

MEASURING DYADIC COPING: THE FACTORIAL STRUCTURE OF BODENMANN'S "DYADIC COPING QUESTIONNAIRE" IN AN ITALIAN SAMPLE

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The aim of the present study was to analyze the factorial structure of the Dyadic Coping Questionnaire (FDCT-N) (Bodenmann, 1997, 2000) in an Italian sample. The FDCT-N measures partners' tendency to engage in dyadic coping, that is the process through which partners cope together, as a couple, with daily stressors. It comprises partners' stress communication, positive and negative coping responses, and common dyadic coping. Positive and negative dyadic coping items are measured both as perceptions of one's own coping styles and as perceptions of the partner's styles. The sample was composed of 389 heterosexual couples ($N = 778$ participants) living in the North of Italy. The factorial structure was examined through a confirmatory factor analysis, which showed a good overall fit for a five-factor model (stress communication; emotion-focused dyadic coping; problem-focused dyadic coping; delegated dyadic coping; and negative dyadic coping) for self-perceptions and perceptions of the other and a three-factor model (problem-focused; seeking closeness; and relaxation) for common dyadic coping.

Key words: Confirmatory factor analysis; Dyadic coping; Dyadic coping questionnaire; Italian couples; Scale factorial structure.

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COPING IN AN INTERPERSONAL CONTEXT

Since its origins the stress and coping literature has focused primarily on the individual's efforts to manage stressful encounters, conceptualizing both stress and coping as individual phenomena in which the coper appraises and deals with stressors individually. However, recent advances in the stress and coping field have highlighted the limitations of such a conceptualization, defined by Mickelson, Lyons, Sullivan, and Coyne (2001) as self-focused, and have called for a broader view of the phenomenon. The individualistic approach, in fact, doesn't consider that individuals do not experience and cope with stress in isolation but within an articulated interper-

sonal context (Lyons, Sullivan, Ritvo, & Coyne, 1995; Revenson, Kayser, & Bodenmann, 2005), especially that referring to intimate others.

Since the early '90s this new attention devoted to the interpersonal context of coping has led two theoretical and empirical traditions, one on close relationships and one on stress and coping, to converge in order to find an integrative view of the stress and coping process as it unfolds within the individuals' interpersonal context. In a recent examination of the state of the art of coping research, Folkman and Moskowitz (2004) considered the new focus on the social aspects of coping as one of the major developments of the field in the previous decade. Theoretical and empirical contributions on the social aspects of coping have focused, on the one hand, on the impact of individual coping on social relationships and vice versa (e.g., Berghuis & Stanton, 2002; Coyne & Smith, 1991; O'Brien & DeLongis, 1997) and, on the other hand, on novel notions such as communal coping (Hobfoll, Dunahoo, Ben-Porath, & Monnier, 1994; Lyons, Mickelson, Sullivan, & Coyne, 1998; Mickelson et al., 2001; Wells, Hobfoll, & Lavin, 1997) and dyadic coping (Bodenmann, 1995a, 1997, 2005; Coyne & Smith, 1991; DeLongis & O'Brien, 1990).

Dyadic coping refers specifically to the couple relationship and it is broadly defined as an interpersonal process involving both partners and as "the interplay between the stress signals of one partner and the coping reactions of the other, a genuine act of shared coping" (Revenson et al., 2005, p. 4). In the past decades different conceptualizations of such construct, stemming from Lazarus and Folkman's (1984) transactional view of the stress and coping process, have been proposed and several distinguishable, yet overlapping, definitions have been elaborated (cf., Barbarin, Hughes, & Chesler, 1985; Bodenmann, 1995a, 1997, 2005; Coyne & Smith, 1991; DeLongis & O'Brien, 1990; O'Brien & DeLongis, 1997; Revenson, 1994).

Within Bodenmann's (1995a, 1997, 2005) perspective, dyadic coping is described as both (a) the coping efforts of one partner in order to support the other in times of stress and (b) the common attempts of both partners to cope together with a shared stressor. The stress and coping process is regarded as a circular sequence in which partner A's communication of stress is perceived, decoded, and evaluated by partner B, who then responds with his/her coping reactions. Partner A's communication of stress, whether verbal or non-verbal, is considered in this model as a necessary, yet not sufficient, condition for the process of dyadic coping. Through stress communication the partners' stress becomes a relational entity. Partner B's coping responses are in turn perceived, decoded, and evaluated by partner A in a circular process that goes on until the partners have reached their purposes. The general aim of dyadic coping is twofold: it is intended to restore or maintain both partners' individual well-being (not only that of the stressed partner), by reducing the partners' levels of stress, and to promote couple functioning, by strengthening the partners' sense of we-ness and reciprocal trust (Bodenmann, 2005; Cutrona, 1996).

Dyadic coping, however, is not functional per se but partners can engage in positive as well as negative forms of managing their stress as a couple. According to Bodenmann's conceptualization, in fact, dyadic coping is a multidimensional construct: depending on the profile of the situation, on the individual and dyadic appraisals and goals, and on partners' own competencies, different types of dyadic coping can be distinguished. Bodenmann's first classification of coping responses (Bodenmann, 1995a) included three types of positive dyadic coping: common dyadic coping, supportive dyadic coping, and delegated dyadic coping. Whereas *common dyadic coping* refers to the efforts that both partners make together and more or less symmetrically (by engaging in a joint problem-solving discussion, by relaxing together, and expressing mutual understanding)

in order to overcome a problem relevant to the dyad, supportive and delegated dyadic coping are provided by one partner in order to support the other in dealing with a stressor that is external to the dyad and only affects it indirectly through the stressed partner. *Supportive dyadic coping* refers to one partner expressing understanding and solidarity to the other or providing him/her with information and practical advice. *Delegated dyadic coping*, on the other hand, includes the efforts that one partner makes in taking over the other's daily tasks and duties in order to alleviate his/her perception of stress. Differently from supportive dyadic coping, in delegated dyadic coping the partner is explicitly asked to provide help. Supportive dyadic coping as well as common dyadic coping can be achieved through either emotion-focused (aiming to reduce partners' emotional distress) or problem-focused activities (aiming to manage the problem itself).

Bodenmann's further theoretical exploration of stress and coping in couples (Bodenmann, 1997, 2005) acknowledged and theorized the possibility of dyadic coping responses that are negative in nature. In this further specification of his model, the Author added three negative forms of dyadic coping to his classification: hostile, ambivalent, and superficial dyadic coping. All three forms of negative dyadic coping can be considered as somewhat supportive responses to the partner's expression of stress, but with a negative connotation. *Hostile dyadic coping* occurs when the partner reacts to the stress communication of the other with hostile comments or behaviors, such as mocking or distancing. *Ambivalent dyadic coping* refers to support provided by the partner but with an attitude that expresses unwillingness to help, because the support is viewed as unnecessary and/or the partner who is seeking support is viewed as inferior or incompetent. In this case, one partner provides help but feels as if the other shouldn't have asked for it. *Superficial dyadic coping* occurs, instead, when one partner offers support to the other, but in an insincere and not genuine way, for example asking about his/her problem but not listening to the reply or embracing him/her without a real emotional involvement.

