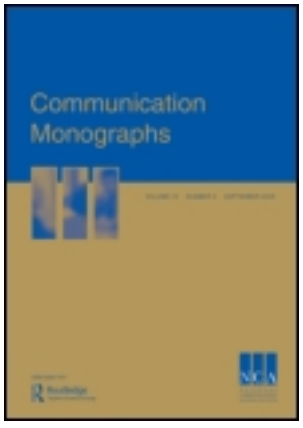

Communication Monographs
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/rcmm20

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Available online: 23 Jan 2012

To cite this article: Graham D. Bodie, Brant R. Burleson & Susanne M. Jones (2012): Explaining the Relationships among Supportive Message Quality, Evaluations, and Outcomes: A Dual-Process Approach, Communication Monographs, 79:1, 1-22

To link to this article: http://dx.doi.org/10.1080/03637751.2011.646491

Communication Monographs
Vol. 79, No. 1, March 2012, pp. 1–22

Explaining the Relationships among Supportive Message Quality, Evaluations, and Outcomes: A Dual-Process Approach

Graham D. Bodie, Brant R. Burleson & Susanne M. Jones

Research on supportive communication has been concerned with two primary classes of dependent variables. Message evaluations refer to judgments about the supportive message and/or the sender of that message, and message outcomes refer to cognitive, affective, and behavioral effects of messages. Most studies have utilized variables from one or the other class with less attention paid to the association between evaluations and outcomes. Indeed, there is a common assumption that message evaluations are a valid proxy for other outcomes of interest. This assumption is tested empirically in this article. Results from two studies show that (1) evaluations of messages mediate the effect of message quality on outcomes and (2) degree of message scrutiny moderates this mediating effect by altering the degree to which message quality influences evaluations. We use a dual-process theory of supportive message outcomes as the framework for interpreting supportive message effects and for examining the link between message evaluations and outcomes.

Keywords: Comforting Messages; Dual-Process Theory; Emotional Support; Social Support

People with greater access to emotional support are better able to cope with problems (Holahan, Moos, & Bonin, 1997), are happier with their relationships (Burleson, 1990), and are more mentally and physically healthy (Uchino, 2004) than individuals

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ISSN 0363-7751 (print)/ISSN 1479-5787 (online)
http://dx.doi.org/10.1080/03637751.2011.646491

with fewer emotional support resources. Because the specific messages enacted in a supportive interaction are fundamental to whether emotional support has positive outcomes, a central goal of emotional support research is to discover those message features that most readily lead to these positive outcomes (MacGeorge, Feng, & Burleson, 2011). A primary strategy to assess supportive message effects has been to focus on how recipients of supportive messages evaluate those messages along dimensions such as helpful–unhelpful, sensitive–insensitive and supportive–unsupportive (see Goldsmith, McDermott, & Alexander, 2000). Two primary assumptions underlie research that uses message evaluation as a proxy for other outcomes (e.g., affective improvement, health): (1) Whatever affects message evaluations will similarly affect outcomes and (2) message evaluations are causal antecedents of outcomes; that is, judgments of, say, message helpfulness must precede any outcome (e.g., affective improvement). Of course, the validity of these assumptions can—and should—be questioned.

Research indicates that people perceive supportive messages that contain certain properties and features as more helpful than others (see Burleson, 1994), and some studies have found that these messages actually help people feel better (Jones & Guerrero, 2001; Jones & Wirtz, 2006). Thus, the first assumption—that whatever affects evaluations will similarly affect outcomes—seems plausible. The second assumption—that supportive message evaluations contribute causally to their outcomes—appears to be largely unsubstantiated in the literature on supportive communication (see Goldsmith, 2004, especially p. 26). Indeed, research typically utilizes either evaluations or outcomes without considering the causal pathway from enacted support to outcomes of interest. Moreover, although theory proposes that message features influence outcomes through their intermediary impact on evaluations, it is possible that evaluations of messages are formed only *after* individuals begin to feel better. The purpose of this article is to report two studies that examine the association between broad reactions to supportive messages and one particularly important outcome, affective improvement, as the result of enacted support. In developing the rationale for Study 1, we first discuss the importance of this connection in the domain of supportive communication and propose how evaluations may mediate the effect of message quality on outcomes. Using a dual-process framework, Study 2 then details implications for the relationships among messages and their evaluations and outcomes (Bodie & Burleson, 2008; Burleson, 2009, 2010). Assessing the strength and reliability of these relations will address the validity of an important assumption implicit in the extant research, the veracity of which has numerous theoretical and practical implications.

Study 1: Testing a Basic Model

The large corpus of supportive communication scholarship has focused on documenting the effects of various message properties on the recipients of those messages. Two general classes of effects capture the focus of this empirical work. The first class of effects can be labeled *message evaluations* (ME), or the judgments

recipients make about the degree to which messages are helpful, supportive, and sensitive (Goldsmith et al., 2000). The second class of effects can be characterized as *message outcomes* (MO), usually more distal effects of supportive messages and typically measured by the degree to which supportive messages generate cognitive (e.g., appraisals), affective (e.g., emotions), and/or behavioral (e.g., coping) change in message recipients (see Burleson, 2009). In general, ME refers to judgments or *reactions to* the message and/or its sender, whereas MO refers to a range of outcomes that happen *after* the message evaluation.

Similarly, features of several classes of messages (e.g., emotional support, advice, tangible assistance) have been the focus of extensive empirical and theoretical work (for review, see MacGeorge et al., 2011). One feature of supportive message content that has been consistently shown to have effects on message evaluations and outcomes is *verbal person centeredness* (VPC), or the extent to which messages explicitly acknowledge, elaborate, legitimize, and contextualize the feelings and perspective of a distressed person (Burleson, 1994). Messages exhibiting low person centeredness (LPC) deny the other's feelings and perspective by criticizing or challenging their legitimacy, or by telling the other how to act and feel. Moderately person-centered (MPC) comforting messages afford an implicit recognition of feelings by attempting to distract the other's attention from the troubling situation, offering expressions of sympathy and condolence, or presenting non-feeling-centered explanations of the situation. Highly person-centered (HPC) comforting messages explicitly recognize and legitimize the other's feelings by helping to articulate those feelings, elaborate reasons why those feelings might be felt, and explore how those feelings fit in a broader context.

Messages with higher levels of VPC are consistently evaluated more positively than messages containing lower levels of VPC (Burleson, 2003), and there is a smaller body of findings suggesting that VPC influences outcomes such as a recipient's emotional state (Jones & Guerrero, 2001). To date, however, studies investigating the effects of VPC have primarily focused on examining either message evaluations or message outcomes, even though theoretical work has posited specific ways in which message quality and resultant evaluations and outcomes might be related (e.g., Burleson & Goldsmith, 1998; Goldsmith, 2004). Therefore, this study provides an initial exploration into the relationships among VPC and its evaluations and outcomes. Specifically, we assess the degree to which judgments of the comforting potential of supportive messages are associated with recipient affect change. Prior work in the supportive communication literature suggests this relationship, thus, our first prediction is:

> H1: The evaluation of messages that vary in VPC is significantly and positively associated with reports about the extent of affect change produced by these messages.

