INVESTIGATING THE RELATION BETWEEN STRESS AND MARITAL SATISFACTION: THE INTERACTION EFFECTS OF DYADIC COPING AND COMMUNICATION

A Dissertation

by

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ABSTRACT

This study examined the role that communication and coping skills play in the relation between stress and marital satisfaction in a community sample of 119 married, heterosexual couples in Italy. Hierarchical regression models were used to test for communication or coping skills as a moderator of the relation between an external or internal stressor and relationship satisfaction. Results from regression analyses showed that actor reports of both coping and communication significantly contributed to relationship satisfaction above and beyond contributions from external/internal stressors for both husbands and wives. There was a significant interaction effect of poor communication and internal stress on relationship satisfaction for both husbands and wives. There was also a significant interaction effect of coping skills and internal stress on relationship satisfaction for wives. Additionally, there was a significant interaction effect of husbands' coping and wives' internal stress on relationship satisfaction. Implications of these findings for prevention and intervention strategies for relationship distress and for further research are discussed.

DEDICATION

I dedicate this work to Susan and Larry Gasbarrini, who began their sacrifices before I was born. Armed with the resolution to give me more opportunity than they themselves had, they waged a war on the many obstacles that threatened to block my path to success. My mother taught me the joy of reading, and my father instilled in me a great love of music. Together, my parents encouraged me along a trail of academic excellence.

I've held onto the sage advice my mother offered on my first day of high school: "Don't forget, Molly, that your education is the only thing that no one can ever take away from you." Fifteen years later, it was my father's wisdom that ultimately gave me the courage to make the time commitment to pursue the highest level of education available, when he told me that six years would go by whether I had a doctoral degree at the end of it or not.

It is my parents who ignited in me this deep passion for and interest in relationships. I have strived to understand their love affair, which began when they met at the tender age of 10, blossomed as teenagers, and burst into bloom when they married in their early twenties. I have followed the twists and turns of their 55-year plot, each heartbreaking sadness and every overwhelming joy.

Now this work, perfectly, brings me back to the place my father came from: Italy. It is with great pride that I bear his name. In so many ways, it is Susan and Larry's love that has made me who I am. And this work is dedicated to them.

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NOMENCLATURE

CPQ	Communication Patterns Questionnaire
DCI	Dyadic Coping Inventory
DSC	Dissatisfaction With Children Scale
GDS	Global Distress Scale
MSI-R	Marital Satisfaction Inventory – Revised
SEX	Sexual Dissatisfaction Scale
U.S.	United States

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INTRODUCTION

In the past two decades, several qualitative and quantitative reviews of couple therapy have appeared, each striving to shed light on the effectiveness of couple therapy (Dutcher, 1999; Shadish & Baldwin, 2003; Snyder, Castellani, & Whisman, 2006; Wilson, 1986). Shadish and Baldwin reported an overall mean effect size of 0.84 for couple therapy, indicating that the average person receiving treatment for couple distress was better off at termination than were 80% of individuals in the no-treatment control group. However, they found little evidence of differential effectiveness across different theoretical orientations to couple therapy, each of which posits a particular mechanism of change. Although evidence has since emerged that demonstrates effectiveness in reducing relationship distress for various specific approaches to couple therapy (Christensen et al., 2004; Goldman & Greenberg, 1992; Snyder & Wills, 1989), it remains unclear what makes couple therapy effective for those who benefit from it, and how it fails for those who do not. Indeed, a substantial percentage of individuals fail to show significant improvement from these treatments, and an even greater percentage of individuals show deterioration in gains at follow-up (Jacobson, Schmaling, & Holtzworth-Monroe, 1987; Snyder, Wills, & Grady-Fletcher, 1991). In light of these findings, understanding what makes couple therapy effective has become an important goal for researchers in the field.

Although evidence-based couple therapies do impact the relevant hypothesized mediators of change, there is not a simple relation between the type of therapy provided

and the change in mediators. Halford and Snyder (2012) note, "The labels used to describe types of couple therapy might be potentially misleading by implying that specific interventions produce specific effects through specific mediating processes" (p. 4). Halford and Snyder also cite evidence that all approaches to couple therapy and relationship education are limited in their efficacy and, to date, there is no one approach to therapy or relationship education that is reliably more effective than alternative existing approaches (Halford et al., 2012; Jacobson et al., 1984; Jacobson, Schmaling, & Holtzworth-Monroe, 1987; Snyder, Mangrum, & Wills, 1993). Thus, identifying universal processes and common factors in couple therapy and relationship education is an important goal for the field.

Couple Communication

Extensive research over the last 30 years has focused on the role of marital communication as it relates to couple satisfaction. Moreover, cognitive-behavioral approaches to couple therapy have embraced marital communication as one of the hypothesized mechanism of change in therapy. Epstein and Baucom (2002) describe communication behaviors as "expressing one's own and listening to the partner's thoughts and feelings as well as engaging in systematic decision-making or problem-solving steps as a couple" (p. 4). There is a large body of evidence that points toward the linkage between relationship distress and deficits in communication skills or behaviors. For example, results of Geiss and O'Leary's (1981) survey revealed that therapists ranked poor communication as having the most damaging effect of several problems of couples in therapy. In fact, it was ranked as the overwhelming primary cause, with a sum

of ranked responses almost twice as great as the second ranked item. Respondents also rated poor communication as the most frequently occurring problem in distressed marriages, estimating that about 82% of couples in therapy report problematic communication. Therapists responding to this survey also listed communication as the most important topic for future marital therapy research efforts. Based in part on this survey, communication emerged as a topic of high priority for researchers in the field.

Several patterns of dysfunctional communication have been observed and studied in couples. One of the most common forms of dysfunctional communication is the demand-withdraw pattern. In this pattern of interaction, one person, often the woman, wants to discuss a conflictual issue and exerts pressures for change on that issue while the other person, often the man, tries to avoid talking about the problem and is defensive and withdrawn during the discussion (Christensen & Walcyznski, 1997). Another common pattern of dysfunctional communication involves mutual avoidance and withholding, in which both partners avoid conflictual issues. Several studies have shown that this pattern is related to dissatisfaction in relationships (Christensen & Shenk, 1991; Noller & White, 1990; Rankin-Esquer et al., 1998).

There is a broad literature addressing gender differences in couple communication. Culp and Beach (1998) found that women may focus more on resolution of relationship difficulties, whereas men may focus more on independence. Additionally, wives exhibited increased levels of affective communication strategies, such as self-disclosure, criticism, and complaints, whereas husbands demonstrated higher levels of non-affective, problem-solving, and task-oriented communication

strategies, including offering advice. However, they also displayed anger and blame avoidance at higher rates than women, and on average were more conflict averse (Baucom, Notarius, Burnett, & Haefner, 1990; Christensen & Heavey, 1990; Gottman, 1994).

Christensen and Heavey (1990) and Gottman (1994) shed light on differences in gender that exist in demand/withdraw patterns of couple communication, finding that when couples are permitted to select their own discussion topic, wives were more likely to function in the demand role, displaying higher levels of demand and criticizing behaviors, whereas husbands were more likely to function in the withdraw role, displaying defensiveness, withdrawal, and stonewalling behaviors.

Theorists have attempted to understand and explain why a gender difference in demand/withdraw patterns exists, with two different explanations drawing the most attention. Some theorists have adopted an individual-differences perspective, arguing that the pattern results from the different personality characteristics of men and women, which are a result of socialization influences. Due to sex-role conditioning, women are more likely to be affiliative and expressive, and thus more likely to fear rejection and abandonment in relationships, leading them to adopt the demand role. Men, however, are trained to be strong and independent, and thus more likely to fear intrusion and engulfment in relationships, leading them to adopt the withdraw role. Christensen (1987) posited that because of these socialization differences, a core conflict in marriage concerning intimacy is generated: the wife is likely to want greater closeness, whereas the husband is likely to want greater autonomy. His evidenced garnered from data from

142 couples confirmed that women tended to want more closeness and be demanders, whereas men tended to want more autonomy and be withdrawers.

In contrast to the individual differences perspective, other theorists argue that the social structure of society accounts for gender differences in demand/withdraw patterns in couples. For example, Jacobson (1983) argued that because men benefit more from a traditional marriage structure than women do, men are more likely to want to preserve the status quo in relationships, whereas women are more inclined to want to change it, thus resulting in the gender differences found in demand/withdraw communication patterns. A study by Christensen and Heavey (1990) found evidence to suggest the validity of both theories explaining gender differences in demand/withdraw patterns.

Studies have shown that differences in quality of communication yield significant differences among individuals with regard to their marital adjustment across a number of variables (e.g. Gottman, Markman, & Notarius, 1977; Noller, 1980, 1982). Research generally documents communication differences between distressed and nondistressed couples, and concludes that distressed couples generally have a skill deficit in communicating (Notarius & Markman, 1993; Weiss & Heyman, 1997). A review of longitudinal research with couples showed that observations of conflictual communication predicted future relationship satisfaction (Karney & Bradbury, 1995).

