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# Conflict and support interactions in marriage: An analysis of couples' interactive behavior and on-line cognition

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LESLEY L. VERHOFSTADT,<sup>a</sup> ANN BUYSSE,<sup>a</sup> WILLIAM ICKES,<sup>b</sup>  
ARMAND DE CLERCQ,<sup>a</sup> AND OLIVIER J. PEENE<sup>a</sup>

<sup>a</sup>*Ghent University, Belgium* and <sup>b</sup>*University of Texas at Arlington*

## Abstract

The present study examined the similarities and differences in couples' interactive behavior and interaction-based cognition that emerged in comparisons of conflict and support interactions in marriage. In a laboratory experiment, 53 couples were randomly assigned to the conditions of a 2 (type of interaction: conflict vs. support) × 2 (initiator of interaction: man vs. woman) factorial design. Partners provided questionnaire data and participated in a joint interaction and video review task. The data revealed substantial behavioral similarities (i.e., some classes of validation/facilitation behaviors and neutral problem-solving behaviors) as well as behavioral differences (i.e., some classes of invalidation/oppositional behaviors) between conflict and support interactions, controlling for levels of marital satisfaction. Partners' interaction-based cognition (e.g., feeling understood, satisfied) was especially affected by classes of validation/facilitation behaviors and was consistently related to marital satisfaction. In broad terms, the impact of a particular behavior on partners' ongoing cognition did not depend on the interaction domain (conflict vs. support) in which the behavior occurred.

Until recently, there has been little interchange between the marital conflict and the social support literatures, although their integration is advocated as one of the promising new directions for both research areas (Fincham, 2003; Pasch, Bradbury, & Sullivan, 1997; Sarason, Sarason, & Pierce, 1994). The present article promotes this integration by reporting the results of a study that aimed to study both conflict and support interactions in their marital context.<sup>1</sup> A second goal of the present study was to analyze pro-

cesses that span both types of interaction (conflict and support) and to explore the similarities and differences between them. A third goal of the present study was to simultaneously investigate behavioral and cognitive aspects of conflict and support interactions and to examine the behavior-cognition interface, which has to date been little explored (Bradbury & Fincham, 2001; Bradbury, Fincham, & Beach, 2000; Gottman & Notarius, 2000).

## *Conflict and support interactions in marriage*

In the past, the support and marital research traditions have, for the most part, developed independently of each other. Psychological research on marital functioning has strongly focused on marital conflict (for reviews, see Bradbury et al., 2000; Gottman & Notarius, 2000). By contrast, much of the theory and research on support have focused on how

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Correspondence should be addressed to Lesley L. Verhofstadt, Ghent University, Department of Experimental Clinical and Health Psychology, B-9000 Ghent, Belgium, e-mail: lesley.verhofstadt@ugent.be.

1. Both cohabiting and married couples participated in the present research; to enhance readability, the word "marital" will be used to refer to phenomena concerning cohabiting and married couples.

social support affects individual outcomes (e.g., physical and mental health; for a review, see Cohen, Gottlieb, & Underwood, 2000) and has largely ignored the relationship context in which support is offered and received (Pasch & Bradbury, 1998). Recent summaries of the research findings relevant to social support and marital conflict therefore point to the importance of including spousal support in the study of marital conflict and vice versa (Fincham, 2003; Frazier, Tix, & Barnett, 2003).

From this point of view, conflict and support are two key interpersonal domains in marriage that involve interactions in which marital partners cope jointly with stress, either in their marriage (Bradbury, Rogge, & Lawrence, 2001) or in their personal lives (e.g., Pasch & Bradbury, 1998). Well-functioning couples are assumed to rely on effective communication and problem-solving skills to deal with both marital and personal stressors (Karney & Bradbury, 1995). Conceptualizing spousal conflict and spousal support as sharing the same problem-solving orientation allows researchers to draw meaningful connections between them. However, because the empirical evidence relevant to the question of how similar and different both types of communication episodes are is currently lacking, we must turn to previous theoretical discussions.

It is important not to confound marital domains (i.e., conflict and support) with specific behaviors and to keep in mind that both domains can elicit a range of positive and negative behaviors (Julien, Chartrand, Simard, Bouthillier, & Bégin, 2003). For example, couples' conflict episodes include not only prototypically conflictual behaviors, such as disagreement and invalidation, but also various attempts at repairing the problem, such as validation of the legitimacy of each other's thoughts and feelings, expressions of empathy, offering proposals that take the desires of both spouses into account, and facilitation of the solution of the conflict (Gottman, 1998). During marital conflict, partners are often willing to depart from their direct, self-interested preferences, instead coming to place greater value on prorelationship behav-

ior (Fletcher, Thomas, & Durrant, 1999; Rusbult, Yovetich, & Verette, 1996). Therefore, not all conflicts of interest result in a conflictual discussion but are instead effectively transformed into opportunities for cooperative interaction (Christensen & Pasch, 1993; Fincham & Beach, 1999). In addition, partners have the potential to inhibit or modify their initial reactions and to display behavior that will solve the partners' interaction problem and promote couple well-being (Rusbult et al., 1996). It is further assumed that, in the context of marital conflict, partners may display supportive behaviors to prevent conflicts from escalating in intensity (Cutrona, 1996). However, the occurrence of supportive behavior during conflict interactions may be underestimated because most of the observational research on marital interaction has used methods and coding systems that maximize the likelihood of detecting conflict behavior and minimize the probability of detecting highly supportive behavior (Cutrona).

On the other hand, although the social support literature has emphasized the need of spouses who are encountering stressful events to support and help each other (Cutrona, 1996), it is evident that both major life stressors (e.g., the birth of a child) and daily stressors (e.g., work demands) can increase the potential for marital conflict, either by increasing existing conflicts or by creating new conflicts between the partners' goals (Christensen & Pasch, 1993). Indeed, the results of at least two studies reveal that partners display a range of typically conflict-related behaviors (e.g., blame and denying responsibility, Baxter, 1986; demand-withdrawal, Eldridge, 2000) in what are primarily supportive interactions. The literature on research and therapy with couples presumes that a lack of support, inequitable support transactions, and disappointed expectations concerning a partner's behavior during support interactions are major sources of conflict that precipitate marital and personal distress in relationships (Gleason, Iida, Bolger, & Shrout, 2003; Rugel, 2003). In addition, social support researchers have recognized that a conceptualization of social support as purely positive in nature is limited and that the pres-

ence of negative features of support is particularly important (Pasch, Bradbury, & Sullivan, 1997).

In sum, when partners cope with negative events in their marital or personal lives, a broad range of behaviors are assumed to occur. However, with respect to predicted behavior differences, the normative expectations about what behaviors are appropriate in support interactions are different from those regarding what behaviors are appropriate in conflict interactions. Expectations for support from the spouse have the status of a relationship rule (Baxter, 1986). Specifically, support interactions *prescribe* that a partner is responsive to the other's needs, validates the other's feelings, and facilitates adaptive coping, but support interactions *proscribe* that a partner displays invalidation or oppositional behaviors. On the other hand, a much wider range of behaviors are normatively appropriate for conflict interactions because the implicit script for such interactions allows for the presence of both conflict sequences and repair/support sequences. This means that invalidation and oppositional behavior will be expected and are likely to be observed in conflict interactions, but—as described above—so will validation and facilitation behaviors.