Because VPC evaluations and outcomes are associated, it is imperative to discover the nature of this relationship. Limited research has examined the extent to which message evaluations predict their outcomes (Collins & Feeney, 2000), whereas no

research has tested the impact of VPC on outcomes that are mediated through evaluations. Nevertheless, this causal sequence is frequently implied; perhaps the most detailed statement of this causal sequence is a model presented by Goldsmith (2004), who locates supportive message evaluations as the mediator explaining how enacted support affects coping and well-being. Goldsmith states that "any support that is enacted during the course of a conversation [is] subject to *evaluation* by the participants ... [these] evaluations mediate the effects that enacted support might have" (p. 26). Although Goldsmith's model deals primarily with coping and is far more complex than is presented here, it clearly proposes a general causal sequence from VPC to other outcomes through evaluations. This sequence is implied in other theories of supportive communication as well. For instance, the general VPC–Evaluations–Outcomes model is explicated in Burleson and Goldsmith's (1998) model of cognitively induced reappraisals insofar as it asserts that supportive messages work (i.e., have their effects) through a process of evaluating comforting conversations for their potential to help reframe a problematic event. We subject the basic causal principles of this model to an empirical test with the following hypotheses.

H2: VPC is positively associated with both (a) message evaluations and (b) the extent of affect change produced by these messages.

H3: The evaluations of comforting messages mediate the effect of VPC on the extent of affect change produced by these messages.

Of course, it is also possible that supportive message outcomes are causally antecedent to their evaluation, such that people perceive a message to be helpful, sensitive, and supportive *because* they feel better as the result of the supportive interaction within which the message was generated. Thus, for the sake of logical completeness, we test the model that recipients judge messages as more or less beneficial because they felt better after an interaction; we submit that this alternative model has not received empirical support in past research (Collins & Feeney, 2000).

H4: The extent of affect change produced by comforting messages mediates the effect of VPC on the evaluation of these messages.

Method

Study 1 involved new analyses of data previously reported by Jones (2004), and Jones and Guerrero (2001); full details about the sample, experimental set-up, message quality manipulation, procedures, and manipulation checks are contained in these sources. In overview, college student participants ($N = 258$) reported to a lab and, after completing informed consent procedures, (1) identified and described a recent upsetting problem they would be willing to discuss with another student (an experimental confederate); (2) were randomly assigned to engage in a five-minute discussion of their problem, during which time the confederate responded with LPC, MPC, or HPC comforting messages (thereby constituting the message quality

manipulation); and (3) responded to several measures following the interaction that assessed perceptions of message quality (message evaluation) and the extent to which they felt better about their problem (message outcome).

VPC manipulation check. Manipulation checks were conducted during the initial data collection as follows: Three coders assessed confederate VPC from 84% ($n = 216$) of the videotaped conversations. Two primary coders rated confederates' VPC levels for all 216 interactions, whereas the secondary coder rated the VPC cues of 118 confederates. The general findings of the manipulation check are reported below (for detailed findings see Jones & Guerrero, 2001). Five 7-point semantic differential scales identifying fundamental features of person centeredness (e.g., self-centered vs. other-centered, invalidates vs. validates; $\alpha = .98$) were used to code confederate VPC. Interrater reliability (based on Ebel's intraclass *r*) was .95. The VPC manipulation was analyzed by computing the linear (polynomial) contrast for VPC, which was significant and large, $F(1, 213) = 1416.41$, $p < .001$, $\eta^2 = .86$ (see Table 1).

Message evaluation (ME). Participants were asked to evaluate helpers on five 7-point semantic differential scales ($\alpha = .83$): helpful–unhelpful, sensitive–insensitive, appropriate–inappropriate, supportive–unsupportive, and effective–ineffective (Goldsmith et al., 2000).

Message outcome (MO). MO was operationalized in terms of the affective improvement reported by participants after their interaction with the confederate. We used five items (7-point Likert) from Clark et al.'s (1998) Comforting Responses Scale designed to measure affect improvement (e.g., "I feel better after talking with my conversational partner;" $\alpha = .85$)

A measurement model specified two latent constructs (ME and MO), each with five measured variables and respective error terms, $\chi^2(34) = 69.08$, $p < .001$, CFI = .97, RMSEA = .06 (90% CI = .04, .08); a single factor model was statistically inferior, $\Delta\chi^2(1) = 6.31$, $p < .025$, ΔCFI > .01.

Table 1 Descriptive Statistics for NVI and VPC Manipulation Checks, Study 1

	M	*SD*
Low VPC	1.50	.32
Moderate VPC	3.98	.80
High VPC	6.65	.23

VPC = Verbal Person Centeredness. All means differ at $p < .001$.

Results

Power ($N = 258$, $\alpha = .05$) to detect a significant correlation was .49 for small ($r = .10$) and in excess of .99 for medium ($r = .30$) and large effects ($r = .50$). Power to detect significant mediation was .62 for small ($f^2 = .02$) and in excess of .99 for medium ($f^2 = .15$) and large effects ($f^2 = .35$).

Table 1 presents the means, standard deviations, and intercorrelations among the Study 1 variables. H1 predicted a positive association between message evaluation (ME) and affect improvement (MO); a strong, positive correlation between these variables confirmed H1, $r = .53$, $p < .001$. H2a predicted that manipulated message quality (VPC) would correlate positively with ME, and H2b predicted that VPC would be positively associated with MO. As predicted, VPC was positively associated with both ME, $r = .39$, $p < .001$, and MO, $r = .25$, $p < .001$. The significant difference between these two correlations (i.e., ME-VPC and MO-VPC) is further evidence that ME and MO are distinct constructs, $t(257) = 2.51$, $p < .05$ (see Cohen & Cohen, 1983, p. 53).

H3 predicted that ME would mediate the effect of message quality on MO. Bootstrapping procedures developed by Preacher and Hayes (2008a) were used to analyze the effects of potential mediators. Bootstrapping is a resampling procedure that aims to accurately assess a sample estimator (for an introduction to bootstrapping, see Efron & Tibshirani, 1993; for an extended discussion of the relative advantages of boostrapping procedures, see Preacher & Hayes, 2008b). Simulation studies (MacKinnon, Lockwood, & Williams, 2004) indicate that bootstrapping procedures generate more accurate Type I error rates and have greater power than alternative procedures. The results of the bootstrapping tests evaluating H3 are summarized in Table 3; standardized path coefficients appear in Figure 1. Regression coefficients indicate that ME fully mediated the effect of message quality (VPC) on MO. The entire effect for VPC on MO was mediated by ME, thus confirming H3.

H4 posited an alternative model in which MO mediates the effect of VPC on ME (see Table 3). The indirect effect for MO was smaller than the indirect effect observed for the model tested in H3. In addition, the residual direct effect was both larger and statistically significant. A model fit index (the proportion of variance in the total effect explained by the indirect effect; see MacKinnon, 2008) was substantially better for the H3 model than the H4 model. Thus, the alternative VPC → MO → ME model does not fit the data as well as the theoretically derived VPC → ME → MO model, suggesting no support for H4.

