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Stress, Communication, and Marital Quality in Couples

The association between daily stress outside and inside of the relationship and marital functioning in the form of communication in conflict situations and marital quality was examined. We hypothesized that relationship stress mediates the association between external stress and marital functioning at the individual level, and that the association between relationship stress and marital quality is partially mediated by communication at the dyadic level. Using the Actor-Partner Interdependence and Common Fate Model, the results of 345 couples supported our hypotheses and revealed that a person's relationship stress is more strongly related with one's own external stress than with the partner's external stress. The findings indicate that both low relationship stress and a high level of positive communication are important in relationships.

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The quality of intimate relationships is likely to be influenced by both context and intradyadic factors. The marital stress model by Bodenmann (2000; see also Bodenmann, Ledermann, & Bradbury, 2007), for example, posits that stress affects relationship outcomes directly and indirectly through the quality of marital communication, the spouses' psychological and physiological well-being, and the time spouses spend together. Likewise, Karney and Bradbury (1995) highlighted the role of spouses' capabilities to adapt to stressful circumstances (e.g., ability to support each other), which mediates the association between stress and marital quality. In accordance with these theoretical approaches, the model tested by Matthews, Conger, and Wickrama (1996) suggests that work-family conflict increases psychological distress, which, in turn, affects marital quality indirectly through marital interaction. All three models share the assumption that the relation between stress and marital outcomes is mediated by intradyadic variables. The purpose of the present study is to examine the interplay between self-perceived stress, marital communication, and marital quality in heterosexual couples.

Empirical Background

A number of studies have shown that different forms of stress, such as work stress or

economic strains, have a negative effect on marital quality and satisfaction (Bodenmann, 2000; Howe, Levy, & Caplan, 2004; Karney & Bradbury, 1995; Leidy, Parke, Cladis, Coltrane, & Duffy, 2009; Neff & Karney, 2004, 2007). Some works have suggested that the association between stress and marital quality is mediated by more variables. Specifically, there is evidence that relationship communication partially mediates the effect of marital problems on marital quality (Ledermann & Macho, 2009). Further, Conger et al. (1990) found that the relationship between economic problems and marital quality is explained through both warm/supportive and hostile behaviors that act as parallel mediators. Very little research, however, has incorporated the conceptualization proposed by Bodenmann (2000; see also Randall & Bodenmann, 2009) and Karney and colleagues (Bradbury & Karney, 2004; Karney & Bradbury; Karney, Story, & Bradbury, 2005; Neff & Karney, 2004), who emphasized the distinction between external stress and relationship stress. External stress refers to tension that originates outside of a relationship—such as social and economic strains, work stress, conflicts with neighbors, or problems with authorities—whereas relationship stress refers to tension that arises in the relationship, in the form of divergent attitudes and needs or disturbing habits of one partner. Recent studies conducted by Bodenmann et al. (2000, 2007; Bodenmann, Ledermann, Blattner, & Galluzo, 2006) revealed that marital satisfaction is more affected by stress occurring inside the relationship than by stress originating outside of the relationship. Furthermore, studies incorporating both daily stress and critical life events have indicated that in community samples, marital satisfaction is more negatively related to microstress than to macro events (Bodenmann et al.; Williams, 1995; cf. Karney et al.).

Communication behavior in interpersonal situations is another domain likely to be sensitive to stress (Crouter, Perry-Jenkins, Huston, & Crawford, 1989; Cutrona et al., 2003). Studies conducted by Repetti and colleagues (Repetti, 1989; Repetti & Wood, 1997) and Schulz, Cowan, Cowan, and Brennan (2004) indicated that work stress can spill over into relationships by increasing social withdrawal and hostility (see also Bolger, DeLongis, Kessler, & Wethington, 1989).

Several studies have shown that marital communication is associated with marital quality and

satisfaction, explaining 8% (Miller & Kannae, 1999) to 77% (Banmen & Vogel, 1985) of the variance (see also Sprecher, Metts, Burlleson, Hatfield, & Thompson, 1995). In studies by Gottman and colleagues (Carrère, Buehlman, Gottman, Coan, & Ruckstuhl, 2000; Gottman & Levenson, 1992), Rogge and Bradbury (1999) and Rogge, Bradbury, Hahlweg, Engl, and Thurmaier (2006), marital communication has been identified as a salient predictor of marital outcomes in newlywed couples.