Given this reasoning, we predict that the only behaviors that are likely to differ across the two interaction types are the invalidation/oppositional behaviors because these are the only classes of behavior that are clearly proscribed in support interactions but not in conflict interactions. More specifically, we predict a main effect of domain (i.e., conflict vs. support interaction) on *invalidation/oppositional behavior* (i.e., invalidation, blame, and withdrawal) (Hypothesis 1a). In contrast, no main effect of domain is predicted for the *validating/facilitating behaviors* (i.e., validation, facilitation, emotional, and instrumental support) (Hypothesis 1b) that are normatively appropriate in both conflict and support interactions. Similarly, no main effect of domain is predicted for the classes of *neutral problem-solving behaviors* included in the present research (i.e., proposal for change, problem description, and irrelevant behavior) (Hypothesis 1c).

### *The interface of behavior and cognition*

From the emerging integration of theory and empirical findings from the social support and marital research traditions, another important research goal that has been delineated concerns the need to better integrate the behavioral and cognitive aspects of both conflict and support interaction (Pasch, Bradbury, & Sullivan, 1997). For example, much of the research on marital conflict has been guided by models that highlighted observable, interactional behavior and deemphasized individual spousal perceptions (for a review, see Gottman, 1998). It is only in the last decade that intrapersonal variables relevant to understanding marriage have received renewed attention (Fincham, 1994). Conversely, early social support theories emphasized general perceived social support, and they regarded support as a personal experience, rather than a set of interactional processes (e.g., Turner, Frankel, & Levin, 1983). It is only more recently that researchers have focused on actual support behavior (e.g., Pasch, Bradbury, & Davila, 1997).

Based on this observation, the present study sought to investigate not only the behavioral reactions but also the associated cognitions that partners evince in response to marital conflict and support. In addition, we examined the behavior-cognition interface during these communication episodes, which has to date been little explored (Bradbury & Fincham, 2001; Bradbury et al., 2000; Gottman & Notarius, 2000).

Spouses' cognitive and emotional experience of the interactions may vary as a function of both the interaction types (conflict vs. support) but will also be affected by the behavior enacted by their partner during marital interaction (e.g., Bradbury & Fincham, 1991). Apart from a few notable exceptions (as outlined below), the interface between the partners' behavior and their associated cognition during marital interaction has received inadequate research attention (Gottman & Notarius, 2000). Fletcher and his colleagues examined on-line cognition during marital conflict and reported that spouses' positive on-line cognition during conflict interactions

was associated with the positive verbal content of the interaction (Fletcher & Fitness, 1990; Fletcher & Thomas, 2000). Complementing these conflict interaction studies, Carels and Baucom (1999) analyzed on-line cognition in couples' support interactions. They reported that the amount of emotional support offered contributed to the experience of feeling supported by one's partner during such interaction sequences.

Although the interaction-based cognitive-emotional processes are especially important to our understanding of communication and the developmental course of marital interaction, little is known about which partner behaviors have positive or negative impacts (or no impact at all) on how spouses experience marital interaction (Sillars, Robert, Leonard, & Dun, 2000). Given the dearth of research examining the behavior-cognition interface, the question of whether the impact of a particular behavior depends on the kind of interaction the spouses are currently involved in remains largely unanswered. Cutrona and Suhr (1994) have speculated, however, that the specific context in which couples interact plays a major role in the salience of different classes of behavior in spouses' experience of the interaction.

When analyzing on-line cognition in the present study, we therefore made procedural distinctions between *behavior* effects and *domain* effects (conflict vs. support) (cf. Julien et al., 2003). We were also careful to test for the presence of significant behavior  $\times$  domain interaction effects because a given behavior might have a different meaning and psychological impact in conflict versus support interactions (Julien et al.).

In line with our earlier predictions (Hypotheses 1a, 1b, and 1c) about *expected behavioral differences* between conflict and support interactions, we posit the following corresponding predictions about *expected cognitive-emotional differences* in the two interaction contexts. These predictions follow from the same basic argument outlined above. Because the expectation of support from an intimate partner is an important part of the implicit marital contract (Cutrona, 1996), it will provide a way for partners to evaluate

the quality of their interaction with each other and serve as a foundation for many of the feelings they experience toward their relationship partner (Vangelisti & Alexander, 2000).

Accordingly, we can assume that very clear norm violations occur when partners display invalidation or oppositional behaviors in the context of support interactions. That is, your partner is supposed to act supportive and facilitating in such interactions, so invalidating and/or oppositional behaviors clearly violate the norm and are upsetting insofar as they suggest that the partner is acting in a manner that is contrary to what the situation calls for. On the other hand, because these same two classes of behavior are normatively appropriate in conflict interactions, the recipient of these behaviors should not find them as upsetting when they occur in this context. We therefore predict that the cognitive-emotional reactions to one's partner's invalidation or oppositional behaviors should be more negative in the context of a support interaction than in the context of a conflict interaction (Hypothesis 2a).

In contrast to the preceding case, no clear-cut norm violations occur when partners display either validation or facilitation behaviors in a conflict interaction. That is, conflict interactions allow for and contain both conflict sequences and repair/support sequences, and validation and facilitation behaviors are normatively appropriate during the repair/support sequences. However, if the partner can rise above his or her current grievances, set aside angry feelings, and be validating to the other partner, he or she may be doubly appreciative (Cutrona, 1996). Because validation/facilitation behaviors benefit from a strong contrast effect in comparison to the more normatively anticipated invalidation/oppositional behaviors that typically occur in conflict interactions, we predict that recipients' cognitive-emotional reactions to these classes of behaviors (i.e., validation, facilitation, emotional, and instrumental support) should be more positive in the context of a conflict interaction than in the context of a support interaction (Hypothesis 2b).

Finally, and based on similar reasoning, we predict that there should be no differences in recipients' cognitive-emotional reactions to

more neutral problem-solving classes of behavior (i.e., problem description, irrelevant, and proposal for change) across the two types of interactions (conflict vs. support) (Hypothesis 2c).

### *The marital context of conflict and support interactions*

Another important goal of the present study was to analyze partners' behavioral reactions and associated cognitions during conflict and support interactions, by taking the relationship context in which they occur into account (see Reis, Collins, & Berscheid, 2000). Marital satisfaction—referring to the partners' overall evaluations of the quality of their relationship—was examined as a global variable pertaining to the couple's relationship as a whole that has a generalized influence on communication across several situations (Bradbury & Fincham, 1991; Sanford, 2003). Evidence has accumulated showing that marital satisfaction is associated with relationship interactive behavior: Spouses who are more satisfied with the relationship display more positive and less negative behavior when resolving conflict (e.g., Bradbury & Fincham, 1992; Fincham, 2003; Fletcher & Fitness, 1990; Fletcher & Thomas, 2000) and in support interactions (e.g., Gurung, Sarason, & Sarason, 1997; Pasch, Bradbury, & Sullivan, 1997).