Brief Discussion

Study 1 found that message evaluations and message outcomes were strongly and positively correlated (H1), both were positively correlated with VPC (H2a and 2b), and evaluations fully mediated the effect of VPC on affect improvement (H3). In addition, Study 1 found that a model in which evaluations mediated the effect of VPC on affect improvement better fit the data than an alternative model in which

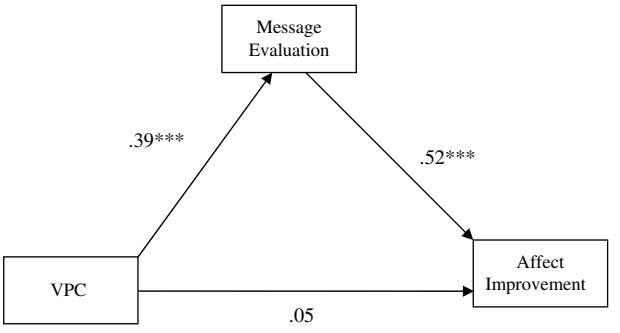

Figure 1 Path model depicting relationship between verbal person centeredness, message evaluation, and message outcome for Study 1. Coefficients are standardized; ***$p < .001$.

affect improvement mediated the effect of VPC on evaluations (H4). These findings constitute the first empirical evidence that directly supports a primary assumption in research on verbal person centeredness—that message evaluations are a potential mechanism explaining message outcomes.

Study 2: The Moderating Impact of Cognitive Processing

Study 1 found that the evaluation of supportive message content mediates the relationship between VPC and affect improvement and substantiates a core assumption of supportive communication research. But the mediating effects of these message evaluations may not be manifest in all situations where emotional support is offered. Using a dual-process theory (Bodie & Burleson, 2008; Burleson, 2009, 2010) as our guide, Study 2 tests when and under what condition the ME–MO relationship may be further moderated.

A Dual-Process Theory of Supportive Message Outcomes

Dual-process theories have commonly been used to explain persuasion and social influence processes. These theories generally postulate that (1) multiple factors influence the amount of thought that people give to various elements present in communication situations; and (2) the effects of particular situational elements (e.g., message content, source attractiveness) on recipient responses and outcomes vary as a function of the amount of scrutiny (or processing) accorded these elements (Moskowitz, Skurnik, & Galinsky, 1999). Detailed features of the dual-process theory of supportive communication, and how it is similar to and different from models of persuasive outcomes, are described elsewhere (Bodie, in press-b; Bodie & Burleson, 2008; Burleson, 2009, 2010). Briefly, dual-process theories postulate that message content will have the strongest effect on outcomes when recipients scrutinize this content extensively. When message content receives little scrutiny, it should have a smaller effect on outcomes. Instead, other elements of the situation (i.e., environmental cues) may trigger heuristics, associations, or sensations that substantially

influence recipient outcomes. Message content generally receives more extensive processing when the recipient is motivated and able to scrutinize that content (e.g., Todorov, Chaiken, & Henderson, 2002). Moreover, outcomes of messages generated by relatively extensive processing are generally more stable and enduring than responses generated through low-intensity processing.

The dual-process framework suggests that associations between message quality and both evaluations and outcomes will be strongest when message content receives the greatest scrutiny. Moreover, if message quality is primarily viewed as influencing outcomes through its impact on evaluations, then the mediating effect for evaluations on the association between message quality and outcomes should be strongest when message content receives the greatest scrutiny. In other words, the extent of message scrutiny should moderate the magnitude of the mediating effect that ME has on the association between message quality and MO. The dual-process framework asserts that if a message feature is to have an effect on evaluations, and either indirect or direct effects on outcomes, recipients must attend to and process messages containing that feature (Bodie, in press-a). More specifically, an aspect of message content, such as VPC, is likely to have variable impact on evaluations and outcomes as a function of the extent to which message content is cognitively processed by the recipient. But exactly how does the degree of message scrutiny moderate the mediating effect of evaluations?

A recent theoretical analysis of moderated mediation (Preacher, Rucker, & Hayes, 2007) demonstrates that there are at least three possible ways in which a single moderator can influence the paths defined by a three-variable mediation model: The moderator can impact the path between (1) the independent variable and the mediator, (2) the mediator and the dependent variable, or (3) both of these. The alternative specified for testing must be guided by theory (MacKinnon, 2008), and the dual-process theory of supportive communication outcomes provides a clear answer: The degree of scrutiny accorded messages should primarily impact the path between message quality (the independent variable) and evaluations (the mediator). That is, the more recipients scrutinize message content, the more that variations in the quality of that content should influence judgments about message quality. On the other hand, there is no particular reason for thinking that degree of message scrutiny will moderate the path between evaluations and outcomes (at least in the short term); once the message recipient formulates a judgment of its effectiveness, that judgment should influence outcomes equivalently, no matter how much the recipient has thought about the quality of the message. These considerations led us to formulate a moderated-mediation model wherein degree of message scrutiny moderates the extent to which message evaluations mediate the effect of VPC on affect improvement, doing so by altering the degree to which VPC affects evaluations. Formally:

H5: Degree of message scrutiny (a) moderates the mediating influence of message evaluations (ME) for the effect of VPC on reported affect change (MO), doing so by (b) altering the degree to which VPC affects ME.

One important matter remains to be specified, and that is how to manipulate the proposed moderating variable of message scrutiny. As noted above, scrutiny of message content is posited to increase as functions of the ability and motivation to process information about a situation. One factor found to increase the motivation to scrutinize the content of supportive messages is the severity of the problem experienced by the message recipient. Specifically, individuals confronting more serious problems discriminate more sharply between the helpfulness of comforting messages that vary in quality than do individuals confronting less serious problems (Burleson, 2008, Study 3). As Petty and Wegener (1998) observed, the magnitude of the message quality effect indicates degree of message processing; larger effects for an aspect of message quality (e.g., VPC) indicate greater scrutiny and processing of the messages. Thus, the factor of problem severity in support contexts is analogous to the factor of personal involvement in persuasion contexts (Petty & Wegener, 1998): Both provide a way of manipulating message scrutiny.

Method

Participants. College student participants ($N = 192$, 96 males, 96 females) attending a large Midwestern university reported an average age of 20.1 years ($SD = 1.89$) and were primarily Caucasian/White ($n = 146$, 76.0%). All class ranks were represented: freshmen (34.9%), sophomore (14.6%), junior (22.9%), and senior (26%).

Procedure. Participants were randomly assigned to a mildly or moderately severe problem condition. In the mild condition, students were asked to imagine that they were in a college class that required frequent in-class reading quizzes (each worth 1% of their total grade). They were then asked to assume that although they had earned an "A" or a "B" on all prior quizzes, they earned a "C" on the last quiz they took. In the moderately stressful condition, students were asked to imagine that they were awaiting final grades at the end of the semester. Admittance into their desired major was dependent on the outcome of the final exam for a course in which they had to receive a B; they received a D in this class. After the presentation of the situation, participants were asked to imagine they encountered a recent acquaintance (portrayed in a photograph) who then orally delivered a HPC, MPC, or LPC message. Message length was between 86 and 97 words. After listening to the message, participants responded to several measures.

Message evaluation (ME). ME was assessed with six 7-point Likert scales adapted from Goldsmith et al. (2000). Items included "My acquaintance was supportive," "My acquaintance was encouraging," "My acquaintance was insensitive" (reverse scored), "What my acquaintance said was heartless" (reverse scored), "My acquaintance was understanding," and "My acquaintance was considerate" ($\alpha = .93$). As is

appropriate for an evaluation measure, these items tap perceptions of the helper's behavior, rather than the recipient's emotional state.