Goal and Hypotheses

The present study aimed to contribute to a better understanding of intradyadic associations between external daily stress and daily relationship stress and marital functioning, in the form of marital communication in conflict situations and marital quality in intimate relationships. Building on the theoretical models of Bodenmann (2000) and Karney and Bradbury (1995) and the empirical literature on stress, communication, and marital quality, two mediating hypotheses were tested.

Hypothesis 1. On the basis of the model suggesting that daily stress has a direct effect on marital outcomes (Bodenmann, 2000) and previous findings indicating that relationship stress mediates the association between external stress and aspects of marital satisfaction (Bodenmann et al., 2007), we assumed that the association between external daily stress and marital functioning is mediated by daily relationship stress at the level of the dyad members. Specifically, we hypothesized that one's own external stress is positively related with one's own relationship stress, which, in turn, is negatively associated with one's own, as well as the partner's, marital communication or marital quality, respectively. Moreover, we supposed that the direct associations between external stress and relationship stress and between relationship stress and the marital functioning variables are stronger than the direct associations between external stress and the marital functioning variables after controlling the mediator relationship stress. This assumption is supported by the results of previous studies (Bodenmann et al., 2006) showing that external stress is more distal to marital functioning than relationship stress. To test this first hypothesis, we set up two mediation models that differed in

the outcome variable but not in the independent variable and the mediator. Both models included external stress as independent variable and relationship stress as mediator. In the first model, we implemented marital quality as outcome variable, and in the second model, marital communication in conflict situations. In both mediation models, we tested for the presence of specific dyadic patterns between the variables as discussed by Kenny and Cook (1999).

Hypothesis 2. Building on the theoretical models by Karney and Bradbury (1995) and Bodenmann (2000) and the model tested by Matthews et al. (1996) in which marital interaction as mediator and marital quality as outcome variable were modeled at the dyadic (relationship) level, we hypothesized that marital communication in conflict situations mediates the association between relationship stress and marital quality at the level of the dyads. We proposed that relationship stress is directly and indirectly associated with marital quality through marital communication. That is, the association between relationship stress and marital quality is only partially mediated. This assumption is based on Bodenmann's stress model and previous findings indicating that marital quality is similar related to both stress and marital communication (Banmen & Vogel, 1985).

METHOD

Participants

A total of 690 individuals residing in the German-speaking part of Switzerland participated in this study, representing a convenience sample of 345 heterosexual couples. The mean age of women was 40.4 years ($SD = 8.3$) and that of men was 42.5 years ($SD = 8.8$). The mean relationship duration was 13.8 years ($SD = 8.7$), and 80% of the couples were married and 73% had children. Most of the participants reported a terminal college or university degree (46% of women, 53% of men). Comparing married and unmarried participants, married participants were older (women: $t(337) = 4.34$, $p < .001$; men: $t(341) = 4.31$, $p < .001$) and reported a longer relationship duration (women: $t(144) = 10.67$, $p < .001$; men: $t(123) = 9.28$, $p < .001$). With respect to measured variables, married and unmarried participants did not differ significantly on any of these variables, with the exception that married couples

reported lower marital quality than unmarried couples ($M = 40.2$, $SD = 9.0$ for married and $M = 42.9$, $SD = 9.5$ for unmarried women; $t(341) = 2.19$, $p < .05$; $M = 38.9$, $SD = 9.7$ for married and $M = 42.3$, $SD = 9.3$ for unmarried men; $t(341) = 1.97$, $p < .05$).

Procedure and Measures

Participants were recruited by means of advertisements in newspapers. Couples who showed interest in participating and who had been together for at least 1 year were sent a package of questionnaires including separate and distinct materials for each partner, along with instructions to complete the questionnaires independently and return the forms to the laboratory within 2 weeks. There were no financial incentives for participants. In addition to demographic information, we collected data on self-perceived stress, marital communication in conflict situations, and marital quality by administering the following measures.