Dyadic coping shows analogies with several other constructs such as social support and relationship awareness. Coping in couple dyads has often been conceptualized as linked to the construct of social support. This association reflects Lazarus' (1999) definition of coping as a process involving the appraisal, actions, emotions, and feedback of others. Although conceptually linked to social support, dyadic coping is nevertheless defined as a novel construct that differs from social support in three important aspects. First, the support provided within the dyadic coping process is not a general form of social support, but is the specific support offered by each partner. In a couple relationship, the partner is the most important source of support in times of stress (Beach, Martin, Blum, & Roman, 1993; Revenson, 1994; Walen & Lachman, 2000); thus, receiving support from him/her has a different value as compared to other sources of social support. Second, unlike social support, the process of dyadic coping requires both partners to be concerned with each other's well-being, and engaging in dyadic coping is a way for both of them to increase their personal and couple functioning. Third, as shown by Bodenmann's classification of dyadic coping styles, spousal support (i.e., supportive dyadic coping) is only one of the possible types of dyadic coping.

Dyadic coping, moreover, relates to relationship awareness (e.g., Acitelli, 1992) in that its expression requires a relational orientation, with partners understanding the stressful situation as *our* problem and "attending to the couple or relationship as an entity" (Acitelli & Badr, 2005, p. 122). Relationship awareness, however, can be considered both a prerequisite and a consequence of dyadic coping, since the capacity of partners to adopt a relational perspective can actu-

ally emerge from their interactions when facing a problem together. Bodenmann's dyadic coping theory, in fact, assumes that the more partners engage in common activities that promote mutual trust and a perception of the relationship as a secure shelter, the more they will be able to perceive themselves as a dual entity, increasing their sense of we-ness.

MEASURING DYADIC COPING

In order to measure dyadic coping Bodenmann elaborated different methods, such as systemic observations, interviews, diaries, and questionnaires, each one tapping the various dimensions of dyadic coping from a different point of view. Whereas observations measure the ongoing process of dyadic coping as it unfolds along the couple interaction, both at a verbal and non-verbal level, narratives and diaries reveal partners' motivations and subjective experience. Questionnaires, on the other hand, can spotlight different aspects of this phenomenon, mostly conscious, ranging from stressor-specific coping responses to more general tendencies to react in a certain manner to stress across different situations. Questionnaires have the advantage of being economical and easy to administer, a characteristic that is especially valuable in large research projects or in program evaluation studies.

The construct of dyadic coping and its relevance for the couple functioning have been explored in numerous studies. Bodenmann (1995b, 2000), for example, found evidence for the relationship between dyadic coping and marital satisfaction, whereby positive forms of dyadic coping are positively associated with marital satisfaction whereas the inverse association was found for negative dyadic coping. A recent meta-analysis conducted across 13 studies (Bodenmann, 2005) provided evidence for this relationship (overall effect-size, $d = 1.3$). The association between dyadic coping and relationship quality and stability was also explored longitudinally, over a two- to five-year period (Bodenmann & Cina, 2005; Bodenmann & Langenick, 1996; Bodenmann, Pihet, & Kayser, 2006). Numerous studies (e.g., Bodenmann, Perrez, Charvoz, Cina, & Widmer, 2002; Bodenmann, Pihet, Shantinath, Cina, & Widmer, 2006; Bodenmann & Shantinath, 2004; Ledermann, Bodenmann, & Cina, 2007) were devoted to assess the effectiveness and efficacy of Bodenmann's prevention program designed for couples and especially focused on promoting dyadic coping in couples (for a description of the program see Bodenmann, 1997, 2008; Bodenmann & Bertoni, 2004). All these studies showed, at least on a short term basis, a significant increase in dyadic coping between partners after program participation. Some studies were also designed to start testing cross-cultural differences in dyadic coping use and expression (Bertoni et al., 2007; Ledermann, Bodenmann, Gagliardi, et al., 2007). Moreover, the construct of dyadic coping proved to be particularly useful in studying couples facing different stressors, such as child behavioral problems, child-related marital conflicts, traumatic experiences, anxiety, and depression (Bodenmann, Cina, & Schwerzmann, 2001; Bodenmann, Widmer, Charvoz, & Bradbury, 2004; Gabriel & Bodenmann, 2006a, 2006b; Kramer, Ceschi, Van der Linden, & Bodenmann, 2005).

In order to measure partners' tendency to use dyadic coping and stress communication, Bodenmann developed a self-report instrument, based on his systemic-transactional perspective of dyadic coping, the Dyadic Coping Questionnaire (*Fragebogen zur Erfassung des Dyadischen Copings als Tendenz*_FDCT-N; Bodenmann, 1997, 2000). It is a 39-item scale that was meant to

assess stress communication, partners' dyadic coping responses to the other's stress signals, and common dyadic coping. Moreover, the scale provides two additional items for the evaluation of the efficacy of dyadic coping (item 40) and partners' satisfaction with it (item 41). All items are to be rated on a 5-point scale (from 1 = *very rarely* to 5 = *very often*). For stress communication and dyadic coping responses, but not for common dyadic coping, a subset of items measures self-perceptions of each partner's dyadic coping styles and another subset measures one partner's perceptions of the other's dyadic coping. This feature of the scale allows a more complete depiction of the interpersonal process of dyadic coping, which entails not only partners' stress signals and responses of coping but also partners' receipt of the other's stress signals and coping responses. Self-perceptions and perceptions of the other subscales can be used either separately or conjointly, depending on the specific research purpose. Conjoint use of the subscales is especially interesting in that it allows a comparison between partners perceptions, thereby giving the researcher the possibility to study not only partners' use of dyadic coping in reaction to the other's expression of stress, but also the balance between the support provided and received by partners, both at an intraindividual level (the extent to which partners' provision of support matches their perception of support received from the other) and at the interpersonal level (the extent to which partners' provision of support matches their partner's perception of received support) (Iafrate, Bertoni, Barni, & Donato, in press; Iafrate, Bertoni, Barni, Donato, & Parise, 2008).

The original German version of the scale was translated into another two languages (French and Italian)¹ in order to use it with different language groups in Switzerland and to carry out cross-cultural studies (e.g., Bertoni et al., 2007). Up to the present, only one study has been conducted with the aim of analyzing the factorial structure of the scale in the other language groups (Ledermann, Bodenmann, Gagliardi, et al., 2007), but it refers to a new and shorter version of this instrument, the Dyadic Coping Inventory (DCI) (Bodenmann, 2007; Gmelch et al., 2007).

OBJECTIVES

Given the growing attention devoted to the concept of dyadic coping within the study of the couple relationship, the importance of such construct for relationship satisfaction and stability, and the absence of studies on the psychometric properties of the Italian version of the scale, the aim of the present study was to analyze the FDCT-N factorial structure in a sample of Italian heterosexual couples. To this aim we adopted a confirmative approach to evaluate the adequacy of the factorial structure of the FDCT-N found in previous studies.

The analyses conducted on FDCT-N (see Bodenmann, 2000) highlighted a four-factor structure, with dyadic coping defined in both self-perceptions and the perceptions of the other by a stress communication factor and three factors describing partners' coping responses (supportive dyadic coping, delegated dyadic coping, and negative dyadic coping). Moreover, another unique factor referred specifically to common dyadic coping. It is noteworthy that in this empirical model the three negative forms of dyadic coping (hostile, ambivalent, and superficial), even though all represented in the items of the scale, did not define three specific factors (as hypothesized theoretically) but were perceived by participants as pertaining to a more general negative dimension.