Message outcome (MO). Anticipated affect improvement as an indicant of MO was measured with five 7-point Likert items ($\alpha = .94$). One item was written for the present study ("After listening to my acquaintance, I feel better about things"), and the other four items were adapted from the Clark et al. (1998) scale used in Study 1: "My acquaintance helped me to feel more optimistic about my situation," "After listening to my acquaintance, I feel better about myself," "After listening to my acquaintance, my situation seems more manageable," and "My acquaintance helped to cheer me up." These items tap the postinteraction feeling states of the participant and do not refer to perceptions of the helper's behavior.

After correlating the error terms associated with two of the ME items, the two factor measurement model fit was appropriate, $\chi^2(13) = 81.85$, $p < .001$, CFI = .98, RMSEA = .07 (90% CI = .05, .09); all standardized residual covariances were below 2.58 in absolute value. More important, a one-factor model produced a statistically worse fit to the data, $\Delta\chi^2(1) = 13.38$, $p < .001$, ΔCFI > .01.

Manipulation checks. The perceived severity of problem situations was assessed with three items (e.g., "This situation was severe," $\alpha = .85$). As expected, participants in the low stress condition ($M = 3.08$, $SD = 1.26$) perceived their situation as less severe than participants in the moderate stress condition ($M = 5.74$, $SD = 1.03$), $t(190) = 16.01$, $p < .001$, $r^2 = .56$.

Processing extensiveness was assessed with the thought-listing procedure developed by Cacioppo and Petty (1981). Following exposure to the supportive message, participants were instructed to "list everything you were thinking while you were viewing and listening to the situation and your acquaintance." Two independent coders obtained adequate unitizing reliability on 20% of the data when counting the number of thought units (Guetzkow's $U = .01$). Intercoder reliability was also adequate when units were categorized as relevant/irrelevant ($\kappa = .95$), and as positive, negative, or neutral thoughts ($\kappa = .76$). We used protocols developed in persuasion research to operationalize elaboration as the dominant cognitive response index (Wegener, Downing, Krosnick, & Petty, 1995). Values can range from 0 to 1 with higher numbers indicating more extensive thinking. As expected, elaboration scores for participants in the low stress condition were lower ($M = 0.09$, $SD = 0.42$) than for participants in the high stress condition ($M = 0.34$, $SD = 0.42$), $t(184) = 7.08$, $p < .001$, $r^2 = .21$.

Results

With $N = 192$ and $\alpha = .05$, power to detect a significant bivariate association was .40 for small effects ($r = .10$), and in excess of .99 for medium ($r = .30$) and large effects ($r = .50$). Power to detect significant mediation was .50 for small effects ($f^2 = .02$),

and in excess of .99 for medium ($f^2 = .15$) and large effects ($f^2 = .35$). Finally, power to detect significant moderated mediation was .17 for small effects ($q = .10$), .66 for medium effects ($q = .30$), and .96 for large effects ($q = .50$).

Table 1 presents the means, standard deviations, and intercorrelations among the variables included in Study 2. H1 predicted a positive association between the perceptions of comforting quality (ME) and MO (anticipated affective improvement); a strong, positive correlation between these variables, $r = .77$, $p < .001$, confirmed H1. H2 predicted that manipulated VPC would be positively associated with (a) ME and (b) MO. Correlations confirmed these predictions: ME, $r = .45$, $p < .001$; MO, $r = .28$, $p < .01$. As further statistical evidence that ME and MO are distinct constructs in this study, the difference between these two correlations (i.e., ME-VPC and MO-VPC) is significant, $t(191) = 3.89$, $p < .05$ (see Cohen & Cohen, 1983, p. 53).

H3 predicted that ME would mediate the effect of VPC on MO. The results of our bootstrapping tests are summarized in Table 3; statistical significance was determined from confidence intervals generated by the bootstrapping procedure (Preacher & Hayes, 2008a). Standardized path coefficients for this model appear in Figure 2a. Results indicate that, with regard to H3, ME fully mediated the effect of VPC on MO.

H4 posited an alternative model in which MO mediates the effect of VPC on ME. This model was also tested (for the combined low and high motivation conditions) with bootstrapping procedures; the results appear in Table 3. The indirect mediating effect for MO was smaller than the indirect effect observed for the model tested in H3, and the residual direct effect was both larger and statistically significant. A model fit index was substantially better for the H3 model than the H4 model. Thus, the alternative VPC → MO → ME model does not fit the data as well as the theoretically derived VPC → ME → MO model, suggesting no support for H4.

H5 predicted that motivation to scrutinize messages (manipulated by problem severity) would moderate (a) the mediating influence of ME for the effect of VPC on anticipated affect change (MO), doing so by (b) altering the degree to which VPC affects ME. To assess this moderated mediation model, we evaluated models in which the moderator was specified to influence the path between VPC and ME (the predicted model), ME and MO, and both VPC and ME and ME and MO.

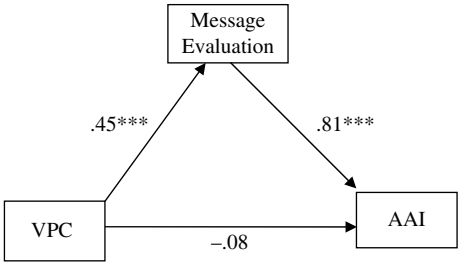

Figure 2a Path model depicting relationships among VPC, ME, and MO in the combined experimental conditions, Study 2. ***$p < .001$. AAI = anticipated affect improvement.

Consistent with H5b, the predicted model in which the moderator influenced the effect of VPC on ME best fit the data. Specifically, processing motivation moderated the effect of VPC on ME, $B = 0.48$, $t(188) = 2.39$, $p < .02$; the coefficient for the effect of VPC on ME was twice as large when motivation was high ($B = 0.95$) than when it was low ($B = 0.47$) (see Table 3). More important, and as predicted by H5a, the magnitude of the indirect effect of VPC on MO through the mediation of ME was conditional on level of processing motivation. The indirect effect through ME was significantly smaller in the low motivation condition (Figure 2b) than in the high motivation condition (Figure 2c), $z = 2.23$, $p < .03$ (see Table 2). A Chow test (1960) confirmed that the mediation model better fit the data in the high motivation condition, $R^2 = .69$, than in the low motivation condition, $R^2 = .51$, $F(3, 186) = 38.14$, $p < .001$.

In contrast, models in which motivation was specified to moderate the effect of ME on MO did not fit the data well. Specifically, processing motivation did not moderate the effect of ME on MO, $B = 0.01$, $t(188) = 0.02$, *ns*, and the magnitude of the indirect effect did not vary as a function of processing motivation, *B*s = 0.660 and 0.664 for low and high motivation conditions, respectively, $z = 0.02$, *ns*. Thus, H5a and H5b were supported with no support for alternative models.

An alternative model (H4) in which MO was hypothesized to mediate the effect of VPC on ME was also tested for both the low and high motivation conditions using bootstrapping procedures. The results for these analyses appear in Table 3. Comparison of coefficients (especially those for the indirect effect, direct effect, and model fit) indicate that the ME–MO model fits the data better than the alternative MO–ME model in both the low and high motivation conditions. In particular, the coefficients for the indirect effect are higher in the ME–MO models, the coefficients for the direct effects are low and either nonsignificant or negative, and the fit indices are better (see Table 3).