Daily stress scales. A shortened and adapted version of the Hassles Scale developed by Kanner, Coyne, Schaefer, and Lazarus (1981) was used to measure self-perceived stress in the form of external daily stress and relationship daily stress (Bodenmann et al., 2006). The external daily stress scale consisted of 29 items—such as daily work stress, troublesome neighbors (Cronbach's $\alpha = .85$ for women and $.87$ for men). The daily relationship stress scale contained eight items—such as demands of task sharing in household, different goals, and annoying habits of the partner (Cronbach's $\alpha = .76$ for women and $.73$ for men). All items were rated with reference to the previous month on a 5-point scale (1 = *not at all stressful*, 5 = *very stressful*).

Marital communication questionnaire (MCQ; Bodenmann, 2000). This questionnaire assesses different positive and negative marital communication behaviors in conflict situations—such as defensiveness, contempt, belligerence, domineering, and care. It is based on the communication categories proposed by the Specific Affect (SPAFF) coding system developed by Gottman (1994), and contains 19 items administered on a 6-point scale (1 = *never*, 6 = *very often*). The items can be combined into a total score with high scores indicating high quality of marital

communication (Cronbach's $\alpha = .85$ for women and $.83$ for men).

Partnership questionnaire (Partnerschaftsfragebogen; Hahlweg, 1996). This marital questionnaire is composed of three subscales: (a) quarreling (e.g., "When we quarrel, he showers me with insults"; Cronbach's $\alpha = .96$ for women and $.96$ for men); (b) tenderness (e.g., "Before going to sleep, we kiss and cuddle each other"; Cronbach's $\alpha = .88$ for women and $.91$ for men); and (c) togetherness or communication (e.g., "Usually, we talk together in the evening for at least half an hour"; Cronbach's $\alpha = .83$ for women and $.82$ for men). The rating scale ranges from *never* (0) to *very often* (3). Each subscale consists of 10 items, whose linear combination represents a global index of marital quality (Cronbach's $\alpha = .91$ for women and $.93$ for men). In this study, we did not use the quarreling subscale and excluded all items from the togetherness or communication subscale that refer to communication in order to avoid overlap with the MCQ on both the item and the conceptual level. The four remaining items of the togetherness or communication subscale were "We make plans for the future together," "We plan together on how to spend the weekend," "We are attentive to each other's wishes and act accordingly when occasions arise," and "My partner shows me that he/she loves me." These four items were combined into a single mean score that was then combined with the equally weighted tenderness subscale in order to obtain a single index, with high scores indicating high marital quality (Cronbach's $\alpha = .89$ for women and $.91$ for men).

Data Analyses

We used an extended version of the Actor-Partner Interdependence Model (APIM) and the Common Fate Model (CFM) to test the mediating hypotheses. The API mediation model (Kenny, 1996; Kenny & Cook, 1999; Ledermann & Bodenmann, 2006) was introduced to assess mediation in dyadic data at the level of the dyad members (individuals) by estimating actor and partner effects. In this type of model, the influence of an individual's independent variable on their dependent variable is called an actor effect, the influence on the partner's dependent variable is called a partner effect. The CF mediation model (Ledermann & Macho, 2009; see

also Kenny, 1996; Kenny & La Voi, 1985) was designed to model mediation effects at the level of the dyads. The application of this model is especially appropriate if the variables measured in both partners can be conceived of as common dyadic constructs and if the actor and partner effects are substantial and similar in size, when modeling the observed variables in an APIM. In couples, relationship stress, marital communication, and marital quality can be conceived of as variables that represent common dyadic constructs (see Ledermann & Macho). In the CFM, the variables measured in both dyad partners serve as pairwise indicators of the latent dyadic variables (constructs). The CF mediation model allows a compact presentation and efficient evaluation of mediating effects in dyadic data while accounting for measurement errors.

Using structural equation modeling (SEM), we tested the two mediating hypotheses in three steps (see Ledermann & Macho, 2009): First, we selected a reasonable, good fitting mediation model by starting with a model that assumes partial mediation (i.e., model with direct effects between the independent and outcome variables). To evaluate the model fit, we used the chi-square statistic, the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) with CFI $> .95$ and RMSEA $< .05$ indicating close fit (Browne & Cudeck, 1993). Secondly, we tested whether the estimated structural coefficients were statistically different from zero using the model selected. Finally, we tested the indirect (mediating) effects for significance. In this work, we used z -statistics and Sobel's (1982) formula to estimate the standard error of the indirect effect:

$$z = \frac{ab}{\sqrt{a^2s_b^2 + b^2s_a^2}}. \quad (1)$$

The term ab denotes the estimated indirect effect between X (independent variable) and Y (dependent variable) through M (mediator), a and b represent the estimated coefficients of the path $X \rightarrow M$ and $M \rightarrow Y$, respectively, and s_a^2 and s_b^2 are the estimated variances of a and b , respectively. According to this procedure, the assumption of mediation is verified if the selected model is consistent with the data, if the direct effects constituting an indirect effect are substantial, and if the indirect effect itself is significant. In addition, we employed the

equation provided by MacKinnon (2000) to test whether the indirect effect in the CF mediation model differs from the direct effect $X \rightarrow Y$ (i.e., $ab - c$):

$$z = \frac{ab - c}{\sqrt{a^2s_b^2 + b^2s_a^2 - 2as_{bc} + s_c^2}} \quad (2)$$

where c denotes the estimated coefficient of the path $X \rightarrow Y$, s_c^2 represents the estimated variance of c , and s_{bc} is the covariance between the a and b .

RESULTS

Preliminary Analyses

Means and standard deviations are given in Table 1. There were no significant differences between women and men with respect to marital quality and communication in conflict situations. Women, however, reported higher relationship and external stress than men. Table 1 also shows the bivariate correlations among the measured variables for women (above the diagonal) and men (below the diagonal) and between women and men (on the diagonal). The correlations between women and men were large for marital quality and medium for marital communication in conflict situations. The finding that the within-dyad correlation was relatively low for external stress compared to the correlation for relationship stress may be taken as evidence that external stress does not represent a common dyadic construct. As expected, there was a considerable association between external stress and relationship stress. Substantial associations were also found between relationship stress and the two marital functioning variables. In sum, the

correlations between measured variables were generally as expected.

Mediation at the Level of the Partners

The two API mediation models to test the first hypothesis are presented in Figure 1. The first model incorporates external stress as independent variables, relationship stress as mediators, and marital communication in conflict situations as outcome variables (Figure 1, Model 1). The second model differs from the first in that the outcome variables were replaced by marital quality (Figure 1, Model 2).

Selection of a model. Estimating the API mediation models with direct effects between the independent and outcome variables, which were just identified (i.e., $df = 0$), all four direct effects were not significant in both models (p -values ranged from .092 to .645 in the model with marital communication and from .069 to .604 in the model with marital quality). This is consistent with the assumption of complete mediation and therefore we excluded these four insignificant direct effects. When we tested these complete mediation models, both models showed a good fit, providing further evidence for complete mediation ($\chi^2(4) = 2.86, p = .581$; CFI = 1.000; RMSEA < .001 for the model with marital communication; $\chi^2(4) = 3.69, p = .450$; CFI = 1.000; RMSEA < .001 for the model with marital quality).

Testing the direct effects. In both mediation models, all actor effects (horizontal arrows) and partner effects (diagonal arrows) proved significant with the exception of the two partner effects between external stress and relationship stress (see Figure 1). The actor

Table 1. Means, Standard Deviations and Correlations (Women Above, Men Below, and Between Women and Men Along the Diagonal) for Study Variables

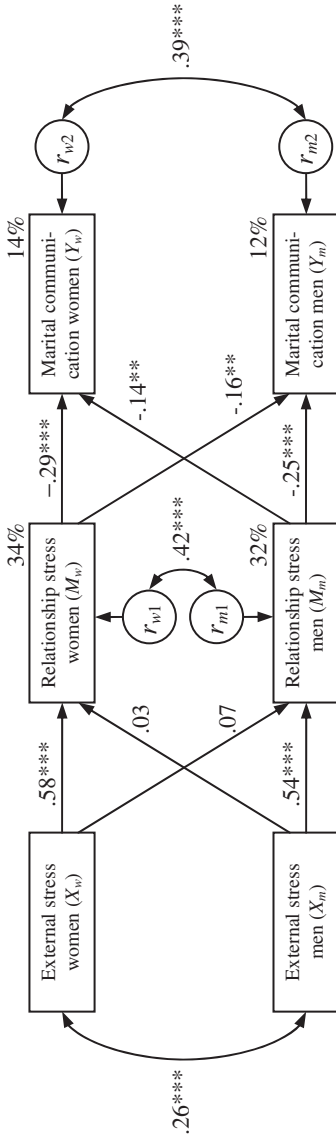
	Women		Men		<i>t</i>	<i>d</i>	Correlations			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			1	2	3	4
Marital quality	1.93	0.54	1.89	0.54	1.35	0.07	.62***	.30***	-.33***	-.18**
Marital communication	4.61	0.43	4.57	0.42	1.69	0.09	.37***	.46***	-.35***	-.25***
Relationship stress	1.91	0.53	1.71	0.47	6.79***	0.37	-.38***	-.31***	.41***	.59***
External stress	1.78	0.39	1.68	0.36	4.03***	0.22	-.13***	-.16**	.56***	.26***