There is evidence that marital satisfaction is related to a number of important cognitive-emotional variables as well (see Fincham, 1994, for an overview). For example, a considerable amount of research has focused on the relations between marital satisfaction and the attributions spouses make regarding their partners' behavior during conflicts in the relationship. In general, the results indicate that spouses who are more satisfied are less inclined to attribute the causes and blame to their partner for relationship problems (Bradbury et al., 2000). Marital satisfaction has also been linked to more positive on-line cognitions (Fletcher & Fitness, 1990) and higher ratings of perceived agreement and understanding (A. L. Sillars, Weisberg, Burggraf, & Zietlow, 1990) following conflict. Researchers have also explored the associations between

marital satisfaction and cognitive-emotional variables in supportive interactions: Higher ratings on marital satisfaction were found to be associated with more support-related feelings (Pasch, Bradbury, & Sullivan, 1997), higher ratings for partner supportiveness (Cutrona, Cohen, & Igram, 1990; Cutrona & Suhr, 1994), and perceptions of support helpfulness (Carels & Baucom, 1999).

Therefore, when examining the behavioral and cognitive similarities and differences between conflict and support interactions (Hypothesis 1) and when testing for the unique impact(s) that particular behaviors might have on on-line cognition in both conflict and support interactions (Hypothesis 2), couples' relationship context was taken into account.

### *The present research*

Although the present study includes some research questions that have already been examined, it goes beyond previous research on marital interaction in the following ways. First, we have focused on spousal conflict and spousal support concurrently and have formulated hypotheses about how these phenomena differ in terms of the behavioral and cognitive reactions they elicit in partners. Very few researchers have examined both types of communication episodes within the same investigation, and their studies were not designed for the intentional comparison of conflict and support interactions (e.g., Cutrona & Suhr, 1994; Julien et al., 2003; Pasch & Bradbury, 1998; Pasch, Bradbury, & Davila, 1997).

Second, in part, because of the complexity of such research, the behavior-cognition interface has received inadequate attention in marital interaction research (Gottman & Notarius, 2000; Reis & Collins, 2000). To address this concern, the present study included a test of the unique impact of particular behaviors displayed by the partner during conflict and support interactions on the other partner's on-line cognition. Most of the earlier research on the behavior-cognition interface during marital interaction has analyzed behavior and cognition in terms of their positivity or negativity (e.g., Fletcher &

Fitness, 1990; Fletcher & Thomas, 2000). In the present research, we have elaborated on the findings of this earlier research by analyzing the behavior-cognition interface during conflict and support interactions at a micro-analytic behavioral and cognitive level.

To achieve a comprehensive coverage of behaviors that occur during both conflict and support interactions, we included in the present study a range of behaviors that reflect a validation/facilitation dimension (i.e., validation, facilitation, emotional, and instrumental support), an invalidation/oppositional behavior dimension (i.e., invalidation, blame, and withdrawal), and a neutral problem-solving dimension (i.e., proposal for change, problem description, and irrelevant behavior). To assess partners' cognitive-emotional reactions during conflict and support interactions, we included experiences of being understood (Ickes & Simpson, 1997, 2001) and being satisfied with the interaction, experiences of how positive (Hojjat, 2000) and constructive (Canary, Cupach, & Messman, 1995) the interaction was, experiences of being unassisted with the problem, and experiences of being helped and supported (Carels & Baucom, 1999).

## Method

### *Participants*

The sample consisted of the 106 members of 53 Belgian heterosexual couples. The participants were solicited by using two methods. First, advertisements were placed in magazines and newspapers recruiting couples who were willing to participate in a research project on close relationships. Second, a team of research assistants recruited couples whom they encountered in shopping areas.

The couples who responded positively to either recruitment method were given a standard description of the project and were evaluated for their eligibility to participate. To participate, the members of each couple had to have been involved in their heterosexual relationship for at least one year and to be married or cohabiting for at least six months. The eligible couples who expressed interest in the study were scheduled to attend a labora-

tory session. The mean ages for the men and the women were 36.25 ( $SD = 12.21$ , range = 20–68) and 34.24 ( $SD = 11.65$ , range = 19–57), respectively. On average, the men and the women had completed 14.42 ( $SD = 2.00$ , range = 6–17) and 15.11 ( $SD = 1.85$ , range = 6–17) years of education, respectively. The couples had an average of 0.96 children ( $SD = 1.28$ , range = 0–5). The average length of their relationships was 9.31 years ( $SD = 10.81$ , range = 1–35). Thirty-two of the couples were married (60%) and 21 of the couples were cohabiting (40%).

### *Procedure*

After providing their informed consent,<sup>2</sup> the participants completed a set of relationship questionnaires. For the purposes of the present study, only the marital satisfaction data have been included. In addition, the participants rated the extent to which they had discussed a number of marital problems (e.g., childcare, household tasks) with their partner, using a series of 5-point Likert scales (1 = *never*, 5 = *very often*). Similarly, they rated the extent to which they had discussed a number of personal problems with their partner. A personal problem was defined as any problem the source of which was not the partner or the relationship (e.g., dealing with work stress, accepting a personal challenge).

*Interaction session.* We used a laboratory paradigm similar to those used in previous studies of marital conflict (e.g., Fletcher & Thomas, 2000) and support (e.g., Julien et al., 2003; Pasch & Bradbury, 1998) interactions. The participants were led into a laboratory that was furnished as a living room and was equipped so that the couple's interaction could be videotaped with their prior knowledge. Depending on the condition to which each couple was randomly assigned, they were asked to discuss either a salient marital or a salient personal problem, and one that

2. Ethical procedures were followed in accordance to American Psychological Association guidelines. Standardized procedures and instructions were used during the data collection phases.

was formally designated as being either the man's or the woman's problem, with the other partner.<sup>3</sup> Accordingly, the partners selected either the most salient marital problem or the most salient personal problem (i.e., the one that received the highest frequency-of-discussion rating from either the man's or the woman's list).

When the partners had agreed to discuss the issue, they were instructed to try to act much as they would at home when discussing an important marital or personal problem with each other. The partners were allowed to interact as long as they considered necessary, up to a maximum time limit of 30 min.

*Video review procedure.* Immediately after their interaction had been recorded, the partners completed a video review task (e.g., Fletcher & Thomas, 2000; Sillars et al., 2000; Simpson, Ickes, & Blackstone, 1995). The partners were asked to imagine living through and reexperiencing their interaction again while they each viewed a videotaped copy of the interaction. At random yet regular points of time, the videotape paused automatically and the participants were instructed to report their on-line cognition at that *specific* point of time in the interaction. This computerized procedure (VIDANN, video annotation system, De Clercq et al., 2001) served the purpose of selecting a number of random time samples from the interaction. These time samples were defined as the 3-s intervals immediately before the computer paused the videotaped interaction.