Brief Discussion

Study 2 found that ME and MO are strongly and positively correlated with one another (H1), and positively correlated with VPC (H2a and 2b). More important,

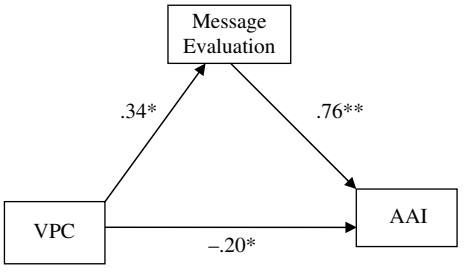

Figure 2b Path model depicting relationships among message quality, ME, and MO in the low motivation condition, Study 2. $^{**}p < .01$; $^{*}p < .05$. AAI = anticipated affect improvement.

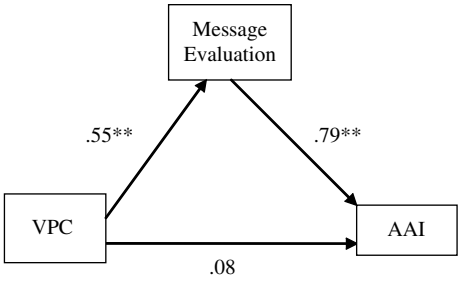

Figure 2c Path model depicting relationships among message quality, ME, and MO in the high motivation condition, Study 2. $^{**}p < .01$. AAI = anticipated affect improvement.

ME mediated the effect of VPC on anticipated affect improvement (MO), and did so better than an alternative model in which MO was posited to mediate the effect of VPC on ME. In particular, the ME–MO mediated model fit the data better in the high processing motivation condition, providing support for a fully mediated model, than in the low processing motivation condition; these latter results substantiate a dual-process account of the ME–MO effect.

Interestingly, the moderated mediation analysis also revealed a net (or negative) suppression effect (Cohen & Cohen, 1983); that is, a small *negative*, direct effect for VPC on anticipated affect change in the low processing (i.e., mild problem severity) condition. In other words, the positive association between the independent variable (VPC) and the mediator (ME) has the effect of suppressing a portion of variance in each other that is irrelevant to (or uncorrelated with) the dependent variable (MO). Removing the portion of variance in VPC associated with participant evaluations results in the residualized VPC variable having a negative effect on anticipated affect improvement. The portion of variance in VPC not associated with evaluations is negatively associated with affect improvement in the low motivation to process condition (i.e., it hurts rather than helps). Thus, when stress is relatively mild, a portion of VPC has a positive effect on evaluations and, through evaluations, a positive indirect effect on affect. However, another portion of VPC that has nothing to do with the effect of VPC on ME has a negative impact on affect. Perhaps in the

Table 2 Means, Standard Deviations, and Intercorrelations for Variables in Studies 1 and 2

	VPC	ME	MO	*M*	*SD*
VPC	—	.39***	.25***	2.01	0.83
ME	.45***	—	.53***	5.20	1.22
MO	.28***	.77***	—	3.83	1.17
Mean	2.00	5.08	4.15		
SD	0.82	1.30	1.46		

VPC = verbal person centeredness; ME = message evaluation; MO = message outcome. Coefficients above the diagonal are from Study 1 ($N = 258$) and coefficients below the diagonal are from Study 2 ($N = 192$). $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Table 3 Coefficients and Bootstrapping Tests of the Mediating Effects of Message Evaluations (ME) on the Relationships between Verbal Person Centeredness and Message Outcome (MO), as well as the Mediating Effects of MO on the Relationship between Message Quality and ME, in Studies 1 and 2, and as Moderated by Processing Motivation (Problem Severity) in Study 2

		Unstandardized regression coefficients					95% CI for indirect effect		
	Model tested	Total effect	Direct effect	IV to MV effect	MV to DV effect	Indirect effect	Lower limit	Upper limit	Fit Index
Study 1	IV → MV → DV								
	VPC → ME → MO	.35***	.07	.58***	.49***	.28***	.18	.41	.80
	VPC → MO → ME	.57***	.40***	.35***	.49***	.17***	.09	.29	.29
Study 2	IV → MV → DV								
Combined conditions	VPC → ME → MO	.53***	−.14	.71***	.95***	.67***	.45	.89	1.26[a]
	VPC → MO → ME	.71***	.39***	.53***	.60***	.32***	.15	.51	.40
Low motivation condition	VPC → ME → MO	.11	−.36*	.47***	.99***	.47**	.23	.78	4.27[a]
	VPC → MO → ME	.47***	.42***	.11	.52***	.05	−.13	.27	.12
High motivation condition	VPC → ME → MO	.95***	.15	.95***	.85***	.80***	.52	1.11	.84
	VPC → MO → ME	.95***	.29**	.95***	.69***	.65***	.39	.96	.68

IV = independent variable, DV = dependent variable, MV = mediating variable. For Study 1, $N = 258$; for Study 2, $N = 192$. *$p < .05$, **$p < .01$, ***$p < .001$. Estimates are unstandardized regression coefficients based on 1000 resamples drawn from our samples of 258 and 192. The Fit Index is the proportion of variance in the Total Effect explained by the Indirect Effect; thus, the higher the Index the better the model fit. [a]Fit Index exceeds 1.0 due to a suppressor effect (see text).

mild problem severity condition, where recipients are not elaborating extensively on message content, recipients sense that highly person-centered messages exhibit more caring and concern than low person-centered messages, and thus evaluate them as more effective. But HPC messages might also be more face-threatening than LPC messages in the mild problem severity condition. Perhaps HPC messages are perceived as "making a mountain out of a mole hill," or may imply that the helper thinks that the recipient is upset by a minimally significant matter, whereas the LPC message is more casual and implies that the recipient can cope easily with the problem. Clearly, future research should isolate and determine the mechanisms through which aspects of HPC messages may result in emotional discomfort for recipients.

Overall, Study 2 indicates (1) that message evaluations, and one important outcome (anticipated affect improvement) are highly associated in different problem conditions, (2) that ME mediates the effect of VPC on that outcome and does so better than the alternative model, where the outcome is assumed to mediate the effect of VPC on evaluations, and (3) that a dual-process framework can explain variability in the magnitude of the mediating effect of ME. A major limitation of Study 2, however, is its prospective design and the measure of *anticipated* affect improvement. That is, Study 2 participants responded to hypothetical situations and reported their *anticipated* affect improvement following exposure to a comforting message. Of course, people make inferences about their anticipated emotional states routinely in everyday life and use these expectations to inform countless decisions and activities. Thus, it appears reasonable to operationalize "message outcomes" in terms of people's expectations about their feeling states and to examine how these anticipated states are influenced by both comforting messages and evaluations of these messages (see Robinson & Clore, 2002).