Note: Scores can range from 0 to 3 for marital quality, from 1 to 6 for marital communication, from 1 to 5 for relationship and external daily stress. *d* = Cohen's *d*. *N* = 345.

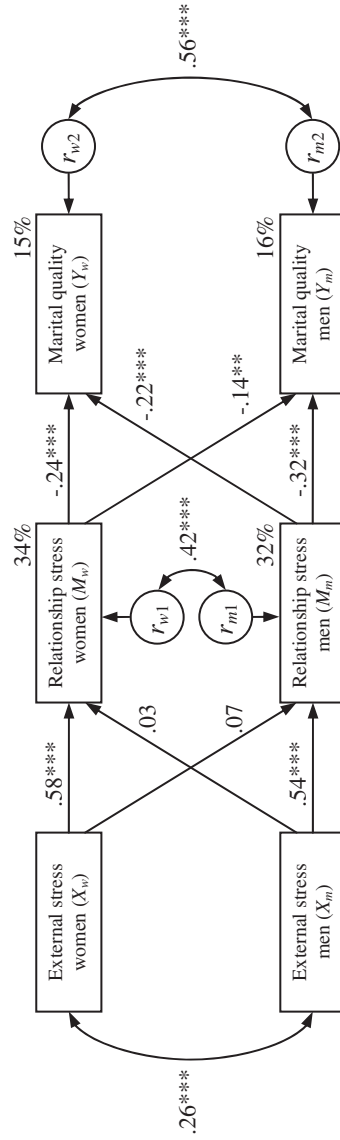
** $p < .01$. *** $p < .001$.

FIGURE 1. AIP MEDIATION MODELS.

Model 1: APIM with marital communication as outcome



Model 2: APIM with marital quality as outcome



Note: The mediation models with standardized parameters testing the association between external daily stress and marital functioning via daily relationship stress. w = women, m = men. Percentages denote explained variances. ** $p < .01$. *** $p < .001$.

effects between external stress and relationship stress were positive, which means that the higher the external stress, the higher the relationship stress. As expected, actor effects were significantly greater in size than the corresponding nonsignificant partner effects on women's and men's relationship stress (chi-square difference test: $\chi^2_{Diff}(1) = 49.47, p < .001$ for the actor and partner effects on women's relationship stress; $\chi^2_{Diff}(1) = 44.94, p < .001$ for the actor and partner effects on men's relationship stress). This result indicates that daily relationship stress was affected mainly by one's own external daily stress rather than by the partner's external daily stress and provides support for what Kenny and Cook (1999) called an actor-only pattern. When we compared the size of women's and men's actor effects, there was no significant gender difference ($\chi^2_{Diff}(1) = 0.584, p = .445$). The external daily stress variables accounted for 34% of the variance in women's relationship stress and 32% in men's relationship stress.

Consistent with our assumption, all actor and partner effects between relationship stress and marital functioning were negative in both the models, indicating that marital functioning was negatively associated with relationship stress. Specifically, in the model with marital communication in conflict situations, partner effects on women's and men's marital communication were similar in magnitude to the corresponding actor effects ($\chi^2_{Diff}(1) = 1.67, p = .196$ for the actor and partner effects on women's communication behavior and $\chi^2_{Diff}(1) = 1.47, p = .225$ for the actor and partner effects on men's communication behavior). These results support a couple pattern for both women's and men's marital communication (see Kenny & Cook, 1999). When we tested for gender differences, there was no substantial difference between women's and men's actor effect and between their partner effects ($\chi^2_{Diff}(1) = 0.042, p = .837$ and $\chi^2_{Diff}(1) = 0.010, p = .921$). Likewise, in the model with marital quality as outcome variables, there was no significant difference between the actor and the partner effects on women's marital quality ($\chi^2_{Diff}(1) = 0.09, p = .924$), which again suggests a couple pattern. In contrast, the actor effect on men's marital quality was stronger than the partner effect on men's marital quality ($\chi^2_{Diff}(1) = 4.938, p = .026$). When we tested for gender differences, again actor and partner effects did not differ in size between women