This same structure was found in studies using a shorter version of the scale, the Dyadic Coping Inventory (Bodenmann, 2007; Gmelch et al., 2007), and was replicated in a cross-cultural study aiming to test the psychometric properties of the DCI in three different language groups (German, French, and Italian) (Ledermann, Bodenmann, Gagliardi, et al., 2007). In this latter study a series of exploratory factor analysis, performed on self-perceptions, perceptions of the other, and common dyadic coping items separately, showed that the German factorial structure of the measurement was replicated in both the French and the Italian versions of the scale. After excluding two items from the stress communication subscale (one in self-perception and the corresponding item in the perceptions of the other), the French and the Italian scales, in fact, encompassed the following factors: stress communication, supportive, delegated, and negative dyadic coping for self-perceptions and for the perceptions of the other and a unique factor for the common dyadic coping items.

In line with these previous studies, we tested the adequacy in our sample of a four-factor model (stress communication, supportive dyadic coping, delegated dyadic coping, and negative dyadic coping) for self-perceptions and for the perceptions of the other, and of a unidimensional model for common dyadic coping, separately for women and men. The specific aim of the present contribution was to find a structural model that would hold for both self-perceptions and perceptions of the other and for both women and men, in order to define a model that would allow to compare partners' perceptions (within-partner: self-perception vs. perception of the other, and between partners) and highlight possible gender differences.

Including both partners' perceptions, as already noted, is an important and peculiar feature of this scale and dyadic coping research would benefit from instruments that allow to take both partners' perceptions into account. Partners' perceptions, in fact, have proved to be of special importance in the context of support exchange; furthermore, partners' *interpersonal* perceptions (that are the *relations* between partners' perceptions of one another) can be key elements for understanding the effectiveness of partners' provision of support and to shed light on partners' reciprocal exchange of support (Iafrate et al., in press; Iafrate et al., 2008).

Gender differences are also relevant for coping research. Studies on individual coping have revealed that women and men may tend to prefer different coping strategies and that they may benefit from different strategies (Revenson, Abraído-Lanza, Majerovitz, & Jordan, 2005). Moreover, research has shown that gender differences exist in partners' reports of dyadic coping (Bodenmann et al., 2006) and that women may benefit more from their spouses' support than men (Schulz & Schwarzer, 2004) and may be more affected by the counter effects of their own protective efforts toward their partners' stress (Coyne & Smith, 1991).

METHOD

Participants and Procedure

Three hundred and eighty-nine heterosexual couples ($N = 778$ participants) living in the North of Italy completed the FDCT-N.

Partners' average duration of the relationship was 10 years ($SD = 9.52$). Women's mean age was 32 years ($SD = 9.50$) and men's age was 35 years ($SD = 10.33$). Thirty-two percent of

the couples were cohabiting and 25% were married. Twenty-six percent of couples had on average 1 child (*Range* 1-6). Although a few participants (9% of women and 15% of men) had a low educational level (equal to or less than eight years of education), most reached a medium educational level (53% of women, 61% of men) or a high level of education (more than 13 years of education; 38% of women, 24% of men).

Measures

In addition to providing demographic information through a self-report questionnaire, all participants completed the FDCT-N (Bodenmann, 1997, 2000). The instrument is composed of a total of 41 items: 39 measuring dyadic coping and two the evaluation of dyadic coping. Four items refer to stress communication (items 1, 2, 3, 4 for self-perceptions and items 17, 18, 19, 20 for the perceptions of the other), that is the propensity of partners to communicate their stress to the other and to ask for his/her help (item example: “[When I’m stressed,] I let my partner know that I appreciate his/her practical support, advice, or help”). Twelve items measure partners’ dyadic coping responses to the other’s stress signals, and in particular five items refer to supportive dyadic coping (items 21, 22, 24, 25, 31 for self-perceptions and items 5, 6, 8, 9, 14 for the perceptions of the other; item example: “I try to analyze the situation together with my partner and help him/her to understand and face the problem”). Two concern delegated dyadic coping (items 29, 32 for self-perceptions and items 12, 15 for the perceptions of the other; item example: “My partner takes on things that I normally do in order to help me out”), and five negative dyadic coping (items 23, 26, 27, 28, 30 for self-perceptions and items 7, 10, 11, 13, 16 for the perceptions of the other; item example: “My partner provides support, but does so unwillingly and unmotivated”). Seven items measure common dyadic coping (items 33, 34, 35, 36, 37, 38-reversed, 39), that is partners’ efforts to cope together with stressors that affect them as a couple (item example: “We engage in a serious discussion about the problem and think through what has to be done”), and the remaining two items pertain to partners’ satisfaction with their dyadic coping (item 40) and to their perception of its efficacy (item 41).²