However, other studies have failed to find an association between the magnitude of changes in communication behaviors acquired during couple therapy and gains in relationship satisfaction (Halford, Sanders, & Behrens, 1993; Iverson & Baucom, 1990). Therefore, researchers continue the search to identify other potential

mechanisms of change in couple therapy. One such proposed mechanism of change is dyadic coping.

Dyadic Coping

There are three identified forms of coping in close relationships: (1) individual coping, (2) social support from external networks, and (3) dyadic coping. Individual coping strategies include behavioral and cognitive efforts to manage demands and regulate one's emotions in situations where only one partner is initially directly concerned by the stressor. However, when these attempts are not effective and the partner is still distressed, dyadic coping may occur. This type of coping, provided by the partner, has been shown to be much more important and effective than all other support given by persons outside the couple's relationship (such as parents, friends, or siblings; Brown & Harris, 1978). Additionally, the ways in which couples deal with stress (dyadic coping) are highly predictive of relationship functioning and stability (e.g., Bodenmann, 2005; Bodenmann, Pihet, & Kayser, 2006).

In dyadic coping, 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 ideally responds with supportive dyadic coping reactions. The aim of dyadic coping is to restore or maintain both partners' individual wellbeing by assuaging levels of stress between partners and by promoting couple functioning through reciprocal trust, mutual closeness, and intimacy (Bodenmann, 2005; Cutrona & Gardner, 2006). The systemic-transactional conceptualization of stress and coping in couples, proposed by Bodenmann (1995), distinguishes three forms of dyadic coping:

(1) common dyadic coping, (2) delegated dyadic coping, and (3) supportive dyadic coping. Common dyadic coping refers to a process in which both partners try to resolve a stressful situation together (by relaxing together, engaging in a joint problem-solving discussion, or by expressing mutual understanding), whereas delegated dyadic coping occurs when one partner explicitly asks the other, who may have more competencies, resources, or experience in resolving the problem, to undertake a defined problem. Supportive dyadic coping describes a process in which one partner receives assistance from the other in the form of expressing understanding or solidarity, or in the form of giving practical information or advice. These forms of dyadic coping co-exist with individual coping strategies.

Randall and Bodenmann (2009) emphasize the importance of integrating coping work in couple therapy to treat relationship distress. However, coping reactions (as well as communication strategies) in couples may differ according to the nature of the stress. Therefore, it is essential to consider the nature of the stress in examining dyadic coping and couple communication.

Stress and Marital Satisfaction

Stress has long been studied and understood as a transaction occurring between a person and his or her environment (Lazarus, 1966; Lazarus & Launier, 1978). Initially, stress was characterized as a negative stimulus (Dohrenwend & Dohrenwend, 1974; Holmes & Rahe, 1967), or as a psychological and physiological reaction (Selye, 1974). However, the transactional stress model introduced by Lazarus and his colleagues conceptualized stress as being largely dependent upon an individual's appraisal of an

event, rather than the quality of the event itself. According to this model, stress occurs when a person perceives that his or her wellbeing is endangered due to a situation or event that requires resources exceeding what is available. Thus, the experience of stress is influenced both by cognitive appraisals, as well as resources available to help one cope. Coping refers to the efforts of the person "to manage (reduce, minimize, master or tolerate) the internal or external demands of the person-environment transaction" (Folkman, Lazarus, Gruen, & DeLongis, 1986, p. 572).

Systems theorists note that stress must be understood not only as an individual function, but in the context of a family as well, because all persons in a family have an impact on each other and together they constitute a system (Bertalanffy, 1969). The construct of stress was introduced into the field of family studies by researchers studying the impact of the Great Depression in the 1930s (Angell, 1936; Cavan & Ranck, 1938; Koos, 1946). However, the foundation of contemporary family stress research was laid by Hill's (1949, 1958) ABC-X Model of Family Stress. This model posits the interaction of three factors (A, B, and C) to produce an outcome (X), the crisis. Factor A refers to the crisis-provoking stressor event and its related hardships. Factor B refers to the family's resources for meeting crises, and factor C refers to the definition that the family ascribes to the event.

Hill (1958) described stressors as crisis-provoking events or triggering situations. That description was modified by Boss (1987), who went on to define a stressor as "an event that is capable of causing change and stress but that does not necessarily do so every time" (p. 698). Boss (2002) later developed a system for classifying a stressor

according to various dimensions, one of which was the source of the stress (internal or external). Internal stressors were described as those that concerned internal processes within the family, such as conflict among siblings and dissatisfaction in the marital relationship. External sources of stress were described as those that came from outside the family and caused distress, such as living in an unsafe or poverty stricken environment, or difficulties at work or school.

Research conducted in the last decade shows that stress also plays an important role in understanding the quality and stability of intimate relationships. The literature reflects extensive empirical research showing the influence of stress on relationship distress among couples (e.g., Bodenmann, 1995, 2005; Karney, Story, & Bradbury, 2005). Understanding how stress can promote or hinder satisfaction in couples is important because relationship quality is the primary predictor of life satisfaction (e.g. Ruvolo, 1998). Dyadic stress, as defined by Bodenmann (2005), is a stressful event or encounter that always impacts both partners, either directly when both partners experience the same stressful event, or indirectly when the stress of one partner affects the other. Similar to family stress, dyadic stress may originate inside or outside the system. In the case of intimate relationships, the "system" refers to the couple.

External Stressors

Bodenmann (1995, 2005) has defined external stressors to be those that originate outside of the close relationship, such as financial concerns or pressure at work. Chronic minor external stress, which occurs outside of the couple system but inside a system member, can be particularly deleterious for couple satisfaction, given that it often causes

partners to have less time for one another, and ultimately increases hostility or contributes to partners withdrawing from one another (see Randall & Bodenmann, 2009, for a review). Geiss and O'Leary's (1981) survey of 250 members of the American Association of Marriage and Family Therapists showed that two of the ten most damaging stressors identified by couple therapists were external stressors: alcoholism, which was rated by these therapists as the most difficult problem to treat in couples, and serious individual problems. Respondents to this survey noted that 37% of distressed couples in their therapy practices reported problems in relationships with their children. Other external stressors noted were: (1) conflict with in-laws or other relatives, observed in 29% of couples in therapy, (2) problems with friends, observed in 19% of couples in therapy, and (3) physical health problems, observed in 9% of distressed couples. Of these external stressors noted, by and far the most common was disagreements with children, with therapists indicating having observed this stressor in couples presenting for therapy almost twice as frequently as they witnessed the second most common external stressor (conflict with in-laws or other relatives).

Parenting and marital distress. Since the 1950's, the literature has explored the hypothesis that becoming a parent causes substantial declines in marital satisfaction. Early investigators (e.g., Lemasters, 1957) suggested that parenthood is a true crisis in a marriage. For married couples, the first child is often born within the first five years of marriage – also the period that has been shown to hold the highest risk for divorce (Bramlett & Mosher, 2001). Both cross-sectional and longitudinal studies have examined the effect that parenthood has on marital satisfaction. A meta-analysis of the

cross-sectional research reveals that parents reported significantly lower relationship satisfaction that non-parents (d = - 0.19; Twenge, Campbell, & Foster, 2003). Longitudinal studies have shown that, following birth of their first child, 20-59% of couples experience declines in relationship satisfaction of a full standard deviation or more (see Cowan & Cowan, 1995). Additionally, Cowan and Cowan (2000) showed that almost one-third of partners fall into the clinical range of marital distress during the first 18 months after childbirth. There are also data that reflect evidence of decreased frequency of positive relationship events and relationship-focused leisure time (MacDermid, Huston, & McHale, 1990), and increases in marital conflict (Cowan & Cowan, 2000) for parents. A more recent longitudinal study (Doss, Rhoades, Stanley, & Markman, 2009) showed that parents experienced sudden deterioration following childbirth on both self-report and observational measures of relationship functioning. In a group of couples who did not have children, results indicated more gradual deterioration in relationship functioning during the first 8 years of marriage without the sudden changes seen in new parents.

At the same time, there is evidence to suggest gender differences in marital satisfaction during the experience of transition to parenthood, especially in the magnitude and timing of changes in relationship functioning after childbirth. Mothers tend to demonstrate sudden declines in relationship satisfaction after childbirth, whereas fathers show more gradual declines that are not evident until 6 to 15 months after birth (e.g., Belsky & Hsieh, 1998; Grote & Clark, 2001). There is also evidence to suggest

that the magnitude of changes in relationship satisfaction differs by gender (e.g., O'Brien & Peyton, 2002).

These data highlight the effect that becoming a parent has on marital satisfaction, and lend support to understanding parenting as a stressor that is external to the dyadic couple system. Various stresses related to parenting, including having disagreements with children, managing concerns about the welfare of one's children, and struggling with increased demands on time, attention, and energy, are sources of stress that are *external* to the couple system, but will likely impact overall relationship satisfaction, sometimes dramatically.