General Discussion

The studies reported here make two primary contributions to scholarship on supportive communication. First, we explored the assumption that supportive message evaluations are related to other, often more practically relevant outcomes. Our reasoning was partly informed by social influence scholarship. Research by Dillard, Weber, and Vail (2007) found evaluations of persuasive messages and their actual influence on attitude change to be highly correlated. A series of subsequent experiments concluded that the most likely reason for this correlation between perceived and actual effects of persuasive messages is that perceived effectiveness is a cause of actual effectiveness. Consistent with these results, we found strong, positive correlations between assessments of message evaluations (ME) and outcomes (MO) in the context of supportive communication. Confidence in the reliability of these findings is bolstered by similar patterns of association and mediation observed in our two studies, despite the noteworthy differences in their methods. Of course, researchers must remain sensitive to factors that may attenuate the correlation between evaluations and outcomes in the context of supportive communication (see below). Overall though, it appears that a strong connection between evaluations and outcomes exists in at least two communication contexts (support and

persuasion), and it seems reasonable to assume that this association extends to other contexts as well.

This finding has especially important methodological implications for research on supportive communication. Although assessing message evaluations is generally much easier, safer, and cheaper in studies of supportive communication than is assessing outcomes such as affect improvement, the latter are generally of greatest interest (Jones & Wirtz, 2006). Of course, message evaluations are interesting and important in their own right. For instance, research exploring the impressions we form of others who use particular types of support has provided valuable theoretical and practical insights (Holmstrom, Burleson, & Jones, 2005; Jones, 2004). Thus, our conclusions should not be used to downplay the importance of a variety of dependent variables in the context of supportive communication that deal with impressions or judgments of messages and the people who send them.

The second primary contribution of the two studies reported above is reflected in the use of a recently developed dual-process theory of supportive message outcomes (Bodie & Burleson, 2008; Burleson, 2009, 2010) to predict circumstances that moderate the mediating effect of evaluations on the VPC–MO link and, further, to specify just how this moderation occurs. Reasoning that persons confronting a more serious problem would be more motivated to scrutinize the content of comforting messages than persons confronting a less serious problem, we predicted that the effect of VPC on message evaluation would be greater in a high motivation to process condition than in a low motivation to process condition. We further predicted that the indirect effect of VPC on anticipated affect improvement through the mediator of evaluations would be stronger in the high motivation than the low motivation condition. Both of these predictions were supported in Study 2. Moreover, alternative models predicting that processing motivation would moderate the magnitude of the evaluation–outcome association received no support. This pattern of findings provides corroboration for both the dual-process analysis of supportive message outcomes and for the notion that VPC impacts outcomes through the mediation of evaluations.

It is also important to note that although the strong, positive indirect effect of VPC on our outcome through evaluation suggests that evaluation is causally antecedent to outcomes; we do not yet fully understand *why* this association exists; that is, we do not yet have a clear understanding of the precise mechanisms through which ME affects MO (or through which ME and MO may otherwise be associated). We explore this issue and other limitations below.

Limitations and Future Directions

Clearly, VPC is an important determinant of message evaluation, explaining 15.21% of the variance in ME in Study 1 and 20.3% of the variance in ME in Study 2 (see Table 1). Study 2 also showed that VPC explained more variance in ME for highly motivated recipients (30.25%) than for those less motivated to process message content (11.56%; see Figure 2b and 2c). Thus, even when recipient motivation is relatively high, an objective message feature (VPC) explains only about 30% of the

variance in evaluations; when recipient motivation is attenuated, this objective feature explains only about 12% of the variance. So, what are other factors that contribute to comforting message evaluations? The dual-process theory of supportive message outcomes (Bodie & Burleson, 2008; Burleson, 2009, 2010) suggests a host of other factors likely to contribute to message judgments, including (1) other aspects of the message, such as paraverbal and nonverbal behaviors (see Jones & Guerrero, 2001); (2) perceptual and personality orientations of the recipient, such as interpersonal cognitive complexity (Bodie, Burleson, Holmstrom et al., 2011) and gender-role orientations (Burleson et al., 2009); and (3) features of the source (e.g., helper sex; Burleson, 2008) and interactional situation (e.g., calming music; Burns, Labbe, Williams, & McCall, 1999) that may trigger heuristics, associations, or sensations. The dual-process analysis suggests that many of these variables are especially likely to influence evaluations when recipients give less scrutiny to message content, though some factors (e.g., attachment style, cognitive complexity) may increase the processing of message content, and thus its effect on message judgments (Bodie, Burleson, Gill-Rosier, et al., 2011; Bodie, Burleson, Holmstrom, et al., 2011). Future research should identify more completely the factors that reliably influence these judgments.

In addition, our focus on a rather broad conceptualization of message evaluation and the resulting generalized operationalization of that construct poses limits to our potential theoretical contribution. We realize, for instance, that there are myriad potential evaluations that can be made of supportive messages. Goldsmith et al. (2000) suggest three such dimensions: *helpfulness*, which refers to the usefulness of a supportive message; *supportiveness*, which refers to the "relational caring that might also be conveyed" (p. 373) by a support attempt; and judgments of message *sensitivity* or the degree to which a message acknowledges and legitimizes the stressed other's feelings. Likewise, outcomes can be thought of as multidimensional including at least broad classes of cognition, affect, and behavior (Burleson, 2009). Although the measures used in both studies reported above collapsed across various evaluation and outcome dimensions, the purpose of these studies was to provide some initial evidence that evaluations (in a general sense) can be thought of as a causal prerequisite to outcomes (in a general sense). Thus, our study can be thought of as analogous to the research by Dillard and his colleagues (Dillard, Shen, & Vail, 2007; Dillard, Weber, & Vail, 2007) in the realm of persuasion. Certainly, the evaluation of persuasive messages is broader than "perceived effectiveness" (Dillard & Ye, 2008), and the outcomes are more inclusive than "actual effectiveness." However, those terms seem to capture the two general classes of persuasive message effects, much like message evaluations and message outcomes seem to capture the two general classes of variables studied in the realm of supportive communication and its effects. Perhaps, then, we can glean from our studies, as well as persuasion research, that much more attention should be paid to the conceptualization and operationalization of a vast range of evaluations and outcomes and the particular causal sequence of these factors in social interaction both in specified contexts and more generally across contexts (Bodie, in press-b).

This limitation aside, we found that message evaluations were strongly associated with assessments of affect improvement. But, how stable is this association? In other words, does this relation last over time or do message evaluations (i.e., "what she said was helpful) dissipate over time? This question is important; many studies use message evaluation scales as a stand-in for recipient indications of affective improvement (Burleson & Samter, 1985). If affective improvement is the ultimate goal of supportive talk and if message evaluation scales are used as indicators for affective improvement, yet may not last over time, then affective improvement has not happened. Indeed, message evaluations would prove to be invalid assessments of affective improvement.

The dual-process framework suggests that the stability (persistence) of the evaluation–outcome association likely varies as a function of (1) the factors influencing both judgments and outcomes (e.g., scrutinized message content vs. heuristics), and (2) the conditions under which these judgments were formed (e.g., low motivation-to-process and superficial scrutiny of message content vs. high motivation-to-process and systematic scrutiny of message content). Specifically, the dual-process analysis suggests that time will moderate the evaluation–outcome association, with the strength of the association declining over time, especially if low-processing mechanisms (heuristics) were the primary basis for judgments about ME and/or MO. Thus, although we found in Study 2 that the ME–MO association was virtually the same in both the low and high motivation conditions, we anticipate that the magnitude of this association will decline more rapidly and more substantially over time in the low motivation than in the high motivation condition. Future research should examine these expectations in the context of social support and, more generally, the temporal stability of the ME–MO link across multiple contexts.