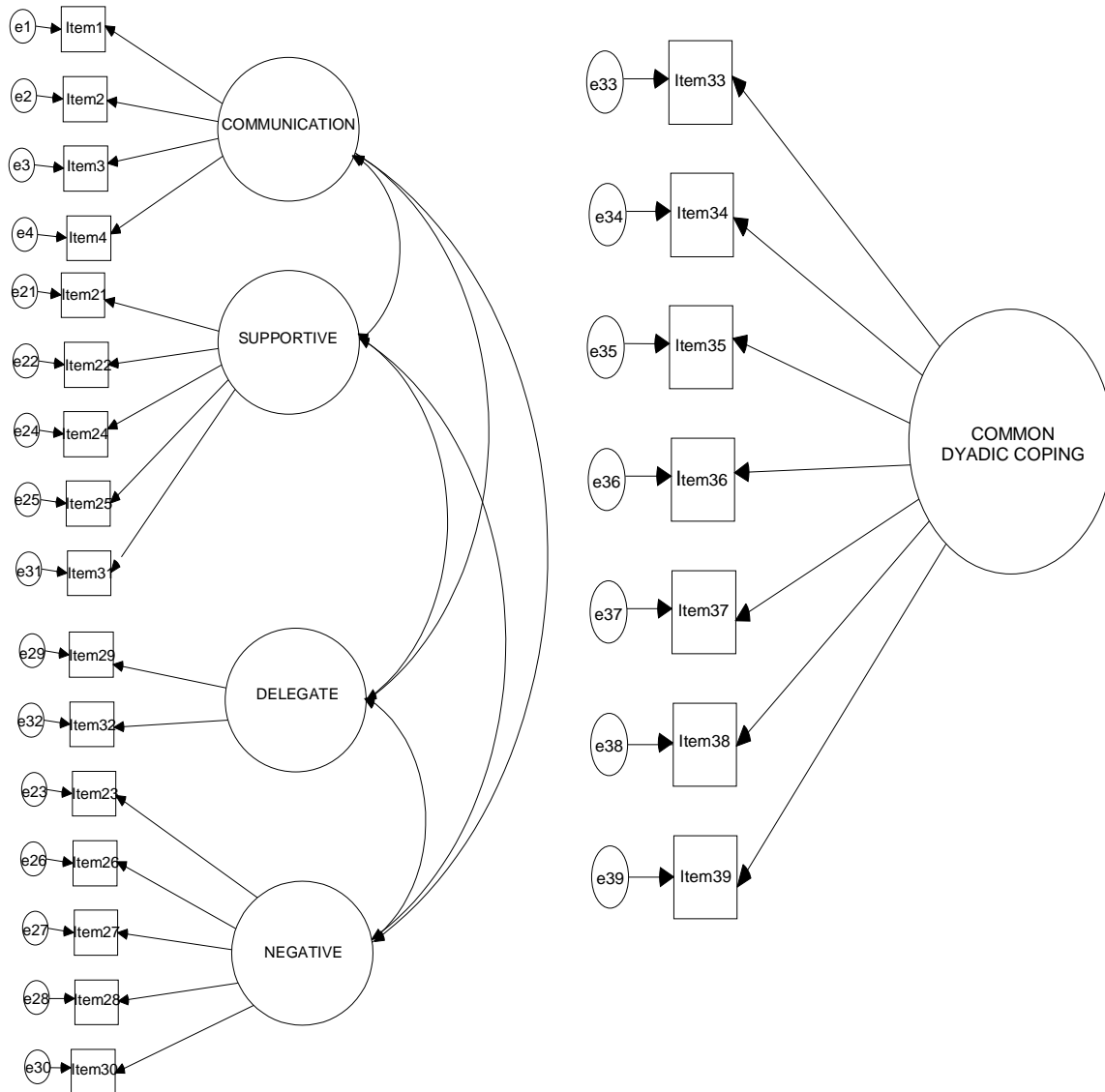
Data Analyses

In order to evaluate the adequacy of the FDCT-N factorial structure described above we conducted a series of confirmatory factor analyses on self-perceptions, perceptions of the other, and common dyadic coping, separately for men and women (see Figure 1), using the software LISREL 8.30 (Jöreskog & Sörbom, 1996) and employing the normal-theory maximum-likelihood method.³ All factors were considered correlated, as pertaining to different dimensions of the same process.

Structural equation models in confirmatory factor analysis can be evaluated from two points of view: the overall goodness-of-fit of the model and the value and significance of each parameter in the model (Byrne, 1998; Corbetta, 1992; Jöreskog & Sörbom, 1988).

As far as the overall goodness-of-fit is concerned, five statistics were used here in assessing the adequacy of the model’s fit: 1) the chi-square test (χ^2); 2) the Standardized Root Mean

FIGURE 1
 The three models tested for self-perceptions, perceptions of the other, and common dyadic coping.



Square Residuals (SRMR); 3) the Root Mean Square Error of Approximation (RMSEA); 4) the Composite Fit Index (CFI); 5) the Goodness of Fit Index (GFI). The chi-square test provides an estimate of the probability that the sample distribution differs from the distribution expected on the basis of the theoretical model: if the difference is statistically significant, a match between the data and the theoretical model is unlikely, and therefore the model should be rejected. The chi-square statistic, however, is generally regarded as too sensitive to sample size; with a large enough sample, in fact, it is possible to reject a hypothesis on the basis of relatively trivial differences. As a rule of thumb, an acceptable χ^2/df ratio is usually considered to be not more than 1:3 (Carmines & McIver, 1981; Marsh, Balla, & MacDonald, 1988). Alternative fit indices have been

developed and the following statistics are four of these alternative tests. The SRMR (Bentler, 1995) can range from 0 to 1, with 0 indicating a perfect fit: therefore the smaller the SRMR, the better the model fit; usually an adequate fit is indicated by a SRMR smaller than .08 (Hu & Bentler, 1998). For the RMSEA (Steiger & Lind, 1980), on the other hand, values $\leq .05$ are regarded as optimal and values ranging between .05 and .08 are considered acceptable (Brown & Cudeck, 1993; Hu & Bentler, 1999). For the CFI (Hu & Bentler, 1998) values of .90 or higher are considered satisfactory (Bentler, 1990), while $> .95$ are regarded as optimal (Hu & Bentler, 1999). Finally, the GFI (Jöreskog & Sörbom, 1984, 1988) normally lies between 0 and 1 (although negative values are also possible), with higher values indicative of better fit; in practice, values greater than .90 are generally considered acceptable (Hu & Bentler, 1999).

As far as the significance of the parameters is concerned, it was tested in structural equation modeling using t-values. The t-values for each parameter provide a test of the hypothesis that a parameter equals 0. Modification indices are also used to evaluate the adequacy of adding a free parameter where it was not required by the theoretical model. These tests are useful tools in order to redefine and improve the fit of a given model; their use, however, needs to be accompanied by a theoretical analysis of the plausibility of each recommended modification.

RESULTS

Self-Perceptions

As shown in Table 1, the original four-factor model distinguishing between stress communication, supportive, delegated, and negative dyadic coping (model *a*) presented acceptable fit indices for men's self-perceptions but not completely for women's. For model *a_w*, in fact, the χ^2/df ratio was only marginally acceptable and the CFI fit index was not satisfactory.

From the analysis of the outputs, and in particular of the modification indices, we considered the possibility of correlating items 24 and 31 to improve the model. In line with Bodenmann's theorization of supportive dyadic coping as comprising both problem-focused and emotion-focused responses, items 24 ("I tell my partner that the situation is not that bad and help him/her to see it in a different light") and 31 ("I try to analyze the situation together with my partner and help him/her to understand and face the problem") seem to refer more specifically to problem-focused supportive responses, aiming to analyze the problem together with the partner. More specifically, item 24 refers to a more cognitive approach (reframing the situation and the representation of the problem), whereas item 31 to a more behavioral approach (finding solutions in order to deal with the problem encountered). The remaining items (21, 22, 25) of the supportive dyadic coping factor, from the other hand, are related to coping efforts aiming to reduce the partner's emotional distress and showing understanding (item example: "I show interest and understanding to my partner").

In order to verify whether this modification would improve women's model fit, we then re-tested the models with these changes. As shown by models *b*, such a modification significantly improved the model fit⁴ for women ($\Delta \chi^2 = 27.35, p < .001$). This model, however, does not represent a viable solution, in that correlated errors may represent a model misspecification due to the exclusion of pertinent latent variables (Corbetta, 1992). We therefore decided to test a five-factor model in which these items (24 and 31) referred to a separate factor, that we named prob-

lem-focused dyadic coping. As shown in Table 1, this final model presents acceptable fit indices for both women and men.

TABLE 1
 Fit indices of the models tested (self-perceptions)

Models	$\chi^2 (p)$	<i>df</i>	RMSEA	SRMR	GFI	CFI
Women						
<i>a_w</i> . four-factor model	270.33	99	.07	.07	.91	.89
<i>b_w</i> . four-factor model (correlated errors of items 24-31)	(<i>p</i> = .00) 242.98	98	.06	.07	.92	.90
<i>c_w</i> . five-factor model	(<i>p</i> = .00) 221.79	95	.06	.06	.93	.92
	(<i>p</i> = .00)					
Men						
<i>a_m</i> . four-factor model	161.59	99	.04	.05	.95	.96
<i>b_m</i> . four-factor model (correlated errors of items 24-31)	(<i>p</i> = .00) 158.52	98	.04	.05	.95	.96
<i>c_m</i> . five-factor model	(<i>p</i> = .00) 133.01	95	.03	.05	.95	.98
	(<i>p</i> = .00)					

Note. Women's models are marked by a subscript *w* and men's by a subscript *m*.

In order to test whether the improvement from the four-factor model to the five-factor model was statistically significant and to verify that the problem-focused and emotion-focused factors were actually distinguishable, we performed the chi-square difference test ($\Delta \chi^2$) to compare the five-factor model with a model in which the covariance between the problem-focused and emotion-focused factors were fixed at 1. A significant $\Delta \chi^2$ would confirm that the distinction between the problem-focused and emotion-focused factors significantly improved the model. The $\Delta \chi^2$ resulted significant in both women and men ($\Delta \chi^2 = 63.87, p < .001$ for women; $\Delta \chi^2 = 61.16, p < .001$ for men).