The samples were assumed to be representative of the entire course of the interaction in terms of the partners' behavior and on-line cognition. To ensure that we would obtain a comparable number of time samples for each couple, we programmed the computer to pause every 30 s when the interaction lasted for less than 10 min, every 45 s when the interaction lasted between 10 and 15 min, and every 60 s

when the interaction lasted for more than 15 min. This procedure resulted in an average number of 17 time samples (minimum 8 to maximum 30) for each couple, independent of the total duration of their interaction.<sup>4</sup> At the end of the session, the members of each couple were fully debriefed.

### Measures

*Observational measures.* The behavioral data were analyzed with a coding system based on the Marital Interaction Coding System-IV (MICS-IV; Heyman, Weiss, & Eddy, 1995) and the Social Support Interaction Coding System (SSICS, Bradbury & Pasch, 1994). Eight MICS-IV; categories were used for this study: (a) *problem description*, (b) *blame* (e.g., criticize, mindread negative, put down, turn off), (c) *proposal for change* (e.g., compromise, offer solutions), (d) *irrelevant* (e.g., unintelligible talk), (e) *validation* (e.g., agree, approve, accept responsibility, comply), (f) *invalidation* (e.g., disagree, disapprove, deny responsibility, excuse, non-comply), (g) *facilitation* (e.g., assent, disengage, humor, mindread positive, positive touch), and (h) *withdrawal* (e.g., avoiding, closing off the other). In addition, we used two SSICS categories to assess (i) *instrumental support behavior* (e.g., suggests a specific plan, offers assistance or constructive feedback), and (j) *emotional support behavior* (e.g., reassurance, expression of care, understanding, consolation).

Applying the same VIDANN application as during the video review task, the behavioral data were coded as follows: While observers watched the couple's videotaped interaction, the computer program paused the videotape at exactly the same moments in the interaction as during the video review task. Our trained observers then coded the behav-

3. The gender of the interaction initiator (man vs. woman) was counterbalanced. Because it was a procedural manipulation that helped to ensure variability, this factor was not included in the statistical analyses.

4. Eighteen and a half percent of the couples had an interaction that lasted less than 10 min, 24% of the couples had an interaction of between 10 and 15 min, and 57.5% of the couples had an interaction of more than 15 min. The participants' average behavior and on-line cognition scores did not differ as a function of the duration of their interaction. Detailed results are available from the first author.

iors that occurred during the 3-s time samples that were selected for the video review task. Using the behavioral cues that were available during each time sample, the trained observers coded for the presence or absence of each behavioral category included in the present study. Each time sample could potentially include none, one, or some of these behaviors.

A male and a female clinical psychologist were trained as the data coders. They began by memorizing the description of the various behavioral categories, and then practice coded a set of pilot tapes. They then compared their scoring and discussed their coding problems with each other. With respect to each of the interactions included in the data for the present study, they were told only whose issue was discussed (man's vs. woman's issue) and were kept "blind" with respect to all of the other variables being studied. During the actual coding process, the trained observers viewed the entire interaction before coding it and then separately coded the behavior of each partner in each interaction, alternating between the man's and woman's behavior.

Twenty percent of the interactions were coded by both observers, and the levels of interobserver agreement were calculated with Cohen's kappa for each of the behaviors that were coded. The kappa values we obtained ranged from .60 to .75 for emotional and instrumental support behavior, validation, and facilitation, and the kappa values were .75 or greater for problem description, blame, proposal for change, irrelevant behavior, invalidation, and withdrawal. All of the interobserver kappa values indicated good levels of interobserver reliability (Fleiss, 1981).

In addition to the coding procedure outlined above, another behavioral analysis was conducted that involved rating longer time intervals of 30, 45, or 60 s (as opposed to the 3-s time samples that were used in the previous behavioral coding). An independent team of two observers was trained to use the available behavioral cues to rate the partners' behaviors on 7-point Likert scales (1 = *not at all*, 7 = *very much*). These more subjective ratings were significantly correlated with the more objective behavioral coding, indicating that the behavior displayed during the 3-s

intervals was to some extent representative of the behavior displayed during more extended interaction sequences. The interobserver alphas ranged from .62 to .86, indicating adequate interobserver reliability.

### *Self-report measures*

*Marital satisfaction.* Marital satisfaction was assessed with the Dyadic Adjustment Scale (DAS, Spanier, 1976), a widely used self-report measure. In the present study, the internal consistency (using Cronbach's alpha) of the DAS was .90 for men and .90 for women. The men and women reported average marital satisfaction scores of 114.18 ( $SD = 11.64$ , range = 84–135) and 115.13 ( $SD = 11.33$ , range = 80–139), respectively.<sup>5</sup>

*On-line cognition.* On-line cognition was assessed by means of 7-point rating scales (1 = *not at all*, 7 = *very much*) on which the partners indicated the extent to which they (a) felt that they were being understood during the interaction, (b) were satisfied with the interaction, (c) considered the interaction to be positive, (d) considered the interaction to be constructive, (e) felt isolated with their problem (felt that they were left to rely on their own resources and stand unassisted with their problem, either marital or personal), (f) felt helped, and (g) felt supported during the interaction. In addition, the partners rated the extent to which their interaction was conflictual and the extent to which their interaction was realistic.

## **Results**

### *Manipulation checks*

To determine whether our experimental manipulation had its intended effect on the

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5. The scores for marital satisfaction, behavior, and on-line cognition of the men and women were significantly correlated (ranging from  $r = .27$ ,  $p < .05$ , to  $r = .76$ ,  $p < .001$ ), and their mean scores did not differ significantly. Therefore, the couple served as the unit of analysis, and gender differences are not discussed further. A couple score was computed for all variables by averaging the scores of both partners.

participants (Aronson, Wilson, & Brewer, 2001), we tested to see if the conflict interactions were rated by the participants and the observers (on the 7-point scale described above) as more conflictual than the support interactions. As expected, both the couples and the observers rated the conflict interactions as being more conflictual than the support interactions,  $F(1, 51) = 20.38, p < .001$  (mean conflict value: conflict interactions = 2.63, support interactions = 1.64), and  $F(1, 51) = 13.33, p < .001$  (mean conflict value: conflict interactions = 1.55, support interactions = 1.14), respectively. These ratings were independent of the participant's gender.

In addition, we tested for the perceived "reality value" of the interactions. Overall, the participants judged their interactions as being quite realistic, with a mean score of 5.31 ( $SD = 0.71$ ) on a 7-point scale (1 = *not at all*, 7 = *very much*), a value that is significantly higher than the scale midpoint,  $t(52) = 13.32, p < .001$ . These ratings were independent of interaction topic and the participant's gender.

#### *Construction of dependent variables*

The measures derived from our observer coding were computed as follows. We reduced the coding of each behavioral category obtained for each time sample to the percentage of behavior displayed during the interaction, using the number of times the behavioral category was present as the numerator and the total number of time samples during the entire interaction as the denominator. This percentage-of-behavior index was used in the analyses reported below. It reflects how often a particular behavior was displayed during the total number of time samples selected in the interaction.