and men ($\chi^2_{Diff}(1) = 1.77, p = 1.84$ for actor effects; $\chi^2_{Diff}(1) = 1.32, p = .251$ for partner effects). These findings suggest that marital communication in conflict situations and women's marital quality seem to be similarly affected by both one's own perceived relationship stress and the partner's relationship stress; this explained up to 28% of the variance in the marital functioning variables.

Testing the indirect effects. In each API mediation model, there were eight indirect effects. The indirect effects that involve one of the nonsignificant partner effects between external stress and relationship stress were not tested for significance because it makes less sense to say mediation exists if not both direct effects are substantial that constitute an indirect effect (see Ledermann & Macho, 2009). The estimates of the remaining four indirect effects per model are listed in Table 2. In accordance with our hypothesis, all four indirect effects were significant in both models, indicating that one's own relationship stress mediates the association between one's own external stress and one's own and the partner's marital communication in conflict situations and marital quality. That is, mediation seems to occur not only within a person (e.g., women's external stress → women's relationship stress → women's marital

Table 2. Mediating Effects for the Actor-Partner Interdependence Models (APIMs) with External Daily Stress as Independent Variables, Daily Relationship Stress as Mediators, and Marital Functioning as Outcome Variables

Effect	Estimate	SE	z	p
APIM with marital communication as outcome				
ES _w → RS _w → MC _w	-0.18	0.04	-4.91	<.001
ES _w → RS _w → MC _m	-0.10	0.03	-2.80	.005
ES _m → RS _m → MC _w	-0.09	0.04	-2.57	.010
ES _m → RS _m → MC _m	-0.16	0.04	-4.16	<.001
APIM with marital quality as outcome				
ES _w → RS _w → MQ _w	-0.19	0.05	-4.11	<.001
ES _w → RS _w → MQ _m	-0.11	0.04	-2.57	.010
ES _m → RS _m → MQ _w	-0.18	0.05	-3.75	<.001
ES _m → RS _m → MQ _m	-0.26	0.05	-5.22	<.001

Note: ES = external stress; RS = relationship stress; MQ = marital quality; MC = marital communication; w = women; m = men; SE = Standard error. Equation 1 was used to compute z-scores; the denominator of Equation 1 is the SE.

quality) but also through the partner effects between relationship stress and marital function (e.g., women’s external stress → women’s relationship stress → men’s marital quality). These findings support the first hypothesis that in both women and men the association between one’s own external stress and marital functioning is mediated by one’s own relationship stress and that the association between one’s own external stress and the partner’s marital functioning is mediated by one’s own relationship stress.

Mediation at the Level of the Dyads

The finding that actor and partner effects between relationship stress and the marital functioning variables were significant and quite similar in magnitude warrants the implementation of these dyadic variables in a CF mediation model and the test of the second hypothesis that the association between relationship stress and marital quality is partially mediated by marital communication in conflict situations at the dyadic level (see Figure 2). To test the model,