Internal Stressors

By contrast, *internal* stressors include concerns that originate within the relationship itself, such as divergent goals, needs, desires, habits, or attitudes that result in tension and conflict. These repeated tensions and conflicts, both internal and external, can lead to alienation and dissatisfaction within the relationship, and can lead to deterioration of relational outcomes and increase the likelihood for divorce (Bodenmann, Meuwly, Bradbury, Gmelch, & Ledermann, 2010; Karney, Story, & Bradbury, 2005; Neff & Karney, 2004; Schulz, Cowan, Cowan, & Brennan, 2004). Of the ten most damaging stressors reported by therapist in the 1981 survey of couple therapists by Geiss and O'Leary, eight were internal stressors. These included: (1) communication problems, (2) unrealistic expectations of marriage or the spouse, (3) power struggles, (4) role conflict, (5) lack of loving feelings, (6) demonstration of affection, (7) infidelity,

and (8) sexual dissatisfaction. Problems with sex, in fact, were noted by therapists in 52% of the couples they had seen in therapy (Geiss & O'Leary, 1981).

Sexual dissatisfaction and marital distress. The relation between global satisfaction in couples and sexual satisfaction is well established in the literature. Researchers consistently have shown that there is a strong positive association between relationship satisfaction and sexual satisfaction (e.g., Haavio-Mannila & Kontula, 1997; Purnine & Carey, 1997). Some data suggest that the association between sexual satisfaction and relationship satisfaction is bidirectional (Henderson-King & Veroff, 1994; Sprecher, 2002), and anecdotal evidence from clinical reports supports this. Sager (1974) estimated that 70% of couples seeking treatment of specific sexual dysfunctions exhibit significant distress in other areas of their relationship, and that 75% of couples seeking marital therapy have significant sexual complaints in addition to their presenting marital problem. It is evident that for some couples, sexual dissatisfaction is secondary to emotional detachment. For others, emotional detachment and global relationship distress may be impacted by primary concerns with sexual dissatisfaction. In a study of 45 couples entering sex therapy, Berg and Snyder (1981) determined that 40% of husbands and 49% of wives also reported lack of affection for their partner in addition to sexual concerns, and lack of affection predicted overall sexual dissatisfaction for both sexes. In striving to understand differential diagnosis of marital and sexual distress, Berg and Snyder (1981) found that men who were sexually distressed were distinguished from maritally distressed husbands by (1) greater dissatisfaction with the sexual relationship, (2) lower levels of global marital distress, and (3) reports of poorer

problem-solving communication. Sexually distressed women were distinguished from maritally distressed wives by (1) greater dissatisfaction with the sexual relationship, (2) lower levels of discontent with leisure time together, and (3) less frequent history of family distress.

The nature of sexual dissatisfaction encompasses the areas of desire, frequency of intercourse, and specific behavioral exchanges during sex (Snyder & Berg, 1983). Snyder and Berg helped elucidate the most common specific sexual complaints among those who were sexually dissatisfied, and found gender differences. For men, the most commonly reported area of sexual dissatisfaction was too infrequent intercourse, followed by complaints about partner's inability to reach orgasm, and concern about their own sexual adequacy. The most commonly reported areas of concern for women were difficulty with arousal and achieving orgasm. Another gender difference reported by Snyder and Berg was that males' sexual dissatisfaction was strongly influenced by their wives' failure to reach orgasm, whereas wives were more responsive to concerns regarding their own sexual adequacy.

More recent research examining gender's effect on the relation between sexual satisfaction and overall marital satisfaction (Dzara, 2010) shows that a husband's satisfaction with the sexual relationship early in the marital relationship contributes more as an independent effect on marital disruption (divorce) than does a wife's satisfaction with the couple's sex life. Thus, satisfaction with sex, evaluated early in marriage, has greater impact on marital satisfaction for husbands than for wives.

Evidence suggests that for most couples, the experience of sexual distress is less related to physical or situational concerns (fatigue, health problems), but more reflective of emotional deficits within the couple system. Thus, sexual dissatisfaction can be conceptualized as an *internal* stressor – with dissatisfaction in the sexual relationship reflecting internal struggles such as difficulty with trust, low levels of emotional intimacy, or lack of loving feelings. In keeping with this view of sexual dissatisfaction as an internal stressor, studies have found that partners' experiences of unresolved conflicts, not feeling loved, and emotional distance are associated with lower sexual satisfaction (Davidson & Darling, 1988; Schenk, Pfrang, & Rausche, 1983). The rationale to categorize sexual dissatisfaction as a marker of latent construct of internal stress is supported by a study by O'Leary and Arias (1993), which found that marital therapy that focused on nonsexual relationship issues resulted in significant increases in sexual satisfaction. Sexual dysfunction that is more physical in nature may be experienced as an *external* stress by a couple, similar to how couples experience other nonsexual physical health problems. It should be noted, however, that physical health complaints in the realm of sexuality, such as specific erectile dysfunction or vaginismus, were found to be relatively infrequent compared to other factors reflecting emotional deficits in the couple system (Snyder & Berg, 1983).

Purpose of the Study

There is a wealth of evidence that emphasizes the importance of integrating both dyadic coping and communication skills in couple therapy to treat relationship distress but, thus far, no studies have examined the moderating effects of communication skills

and dyadic coping on relationship satisfaction in the context of existing external and internal stressors. One question to consider is whether coping skills, as posited by Bodenmann's systemic-transactional conceptualization of stress and coping in couples, or communication skills moderate the relation between stress and marital satisfaction. Answering this question requires that one evaluate how one partner's report impacts another partner's outcome or report. For the purposes of this study, it was important to analyze the data separately for men and women, given that gender differences have been reported on (and described above) for each of the variables used in this study. Because there are gender differences in variables measuring sexual satisfaction, interactions with children and their impact on relationship functioning, and couple communication, it is likely that differences in results could emerge by gender when analyzing the relations among these variables. Analyzing data for men and women separately allows for clarification and discussion of relations among variables that may differ for men versus women. For brevity and clarity, language of the Actor-Partner Interdependence Model (APIM) (Cook & Kenny, 2005; Kashy & Kenny, 2000; Kenny & Cook, 1999; Kenny, Kashy, & Cook, 2006) can be used to describe each partner. In the APIM model, *actor effects* are defined as the direct effect an individual's independent variable has on his or her own dependent variable. For example, the direct effect of Partner A's report of sexual dissatisfaction on his or her own global relationship distress is an actor effect. *Partner effects* denote the influence that an individual's independent variable has on his or her partner's dependent variable, while controlling for actor effects. For example, the influence that Partner A's report of sexual dissatisfaction has on Partner B's global

relationship distress is a partner effect. For the purposes of this study, the partner reporting on the dependent variable will be referred to as the "actor," and the other responder as the "partner."

The purpose of the present study is to evaluate four models positing the relation between stress and marital satisfaction. The following hypotheses were tested:

Hypothesis 1. Couple communication skills moderate the relation between external stress and relationship satisfaction. More specifically, there will be significant contributions to actor global relationship distress resulting from (a) the interaction between actor external stress and actor report of couple communication, controlling for their respective singular effects, (b) the interaction between actor external stress and partner external stress, controlling for their respective singular effects, and (c) the interaction between actor report of couple communication and partner external stress, controlling for their respective singular effects as well as actor external stress.

Hypothesis 2. Dyadic coping skills moderate the relation between external stress and relationship satisfaction. More specifically, there will be significant contributions to actor global relationship distress resulting from (a) the interaction between actor external stress and actor report of dyadic coping, controlling for their respective singular effects, (b) the interaction between actor external stress and partner external stress, controlling for their respective singular effects, and (c) the interaction between actor report of dyadic coping and partner external stress, controlling for their respective singular effects as well as actor external stress.

Hypothesis 3. Couple communication skills moderate the relation between internal stress and relationship satisfaction. More specifically, there will be significant contributions to actor global relationship distress resulting from (a) the interaction between actor internal stress and actor report of couple communication, controlling for their respective singular effects, (b) the interaction between actor internal stress and partner internal stress, controlling for their respective singular effects, and (c) the interaction between actor report of couple communication and partner internal stress, controlling for their respective singular effects as well as actor internal stress.

Hypothesis 4. Dyadic coping skills moderate the relation between internal stress and relationship satisfaction. More specifically, there will be significant contributions to actor global relationship distress resulting from (a) the interaction between actor internal stress and actor report of dyadic coping, controlling for their respective singular effects, (b) the interaction between actor internal stress and partner internal stress, controlling for their respective singular effects, and (c) the interaction between actor report of dyadic coping and partner internal stress, controlling for their respective singular effects as well as actor internal stress.

Hypotheses were tested using data collected from 119 couples sampled conjointly from the general community in Milan, Italy. Participants completed a measure of marital satisfaction [the Marital Satisfaction Inventory – Revised (MSI-R); Snyder, 1997], a measure of dyadic coping [the Dyadic Coping Inventory (DCI); Bodenmann, 2008], and a measure of communication patterns [the Communication

Patterns Questionnaire (CPQ); Sullaway & Christensen, 1984]. By learning more about the factors moderating the relation between stress and marital satisfaction, future research may be guided toward developing more effective methods of relationship distress prevention and couple intervention.

METHOD

Participants

The sample collected in Italy consisted of 119 heterosexual couples (119 men; 119 women), sampled conjointly. Men ranged in age from 26 to 78 years (M = 52.4, SD = 9.9); women were slightly younger on average, ranging in age from 25 to 78 years (M = 49.4, SD = 9.3). The couples had been married from 1 to 55 years (M = 23.6, SD = 10.2). Because one of the measures used in this study required that the couple report on experiences with their children, only couples with children from this sample were included.