Several steps were involved in constructing the participants' on-line cognition measures. First, for each time sample, a single on-line cognition score was computed by averaging the scores of each participant on the seven cognitive dimensions (e.g., understood, satisfied). The analyses (reported below) testing for the association between our independent variables and each of the seven cognitive

dimensions revealed comparable results (more detailed results are available from the first author). The average internal consistency for this composite score was good ( $\alpha = .78$ ). We used this composite score in our subsequent analyses because it helped to reduce the number of variables while still preserving the theoretical distinctions among the various dimensions. This score reflected the participants' experience of their interaction, with higher scores reflecting a more positive experience of the interaction in terms of being understood, satisfied, and so forth.

Second, as described previously, the same interaction samples were used to assess the participants' behavior and cognition. Because the observers' behavioral coding and the participants' on-line reports referred to the same aspects of the interaction, we sought to determine their empirical correspondence. To this end, we first averaged the composite cognition scores of one participant across the time samples in which their partner displayed a particular behavior (e.g., withdrawal). Similarly, we then averaged the composite cognition scores of the participant across the time samples in which their partner was *not* displaying the target behavior (e.g., withdrawal). As a result, the on-line cognition indexes that were used in the subsequent analyses consisted of a two-level repeated factor for behavior (target behavior present vs. not present).

The average internal consistencies for those on-line cognition indexes across the several time samples ranged from .90 to .97. These high alpha values justified our decision to aggregate the on-line cognition scores for the various time samples into a global index for on-line cognition during the interaction. For each couple, 10 of these on-line cognition indexes were constructed, one for each of the behaviors included in the study. Each of these summary indexes represents the participants' experience of the interaction when their partner displayed/did not display a particular behavior.

Two additional remarks should be made. First, because our preliminary analyses revealed no significant gender differences in behavior or cognition, the on-line cognition indexes were computed at the dyad level.

Consistent with this aggregation procedure, the scores for behavior as well as for on-line cognition were averaged across both partners.<sup>5</sup> Second, the fact that the construction of the on-line cognition variable for each behavior is based on a varying number of couples can be explained by the fact that an on-line cognition index could only be computed for those couples who actually displayed that particular behavior.

#### *Behavioral differences between conflict and support interactions*

To test whether participants' behavior during marital interaction differed as a function of interaction topic, a series of univariate analyses of covariance (ANCOVAs) were conducted, with interaction type (conflict vs. support) entered as a between-couples factor and marital satisfaction entered as a covariate. The between-couples factor of interaction type corresponds with the two experimental conditions in our factorial design. Because of associations between marital satisfaction on the one hand and interactive behavior (e.g., Bradbury & Fincham, 1992) and on-line cognition (e.g., Fletcher & Thomas, 2000) on the other hand, marital satisfaction was controlled as a covariate in all analyses. Including marital satisfaction as covariate in the analyses allowed us to assess the effect of interaction type on our dependent variables after removal of the effect of marital satisfaction<sup>6</sup> (Tabachnick & Fidell, 2001).

*Hypothesis 1a.* As predicted, the ANCOVAs yielded significant main effects of interaction type on the behavioral measures of invalidation,  $F(1, 50) = 8.77, p < .01$ , and blame,  $F(1, 50) = 8.49, p < .01$ . In contrast, the univariate ANCOVAs revealed no significant differences between conflict and support

interactions for the behavioral measures of withdrawal,  $F(1, 50) = 0.53, ns$ . These results indicate that partners displayed significantly *less* invalidation and blame behavior but *just as much* withdrawal behavior during support interactions than during conflict interactions (see Table 1). Table 1 reports the mean proportions, standard deviations, and univariate  $F$  values for the various behaviors as a function of type of interaction.

*Hypothesis 1b.* As predicted, the univariate ANCOVAs revealed no significant differences between conflict and support interactions for the behaviors reflecting validation,  $F(1, 50) = 1.08, ns$ , and instrumental support,  $F(1, 50) = 2.15, ns$ . Contrary to our predictions, the ANCOVAs revealed a significant main effect of type of interaction on the behaviors reflecting facilitation,  $F(1, 50) = 3.75, p < .05$ , and emotional support,  $F(1, 50) = 13.69, p < .01$ . These results indicate that partners displayed significantly *more* facilitation and emotional support behavior during support interactions than during conflict interactions, but they displayed *comparable levels* of validation and instrumental support during both communication episodes.

*Hypothesis 1c.* In line with our predictions, no significant main effects of interaction type were revealed on neutral problem-solving behaviors, including proposal for change,  $F(1, 50) = 0.06, ns$ , problem description,  $F(1, 50) = 1.14, ns$ , and irrelevant behavior,  $F(1, 50) = 1.17, ns$  (see Table 1).

Finally, and perhaps surprisingly, the ANCOVAs revealed no significant main effects of marital satisfaction on any of the behaviors included in the analyses (see Table 1). These null findings suggest that marital satisfaction was not a significant predictor of the behaviors that the partners displayed during the conflict and support interactions.

#### *Analyses of partners' cognitive-emotional responses during conflict and support interactions*

To address the question of whether the participants' on-line cognition would differ as a

6. Preliminary analyses revealed that the interactions among the covariate and the between-couples factor (in Hypothesis 1) and among the covariate and the between/within-couples factors (in Hypothesis 2) were not significant. Therefore, the interactions with the covariate were no longer included in the ANCOVAs reported in the Results section.

**Table 1.** Mean proportions, standard deviations, and univariate *F* values for interactive behavior as a function of interaction type

	Conflict interaction ( <i>n</i> = 25)		Support interaction ( <i>n</i> = 28)		Interaction type <i>F</i> (1, 50)	Marital satisfaction <i>F</i> (1, 50)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Validation/facilitation behaviors						
Validation	0.18	0.12	0.21	0.11	1.08	1.03
Facilitation	0.32	0.15	0.42	0.16	3.75*	2.46
Emotional support	0.32	0.24	0.54	0.19	13.69**	0.37
Instrumental support	0.17	0.16	0.22	0.15	2.15	1.66
Invalidation/oppositional behaviors						
Invalidation	0.22	0.11	0.12	0.10	8.77**	0.04
Blame	0.13	0.13	0.04	0.08	8.49**	0.32
Withdrawal	0.09	0.10	0.11	0.08	0.53	0.03
Neutral problem-solving behaviors						
Proposal for change	0.08	0.08	0.07	0.09	0.06	0.10
Problem description	0.41	0.13	0.44	0.10	1.14	0.99
Irrelevant	0.02	0.04	0.03	0.04	1.17	1.82

\**p* < .05. \*\**p* < .01.

function of behavior and interaction type, after controlling for marital satisfaction, we conducted a series of 2 (interaction topic: conflict vs. support) × 2 (behavior: present vs. not present) repeated measures ANCOVAs with interaction type entered as a between-couples factor and behavior (present vs. absent, tested for each of the behaviors separately) entered as a within-couples factor. As before, marital satisfaction was entered as a covariate. Our rationale for using ANCOVA was the same as that provided for our tests of Hypothesis 1. The two levels of the within-couples factor indicate how the on-line cognition measures varied when one compares the times when a particular behavior was present versus not present.