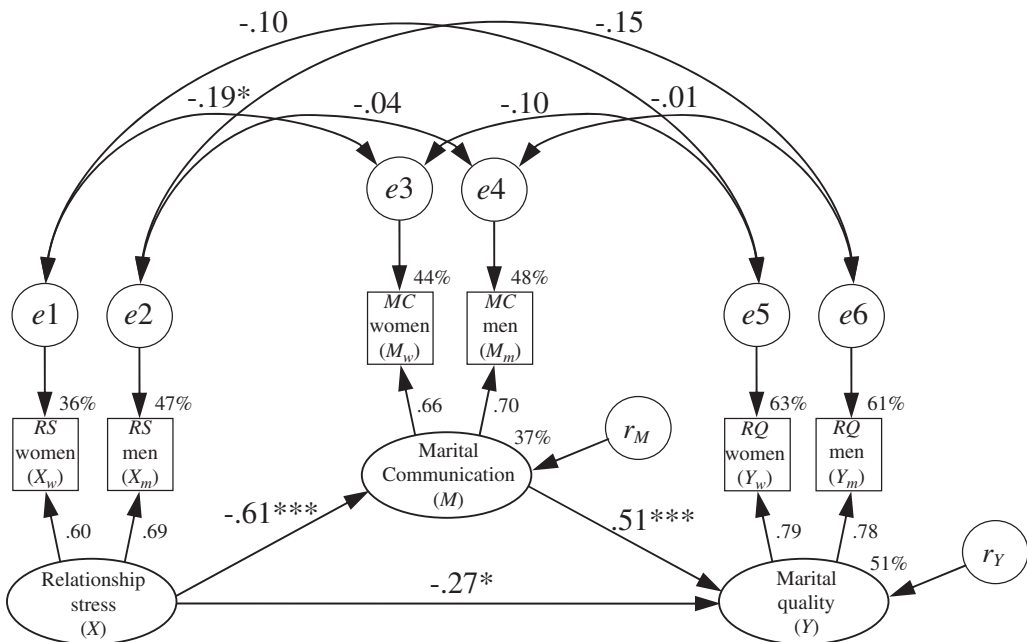
we set all factor loadings of the three latent variables relationship stress, marital communication, and marital quality to 1.

Selection of a model. We started with the CFM indicating partial mediation, which provided a good fit ($\chi^2(3) = 3.145; p = .718; CF = 1.000; RMSEA < .001$). Thus, this model indicating partial mediation was used for the subsequent tests.

Testing the direct effects. In the CF mediation model, all direct effects between the three latent variables were significant (see Figure 2). This result supports the assumption that the higher the daily relationship stress, the lower both the marital communication in conflict situations and marital quality. The explained variance of marital communication through relationship stress was 37%, whereas relationship stress and marital communication accounted together for 51% of the variance in marital quality.

Testing the indirect effect. For testing the indirect effect, Equation 1 was used, revealing

FIGURE 2. CF MEDIATION MODEL.



Note: The Common Fate Mediator Model with standardized coefficients testing the association between daily relationship stress and marital quality via marital communication. RS = daily relationship stress; MC = marital communication; MQ = marital quality; w = women; m = men. Percentages denote explained variances. * $p < .05$. *** $p < .001$.

a significant effect, $ab = -0.39$, $SE = 0.11$, $z = -3.45$, $p = .001$. Because the mediation is partial, the relative proportion of the mediation effect on the total effect was computed, yielding that 51% of the association between relationship stress and marital quality is mediated by marital communication in conflict situations. To compare the indirect effect with the direct effect $X \rightarrow Y$, Equation 2 was employed. This test verifies that the indirect effect was as strong as the direct effect $X \rightarrow Y$ ($ab - c = -0.01$, $SE = 0.25$, $z = -0.05$, $p < .961$). In sum, the findings support the second hypothesis that the association between daily relationship stress and marital quality is partially mediated at the dyadic level by marital communication in conflict situations.

In the final step, we extended the CF mediation model by including external daily stress as independent variables that influence relationship stress at the dyadic level. This expanded model, however, was not consistent with the data ($\chi^2(13) = 160.7$, $p < .001$; CFI = .812; RMSEA = .182).

DISCUSSION

The aim of this study was to investigate the association among variables focusing on daily stress, marital communication in conflict situations, and marital quality in consideration of stress that is external to the relationship and relationship stress, at the individual and dyadic levels. Building on the stress model proposed by Bodenmann (2000) and Karney and Bradbury (1995) and the hypotheses tested by Matthews et al. (1996), three dyadic mediation models were tested. The results of the API mediation models support our first hypothesis that the association between external daily stress and marital functioning is mediated by relationship stress at the level of the dyad members. Specifically, in both women and men, one's own relationship stress mediated the association between one's own external stress and one's own as well as the partner's marital quality and marital communication in conflict situations. In line with results reported by Bodenmann et al. (2007), there is evidence that one's own external stress spills over into intimate relationships by exacerbating one's own relationship stress, rather than the relationship stress of the partner (see also Bolger et al., 1989; Repetti, 1989; Repetti & Wood, 1997; Schulz et al., 2004). Indeed, evidence was found for the

presence of the actor-only pattern between external stress and relationship stress. Our results provide further evidence that both men's and women's marital communication in conflict situations and women's marital quality seem to be affected to the same degree by one's own relationship stress and the partner's relationship stress; this finding supports the couple-oriented pattern, although men's marital quality seems to be more strongly affected by their own relationship stress than that of the partner.

