemingly rational and problem-solving manner.

Of course, this advice raises the question, How does one prevent mutual hostility? Three skills may be necessary to prevent mutual hostility. First, when initiating an episode, individuals must be able to avoid negative start-up. Sometimes individuals begin an argument in a highly intense and negative way (e.g., Gottman et al., 1998) that could set off defensive responses from the partner. This seems especially likely in a serial argument wherein frustration arising from unresolved prior episodes could prompt an individual to adopt a hostile tone from the beginning of a new episode. For example, one spouse may complain that the other does not do his or her share of housework, and the encounter ends in a standoff. Because the argument has not ended, the spouse who complains may continue to mull over the problem, which increases his or her anger, and especially so if the partner does not help out. That frustration could eventually result in an explosive encounter.

To avoid such spirals, individuals should be proactive. Since one partner's moods and behavior sometimes signal to the other partner that a serial argument is about to reemerge (Johnson & Roloff, 1998), individuals should discuss how to handle these arguments prior to a new episode. Hence if a couple has an ongoing argument about in-laws, and argumentative episodes emerge around holidays when they visit, the couple might talk about how to handle those problems prior to the visit, when they are less likely to be angry. Alternatively, if a problem occurs, individuals should discuss the problem early on before anger increases or wait to discuss it until after anger subsides. Gottman (1994) argues that prior to initiating a confrontation, partners should wait 5 to 15 minutes so as to calm down and to collect their thoughts. When doing so, they can confront their partners in a less aroused and more supportive state.

Second, individuals must develop skills aimed at constructively expressing their anger. Arguments may be initiated by anger and may also prompt angry responses (Baumeister, Stillwell, & Wotman, 1990). Indeed, hearing attitudes that contradict one's own increases physiological arousal more so than hearing attitudes that are consistent (Gormly, 1974), and when we listen to an argument between two individuals, one of whom we identify with, our level of anger increases (Dutton, Webb, & Ryan, 1994). The key may be to find ways of expressing that emotion in a fashion that does not anger the partner, which then sets off mutual hostility. One way is to avoid the use of the term "anger" and substitute terms that imply that one is "distressed" by the other's behavior. Kubany, Richard, Bauer, and Muraoka (1992) argued that "anger" implies antagonism toward another that resulted from injury or attack, whereas "distress" implies pain/stress and a request for help. A partner who says "I am angry with you because you didn't call last night" indicates that other person has hurt

him or her and he or she is upset. When the partner says, "Last night you didn't call and I was worried about you," it expresses concern and the partner is making an indirect request that the person call. Consistent with this viewpoint, Kubany and colleagues' research showed that confrontational statements in which speakers indicated that they were angry with someone were perceived to evoke more negative and fewer positive emotional and behavioral responses than were statements that expressed distress. Moreover, some styles seem to help individuals cope with their own anger. Davidson et al. (2000) found that individuals who are prone to express their anger constructively (i.e., express their anger directly to another while trying to understand what caused their anger) had lower levels of hypertension than did those who expressed their anger less constructively. So instead of saying, "You really make me angry and you need to change," they say, "I am bothered by your actions; can you explain to me why you did that?" Although this style of expression was not part of the aforementioned research, we note that it may reduce the likelihood of mutual hostility, since partners are less likely to feel personally attacked.

Finally, individuals identify escalating sequences and engage in behavior that will avoid escalation. Individuals must be sufficiently aware of the danger signals so that they can break the reciprocal pattern of negative affect (Gottman et al., 1977), engage in emotional soothing to calm down the partner as well as themselves (Gottman et al., 1998), or suspend the interaction until they calm down (Nielsen, Pinsof, Rampage, Solomon, & Goldstein, 2004). Gottman and DeClaire (2001) recommend that individuals reflect about their *prior* interactions so as to identify the conditions that led them to become flooded with negative emotions. In addition to identifying what initiated the flooding, individuals need to identify things they have done in the past that have helped them to calm down. If, during an argument, individuals realize they are becoming flooded, they need to call a time-out for approximately 20 minutes during which they distract themselves from the argument and engage in stress reduction techniques prior to reengaging. Furthermore, individuals must also identify ways to emotionally soothe their partners. Gottman (1994) notes that humor is an effective soothing technique, and humor enacted by the wife seems to be especially effective at soothing her husband (Gottman et al., 1998).