*Hypothesis 2a.* Contrary to our predictions, the interaction between the specific invalidation, *F*(1, 47) = 0.01, *ns*, blame, *F*(1, 27) = 1.45, *ns*, and withdrawal, *F*(1, 36) = 0.13, *ns*, behaviors and the participants' current interaction context (conflict vs. support)

did not reach significance. These results are reported in Table 2. Table 2 reports the means, standard deviations, and univariate *F* values for the participants' on-line cognition as a function of the type of interaction they were engaged in and the specific behaviors that their partner did (or did not) display.

However, the analyses revealed a significant main effect for the class of behaviors that reflects invalidation on the recipient's cognitive-emotional reactions. The participants' on-line cognition was negatively affected by their partner behaving in a way that was invalidating, *F*(1, 47) = 10.08, *p* < .01, in both conflict and support interactions. The behavioral main effects for the partner's display of blame, *F*(1, 27) = 0.01, *ns*, and withdrawal, *F*(1, 37) = 0.36, *ns*, on the participants' on-line cognition were not significant (see Table 2).

*Hypothesis 2b.* As predicted, the interaction between interaction type and behavior was significant for the partner's facilitation, *F*(1, 50) = 7.20, *p* < .01, with the partner's

**Table 2.** Means, standard deviations, and univariate *F* values for on-line cognition, as a function of interactive behavior and interaction type

On-line cognition	Conflict interaction				Support interaction				Interaction type	Behavior	Interaction type × behavior
	Behavior not present		Behavior present		Behavior not present		Behavior present				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Validation/facilitation behaviors											
Validation	4.30	0.79	4.41	0.90	4.68	0.75	4.88	0.76	2.65	8.30**	0.27
Facilitation	4.25	0.83	4.59	0.60	4.75	0.79	4.71	0.70	1.08	3.98*	7.20**
Emotional support	4.25	0.85	4.47	0.66	4.79	0.90	4.76	0.84	1.36	0.72	0.78
Instrumental support	4.20	0.77	4.33	0.95	4.74	0.89	4.81	0.87	2.32	3.90*	0.55
Invalidation/oppositional behaviors											
Invalidation	4.38	0.79	4.14	0.95	4.74	0.72	4.51	0.99	1.86	10.08**	0.01
Blame	4.35	0.79	3.91	0.81	4.72	0.73	4.45	1.05	2.51	0.01	1.45
Withdrawal	4.34	0.81	4.49	0.62	4.72	0.73	4.69	0.89	0.44	0.36	0.13
Neutral problem-solving behaviors											
Proposal for change	4.31	0.80	4.40	0.90	4.69	0.73	4.84	0.84	1.56	8.23**	0.02
Problem description	4.37	0.76	4.27	0.86	4.70	0.70	4.72	0.79	2.31	0.72	2.24
Irrelevant	4.33	0.79	4.21	0.68	4.73	0.73	4.63	0.81	0.67	0.01	0.01

Note. On-line cognition was rated on 7-point scales (1 = not at all, 7 = very much).

\* $p < .05$ . \*\* $p < .01$ .

facilitating behaviors having a significant positive impact in conflict interactions where they were presumably nonnormative and less likely to be taken for granted,  $F(1, 23) = 8.63, p < .01$ , but not in support interactions where they were presumably normative and more likely to be taken for granted,  $F(1, 26) = 0.30, ns$  (see Table 2).

In contrast, the univariate ANCOVAs revealed no significant interaction between the specific validation behaviors,  $F(1, 50) = 0.27, ns$ , emotional support behaviors,  $F(1, 42) = 0.78, ns$ , and instrumental support behaviors,  $F(1, 43) = 0.55, ns$ , and participants' current interaction context (conflict vs. support). However, the analyses revealed a significant main effect for the classes of behaviors that reflect validation and instrumental support on the recipient's cognitive-emotional reactions,  $F(1, 50) = 8.30, p < .01$ , and  $F(1, 43) = 3.90, p < .05$ , respectively. When their partner displayed the behaviors that were coded as validation and instrumental support, the participants reported experiencing their interaction in a more positive way, during both conflict and support interactions. In contrast to the partner's instrumental support, however, the partner's emotional support did not have a significant effect on the participants' on-line cognition,  $F(1, 48) = 0.72, ns$  (see Table 2).

*Hypothesis 2c.* In line with Hypothesis 2c, the behavioral interaction effects between classes of neutral problem-solving behavior and type of interaction were not significant: proposal for change,  $F(1, 34) = 0.02, ns$ , problem description,  $F(1, 50) = 2.24, ns$ , and irrelevant behavior,  $F(1, 21) = 0.01, ns$ . However, behaviors that were coded as proposals for change,  $F(1, 34) = 8.23, p < .01$ , had a significant positive impact on participants' on-line cognition during both communication episodes (see Table 2).

Interestingly, the ANCOVAs did not yield any significant main effects of interaction type on on-line cognition, indicating that participants' on-line cognition was not a function of the type of interaction they were involved in (see Table 2).

Finally, the ANCOVAs revealed a significant association between marital satisfaction

and participants' on-line cognition, after controlling for interaction type and the presence of specific behaviors. These analyses are reported in Table 3, which presents the univariate  $F$  values and their standardized regression coefficients for the association between marital satisfaction and on-line cognition, controlling for the behavior displayed by the partner. The Table 3 results indicate that independent of interaction type and independent of the presence or absence of a particular behavior, higher marital satisfaction scores were associated with higher scores on the on-line cognition index (i.e., higher values for the standardized regression coefficients).

**Discussion**

*Rationale and summary of results*

In the present study, we explored the similarities and differences between spousal conflict and spousal support as two important com-

**Table 3.** *Univariate F values with their standardized regression coefficients for the association between marital satisfaction and participants' on-line cognition, controlling for their partners' interactive behavior*

	On-line cognition index		
	<i>F</i>	<i>df</i>	$\beta$
Validation	13.23**	1, 49	.45
Facilitation	9.97**	1, 48	.41
Emotional support	6.54*	1, 41	.37
Instrumental support	7.05*	1, 42	.37
Invalidation	9.58**	1, 46	.41
Blame	7.37*	1, 26	.45
Withdrawal	7.98**	1, 35	.43
Proposal for change	10.02**	1, 33	.47
Problem description	12.66**	1, 49	.44
Irrelevant	8.66**	1, 20	.54

*Note.* On-line cognition was rated on 7-point scales (1 = not at all, 7 = very much).

\* $p < .05$ . \*\* $p < .01$ .

munication domains in marriage. Couples' behavioral levels of interaction, as well as cognitive-emotional levels of interaction, and the behavior-cognition interface were analyzed in the spousal conflict and the spousal support domain.

*Conflict versus support interactions.* Given the emerging integrative trends in the study of conflict and support (Pasch, Bradbury, & Sullivan, 1997; Sarason et al., 1994), the present study explored the behavioral similarities and differences between both communication episodes in marriage. Because the empirical evidence concerning this issue is currently lacking, a normative expectations analysis was used to derive our predictions. With respect to predicted behavioral differences, the normative expectations about what behaviors are appropriate in both communication episodes were somewhat different. Our prediction that invalidation/oppositional behaviors would be displayed less during support interactions—in which these classes of behaviors are clearly proscribed (e.g., Cutrona, 1996)—than during conflict interactions—in which these behaviors are likely to be observed—was confirmed on the part of invalidation and blame behaviors. Because the implicit script for conflict interactions allows for the presence of both conflict sequences and repair/support sequences (e.g., Gottman, 1998), validation and instrumental support did not differ across the two interaction types. Sharing the same problem-solving orientation, both interaction domains were found to be characterized by comparable levels of neutral problem-solving behavior, such as problem description, proposal for change, and irrelevant behavior.