The finding that actor and partner effects between relationship stress, marital communication in conflict situations, and marital quality were substantial and quite similar in size warrants the implementation of these variables in a CFM. The results of the CF mediation model support our second hypothesis that the association between daily relationship stress and marital quality is partially mediated at the dyadic level by marital communication in conflict situations, which means that marital quality seems to be affected by daily relationship stress directly as well as indirectly through marital communication. This indicates that both relationship stress and marital communication in conflict situations have an effect on the quality of intimate relationships.

In summary, our results provide evidence for the mediational mechanism between stress and marital functioning and support findings of previous research showing that daily stress plays a central role for the understanding of marital discord (Karney & Bradbury, 1995; Morokoff & Gilliland, 1993; Neff & Karney, 2004). The findings of this study reveal that daily stress originating inside the relationship appears to be a highly salient characteristic of intimate relationships for three reasons. First, daily relationship stress seems to mediate the effect of daily external stress on marital functioning. Secondly, daily relationship stress tends to affect both one's own and the partner's marital communication and marital quality. Finally, evidence suggests that daily relationship stress influences marital quality not only indirectly through marital communication but also directly.

The evaluation and understanding of mediation processes in psychology are important as they can reveal information about the significance of direct and indirect associations among multiple variables and provide clues about where it is appropriate to intervene. The mediation

results reported above allow the following conclusions. To improve or further enhance marital functioning, people should try to reduce and cope—individually or dyadically—with both high levels of external stress that tends to spill over into the relationship and high levels of relationship stress. To reduce the level of external stress, employers are required to provide safe working conditions and fair wages. In addition, governmental and other social service programs should pay special attention to the needs of low-income couples and help them to overcome external strains, as they often experience more stress and face greater problems in building and maintaining a healthy intimate relationship than better off couples. Finding effective ways to deal with stress occurring inside the relationship is important to stave off deterioration of marital functioning on both the individual and dyadic levels. Couple programs that teach coping skills, such as the couple coping enhancement training (Bodenmann & Shantinath, 2004; Ledermann, Bodenmann, & Cina, 2007) or the mindfulness-based relationship enhancement, have demonstrated promising results in improving aspects of marital functioning (Carson, Carson, Gil, & Baucom, 2004). Couples who experience high relationship distress may consult a couple therapist or counselor to improve coping strategies such as active coping, support seeking, distraction, and disengagement (Carver, Scheier, & Weintraub, 1989; Skinner, Edge, Altman, & Sherwood, 2003). In light of the fact that good communication is essential for a healthy intimate relationship, couples should be aware of how important communication skills are for a long-lasting relationship and may improve their marital skills and enrich their relationship by participating in a couple training such as the Premarital Relationship Enhancement Program (Hahlweg & Markman, 1988; Hahlweg, Markman, Thurmaier, Engl, & Eckert, 1998) or the PREPARE/ENRICH Program (Olson & Olson-Sigg, 1999).

The findings of this study need to be treated with some caution. First, it is not possible to discern the direction of the associations between the variables because (a) the cross-sectional data do not allow the determination of causality and (b) statistically equivalent models (i.e., alternative models that fit the data equally well) exist for the models tested in this study, as, for instance, the API mediation model with external stress as mediator and internal stress as independent variable (see Lee & Hershberger,

1990; MacCallum, Wegener, Uchiono, & Fabrigar, 1993). Secondly, the results are based on a convenience sample of well-educated Swiss couples, which limits the generalizability of the findings. Thirdly, because of the use of self-report measures, personality variables and socially desirable response behavior may have biased the reported estimates. This problem can be alleviated by using observational methods. Finally, stability over time in the level of marital outcomes and variation of stress could not be taken into account in this study. Thus, no claims can be made about how an enduring versus a temporally acute high stress level might influence marital functioning.

In conclusion, this study provided support for the actor-only pattern between external stress and relationship stress and the couple-oriented pattern between relationship stress and marital communication. It also demonstrated that relationship stress acts in concert with marital communication to affect marital quality, and suggests that improvements in marital communication and reduction of the perceived relationship stress in both partners can prevent deterioration of marital harmony.

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