Overview of Procedure

Data were collected from a sample of 119 married couples from the geographic region surrounding Milan, Italy. The couples were either married or in a committed relationship lasting six months or longer; for couples retained in this study and having children, all were married. Data collection was initiated in December of 2010 and completed in June of 2011. Students in psychology were recruited by psychology professors at the Catholic University of the Sacred Heart in Milan, Italy and instructed to fill out the questionnaires themselves if they had been in a committed relationship at least 6 months. Community respondents were recruited by students at the university who were free to draw upon their own personal and organization contacts in the community with the intention of facilitating the sample's diversity, especially in regard to age and relationship length. Couples received neither compensation nor feedback about their

responses but were informed that they could contact the senior investigator for that study if they had questions or concerns.

Measures

The study included measures of global relationship distress, internal stress (dissatisfaction with the couple's sexual relationship), external stress (dissatisfaction with children), communication quality, and dyadic coping. For each measure, Italian adaptations from original language versions were developed through an iterative process of back translations by a team of bilingual psychologists with expertise in both relationship functioning and test translation. In the sections that follow, psychometric characteristics of these measures are provided both for the original English versions and, when known, also for their Italian adaptations.

Marital Satisfaction Inventory–Revised. The Marital Satisfaction Inventory – Revised (MSI-R) (Snyder, 1997) is a 150-item true-false measure administered to both partners separately and requires approximately 25 minutes to complete. The measure is composed of 13 profile scales: two validity scales, one global distress scale, and 10 additional scales assessing specific dimensions of the couple's relationship. Individuals' responses to each item are scored along these scales and are plotted on a standard profile form based on gender-specific norms using normalized *T*-scores. The MSI-R was standardized in the U.S. based on a sample of 1,020 intact heterosexual, geographically diverse couples. The sample included persons in their late teens through those in their 70's and was also representative of the U.S. population for such demographic

characteristics as ethnicity, educational level, and occupation. The present study used the following three scales:

Global Distress (GDS): This scale measures individuals' overall dissatisfaction with their relationship (22 items); *GDS* served as the dependent criterion measure of relationship distress.

Sexual Dissatisfaction (SEX): This scale assesses partners' dissatisfaction with the frequency and quality of intercourse and other sexual activity (13 items); *SEX* served as an independent predictor measure of internal stress.

Dissatisfaction With Children (DSC): This scale assesses the relationship quality between respondents and their children as well as parental concerns regarding the emotional and behavioral wellbeing of their children (11 items); *DSC* served as an independent predictor measure of external stress.

The *GDS* scale possesses high internal consistency (α = .97) and test-retest reliability (r = .92), and it has been shown to discriminate successfully between distressed and nondistressed couples and to correlate significantly with clinicians' ratings of couples' overall dissatisfaction with their marriage, chronicity of marital difficulties, deficits in problems resolution, perceived emotional distance from the spouses, and likelihood of separation or divorce (Snyder, Lachar, Freiman, & Hoover, 1991). *GDS* has been found to correlate highly with other well established measures of relationship distress, including the Locke-Wallace (1959) Marital Adjustment Test (Snyder, 1979b) and with Spanier's (1976) Dyadic Adjustment Scale (Snyder & Wills, 1989; Whisman & Jacobson, 1992; Wilson, Bornstein, & Wilson, 1988). A study by

Snyder, Wills, and Grady-Fletcher (1991) demonstrated evidence for the predictive validity of *GDS,* showing that pretreatment scores on *GDS* predicted initial response at termination for both men and women (r = .54).

The *SEX* scale also possesses high internal consistency (α = .84) and test-retest reliability (r = .81), and has been shown to discriminate successfully between distressed and nondistressed couples. The 13 items that constitute the *SEX* scale align along the following three dimensions: (1) general dissatisfaction with the sexual relationship, (2) partner's lack of interest in the sexual relationship, and (3) inadequate affection during sexual exchanges (Snyder, 1997). Several studies have examined correlates of the *SEX* scale and demonstrated its sensitivity as an indicator of couples' response to marital or premarital interventions (Markman, Floyd, Stanley, & Storaasli, 1988; Schroder, Halweg, Hank, & Klann, 1994). The scale discriminates successfully between sexually dysfunctional and maritally distressed couples (Berg & Snyder, 1981) and between couples in marital therapy and matched normal controls (Snyder, 1979b).

DSC possesses slightly lower but still strong internal consistency (α = .70) and test-retest reliability (r = .79), and has been shown to discriminate successfully between distressed and nondistressed couples. Principal-components analysis suggests that the content of this scale reflects four components: (1) concerns regarding the child's adjustment, (2) disappointments in child rearing, (3) lack of interaction with children, and (4) conflicts with children (Snyder, 1997). *DSC* is a useful marker of the hypothetical latent construct of an external stressor in part because every study participant who has a child is able to report on this measure, whereas other examples of

external stressors (e.g., conflict with in-laws, difficulty with finances, problems with physical health) may be less generalized among participants.

Communication Patterns Questionnaire. The Communication Patterns Questionnaire (CPQ; Christensen & Sullaway, 1984; see also Christensen, 1988) is a 35-item self-report measure assessing communication behaviors at the beginning, during, and following discussion of relationship problems. The patterns of communication assessed are: (1) mutual avoidance (3 items), (2) mutual constructive communication (7 items), and (3) demand-withdraw, an interaction style wherein one partner attempts to engage in discussion, while the other attempts to avoid discussion (6 items). The likelihood of these behaviors being exhibited is rated on a Likert scale ranging from *very unlikely* (1) to *very likely* (9). A constructive communication subscale (*CPQ-CC;* Heavey, Larson, & Christensen, 1996) is composed of seven items assessing the frequency of both the constructive and destructive communication behaviors evaluated by the overall measure. This scale served as the independent predictor measure of communication quality.

The *CPQ-CC* (henceforth denoted simply as "CPQ"), demonstrates high internal consistency for men (α = .84) and women (α = .81), as well as moderately high agreement between spouses (r = .67). The scale is also strongly associated with observer ratings of the spouses' constructiveness during videotaped problem-solving discussions, demonstrating evidence of criterion validity. Finally, the *CPQ* is strongly correlated with spouses' self-reported marital adjustment (r = .75), offering additional evidence of construct validity (Heavey et al., 1996).

Dyadic Coping Inventory. The Dyadic Coping Inventory (DCI; Bodenmann, 2008), is a self-report questionnaire based on the systemic-transactional perspective of dyadic coping that measures: (1) one's own coping, (2) one's perception of one's partner's stress communication, (3) supportive dyadic coping, and (4) negative dyadic coping, in close relationships when one or both partners are stressed. The DCI is composed of 37 items and takes about 15 minutes to complete. The items are rated on a Likert scale ranging from *very rarely* (1) to *very often* (5). The measure consists of three scales and nine subscales: (1) dyadic coping by oneself (subscales include stress communication, supportive dyadic coping, delegated dyadic coping, and negative dyadic coping), (2) dyadic coping by the partner (subscales include stress communication, supportive dyadic coping, delegated dyadic coping, and negative dyadic coping, and (3) common dyadic coping.

An overall measure of dyadic coping is the total score on the DCI, a 35-item scale that reflects the sum of all items on the DCI excluding two items designed to assess partners' evaluation of their coping skills. Bodenmann (2008) tested the psychometric properties of the original German version of the DCI in a Swiss sample of 2,399 individuals. Cronbach's alphas were high for the total DCI scale for men and women (α = .92 and .93), respectively. Test-retest reliabilities were also high for the total DCI scale for men and women (r = .64 and .80, respectively).

The Italian version of the DCI reflects a translation of the original German DCI. Ledermann et al. (2010) tested psychometric properties of the Italian version of the DCI and found similar internal consistency for the total DCI scale (α = .90). The scale also

correlated strongly with a measure of marital quality (r = .68) and moderately with a scale of constructive communication on the CPQ (r = .43), supporting the predictive validity of the measure. The total DCI scale correlated moderately in the negative direction, as predicted, with scales of avoidance and demand-withdraw behaviors on the CPQ.

Eight items embedded in the total score address stress communication by oneself and by the partner. For this study, a factor analysis of the DCI was conducted, the results of which replicated the original factor analysis completed by Bodenmann (2008), and showed these eight items all mapping onto the same factor, which reflects the ways that couples use communication to cope. It was important to eliminate sources of covariation between the coping measure and the communication measure. Therefore, for this study, a "purified" measure of coping was created. This measure contained items from the total DCI scale, minus the eight items that loaded onto a communication factor. This measure, evaluating other dyadic coping beyond communication (henceforth denoted simply as "DCI"), is the predictor independent variable measuring dyadic coping for this study.

Data Analytic Approach

A common methodological error occurring in studies wherein data are gathered from two members of a dyad is that researchers inappropriately treat partners' observations as independent from one another. However, because romantic partners heavily influence each other's thoughts, feelings, and behaviors (Campbell & Kashy, 2002), partners' data may not be independent from each other. Therefore, partners' responses share a natural covariance and thus are considered to be non-independent.