Concern about the stability of the evaluation–outcome association raises a third question: What are the specific mechanisms that influence message outcomes and assessments of them? Dillard, Shen, and Vail (2007) suggest that the perceived effectiveness of persuasive messages is a cause of attitude change, of course a different outcome altogether than what is sought in supportive talk. Nevertheless, this is certainly possible, and the causal relation from supportive message evaluations to outcomes also seems plausible (see Goldsmith, 2004). But thought should be given to the mechanism (or mechanisms) by which evaluations can act as a cause of outcomes, as well as by which evaluations and outcomes can be associated. Although it is certainly plausible that message evaluations directly influence people's judgments about how they feel, it still remains a possibility, for instance, that (1) message content may simultaneously influence both evaluations and outcomes, but do so independently through distinct mechanisms, thereby producing a correlation but no causation; or (2) evaluations may be causally influenced by outcomes (e.g., "I feel good/bad after talking with the helper, so he/she must have said helpful/unhelpful things"). For each of these possibilities, the dual-process framework can aid theoretical development and hypothesis testing.

The first possibility (that message content simultaneously influences both evaluations and outcomes) appears most likely to operate in high processing

conditions. For example, under high processing conditions, HPC messages may improve recipient affect by prompting functional reappraisals of the problematic situation (Burleson & Goldsmith, 1998), whereas LPC messages may worsen recipient affect by imposing dysfunctional appraisals that make recipients feel silly or guilty about being upset (Burleson, 2009). In these cases, message evaluations do not directly influence outcomes; rather, appraisals prompted by message content are the true causes of affect change. An independent, but parallel, set of processes may influence judgments about evaluations, (e.g., "Gee, that was a very sensitive/insensitive comment; the helper said lots of caring/uncaring things"). Judgments about message helpfulness, sensitivity, and supportiveness may thus parallel, but be coincidental to outcomes. In sum, this analysis proposes that although evaluations and outcomes may be correlated, they are not causally connected. Indeed, although the use of hypothetical scenarios has been used as a technique for studying the impact of messages for some time (Burleson & Samter, 1985; Cantor & Mischel, 1979; Goldsmith, 1994), the simultaneous measurement of evaluations and outcomes is a clear limitation, particularly of Study 2. The fact that both measures are self-reports and administered in close proximity to one another should certainly attenuate our conclusions about causation and motivate further study into a variety of outcomes that can be assessed in more objective ways (see Bodie, in press-c).

The second possibility (that outcomes are the mediating variable) appears the least plausible, as suggested by our data and by data presented by Dillard and colleagues (Dillard, Shen, & Vail, 2007; Dillard, Weber, & Vail, 2007). Nevertheless, it is not impossible. It could be that outcomes play the role of a heuristic for judgments about messages (e.g., "I feel good/bad after talking with the helper, so he/she must have said helpful/unhelpful things"). The dual-process analysis suggests that this mechanism is most likely to operate in circumstances when message content receives little scrutiny and, hence, recipients rely on various environmental cues when making judgments about the message. Under low-processing conditions, the current affect state of message recipients (which is probably influenced by myriad factors) is a highly salient cue that could inform message evaluations. Both recipient feeling states and message judgments are likely to be unstable under low-processing conditions, so the correlation between evaluations and outcomes may also be unstable and decline over time (see above). On the other hand, the evaluation–outcome correlation could also be stable under low-processing conditions if the recipient's current affect state remains as the principal cue used to make contemporaneous judgments about message quality. That is, how the recipient happens to feel at a particular point in time—good or bad—may lead to an evaluatively consistent judgment about message helpfulness, supportiveness, and/or sensitivity. Clearly, research needs to explore whether outcomes can act as a cue for message evaluations, and if so, whether and why the evaluation–outcome association remains stable over time.

It is even possible that multiple mechanisms are operative in the same situation to a greater or lesser extent (at least, nothing said here would preclude this); indeed, the Heuristic-Systematic Model (HSM) suggests that messages may influence outcomes simultaneously through a combination of both low- and high-processing mechanisms

(Todorov et al., 2002). Future research should investigate these possibilities carefully and seek to understand the factors that influence both evaluations and outcomes under various conditions, as well as explore the mechanisms linking evaluations and outcomes under various conditions and in various communicative contexts. Doing so is likely to not only advance theory building and practice within domain-specific contexts like supportive talk or social influence, but also has the potential to generate theories of communication that span other functional contexts.

References

Bodie, G. D. (in press-a). The role of thinking in the comforting process: An empirical test of a dual-process framework. *Communication Research*.

Bodie, G. D. (in press-b). Supportive communication and persuasion: Theoretical intersections. In J. P. Dillard & L. Shen (Eds.), *The persuasion handbook* (2nd ed.). Thousand Oaks, CA: Sage.

Bodie, G. D. (in press-c). Task stressfulness moderates the effects of verbal person centeredness on cardiovascular reactivity: A dual-process account of the reactivity hypothesis. *Health Communication*.

Bodie, G. D., & Burleson, B. R. (2008). Explaining variations in the effects of supportive messages: A dual-process framework. *Communication Yearbook*, *32*, 355–398.

Bodie, G. D., Burleson, B. R., Gill-Rosier, J. N., McCullough, J. D., Holmstrom, A. J., Rack, J. J., et al. (2011). Explaining the impact of attachment style on evaluations of supportive messages: A dual-process framework. *Communication Research*, *38*, 228–247. doi:10.1177/0093650210362678

Bodie, G. D., Burleson, B. R., Holmstrom, A. J., Rack, J. J., McCullough, J. D., Hanasono, L., & Gill Rosier, J. (2011). Effects of cognitive complexity and emotional upset on processing supportive messages: Two tests of a dual-process theory of supportive communication outcomes. *Human Communication Research*, *37*, 350–376. doi:10.1111/j.1468-2958.2011.01405.x

Burleson, B. R. (1990). Comforting as everyday social support: Relational consequences of supportive behaviors. In S. Duck (Ed.), *Personal relationships and social support* (pp. 66–82). London, UK: Sage.

Burleson, B. R. (1994). Comforting messages: Features, functions, and outcomes. In J. A. Daly & J. M. Wiemann (Eds.), *Strategic interpersonal communication* (pp. 135–161). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Burleson, B. R. (2003). Emotional support skill. In J. O. Greene & B. R. Burleson (Eds.), *Handbook of communication and social interaction skills* (pp. 551–594). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Burleson, B. R. (2008). What counts as effective emotional support? Explorations of individual and situation differences. In M. T. Motley (Ed.), *Studies in applied interpersonal communication*. Thousand Oaks, CA: Sage.

Burleson, B. R. (2009). Understanding the outcomes of supportive communication: A dual-process approach. *Journal of Social and Personal Relationships*, *26*, 21–38. doi:10.1177/0265407509105519

Burleson, B. R. (2010). Explaining recipient responses to supportive messages: Development and tests of a dual-process theory. In S. W. Smith & S. R. Wilson (Eds.), *New directions in interpersonal communication* (pp. 159–179). Thousand Oaks, CA: Sage.