## LIMITATIONS AND FUTURE DIRECTIONS

This research has limitations. The self-report methodologies employed to study the serial arguments are potentially biased and inaccurate. For example, individuals completing these self-report measures may have been subject to a social desirability bias and thus may have underreported their negative behavior. Also, because the measures involve relying on memory, these measures could be subject to recollection biases. To address these issues, future research

should also use diary methods and role-plays that have partners reenact their argumentative episodes, which can then be coded by independent raters (Malis & Roloff, 2006a). It would also be useful to corroborate these results using physiological indicators of stress. Our sample also imposed limitations on the generalizability of our results. The present analysis only investigated the experiences of individuals in dating relationships. However, there is evidence that recurring arguments occur in other types of relationships, including families (Vuchinich, 1987) and roommate relationships (Trapp & Hoff, 1985). Finally, our cross-sectional design does not allow us to identify the direction of causality or the manner in which the effects build over time. Longitudinal designs are necessary to do that.

In spite of the need for methodological improvements, our findings suggest fruitful avenues for further research. One issue for future research concerns identifying the causal mechanisms that mediate the relationships between mutual hostility, stress, and stress-related problems. Although our data set does not allow us to definitively speak to that issue, we see several plausible processes emerging from our results. First, it is possible that the stress arising from mutual hostility stimulates postepisode cognitive processes that sustain rather than diminish the level of stress and hence weaken the immune system. Indeed, we found that mutual hostility and stress were positively related to having intrusive thoughts, as well as attempts to avoid thinking about the conflict, both of which were positively associated with health-related problems. Second, the stress arising from mutual hostility may set off a heightened sense of physiological arousal that is difficult to reduce after an episode. We found that mutual hostility was positively related to hyperarousal after the episode and that both of these were positively related to health problems. Of course, a third possibility is a combination of the first two. It is possible that mutual hostility stimulates highly stressful responses that are sustained or easily reactivated by cognitive responses that increase the likelihood of health-related problems.

A second issue for future research concerns how individuals can best achieve the various goals they have when engaged in serial arguing. Individuals report a complex set of goals that they want to achieve in serial arguing, including the desire to resolve the disagreement, preserve the relationship, and vent anger at their partners (Bevan, Hale, & Williams, 2004). Unfortunately, research has not related these goals to constructive or destructive communication patterns. However, our research suggests what they might be. Venting anger may be counterproductive. Should one's angry confrontation prompt the partner to reciprocate anger, one could become entrapped in a pattern of mutual hostility that creates resistance from the partner, harms the relationship, and negatively impacts their physical and psychological well-being. Unfortunately, we did not identify an alternative way of addressing ongoing relational problems that would avoid stress. Although engaging in constructive communication would

seem to hold promise for resolving serial arguments without damaging the relationship, it does not seem to reduce stress and many stress-related health problems. It may be that serial arguments are inherently stressful and that little can be done during the interaction to offset it.

The key may be to focus on what can be done afterward to reduce stress-related problems. Indeed, research indicates that individuals might be able to reduce their stress-related health problems by maintaining an optimistic, upbeat outlook (Malis, 2006). However, researchers have not investigated whether staying optimistic can buffer against the stress created by mutual hostility. In fact, one study found little evidence that making optimistic comparisons (i.e., viewing one's relationship as improving) helps to reduce stress-related problems (Malis & Roloff, 2006b). Identifying coping devices that can reduce stress arising from serial arguing merits the attention of researchers.

Finally, our research has focused on mutual actions rather than asymmetrical ones. In other words, our research focused on the relationship between communication patterns and health when the patterns are enacted by both partners rather than only one during an argumentative episode. An important question for future research is focused on the health ramifications arising from one partner acting constructively while the other is hostile. Gottman et al. (1998) noted that during conflicts involving happily married couples, the wife often engages in actions that emotionally soothe her husband. In doing so, she prevents or reduces emotional flooding in her husband and he remains engaged in the conversation. However, they did not address the issue of whether this asymmetrical pattern might be harmful to the wife. In other words, she may be expending a great deal of energy while engaging in self-control, as well as perspective-taking, that might increase her stress level. In effect, she might be engaging in emotional labor that could harm her health.

In conclusion, communication during serial arguments has implications for both relational and individual well-being. Constructive communication is somewhat beneficial, while a mutual hostility is clearly detrimental for individuals' well-being. This research provides more insight into the links between communication during serial arguing and health, but more research needs to be done.

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