When data are non-independent but still analyzed as independent observations, a bias in *p* values may result (Kenny, 1995).

To circumvent the problem of non-independence, the four *a priori* hypotheses were tested using hierarchical multiple regression. Hierarchical regression is used to evaluate the relations between a set of independent variables and the dependent variable, controlling for or taking into account the impact of a different set of independent variables on the dependent variable. In the present study, to account for nonindependence of partners' reports, hierarchical regression was used to evaluate the relations between predictor and criterion variables for one partner while controlling for relations between these same variables for the other partner. The key statistic used in evaluating the hierarchical hypotheses is the change in R^2 for each additional block of variables. The null hypothesis for the addition of each block of variables to the analysis is that the change in R^2 (contribution to the explanation of the variance in the dependent variable) is zero. If the null hypothesis is rejected, then findings indicate that the variables in block 2 have a significant relation to the dependent variable, after controlling for the relation of the block 1 variables to the dependent variable.

For this study, partners were distinguished by gender, and two sets of regression equations were estimated separately, one for men and one for women, to allow for interpretation of effects for both men and women separately. Prior to analyses, following the recommendation by Aiken and West (1991), all predictors and interaction terms were mean-centered to reduce multicollinearity between the interaction term and its constituent parts. The following hierarchical regression equations were used to test for

communication or coping skills as a moderator of the relation between an external or internal stressor and relationship satisfaction:

Hypothesis 1. Couple communication skills moderate the relation between external stress and relationship satisfaction. More specifically, there will be significant contributions to actor global relationship distress resulting from (a) the interaction between actor external stress and actor report of couple communication, controlling for other singular effects including actor external stress and actor report of communication, (b) the interaction between actor external stress and partner external stress, controlling for other singular effects including actor and partner reports of external stress, and (c) the interaction between actor report of couple communication and partner external stress, controlling for other singular effects including actor and partner reports of external stress, and actor report of couple communication. First, contributions to actor relationship distress from actor reports of external stress and actor appraisal of couple communication were examined.

(1) $GDS_a = b_0 + b_1DSC_a + e$

(2) $GDS_a = b_0 + b_1DSC_a + b_2CPQ_a + e$

(3) $GDS_a = b_0 + b_1DSC_a + b_2CPQ_a + b_3(DSC_a*CPQ_a) + e$

If the coefficient for the moderation term in equation 3 was significant, then the effects of DSC_a on GDS_a were examined at two contrasting levels at $\pm$ 1 *SD* from the mean of CPQ_a. Next, contributions to actor relationship distress from external stress reported by both the actor and the partner were examined:

(4) $GDS_a = b_0 + b_1DSC_a + e$

(5) $GDS_a = b_0 + b_1DSC_a + b_2DSC_p + e$

(6) $GDS_a = b_0 + b_1DSC_a + b_2DSC_p + b_3(DSC_a * DSC_p) + e$

If the coefficient for the moderation term in equation 6 was significant, then the effects of DSC_a on GDS_a were examined at two contrasting levels at $\pm$ 1 *SD* from the mean of DSC_p. Next, contributions to actor relationship distress from the interaction between actor appraisal of couple communication and partner external stress, controlling for other effects, were examined:

(7) $GDS_a = b_0 + b_1DSC_a + e$

(8) $GDS_a = b_0 + b_1DSC_a + b_2DSC_p + e$

(9) $GDS_a = b_0 + b_1DSC_a + b_2DSC_p + b_3CPQ_a + e$

(10) $GDS_a = b_0 + b_1DSC_a + b_2DSC_p + b_3CPQ_a + b_4(DSC_p * CPQ_a) + e$

If the coefficient for the moderation term in equation 10 was significant, then the effects of DSC_p on GDS_a were examined at two contrasting levels at $\pm$ 1 *SD* from the mean of CPQ_a.

Hypothesis 2. Dyadic coping skills moderate the relation between external stress and relationship satisfaction. More specifically, there will be significant contributions to actor global relationship distress resulting from (a) the interaction between actor external stress and actor report of dyadic coping, controlling for other singular effects including actor external stress and actor report of dyadic coping, (b) the interaction between actor external stress and partner external stress, controlling for other singular effects including actor and partner reports of external stress, and (c) the interaction between actor report of dyadic coping and partner external stress, controlling for other

singular effects including actor and partner reports of external stress, and actor report of dyadic coping. First, contributions to actor relationship distress from actor reports of external stress and actor appraisal of dyadic coping were examined:

(1) $GDS_a = b_0 + b_1DSC_a + e$

(2) $GDS_a = b_0 + b_1DSC_a + b_2DCI_a + e$

(3) $GDS_a = b_0 + b_1DSC_a + b_2DCI_a + b_3(DSC_a*DCI_a) + e$

If the coefficient for the moderation term in equation 3 was significant, then the effects of DSC_a on GDS_a were examined at two contrasting levels at $\pm$ 1 *SD* from the mean of DCI_a. Next, contributions to actor relationship distress from external stress reported by both the actor and the partner were examined:

(4) $GDS_a = b_0 + b_1DSC_a + e$

(5) $GDS_a = b_0 + b_1DSC_a + b_2DSC_p + e$

(6) $GDS_a = b_0 + b_1DSC_a + b_2DSC_p + b_3(DSC_a * DSC_p) + e$

If the coefficient for the moderation term in equation 6 was significant, then the effects of DSC_a on GDS_a were examined at two contrasting levels at $\pm$ 1 *SD* from the mean of DSC_p. Finally, contributions to actor relationship distress resulting from the interaction between actor appraisal of dyadic coping and partner external stress, controlling for other elements, were examined:

(7) $GDS_a = b_0 + b_1DSC_a + e$

(8) $GDS_a = b_0 + b_1DSC_a + b_2DSC_p + e$

(9) $GDS_a = b_0 + b_1DSC_a + b_2DSC_p + b_3DCI_a + e$

(10) $GDS_a = b_0 + b_1DSC_a + b_2DSC_p + b_3DCI_a + b_4(DSC_p * DCI_a) + e$

If the coefficient for the moderation term in equation 10 was significant, then the effects of DSC_p on GDS_a were examined at two contrasting levels at $\pm$ 1 *SD* from the mean of DCI_a.

Hypothesis 3. Couple communication skills moderate the relation between internal stress and relationship satisfaction. More specifically, there will be significant contributions to actor global relationship distress resulting from (a) the interaction between actor internal stress and actor report of couple communication, controlling for other singular effects including actor internal stress and actor report of communication, (b) the interaction between actor internal stress and partner internal stress, controlling for other singular effects including actor and partner reports of internal stress, and (c) the interaction between actor report of couple communication and partner internal stress, controlling for other singular effects including actor and partner reports of internal stress, and actor report of couple communication. First, contributions to actor relationship distress from actor report of internal stress and actor appraisal of couple communication were examined:

(1) $GDS_a = b_0 + b_1SEX_a + e$

(2) $GDS_a = b_0 + b_1SEX_a + b_2CPQ_a + e$

(3) $GDS_a = b_0 + b_1SEX_a + b_2CPQ_a + b_3(SEX_a*CPQ_a) + e$

If the coefficient for the moderation term in equation 3 was significant, then the effects of SEX_a on GDS_a were examined at two contrasting levels at $\pm$ 1 *SD* from the mean of CPQ_a. Next, contributions to actor relationship distress from internal stress reported by both the actor and the partner were examined:

(4) $GDS_a = b_0 + b_1SEX_a + e$

(5) $GDS_a = b_0 + b_1SEX_a + b_2SEX_p + e$

(6) $GDS_a = b_0 + b_1SEX_a + b_2SEX_p + b_3(SEX_a * SEX_p) + e$

If the coefficient for the moderation term in equation 6 was significant, then the effects of SEX_a on GDS_a were examined at two contrasting levels at $\pm$ 1 *SD* from the mean of SEX_p. Next, contributions to actor relationship distress resulting from the interaction between actor appraisal of couple communication and partner report of internal stress, controlling for other elements, were examined:

(7) $GDS_a = b_0 + b_1SEX_a + e$

(8) $GDS_a = b_0 + b_1SEX_a + b_2SEX_p + e$

(9) $GDS_a = b_0 + b_1SEX_a + b_2SEX_p + b_3CPQ_a + e$

(10) $GDS_a = b_0 + b_1SEX_a + b_2SEX_p + b_3CPQ_a + b_4(SEX_p * CPQ_a) + e$

If the coefficient for the moderation term in equation 10 was significant, then effects of SEX_p on GDS_a were examined at two contrasting levels at $\pm$ 1 *SD* from the mean of CPQ_a.