In summary, when partners cope jointly with stress, either in their marriage or in their personal lives, a broad range of behaviors do occur. The results of the present study concerning the behavioral differences between conflict and support interactions support the claim by Julien et al. (2003) that both types of interactions elicit a range of positive and negative behaviors. Specifically, our results replicate the findings from previous research that couples (a) display supportive behavior when discussing a marital stressor (Cutrona,

1996) and (b) display a range of typically conflict-related behaviors during support transactions (Baxter, 1986). In other words, our results support the assumption that well-functioning couples—like the ones in our study—are often willing to inhibit the impulse to respond destructively in kind and instead react in a constructive manner during marital conflict (Rusbult et al., 1996).

Contrary to our normative expectations and contrary to the results concerning the other validation/facilitation classes of behavior included in the present research, couples engaged in less facilitation behavior and less emotional support during marital problem discussions than during personal problem discussions. These findings suggest that behavioral differences between conflictual and supportive discussions are not limited to the negatively valenced behaviors displayed by couples. The pattern of the present results suggests that both types of discussion differ also in behaviors that reflect a positivity dimension in marital interaction. Also contrary to our predictions and contrary to the findings about other invalidation/oppositional classes of behavior included in this study, partners were not more withdrawing during conflict interactions than during support interactions. These findings are consistent with the observation in previous research that withdrawal behavior is also present in social support interactions (Eldridge, 2000). Our findings are, however, inconsistent with Eldridge's findings that withdrawal of communication occurs to a lesser extent during support interactions than during conflict interactions.

*Behavior-cognition interface.* Another goal of the present research was the integration of behavioral and cognitive-emotional aspects of both conflict and support interactions (Pasch, Bradbury, & Davila, 1997). Although spouses' experience of their discussions is especially important to understanding communication in marriage (Sillars et al., 2000), the behavior-cognition interface during marital interaction is little explored (Gottman & Notarius, 2000). Based on this observation, the present research studied the impact of particular behaviors on

partners' on-line cognition and tested if a given behavior had a different meaning and psychological impact in conflict versus support interactions (cf. Julien et al., 2003).

Given the fact that the expectation of spousal support is an important relationship standard (Cutrona, 1996), we argued that invalidating/oppositional behaviors during support interactions—in which your partner is supposed to act supportive and facilitating—clearly violate the norm and are upsetting for the stressed individual. On the other hand, the recipient of these behaviors should not find them upsetting when they occur during conflict resolution because they are normatively appropriate in this context. Our results indicated that invalidation behaviors negatively affected participants' on-line cognition during support interactions, but this was also the case in conflict interactions. Thus, although these classes of behavior are normatively appropriate in conflict resolution, they nevertheless exert a negative influence on how partners experience their discussions. The classes of behavior that reflect blame and withdrawal did not affect couples' experience neither during support interactions nor during conflict interactions.

Following the same theoretical arguments, we expected that if a partner can rise above his or her current grievance and be validating to the other partner, he or she may be doubly appreciative. Indeed, recipients' cognitive-emotional reactions to a partner that was facilitating during the interaction were more positive during conflict than during support interactions. These results indicate that validation behaviors might indeed benefit from a strong contrast effect in comparison to the more normative anticipated invalidation/oppositional behaviors that typically occur during marital conflict.

Somewhat different results were obtained for the other classes of validating behaviors (i.e., validation, instrumental support). Participants' on-line cognition was positively affected when their partner displayed validation behavior or instrumental support, but this was the case in the conflict domain as well as in the support domain. Thus, although normatively appropriate in support and to some extent

appropriate in repair sequences during conflict resolution, these classes of behavior were associated with recipient's satisfaction in both communication episodes. The findings concerning instrumental support are consistent with the findings reported by Cutrona and Suhr (1994), who found that the partners' expressions of instrumental support, including advice, suggestions, and help to reassess the situation, were associated with the recipient's satisfaction.

Contrary to our expectations and to Carels and Baucom's (1999) findings, however, we found that the partners' expressions of emotional support did not contribute significantly to participants' experience of the interaction. A possible factor that might have contributed to the different findings in the Carels and Baucom study and our study is that in the former study the effect of emotional support was assessed by means of on-line perceptions of support helpfulness, whereas our study operationally defined on-line cognition in a broader and less focused way.

As predicted, partners' neutral communication skills such as problem description, proposal for change, and irrelevant behaviors did not differently affect participants' on-line cognition across both interaction episodes. Moreover, besides proposal for change that had a positive impact on partners' ongoing cognition, neutral behaviors did not significantly affect how couples experienced their interaction.

An important issue concerns the observation that—besides behaviors high in occurrence (e.g., facilitation, present in 37% of the time samples)—behaviors low in occurrence (e.g., proposal for change, present in 8% of the time samples) had an impact on partners' on-line cognition. In general, our results indicate that the impact of particular behaviors displayed during marital interaction is not dependent on the interaction context, that is, if the behavior is displayed in conflict versus support interactions. More specifically, validation/facilitation behaviors had a positive impact, invalidation/oppositional behaviors had a negative impact, and neutral communication behavior had no impact on partners' on-line cognition, irrespective of the interaction

domain in which they occurred. One possible explanation for these findings may be that we took a normative approach on what kind of behaviors are proscribed and prescribed in conflict and support interactions. It is plausible to assume that the impact of a particular behavior may depend on what is appropriate in a *particular* relationship with its particular relationship culture and communication rules (e.g., Canary et al., 1995). Additional research is needed to further explore the behavior-cognition interface within different relationship types.

Our findings also indicate that validation/facilitation classes of behavior were more likely to have an impact on partners' on-line cognition than invalidation/oppositional behaviors. These findings are consistent with the conclusions based on observational marital research that has highlighted the beneficial effects of positive communication (e.g., validation, facilitation) during both conflict and support episodes in couples' relationship maintenance (Julien et al., 2003). In contrast, the more negatively valenced behaviors (e.g., blame, withdrawal) had only a limited impact on the partners' on-line cognition in the present study. Perhaps this outcome reflects the partners' greater control of the expression of negative behaviors during a laboratory interaction. Or perhaps the effect of these negative behaviors is buffered by the effect of the many positive behaviors that typically co-occur with them during marital interaction (e.g., Fitzpatrick & Sollie, 1999). A final possibility is that individuals may engage in cognitive strategies that minimize the relevance of negative behaviors (Buysse, De Clercq, & Verhofstadt, 2004; Buysse et al., 2000).