As for the significance of parameters, in both four- and five-factor models factor loadings and factor variances were all significant. As a further confirmation of the improvement represented by the five-factor model, it is worth noting that in the five-factor solution the items loading on the problem-focused factor (24 and 31) presented higher factor loadings (from .46 to .55 and from .73 to .82 respectively for women and from .49 to .52 and from .75 to .76 respectively for men) than in the four-factor model, in which they loaded on the supportive dyadic coping factor.

As far as factor covariances are concerned, the covariance between stress communication and negative dyadic coping was the only nonsignificant one in both women and men. All factors showed a satisfactory internal consistency ($\rho_c \geq .64$),⁵ with the only exception of men's problem-focused dyadic coping ($\rho_c = .59$).

With regard to both criteria mentioned above (value and significance of parameters as well as model fit) the five-factor model proved to be the most adequate.

Perceptions of the Other

As shown in Table 2, for the original four-factor model (model *e*) not all the fit indices were acceptable. In particular, in fact, the CFI fit index was not satisfactory.

TABLE 2
 Fit indices of the models tested (perceptions of the other)

Models	$\chi^2 (p)$	<i>df</i>	RMSEA	SRMR	GFI	CFI
Women						
<i>e_w</i> . four-factor model	290.95	99	.07	.06	.91	.89
<i>f_w</i> . four-factor model (correlated errors of items 8-14)	(<i>p</i> = .00) 231.46	98	.06	.06	.92	.93
<i>g_w</i> . five-factor model	(<i>p</i> = .00) 223.01	95	.06	.06	.93	.93
	(<i>p</i> = .00)					
Men						
<i>e_m</i> . four-factor model	272.58	99	.07	.07	.91	.89
<i>f_m</i> . four-factor model (correlated errors of items 8-14)	(<i>p</i> = .00) 254.40	98	.07	.07	.92	.90
<i>g_m</i> . five-factor model	(<i>p</i> = .00) 246.06	95	.07	.06	.92	.90
	(<i>p</i> = .00)					

Note. Women's models are marked by a subscript *w* and men's by a subscript *m*.

Consistent with the analyses conducted for self-perceptions, the examination of the outputs and modification indices led us to correlate items 8 and 14 (corresponding to items 24 and 31 respectively). Similarly to self-perceptions, this modification significantly improved women's and men's model fit ($\Delta \chi^2 = 59.49, p < .001$ for women and $\Delta \chi^2 = 18.18, p < .001$ for men).

We next tested the five-factor model for perceptions of the other as well. As shown in Table 2, this model presented acceptable fit indices for both women and men and resulted in a significant improvement of fit ($\Delta \chi^2 = 37.37, p < .001$ for women and $\Delta \chi^2 = 37.15, p < .001$ for men), calculated through the same procedure as in self-perceptions. All factors showed a satisfactory internal consistency ($\rho_c \geq .65$).

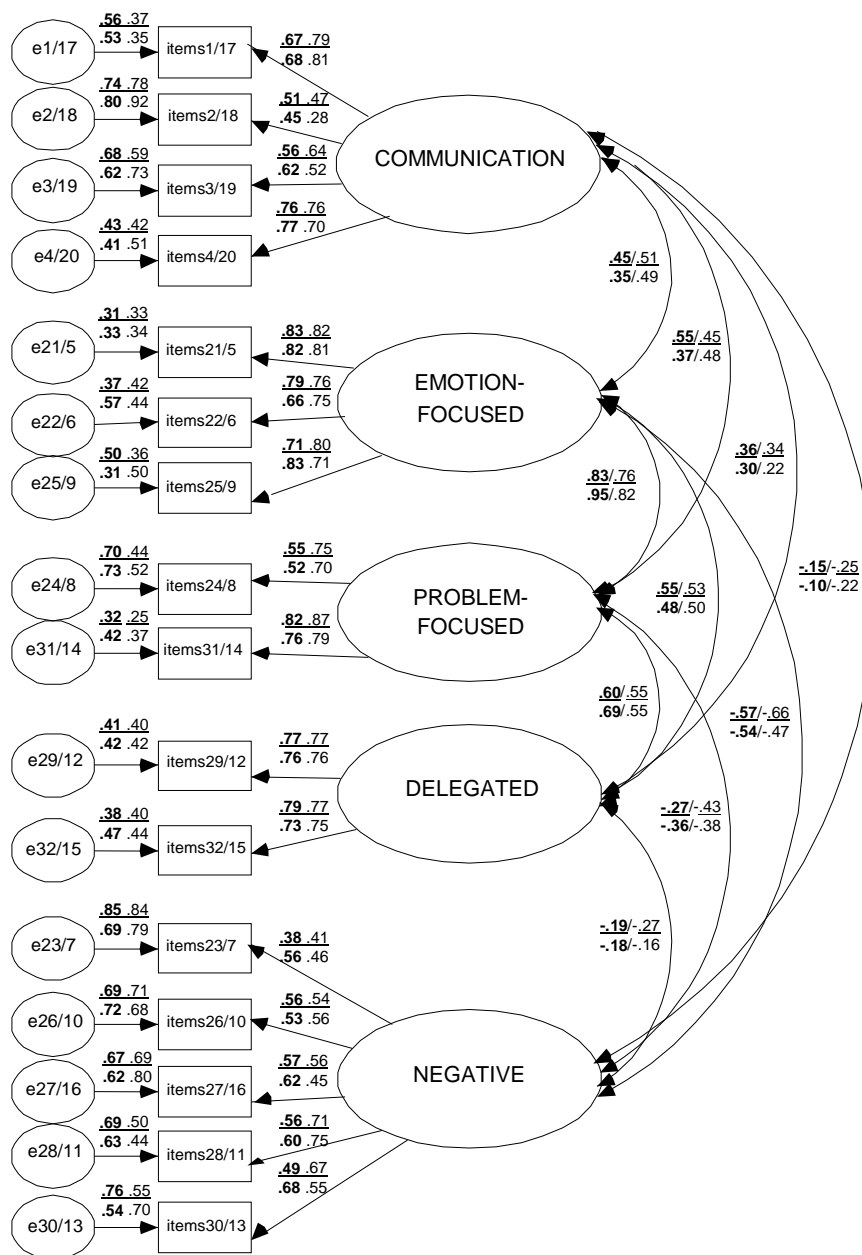
As for the significance of parameters, in both four- and five-factor models factor loadings, factor variances and covariances were all significant (see Figure 2). In the five-factor solution items 8 and 14, loading on the problem-focused factor, presented higher factor loadings

(from .64 to .75 and from .71 to .87 respectively for women and from .64 to .70 and from .70 to .79 respectively for men) than in the four-factor model, in which they loaded on the supportive dyadic coping.

As already shown in self-perceptions, the five-factor models proved to be the most adequate in the perceptions of the other as well, although only marginally for men.

FIGURE 2

Five-factor model for self-perceptions and perceptions of the other. Underlined parameters refer to women's models. Bold parameters refer to self-perceptions.



Common Dyadic Coping

As shown by model *i* in Table 3, the one-factor model did not present appropriate goodness-of-fit statistics in either women or men.