Hypothesis 4. Dyadic coping skills moderate the relation between internal stress and relationship satisfaction. More specifically, there will be significant contributions to actor global relationship distress resulting from (a) the interaction between actor internal stress and actor report of dyadic coping, controlling for other singular effects including actor internal stress and actor report of dyadic coping, (b) the interaction between actor internal stress and partner internal stress, controlling for other singular effects including actor and partner reports of internal stress, and (c) the interaction

between actor report of dyadic coping and partner internal stress, controlling for other singular effects including actor and partner reports of internal stress, and actor report of dyadic coping. First, contributions to actor relationship distress from actor report of internal stress and actor appraisal of dyadic coping variables were examined:

(1) $GDS_a = b_0 + b_1SEX_a + e$

(2) $GDS_a = b_0 + b_1SEX_a + b_2DCI_a + e$

(3) $GDS_a = b_0 + b_1SEX_a + b_2DCI_a + b_3(SEX_a*DCI_a) + e$

If the coefficient for the moderation term in equation 3 was significant, then effects of SEX_a on GDS_a were examined at two contrasting levels at $\pm$ 1 *SD* from the mean of DCI_a. Next, contributions to actor relationship distress from internal stress reported by both the actor and the partner were examined:

(4) $GDS_a = b_0 + b_1SEX_a + e$

(5) $GDS_a = b_0 + b_1SEX_a + b_2SEX_p + e$

(6) $GDS_a = b_0 + b_1SEX_a + b_2SEX_p + b_3(SEX_a * SEX_p) + e$

If the coefficient for the moderation term in equation 6 was significant, then effects of SEX_a on GDS_a were examined at two contrasting levels at $\pm$ 1 *SD* from the mean of SEX_p. Next, contributions to actor relationship distress resulting from the interaction between actor appraisal of dyadic coping and partner report of internal stress, controlling for other elements. were examined:

(7) $GDS_a = b_0 + b_1SEX_a + e$

(8) $GDS_a = b_0 + b_1SEX_a + b_2SEX_p + e$

(9) $GDS_a = b_0 + b_1SEX_a + b_2SEX_p + b_3DCI_a + e$

$$(10)\ GDS_a = b_0 + b_1SEX_a + b_2SEX_p + b_3DCI_a + b_4(SEX_p * DCI_a) + e$$

If the coefficient for the moderation term in equation 10 was significant, then the effects of SEX_p on GDS_a were examined at two contrasting levels at $\pm$ 1 *SD* from the mean of DCI_a.

RESULTS

Preliminary Analyses

Preliminary analyses showed there were no significant differences between men and women for the measure of external stress, Dissatisfaction With Children (DSC), nor for the measures of dyadic coping (DCI) and communication (CPQ). Women reported significantly higher levels of dissatisfaction ($p < .05$) in both global relationship distress ($M_{women} = 6.32$, $SD = 1.33$; $M_{men} = 5.93$, $SD = 1.46$) and in sexual dissatisfaction ($M_{women} = 6.28$, $SD = 1.62$; $M_{men} = 5.87$, $SD = 1.52$). Means and standard deviations of the main study variables are presented in Table 1, separately for women and men.

Prior to conducting a hierarchical multiple regression, the relevant assumptions of this statistical analysis were tested. First, a sample size of 119 was deemed adequate given four independent variables to be included in the analysis (Tabachnick & Fidell, 2001). The assumption of singularity was also met as the independent variables were not a combination of other variables. An examination of correlations (see Table 2) revealed that, based on guidelines recommended by Cohen, Cohen, West, and Aiken (2003), no predictor variables within gender were highly correlated (all below $r = |.45|$). As anticipated, cross-gender analyses revealed several pairs of strongly correlated variables. Husband report of DSC was strongly correlated with wife report of DSC ($r = .54$). Strong correlations were also found between husband and wife reports of SEX ($r = .50$), as well as between husband and wife reports of DCI ($r = .55$).

Results For Men

Hypothesis 1. A series of models were evaluated using regression analysis to determine whether couple communication skills moderate the relation between external stress and global relationship distress in husbands. First, a three stage hierarchical multiple regression was conducted to evaluate the relations among actor appraisal of couple communication (CPQ_a), actor report of external stress (DSC_a), and actor relationship distress (GDS_a). Intercorrelations among the variables are reported in Table 2, and the regression statistics are reported in Table 3. The hierarchical regression revealed that at stage one, DSC_a contributed significantly to the regression model for husbands [$F(1, 117) = 7.61$, $p < .01$], accounting for 6.1% of the variation in GDS_a. Introducing the CPQ_a variable explained an additional 7.8% of variance in GDS for husbands. This change in R^2 was significant [$F(1, 116) = 10.58$, $p < .05$]. Finally, the addition of DSC_a*CPQ_a to the regression model explained 2.1% of the variance in GDS for husbands, a nonsignificant result. In other words, for husbands there was no significant interaction effect resulting from the actor's external stress and the actor's appraisal of couple communication, controlling for other singular effects including actor external stress and actor appraisal of couple communication.

Next, a three stage multiple regression was conducted to evaluate contributions to actor relationship distress from external stress reported by both the actor and the partner. As noted in the previous block of analyses (step 1), the hierarchical regression revealed that DSC_a contributed significantly to the regression model for husbands. Introducing the DSC_p variable explained only an additional 0.6% of variance in GDS for husbands, a nonsignificant result. Finally, the addition of DSC_a*DSC_p to the regression

model explained only 0.4% of the variance in GDS for husbands, also a nonsignificant result. In other words, partner external stress did not significantly impact actor global relationship distress above and beyond actor external stress. Also, it did not appear that there was an incremental adverse effect on actor GDS when both the actor and partner concurrently reported external stress. For husbands, it was primarily the actor's experience of external stress that influenced his global relationship distress, not the partner's experience of an external stressor.

Finally, a four stage multiple regression was conducted to evaluate contributions to actor relationship distress from both actor and partner reports of external stress, and the interaction of actor appraisal of couple communication with partner report of external stress. Regression equations from the first two stages were identical to those conducted in the second block of analyses for this hypothesis (steps 4 and 5), and thus generated identical results (see Table 3). The addition of DSC_p*CPQ_a to the regression model explained only 1.5% of the variance in GDS for husbands, a nonsignificant result. Thus, for husbands, there were no significant contributions to relationship distress resulting from the interaction between actor appraisal of couple communication and partner report of external stress, controlling for main effects including actor external stress, partner external stress, and actor report of couple communication.

Hypothesis 2. A series of models were evaluated using regression analysis to determine whether dyadic coping moderated the relation between external stress and global relationship distress in husbands. First, a three stage hierarchical multiple regression was conducted to evaluate contributions to actor relationship distress from the

interaction between actor appraisal of dyadic coping and actor report of external stress. Intercorrelations among the variables are reported in Table 2, and the regression statistics are reported in Table 4. As reported in the results described above (for hypothesis 1), the hierarchical regression revealed that at stage one, DSC_a contributed significantly to the regression model for husbands. Introducing the DCI_a variable explained an additional 15.4% of variance in GDS. This change in R^2 was significant [$F(1, 116) = 22.81$, $p < .001$]. The addition of DSC_a*DCI_a to the regression model added no measurable variance in GDS for husbands. In other words, for husbands, there was no significant interaction effect resulting from actor external stress and actor appraisal of dyadic coping, controlling for main effects including actor external stress and actor appraisal of dyadic coping.

Next, a three stage multiple regression was conducted with GDS_a as the dependent variable to evaluate contributions to actor relationship distress from external stress reported by both the actor and the partner. Regression analyses from this block were identical to those conducted in steps 4-6 for Hypothesis 1, and thus generated identical results (see Table 4).

Finally, a four stage multiple regression was conducted to evaluate contributions to actor relationship distress from both actor and partner reports of external stress, as well as actor appraisal of dyadic coping, and the interaction between partner report of external stress and actor appraisal of dyadic coping. Regression equations from the first two stages were identical to those conducted in the second block for this hypothesis (steps 4 and 5), and thus generated identical results (see Table 4). Introducing DCI_a

generated significant results for husbands, replicating results from an identical equation (step 2) analyzed in the first block of analyses for this hypothesis. Finally, the addition of DSC_p*DCI_a to the regression model explained no additional measurable variance in GDS for husbands. Thus, for husbands, there were no significant contributions to relationship distress resulting from the interaction between actor appraisal of dyadic coping and partner external stress, controlling for main effects including actor external stress, partner external stress, and actor appraisal of dyadic coping.

Hypothesis 3. A series of models were evaluated using regression analysis to determine whether couple communication skills moderate the relation between internal stress and global relationship distress in husbands. First, a three stage hierarchical multiple regression was conducted to evaluate contributions to actor relationship distress from the interaction between actor appraisal of communication skills (CPQ) and actor report of internal stress (SEX). Intercorrelations among the variables are reported in Table 2, and the regression statistics are reported in Table 5. The hierarchical regression revealed that at stage one, SEX_a contributed significantly to the regression model for husbands [$F(1, 117) = 39.44$, $p < .001$], accounting for 25.2% of the variation in GDS_a. Introducing the CPQ_a variable explained an additional 3.5% of variance in GDS for husbands. This change in R^2 was significant [$F(1, 116) = 5.63$, $p < .05$. Finally, the addition of SEX_a*CPQ_a to the regression model explained 4.7% of the variance in GDS for husbands, a significant change in R^2 [$F(1, 115) = 8.13$, $p < .01$]. For husbands, there was a significant interaction effect resulting from actor report of internal stress and actor appraisal of couple communication controlling for their respective singular effects.