Burleson, B. R., & Goldsmith, D. J. (1998). How the comforting process works: Alleviating emotional distress through conversationally induced reappraisals. In P. A. Andersen & L. K.

Guerrero (Eds.), *Handbook of communication and emotion: Research, theory, applications, and contexts* (pp. 245–280). San Diego, CA: Academic Press.

Burleson, B. R., Hanasono, L., Bodie, G. D., Holmstrom, A. J., Rack, J. J., Gill-Rosier, J. N., & McCullough, J. D. (2009). Explaining gender differences in responses to supportive messages: Two tests of a dual-process approach. *Sex Roles*, *61*, 265–280.

Burleson, B. R., & Samter, W. (1985). Individual differences in the perception of comforting messages: An exploratory investigation. *Central States Speech Journal*, *36*, 39–50. doi:10.1080/10510978509363198

Burns, J., Labbe, E., Williams, K., & McCall, J. (1999). Perceived and physiological indicators of relaxation: As different as Mozart and Alice in Chains. *Applied Psychophysiology and Biofeedback*, *24*, 197–202. doi:10.1023/A:1023488614364

Cacioppo, J. T., & Petty, R. E. (1981). Social psychological procedures for cognitive response assessment: The thought-listing technique. In T. V. Merluzzi, G. R. Glass, & M. Genest (Eds.), *Cognitive assessment* (pp. 309–342). New York, NY: Guilford Press.

Cantor, N., & Mischel, W. (1979). Prototypes in person perception. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 12, pp. 3–51). New York, NY: Academic Press.

Chow, G. C. (1960). Tests of equality between sets of coefficients in two linear regressions. *Econometrica*, *28*, 591–605. doi:http://links.jstor.org/sici?sici=0012-9682%28196007%2928%3A3%3C591%3ATOEBSO%3E2.0.CO%3B2-H

Clark, R. A., Pierce, A. J., Finn, K., Hsu, K., Toosley, A., & Williams, L. (1998). The impact of alternative approaches to comforting, closeness of relationship, and gender on multiple measures of effectiveness. *Communication Studies*, *49*, 224–239. doi:10.1080/10510979809368533

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Collins, N. L., & Feeney, B. C. (2000). A safe haven: An attachment theory perspective on support-seeking and caregiving in adult romantic relationships. *Journal of Personality and Social Psychology*, *78*, 1053–1073. doi:10.1037/0022-3514.78.6.1053

Dillard, J. P., Shen, L., & Vail, R. G. (2007). Does perceived message effectiveness cause persuasion or vice versa? 17 consistent answers. *Human Communication Research*, *33*, 467–488. doi:10.1111/j.1468-2958.2007.00308.x

Dillard, J. P., Weber, K. M., & Vail, R. G. (2007). The relationship between the perceived and actual effectiveness of persuasive messages: A meta-analysis with implications for formative campaign research. *Journal of Communication*, *57*, 613–631. doi:10.1111/j.1460-2466.2007.00360.x

Dillard, J. P., & Ye, S. (2008). The perceived effectiveness of persuasive message: Questions of structure, referent, and bias. *Journal of Health Communication*, *13*, 149–168. doi:10.1080/10810730701854060

Efron, B., & Tibshirani, R. J. (1993). *An introduction to the bootstrap*. Boca Raton, FL: CRC Press.

Goldsmith, D. J. (1994). The role of facework in supportive communication. In B. R. Burleson, T. L. Albrecht, & I. G. Sarason (Eds.), *Communication of social support: Messages, interactions, relationships, and community* (pp. 29–49). Thousand Oaks, CA: Sage.

Goldsmith, D. J. (2004). *Communicating social support*. New York, NY: Cambridge University Press.

Goldsmith, D. J., McDermott, V. M., & Alexander, S. C. (2000). Helpful, supportive, and sensitive: Measuring the evaluation of enacted support in personal relationships. *Journal of Social and Personal Relationships*, *17*, 369–391. doi:10.1177/0265407500173004

Holahan, C. J., Moos, R. H., & Bonin, L. (1997). Social support, coping, and psychological adjustment: A resource model. In G. R. Pierce, B. Lakey, I. G. Sarason, & B. R. Sarason (Eds.), *Sourcebook of social support and personality* (pp. 169–186). New York, NY: Plenum.

Holmstrom, A. J., Burleson, B. R., & Jones, S. M. (2005). Some consequences for helpers who deliver "cold comfort": Why it's worse for women than men to be inept when providing emotional support. *Sex Roles*, *53*, 153–172. doi:10.1007/s11199-005-5676-4

Jones, S. M. (2004). Putting the person into person-centered and immediate emotional support: Emotional change and perceived helper competence as outcomes of comforting in helping situations. *Communication Research*, *32*, 338–360. doi:10.1177/0093650204263436

Jones, S. M., & Guerrero, L. K. (2001). Nonverbal immediacy and verbal person-centeredness in the emotional support process. *Human Communication Research*, *4*, 567–596. doi:10.1111/j.1468-2958.2001.tb00793.x

Jones, S. M., & Wirtz, J. (2006). How does the comforting process work? An empirical test of an appraisal-based model of comforting. *Human Communication Research*, *32*, 217–243. doi:10.1111/j.1468-2958.2006.00274.x

MacGeorge, E. L., Feng, B., & Burleson, B. R. (2011). Supportive communication. In M. L. Knapp & J. A. Daly (Eds.), *Handbook of interpersonal communication* (4th ed., pp. 317–354). Thousand Oaks, CA: Sage.

MacKinnon, D. P. (2008). *Introduction to statistical mediation analysis.* Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, *39*, 99–128. doi:10.1207/s15327906mbr3901-4

Moskowitz, G. B., Skurnik, I., & Galinsky, A. D. (1999). The history of dual-process notions, and the future of preconscious control. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 12–36). New York, NY: Guilford Press.

Petty, R. E., & Wegener, D. T. (1998). Attitude change: Multiple roles for persuasion variables. In D. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 1, pp. 323–390). New York, NY: McGraw-Hill.

Preacher, K. J., & Hayes, A. F. (2008a). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*, 879–891. doi:10.3758/BRM.40.3.879

Preacher, K. J., & Hayes, A. F. (2008b). Contemporary approaches to assessing mediation in communication research. In A. F. Hayes, M. D. Slater, & L. B. Snyder (Eds.), *The Sage sourcebook of advanced data analysis methods for communication research* (pp. 13–54). Thousand Oaks, CA: Sage.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, *42*, 185–227. doi:10.1080/00273170701341316

Robinson, M. D., & Clore, G. L. (2002). Belief and feeling: Evidence for an accessiblity model of emotional self-report. *Psychological Bulletin*, *128*, 934–960. doi:10.1037//0033-2909.128.6.934

Todorov, A., Chaiken, S., & Henderson, M. D. (2002). The heuristic-systematic model of social information processing. In J. P. Dillard & M. Pfau (Eds.), *The persuasion handbook: Developments in theory and practice* (pp. 195–211). Thousand Oaks, CA: Sage.

Uchino, B. N. (2004). *Social support and physical health: Understanding the health consequences of relationships.* New Haven, CT: Yale University Press.

Wegener, D. T., Downing, J., Krosnick, J. A., & Petty, R. E. (1995). Strength-related properties of attitudes: Measures, manipulations, and future directions. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 455–487). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.