### *Other findings*

*Marital satisfaction.* Participants' marital satisfaction was found to be significantly related to their ongoing cognition during both conflict and support interactions. More specifically, the partners who reported higher levels of marital satisfaction felt more understood and satisfied during the interaction, evaluated the interaction as more positive and constructive, reported feeling less isolated with their problem, and felt more supported and helped

with their problem. This association was independent of the behavior displayed at that particular moment in the interaction or the type of interaction they were involved in. This type of finding is not anomalous, however, but is in fact consistent with the results of the few previous studies that have examined the simultaneous influence of marital satisfaction and interactive behavior on on-line cognition during conflict (Fletcher & Fitness, 1990; Fletcher & Thomas, 2000) and support interactions (Carels & Baucom, 1999). Collectively, these findings support the prevailing "sentiment override" view of the marital interaction literature, which maintains that the partners' subjective reactions during marital interaction are determined to a greater extent by a global sentiment about the relationship than by the immediately preceding valence of the stimulus, which in this case is the behavior displayed by one's marital partner (cf. Fincham, Garnier, Gano-Phillips, & Osborne, 1995; Fletcher & Thomas, 1996; Weiss, 1980).

In contrast to significant behavioral differences between conflict versus support interactions, no corresponding differences were evident in the partners' on-line cognition. How partners experienced the interaction in terms of feeling understood, satisfied, isolated, and so forth did not vary according to the type of stressor they discussed.

Against expectations, marital satisfaction was not found to be associated with the specific behaviors that the couples displayed during conflict and support interactions. It should be noted, however, that a comparable pattern of results has been reported in previous marital interaction research by Fletcher and Fitness (1990) and Sanford (2003). These authors have suggested that behavioral expressions may be under tighter intentional control than the covert cognitions associated with them, especially in a laboratory setting. Another potential interpretation of these findings is that couples with comparable levels of marital satisfaction might not be comparable in the way that they discuss marital and personal stressors, so an association between both constructs could not easily be detected. Finally, it is important to note that other research has revealed that marital satisfaction can in some

cases influence interactive behavior, but largely through its *indirect* effect on negative attributions (e.g., Fletcher & Thomas, 2000).

*Gender differences.* Gender did not emerge as a central factor in the present study, perhaps because of the high levels of interdependence that we found in men's and women's behavior, cognition, and marital satisfaction. Consistent with the findings of previous observational research, we found no significant gender differences in the partners' support-related behavior (Cutrona & Suhr, 1994; Pasch, Bradbury, & Davila, 1997). We also found no overall gender differences in their conflict behavior and their interaction-based cognition. These results coincide with those of other studies that have reported more striking gender similarities than gender differences in close relationships (e.g., Canary & Dindia, 1998; Canary & Emmers-Sommer, 1997; Fletcher, 2002).

#### *Limitations and strengths*

Two potential limitations of the present study concern our choice of the size of the time window in which to investigate the behavior-cognition interface. In the current study, we used a very narrow time window in order to assess the unique impact of a particular behavior displayed by one partner on the other partner's on-line cognition. It is possible, however, that the reoccurrence, coincidence, or specific sequencing of behaviors over the course of the interaction is what affected the partners' on-line cognition, rather than the single immediately preceding behavior. Our choice of a narrow time window is also consequential in that it failed to address the important issue of reciprocity in marital interaction, for example, negative affect reciprocity (Gottman, 1998) or demand-withdrawal (Eldridge & Christensen, 2002). As Bradbury and Fincham (2001) note, additional examinations of interdependent and sequential relations among behaviors—distinct from the raw proportion of behaviors—is an important task for future research.

Second, the present study focused exclusively on the interface between one partner's interaction behavior and the other partner's

cognition. Previous observational research on marital conflict has shown, however, that participants' *own* behavior also contributes significantly to their emotional experience of marital conflict interactions (Verhofstadt, Buysse, De Clercq, & Goodwin, 2004). For this reason, future research should attempt to disentangle the differential effects of both the partner's behavior and the spouse's own behavior on the spouse's on-line cognition.

With regard to its strengths, the present study both complements and elaborates upon existing theory and research on marital conflict and social support. In addition, the present research also contributes to the methodology of these research areas in several ways. First, we used an insider perspective for assessing interaction-based cognition, whereas most previous studies have used a procedure in which the content of the partners' reported thoughts and feelings are coded (e.g., theme, valence) by external observers (e.g., Fletcher & Thomas, 2000; Sillars et al., 2000; Simpson et al., 1995). The possibility exists that an observer perspective may overlook the idiosyncratic relationship context wherein the interaction and assignment of meaning take place.

Second, by using an experimental design in which couples were randomly assigned to the two interaction domains, we were able to identify the similarities and differences between conflict and support interactions at a microanalytic level of analysis. We were also able to study how the specific behavioral events that occurred in each domain were related to the on-line cognition of the partners who were the recipients of these behaviors (see Cummings, 1995). Finally, we allowed the couples in our study to discuss the target problem as long as considered necessary (with a limit of 30 min), thereby enabling more naturalistic interactions to occur. In most observational research, couples are asked to discuss a problem for a much more restricted amount of time, usually 5–10 min.

#### *Conclusions and implications*

From the present investigation of interactive behavior and interaction-based cognition during conflict and support interactions based

on a normative expectations analysis, the following conclusions can be drawn. First, substantial parallels can be drawn between conflict and support interactions in terms of the amount of validation/facilitation behaviors and in terms of neutral communication behaviors. Important distinctions between both communication episodes are situated at the so-called invalidation/oppositional dimension of behavior. Second, validation/facilitation behaviors affected partners' cognitive-emotional reactions during marital interaction, whereas more invalidating or neutral behaviors did not. Finally, in general, the impact of a particular behavior on couples' ongoing cognition was not dependent on the interaction context (i.e., conflict vs. support interaction) in which the behavior occurred.

The recommendation by previous researchers to simultaneously study both conflict and support interactions provided the impetus for the present research. Following this recommendation resulted in at least three positive outcomes. First, by studying spousal conflict simultaneously with spousal support, we furthered our understanding of each domain by documenting specific ways in which they are similar to and different from each other. Future studies on conflict and support in marriage should include both positive and negative aspects of both communication episodes.

Second, the approach taken in the present study allowed us to explore processes that link behavior, cognition, and context during marital interactions (cf. Fletcher et al., 1999). What counts is the larger pattern of results that furthers our understanding of both the proximal and distal forces that affect marital interactions. Future research should be designed to explore the wider range of proximal (e.g., particular behaviors) and distal variables (i.e., relationship variables) that affect marital interaction. In addition, clinical research based on such contextual models of interaction (Bradbury & Fincham, 1991) represents another promising avenue by which we can expand our focus on marital interaction.

Third, the results of the present study reinforce the claims of many previous writers that it is important to distinguish between interactive behavior, ongoing cognition, and

the interaction context at both the theoretical and empirical levels. The simple lesson from the present findings is that partners' behavior and partners' cognition do not necessarily converge (Bradbury & Fincham, 2001; Fletcher et al., 1999), either in the impact that the type of interaction has on them or in their association with marital satisfaction. This striking disjunction between behavior and cognition dramatically illustrates that they each have unique relevance for understanding the psychology of marriage (Matthews, Wickrama, & Conger, 1996).

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