Hence, there was evidence for an incremental deleterious effect that occurred for husbands who experience both an internal stressor in their relationship as well as a deficit in couple communication skills.

Because the coefficient for the interaction term in the third equation was significant, the effects of SEX_a on GDS_a were examined at two contrasting levels, +1 and -1 standard deviations from the mean of CPQ_a. Figure 1 illustrates the interaction effect resulting from husband appraisal of couple communication and husband internal stress on husband global relationship distress. Husbands who reported poor couple communication, obtaining scores on CPQ equal to one standard deviation or more below the mean, and who also reported high internal stress, experiencing levels of internal stress equal to or greater than one standard deviation above the mean (n = 33), on average received higher scores on GDS (M = 5.49, SD = 3.79) than husbands reporting poor couple communication who also reported low internal stress (M =2.40, SD = 2.08) (n = 23). Those husbands reporting good couple communication, scoring one standard deviation or more higher than the mean on reports of CPQ, on average reported higher levels of global distress if they were high on internal stress, scoring one standard deviation or more higher on SEX (M = 2.95, SD = 2.48, n = 20) compared to those scoring one SD or more below the mean on SEX (M = 2.22, SD = 1.43, n = 43). The effect was smaller for husbands reporting good couple communication than for husbands reporting poor couple communication.

Next, a three stage multiple regression was conducted to evaluate contributions to actor relationship distress from both actor and partner reports of an internal stressor.

As noted in the previous block of analyses for this hypothesis (step 1), SEX_a contributed significantly to the regression model for both husbands. Introducing the SEX_p variable explained an additional 4.3% of variance in GDS for husbands, a significant result [$F(1, 116) = 7.01$, $p < .01$]. Finally, the addition of the interaction term (SEX_a*SEX_p) to the regression model explained 6.3% of the variance in GDS for husbands [$F(1, 115) = 11.24$, $p < .01$]. In other words, the wife's level of internal stress significantly impacted husband global relationship distress above and beyond the husband's report of internal stress. Also, it appeared that there was an incremental deleterious effect on husband GDS if both the husband and wife concurrently reported internal stress.

Because the coefficient for the interaction term in the third equation was significant for husbands, effects of SEX_a on GDS_a were examined at two contrasting levels, +1 and -1 standard deviations from the mean of SEX_p. Figure 3 illustrates the interaction effect resulting from husband internal stress and wife internal stress on husband global relationship distress. Husbands who reported high internal stress, and who had wives that also reported high internal stress ($n = 35$), on average received higher scores on GDS ($M = 5.46$, $SD = 3.51$), than husbands reporting high internal stress with wives who reported low internal stress ($M = 2.72$, $SD = 2.97$, $n = 18$). Wife report of internal stress influenced global distress minimally for husbands reporting low internal stress. If the wife reported high internal stress, husbands reporting low internal stress ($n = 18$) on average scored a mean GDS of 2.22 ($SD = 1.86$). If the wife reported low internal stress, husbands also reporting low internal stress ($n = 48$) scored a mean GDS of 2.30 ($SD = 1.62$)

Finally, a four stage multiple regression was conducted to evaluate contributions to actor relationship distress from both actor and partner reports of internal stress, as well as actor appraisal of couple communication, and the interaction between partner report of internal stress and actor appraisal of couple communication. Regression equations from the first two stages were identical to those conducted in the second block of analyses for this hypothesis (steps 4 and 5), and thus generated identical results (see Table 5). Introducing CPQ_a generated significant results for husbands, replicating results from an identical equation (step 2) regressed in the first block of analyses from this hypothesis. Finally, the addition of SEX_p*CPQ_a to the regression model explained an additional 6.2% of variance in GDS for husbands [$F(1, 114) = 11.57$, $p < .05$].Thus, for husbands, there was a significant contribution to relationship distress resulting from the interaction between husband appraisal of couple communication and wife internal stress, controlling for main effects including husband and wife internal stress, and husband appraisal of couple communication.

Because the coefficient for the interaction term in the fourth equation was significant for husbands, the effects of SEX_p on GDS_a were examined at two contrasting levels, +1 and -1 standard deviations from the mean of CPQ_a. Figure 4 illustrates the interaction effect resulting from husband appraisal of couple communication and wife internal stress on husband global relationship distress. Husbands who reported poor couple communication, and who have wives that reported high internal stress ($n = 27$), on average received higher scores on GDS ($M = 5.78$, $SD = 3.86$), than husbands reporting poor couple communication with wives reporting low internal stress

(M = 2.76, SD = 2.47, n = 29).

However, wife report of internal stress influenced global relationship distress minimally for husbands reporting *good* couple communication. If the wife reported low internal stress, husbands reporting good couple communication (n = 26) on average scored a mean GDS of 2.88 (SD = 2.05). If the wife reported high internal stress, husbands reporting good couple communication (n = 37) scored a mean GDS of 2.14 (SD = 1.65).

Hypothesis 4. A series of models were evaluated using regression analysis to determine whether dyadic coping skills moderate the relation between internal stress and global relationship distress in husbands. First, a three stage hierarchical multiple regression was conducted to evaluate contributions to actor relationship distress from actor appraisal of dyadic coping, and actor reports of internal stress (SEX). Intercorrelations among the variables are reported in Table 2, and the regression statistics are reported in Table 6. Replicating results achieved while evaluating hypothesis 3 (step 1), the hierarchical regression revealed that at stage one, SEX_a contributed significantly to the regression model for husbands. Introducing the DCI_a variable explained an additional 7.4% of variance in GDS for husbands. This change in R^2 was significant [$F(1, 116) = 12.82$, $p < .005$]. Finally, the addition of SEX_a*DCI_a to the regression model explained 1.7% of the variance in GDS for husbands, a nonsignificant result. In other words, for husbands, there was no significant interaction effect resulting from husband internal stress and his appraisal of dyadic coping, controlling for main effects including husband internal stress and husband appraisal of

dyadic coping.

Next, a three stage multiple regression was conducted to evaluate contributions to actor relationship distress from internal stress reported by both the actor and the partner. Regression analyses from this block were identical to those conducted in steps 4-6 for Hypothesis 3, and thus generated identical results (see Table 6).

Finally, a four stage multiple regression was conducted to evaluate contributions to actor relationship distress from both actor and partner reports of internal stress, as well as actor appraisal of dyadic coping, and the interaction between partner report of internal stress and actor appraisal of dyadic coping. Regression equations from the first two stages were identical to those conducted in the second block of regression analyses (steps 4 and 5), and thus generated identical results (see Table 6). Introducing DCI_a generated significant results for husbands, explaining 6.0% of the variance for husbands [$F(1, 115) = 10.67$, $p < .005$]. Finally, the addition of SEX_p*DCI_a to the regression model explained 2.2% of the variance in GDS for husbands [$F(1, 114) = 4.01$, $p < .05$]. Thus, for husbands, there was a significant contributing element of relationship distress resulting from the interaction between husband appraisal of dyadic coping and wife internal stress, controlling for main effects including husband and wife internal stress, and husband appraisal of dyadic coping.

Because the coefficient for the interaction term in the fourth equation was significant for husbands, the effects of SEX_p on GDS_a were examined at two contrasting levels, +1 and -1 standard deviations from the mean of DCI_a. Figure 6 illustrates the interaction between husband appraisal of dyadic coping and wife internal stress on

husband global relationship distress. Husbands who reported poor dyadic coping, and who had wives reporting high levels of internal stress (n = 34), on average received a mean score of 5.21 on GDS (SD = 3.57), whereas husbands reporting poor dyadic coping that had wives low on internal stress on average report lower scores on GDS (M = 3.10, SD = 2.62, n = 22).

However, wives' level of internal stress influenced global relationship distress minimally for husbands reporting *good* dyadic coping. If the wife reported low internal stress, husbands reporting good dyadic coping (n = 44) on average scored a mean GDS of 2.07 (SD = 1.64). If the wife reported high internal stress, husbands reporting good dyadic coping (n = 19) scored a mean GDS of 2.84 (SD = 2.52).

Results For Women

Hypothesis 1. A series of models were evaluated using regression analysis to determine whether couple communication skills moderate the relation between external stress and global relationship distress in wives. First, a three stage hierarchical multiple regression was conducted to evaluate the relations among actor appraisal of couple communication (CPQ_a), actor report of external stress (DSC_a), and actor relationship distress (GDS_a). Intercorrelations among the variables are reported in Table 2, and the regression statistics are reported in Table 3. The hierarchical regression revealed that at stage one, DSC_a contributed significantly to the regression model for wives [F 1, 117) = 8.16, $p < .01$] accounting for 6.5% of the variation in GDS_a. Introducing the CPQ_a variable explained an additional 23.9% of variance in GDS for wives. This change in R^2 was significant [$F(1, 116) = 39.95$, $p < .01$]. Finally, the addition of DSC_a*CPQ_a to the

regression model explained 2.0% of the variance in GDS, a nonsignificant result. In other words, for wives, there was no significant interaction effect resulting from the actor's external stress and the actor's appraisal of couple communication, controlling for main effects including actor external stress and actor appraisal of couple communication.