TABLE 3
 Fit indices of the models tested (common dyadic coping)

Models	$\chi^2 (p)$	<i>df</i>	RMSEA	SRMR	GFI	CFI
Women						
<i>i</i> _w one-factor model	125.37 (<i>p</i> = .00)	14	.15	.08	.91	.90
<i>l</i> _w three-factor model	31.09 (<i>p</i> = .00)	11	.07	.04	.98	.98
Men						
<i>i</i> _m one-factor model	100.18 (<i>p</i> = .00)	14	.13	.08	.93	.89
<i>l</i> _m three-factor model	27.45 (<i>p</i> = .00)	11	.06	.03	.98	.98

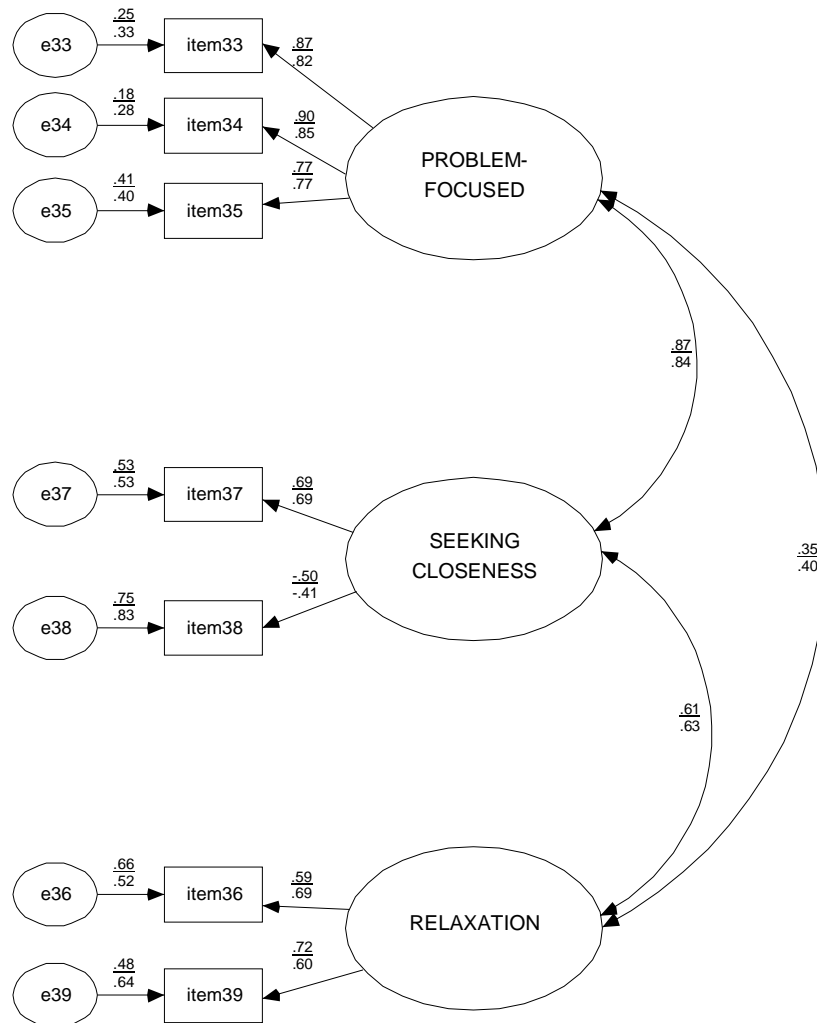
Note. Women's models are marked by a subscript _w and men's by a subscript _m.

The analysis of the modification indices helped us to make sense of these results: the errors of items 36 and 39, and of items 33 and 34 needed to be correlated. A conceptual examination of those items revealed that they actually refer to specific ways of dealing with stress as a couple, and in particular item 36 ("We help each other relax with such things like massaging, taking a bath together, or listening to music together") and 39 ("We are affectionate to each other, make love and try that way to cope with stress") express partners' tendency to use various forms of physical relaxation together, whereas items 33 and 34 ("We try to cope with the problem together and search for concrete solutions" and "We engage in a serious discussion about the problem and think through what has to be done" respectively), and conceptually item 35 as well ("We help one another to put the problem in perspective and see it in a new light"), comprise a more problem-focused effort of common dyadic coping, referring to partners analyzing the problem together and finding a concrete solution.⁶ In line with these considerations, we decided to test a three-factor model, containing the relaxation factor, the common problem-focused factor, and a third factor comprising the remaining two items and referring to partners' seeking of closeness (37 and 38-reversed). This three-factor model was supported by adequate goodness-of-fit indices in both women's and men's subsamples, although women's RMSEA was marginally acceptable. In order to test whether the improvement was statistically significant and to verify that the three factors were actually distinguishable, we used the chi-square difference test ($\Delta \chi^2$) to compare the three-factor model with a model in which the covariances between the common problem-focused,

relaxation, and seeking of closeness factors were fixed at 1. A significant $\Delta \chi^2$ would confirm that the distinction among the three factors significantly improved the model. The $\Delta \chi^2$ resulted significant in both men and women ($\Delta \chi^2 = 94.28, p < .001$ for women; $\Delta \chi^2 = 72.73, p < .001$ for men).

Moreover, the factor loadings, the factor variances and covariances were all significant, for both women and men (see Figure 3). As for the value of parameters, in the three-factor solution items presented higher factor loadings (ranging from .50 to .90 for women and from .41 to .85 for men) than in the one-factor model (ranging from .23 to .89 for women and from .26 to .84).

FIGURE 3
 Three-factor model for common dyadic coping. Underlined parameters refer to women's models.



All factors showed a satisfactory internal consistency ($\rho_c \geq .60$), with the only exception of the relaxation factor for both men and women ($\rho_c = .47$ and $\rho_c = .52$ respectively).

Mean factor scores for the final models are presented in Table 4.

TABLE 4
 Mean factor scores for the final models of women and men

Factor	Women		Men	
	Self perceptions M (SD)	Other perceptions M (SD)	Self perceptions M (SD)	Other perceptions M (SD)
Stress Communication	3.61 (.69)	3.30 (.77)	3.16 (.75)	3.60 (.67)
Emotion-focused supportive DC	4.15 (.64)	3.95 (.79)	4.03 (.66)	4.07 (.70)
Problem-focused supportive DC	3.86 (.66)	3.84 (.86)	3.93 (.67)	3.73 (.78)
Delegated DC	3.25 (.86)	3.22 (.92)	3.37 (.80)	3.22 (.88)
Negative DC	1.26 (.40)	1.38 (.52)	3.16 (.75)	1.35 (.48)
Common DC-relaxation	4.00 (.74)		3.95 (.69)	
Common DC-problem-focused	2.62 (1.00)		2.64 (1.00)	
Common DC-seeking closeness	4.13 (.72)		4.02 (.69)	

Note. DC = dyadic coping. For negative dyadic coping, original (non transformed) scores are reported.

DISCUSSION AND CONCLUSIONS

Given the absence of studies on the psychometric properties of the Italian version of Bodenmann's Dyadic Coping Questionnaire (FDCT-N), the present study aimed to analyze the factorial structure of this scale on an Italian sample.

Since we intended to replicate in this different cultural sample the factorial structure previously tested on this scale and on a shorter version of it (see Bodenmann, 2000; Ledermann, Bodenmann, Gagliardi, et al., 2007) we adopted a confirmative approach. We aimed, specifically, to find a structure that would hold in both self-perceptions and perceptions of the other and in both women and men. We tested the same model for those items presenting both self perceptions and perceptions of the other and for the common dyadic coping items, separately for women and men.

With regard to self-perceptions and perceptions of the other, we found that in our sample the original four-factor model is only marginally appropriate, and in particular it showed a poorer fit in women's self perceptions and in both partners' perceptions of the other. In these cases, in fact, the model could sufficiently fit the data only when we correlated the errors between items 24 and 31 in self-perception (and the corresponding 8 and 14 in perception of the other), as indicated by the analysis of the modification indices. These items, in fact, refer to a more problem-focused style of dyadic coping. We then decided to test a five-factor model by adding one factor

referring to the problem-focused style. The improvement from the four-factor to the five-factor model was particularly evident for women's self-perceptions.

This pattern of findings suggests a possible gender difference, in that the distinction between problem-focused and emotion-focused ways of providing support could be more relevant for women's than for men's self-perceptions. In this regard, it appears that providing emotional rather than instrumental support to the partner carries a different value in men's and women's view of the exchange within the couple. This is consistent with research highlighting that, although men and women share more similarities in their view of relationships than it was once believed (e.g., Wood, 2002), still some gender differences remain, with women valuing emotion-oriented supportive skills as more important than men (Burlinson, Kunkel, Samter, & Werking, 1996) and being more skillful providers of emotional support than men (Goldsmith & Dun, 1997). Kunkel and Burlinson (1999) also found that, although both men and women assigned greater priority to affective than instrumental goals of support behaviors, women placed more emphasis on affective goals than did men.

Participants discriminated in a more subtle way among coping responses aiming at different purposes (reducing the partner's emotional distress; reframing and solving the problem; supporting the partner by taking over his/her daily duties), at least for positive dyadic coping. It is noteworthy that, consistent with previous empirical models (see Bodenmann, 2000), this fine-grain discrimination does not emerge in negative dyadic coping styles, that seem instead to merge into a general negative dimension, regardless of the specific features of each coping response. This more articulated perception of positive dyadic coping emerges also in common dyadic coping models for both women and men, where three factors (common problem-focused, relaxation, and seeking of closeness), rather than a unique dimension, are a better representation of our data.

These findings could be explained by two points of view, theoretical as well as methodological. From a theoretical stance, considering the characteristics of the present sample, including non-clinical couples with high levels of positive dyadic coping and low levels of negative dyadic coping (score average in positive responses ≥ 3.7 and in negative ones ≤ 1.4), this pattern of findings can be regarded as an expression of this generally well-functioning coping. In line with the literature on self-knowledge organization and self-complexity (for a review see Koch and Sheperd, 2004), in fact, positive self-complexity (the number and relative independence of positive self-aspects) and negative self-complexity (the number and relative independence of negative self-aspects) are differently associated to well-being outcomes and coping skills. In particular, some research on coping with traumatic events showed that positive self-complexity was associated with individuals' symptomatology and constructive thinking: people with highly complex positive self-aspects, in fact, appeared to cope with trauma more successfully than did people with highly complex negative self-aspects (Morgan & Janoff-Bulman, 1994). Moreover, some studies showed that depression and poorer coping involves high negative self-complexity, low positive self-complexity, or both (Gara, Woolfolk, Cohen, & Goldston, 1993; Woolfolk et al., 1999; Woolfolk, Novalany, Gara, Allen, & Polino, 1995). This research suggests that holding a highly complex and articulated view of one's positive self-aspects (traits, roles, attributes, behaviors, and abilities) and a relative uniform, undifferentiated view of negative self-aspects is a characteristic of well-adjusted individuals. High positive self-complexity, in fact, may be beneficial to the maintenance of individuals' positive self-view, in that, as Linville (1987) originally contended, the complexity of self-aspects prevents the process of spreading activation (i.e., affective

spillover) when the person faces a negative or stressful event. Low negative self-complexity, from the other hand, represents, as Gara and colleagues (1993) argued, the everyday functioning of non-distressed individuals, whose negative self-aspects are normally relegated to the periphery of the awareness and therefore have also more blurred boundaries than positive self-aspects.

From a methodological point of view, however, it should be noted that some of the items referring to the negative dimension are quite extreme in their formulation. This formulation itself could have elicited undifferentiated defensive responses. It seems that further theoretical as well as empirical examination of the construct is needed, in order to test these two possible explanations and to explore the negative side of dyadic coping in more detail.

Interpretation of the present findings must be tempered by several considerations. First, the use of a convenience sample limits generalizability of results to a broader population. In particular, in future research it will be useful to confirm in different samples the five-factor model for self-perceptions and perceptions of the other and the three-factor model for common dyadic coping that we tested in this work. Second, some of the factors (i.e., men's problem-focused dyadic coping and both partners' relaxation factor in common dyadic coping) present low internal consistency. Although the small number of items per factor (two in both cases) can partially explain this result, further theoretical and empirical work seems to be needed to better define those dimensions of dyadic coping. Moreover, further research would be useful in order to explore also other kinds of construct validity (e.g., discriminant and convergent) or criterion validity of this instrument in the Italian context.

In conclusion, we can summarize the main recommendations highlighted by the present study as follows:

- the original supportive dyadic coping needed to be divided into different components (problem- and emotion-focused dyadic coping for self-perceptions and perceptions of the other and common problem-focused, relaxation and seeking of closeness for common dyadic coping), thereby showing in our sample a more detailed definition of positive dyadic coping responses than of negative ones, especially for women's self-perceptions;
- the negative responses, in fact, in line with Bodenmann's previous work (1997, 2000, 2007), proved to refer to a general negative dimension, without the fine-grain definition that emerged with positive dyadic coping responses;
- in the present sample, the five-factor solution for self-perceptions and perceptions of the other and the three-factor solution for common dyadic coping appear to be the most adequate in terms of model fit and consistency across the analyses.

NOTES

1. The Italian version of the scale is reported in the Appendix.
2. These two additional items concerning the evaluation of dyadic coping (40 and 41) were not included in the analyses.
3. Prior to the analyses, we transformed all items of negative dyadic coping in both self-perceptions and perceptions of the other, because they were highly skewed and kurtotic. This transformation consisted in the reciprocal of the item scores ($1/x$, where x represents the item score) and resulted in a substantial improvement in the distribution of items, that were all retained for the analyses. It is important to note that this transformation inverts the direction of the scores in such a way that higher transformed scores refer to lower original scores and vice versa.
4. Comparison of models a and b was conducted using the chi-square difference test ($\Delta \chi^2$).

5. In order to assess reliabilities we used the formula $\rho_c = (\sum \lambda_1)^2 / [(\sum \lambda_1)^2 + (\sum \delta_1)]$ (Bagozzi & Yi, 1994), where λ represents the factor loadings and the error variances (standardized estimates).
6. We first examined, based on the highest modification index, whether a two-factor model, comprising a common dyadic coping factor and the relaxation factor, represented a satisfactory improvement. This model, however, was not completely satisfactory (either for women: $\chi^2 = 57.61$; $df = 13$; RMSEA = .10; SRMR = .05; CFI = .96; GFI = .96; or for men: $\chi^2 = 44.89$; $df = 13$; RMSEA = .08; SRMR = .05; CFI = .96; GFI = .97).

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APPENDIX

Dyadic Coping Questionnaire (Bodenmann, 1997, 2000). Italian Version

Response scale: 1 = *mai* [never]; 2 = *raramente* [rarely]; 3 = *talvolta* [sometimes]; 4 = *spesso* [often]; 5 = *molto spesso* [very often].

Nella vita quotidiana spesso capita di sentirsi stressati: cosa fa quando si sente stressata/o?
[In everyday life people sometimes happen to feel stressed: what do you do when you feel stressed?]

1. Quando mi fa piacere ottenere il sostegno pratico, i consigli concreti e l'aiuto del mio/della mia partner, glielo comunico [When I wish to have my partner's practical support, advice, or help, I let him/her know]
2. Quando mi sento sovraccarica/o, chiedo al mio/alla mia partner di assumersi dei compiti [When I feel I have too much to do, I ask my partner to do things for me]
3. Faccio capire al mio/alla mia partner che mi sento stressata/o e che non mi sento bene [I show my partner that I'm stressed and I am not feeling well]
4. Dico apertamente al mio/alla mia partner come mi sento e che sarei felice di ottenere il suo sostegno emotivo [I tell my partner openly how I feel and that I would appreciate his/her emotional support]

Come reagisce il suo/la sua partner quando gli/le esprime il suo stress? [How does your partner react when you express your stress to him/her?]

5. Mi fa capire che mi comprende e che si interessa a me [My partner shows me his/her interest and understanding]
6. È solidale con me, mi dice che anche lui/lei sa cosa significa essere stressati e che tiene a me [My partner is on my side and tells me that he/she knows how it feels to be stressed and that he/she cares about me]
7. Si prende gioco del mio stress e mi deride [My partner makes fun of my stress and mocks me]
8. Mi aiuta a guardare la situazione da un'altra prospettiva e a relativizzare il problema [My partner helps me to see the stressful situation in a different light and to put the problem in perspective]
9. Mi ascolta, mi dà la possibilità di esprimermi e mi dà conforto e coraggio [My partner listens to me, gives me the opportunity to express my stress, comforts and encourages me]
10. Mi fa capire che non vuole assolutamente essere seccato/a dai miei problemi [My partner shows me that he/she doesn't want to be bothered with my problems]
11. Mi aiuta, ma lo fa contro voglia ed è demotivato/a [My partner helps me, but does so unwillingly and unmotivated]
12. Per alleggerirmi, lui/lei si assume i compiti di cui mi occupo abitualmente [My partner takes on things that I normally do in order to help me out]
13. Mi dedica del tempo, ma non dà l'impressione di essere coinvolto/a [My partner devotes some time to me, but he/she doesn't seem to be really involved]
14. Mi aiuta ad analizzare la situazione in modo da poter affrontare il problema concretamente [My partner helps me to analyze the situation so that I can find a practical solution to the problem]
15. Quando ho troppo da fare, si rimbecca le maniche per aiutarmi [When I am too busy, my partner helps me out]
16. Quando sono stressata/o, il mio/la mia partner mi evita [When I'm stressed, my partner withdraws from me]

Cosa fa il suo/la sua partner quando si sente stressato/a? [What does your partner do when he/she is stressed?]

17. Quando gli/le fa piacere ottenere il mio sostegno pratico, i miei consigli concreti e il mio aiuto, me lo comunica [When my partner wishes to have my practical support, advice, or help, he/she lets me know]
18. Quando si sente sovraccarico/a, mi chiede di assumermi dei compiti [When my partner feels he/she has too much to do, he/she asks me to do things for him/her]
19. Mi fa capire che si sente stressato/a e che non si sente bene [My partner shows me that he/she is stressed and is not feeling well]
20. Mi dice apertamente come si sente e che sarebbe felice di avere il mio sostegno emotivo [My partner tells me openly how he/she feels and that he/she would appreciate my emotional support]

Come reagisce quando il suo/la sua partner le esprime il suo stress? [How do you react when your partner is stressed?]

21. Gli/le faccio capire che lo/la comprendo e che mi interesso a lui/lei [I show him/her my interest and understanding]
22. Sono solidale con lui/lei, gli/le dico che anch'io so cosa significa essere stressati e che tengo a lui/lei [I am on his/her side and tell him/her that I know how it feels to be stressed and that I care about him/her]
23. Mi prendo gioco del suo stress e lo/la derido [I make fun of his/her stress and mock him/her]
24. Dico al mio/alla mia partner che non è poi così grave e lo/la aiuto a guardare la situazione da un'altra prospettiva [I tell my partner that it is not that bad and help him/her to see the situation in a different light]
25. Lo/la ascolto, gli/le do la possibilità di esprimersi e gli/le do conforto e coraggio [I listen to my partner, give him/her the opportunity to express his/her stress, comfort and encourage him/her]
26. Gli/le faccio capire che non voglio essere seccato/a dai suoi problemi [I show him/her that I don't want to be bothered with his/her problems]
27. Quando il mio/la mia partner è stressato/a lo/la evito [When my partner is stressed, I withdraw from him/her]
28. Lo/la aiuto, ma non sono motivata/o e penso che dovrebbe imparare a gestire meglio i suoi problemi [I help him/her, but I do so unmotivated and I think that he/she should learn how to cope better with his/her problems]
29. Per alleggerirlo/a, mi assumo dei compiti di cui si occupa abitualmente [I take on things that my partner would normally do in order to help him/her out]
30. Lo/la incoraggio o lo/la abbraccio, ma i miei pensieri sono altrove [I encourage or hug him/her, but my thoughts are elsewhere]
31. Cerco di analizzare con lui/lei la situazione e di aiutarlo/a a comprendere e ad affrontare il problema [I try to analyze the situation together with my partner and help him/her to understand and deal with the problem]
32. Quando ha troppo da fare, mi rimbalzo le maniche per aiutarlo/a [When my partner feels he/she has too much to do, I help him/her out]

Come riuscite, lei e il suo/la sua partner, a gestire lo stress che riguarda entrambi? [How do you and your partner manage to cope with the stress that involves both of you?]

33. Cerchiamo di gestire insieme il problema e di trovare soluzioni concrete [We try to cope with the problem together and search for practical solutions]

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34. Riflettiamo seriamente sul problema e analizziamo che cosa si può fare [We think over the problem thoroughly and analyze what can be done]
 35. Ci aiutiamo reciprocamente a relativizzare il problema ed a guardarlo da una prospettiva diversa [We help each other to put the problem in perspective and see it in a new light]
 36. Ci aiutiamo reciprocamente a rilassarci attraverso dei massaggi, facendo un bagno o ascoltando della musica insieme [We help each other to relax through activities like massaging, taking a bath together, or listening to music together]
 37. Parliamo ed esprimiamo le nostre sensazioni per tranquillizzarci [We talk and express our feelings in order to calm down]
 38. Quando siamo entrambi stressati, ci isoliamo e ci evitiamo [When we are both stressed, we isolate and withdraw from each other]
 39. Siamo teneri ed affettuosi l'uno verso l'altra, facciamo l'amore e tentiamo così di superare lo stress [We are affectionate to each other, make love and try that way to cope with stress]

Come giudicate il vostro modo di affrontare lo stress come coppia? [How do you evaluate your coping as a couple?]

40. Sono *soddisfatta/o* del sostegno del/della mio/a partner e della nostra capacità di gestire insieme lo stress [I am *satisfied* with the support I receive from my partner and the way we deal with stress together]
41. Ritengo *efficace* il sostegno del/della mio/a partner e la nostra capacità di gestire insieme lo stress [I think that the support I receive from my partner and the way we deal with stress together are *effective*]

Note. The English translation of the items refers to the Italian version of the scale and not to the original German version.