Next, a three stage multiple regression was conducted to evaluate contributions to actor relationship distress from external stress reported by both the actor and the partner. As noted in the previous block of analyses (step 1), the hierarchical regression revealed that DSC_a contributed significantly to the regression model for wives. Introducing the DSC_p variable explained only an additional 0.4% of variance in GDS, a nonsignificant result. Finally, the addition of DSC_a*DSC_p to the regression model explained only 1.1% of the variance in GDS, also a nonsignificant result. In other words, partner external stress did not significantly impact actor global relationship distress above and beyond actor external stress. Also, it did not appear that there was an incremental adverse effect on actor GDS when both the actor and partner concurrently reported external stress. For wives, it was primarily the actor's experience of external stress that influenced her global relationship distress, not the partner's experience of an external stressor.

Finally, a four stage multiple regression was conducted to evaluate contributions to actor relationship distress from both actor and partner reports of external stress, and the interaction of actor appraisal of couple communication with partner report of external stress. Regression equations from the first two stages were identical to those conducted in the second block of analyses for this hypothesis (steps 4 and 5), and thus

generated identical results (see Table 3). The addition of DSC_p*CPQ_a to the regression model explained only 0.7% of the variance in GDS for wives, a nonsignificant result. Thus, for wives, there were no significant contributions to relationship distress resulting from the interaction between actor appraisal of couple communication and partner report of external stress, controlling for main effects including actor external stress, partner external stress, and actor report of couple communication.

Hypothesis 2. A series of models were evaluated using regression analysis to determine whether dyadic coping moderated the relation between external stress and global relationship distress in wives. First, a three stage hierarchical multiple regression was conducted to evaluate contributions to actor relationship distress from the interaction between actor appraisal of dyadic coping and actor report of external stress. Intercorrelations among the variables are reported in Table 2, and the regression statistics are reported in Table 4. As reported in the results described above (for hypothesis 1), the hierarchical regression revealed that at stage one, DSC_a contributed significantly to the regression model for wives. Introducing the DCI_a variable explained an additional 20.6% of variance in GDS. This change in R^2 was significant [$F(1, 116) = 32.86$, $p < .001$]. The addition of DSC_a*DCI_a to the regression model added no measurable variance in GDS for wives. In other words, for wives, there was no significant interaction effect resulting from actor external stress and actor appraisal of dyadic coping, controlling for main effects including actor external stress and actor appraisal of dyadic coping.

Next, a three stage multiple regression was conducted with GDS_a as the

dependent variable to evaluate contributions to actor relationship distress from external stress reported by both the actor and the partner. Regression analyses from this block were identical to those conducted in steps 4-6 for Hypothesis 1, and thus generated identical results (see Table 4).

Finally, a four stage multiple regression was conducted to evaluate contributions to actor relationship distress from both actor and partner reports of external stress, as well as actor appraisal of dyadic coping, and the interaction between partner report of external stress and actor appraisal of dyadic coping. Regression equations from the first two stages were identical to those conducted in the second block for this hypothesis (steps 4 and 5), and thus generated identical results (see Table 4). Introducing DCI_a generated significant results for wives, replicating results from an identical equation (step 2) analyzed in the first block of analyses for this hypothesis. Finally, the addition of DSC_p*DCI_a to the regression model explained only 0.2% of the variance in GDS for wives, a nonsignificant results. Thus, for wives, there were no significant contributions to relationship distress resulting from the interaction between actor appraisal of dyadic coping and partner external stress, controlling for main effects including actor external stress, partner external stress, and actor appraisal of dyadic coping.

Hypothesis 3. A series of models were evaluated using regression analysis to determine whether couple communication skills moderate the relation between internal stress and global relationship distress in wives. First, a three stage hierarchical multiple regression was conducted to evaluate contributions to actor relationship distress from the interaction between actor appraisal of communication skills (CPQ) and actor report of

internal stress (SEX). Intercorrelations among the variables are reported in Table 2, and the regression statistics are reported in Table 5. The hierarchical regression revealed that at stage one, SEX_a contributed significantly to the regression model for wives [$F(1, 117) = 77.84$, $p < .001$], accounting for 40.0% of the variation in GDS_a. Introducing the CPQ_a variable explained an additional 13.7% of variance in GDS. This change in R^2 was significant [$F(1, 116) = 34.38$, $p < .001$]. Finally, the addition of SEX_a*CPQ_a to the regression model explained 4.8% of the variance in GDS. This change in R^2 was significant [$F(1, 115) = 13.36$, $p < .001$]. For wives, there was a significant interaction effect resulting from actor report of internal stress and actor appraisal of couple communication controlling for their respective main effects. Hence, there was evidence for an incremental deleterious effect that occurred for wives who experience both an internal stressor in their relationship as well as a deficit in couple communication skills.

Because the coefficient for the interaction term in the third equation was significant, the effects of SEX_a on GDS_a were examined at two contrasting levels, +1 and -1 standard deviations from the mean of CPQ_a. Figure 2 illustrates the interaction effect resulting from wife appraisal of couple communication and wife internal stress on wife global relationship distress. Wives who reported poor couple communication, and who also reported high internal stress, ($n = 24$), on average reported higher scores on GDS ($M = 8.71$, $SD = 4.46$) than wives reporting poor couple communication who also reported low internal stress ($M = 3.29$, $SD = 2.44$ $n = 29$). Wives reporting good couple communication on average reported higher levels of global distress if they were high on internal stress ($M = 4.17$, $SD = 3.38$, $n = 29$) compared to those scoring low on internal

stress [one *SD* or more below the mean on SEX (M = 2.44, SD = 2.33, n = 37)].

Next, a three stage multiple regression was conducted to evaluate contributions to actor relationship distress from both actor and partner reports of an internal stressor. As noted in the previous block of analyses for this hypothesis (step 1), SEX_a contributed significantly to the regression model for wives. Introducing the SEX_p variable explained an additional 0.4% of variance in GDS, a nonsignificant result. Finally, the addition of the interaction term (SEX_a*SEX_p) to the regression model explained 0.5% of the variance in GDS, also a nonsignificant result. In other words, for wives, it was primarily their own experience of internal stress that influenced their global relationship distress, not their husbands' experience of the internal stressor.

Finally, a four stage multiple regression was conducted to evaluate contributions to actor relationship distress from both actor and partner reports of internal stress, as well as actor appraisal of couple communication, and the interaction between partner report of internal stress and actor appraisal of couple communication. Regression equations from the first two stages were identical to those conducted in the second block of analyses for this hypothesis (steps 4 and 5), and thus generated identical results (see Table 5). Introducing CPQ_a generated significant results for wives, replicating results from an identical equation (step 2) regressed in the first block of analyses from this hypothesis. Finally, the addition of SEX_p*CPQ_a to the regression model explained only 0.6% of the variance in GDS, a nonsignificant result. Thus, for wives, there was no significant contribution to relationship distress resulting from the interaction between wife appraisal of couple communication and husband internal stress, controlling for

main effects including husband and wife internal stress, and wife appraisal of couple communication.

Hypothesis 4. A series of models were evaluated using regression analysis to determine whether dyadic coping skills moderate the relation between internal stress and global relationship distress in wives. First, a three stage hierarchical multiple regression was conducted to evaluate contributions to actor relationship distress from actor appraisal of dyadic coping, and actor reports of internal stress (SEX). Intercorrelations among the variables are reported in Table 2, and the regression statistics are reported in Table 6. Replicating results achieved while evaluating hypothesis 3 (step 1), the hierarchical regression revealed that at stage one, SEX_a contributed significantly to the regression model for wives. Introducing the DCI_a variable explained an additional 6.2% of variance in GDS, a significant change in R^2 [$F(1, 116) = 13.25$, $p < .001$]. Finally, the addition of SEX_a*DCI_a to the regression model explained 4.8% of the variance in GDS [$F(1, 115) = 9.40$, $p < .005$]. In other words, for wives there was a significant interaction effect resulting from wife internal stress and her appraisal of dyadic coping, controlling for main effects including wife internal stress and wife appraisal of dyadic coping. It appears there was an incremental deleterious effect that occurred for wives who experienced both an internal stressor and who also reported poor dyadic coping.

Because the coefficient for the interaction term in the third equation was significant, the effects of SEX_a on GDS_a were examined at two contrasting levels, +1 and -1 standard deviations from the mean of DCI_a. Figure 5 illustrates the interaction effect resulting from wife appraisal of dyadic coping and wife internal stress on wife

global relationship. Wives who reported poor dyadic coping, obtaining scores on DCI_a equal to one standard deviation or more below the mean, and who also reported high internal stress ($n = 38$), on average received higher scores on GDS ($M = 7.24$, $SD = 4.63$) than wives reporting poor dyadic coping who also reported low internal stress ($M = 3.66$, $SD = 2.79$, $n = 15$). Those wives reporting good dyadic coping, scoring one standard deviation or more higher than the mean on reports of DCI, on average reported higher levels of global relationship distress if they were high on internal stress ($M = 3.67$, $SD = 2.92$, $n = 15$), compared to those scoring low on internal stress ($M = 2.44$, $SD = 2.13$, $n = 46$).

Next, a three stage multiple regression was conducted to evaluate contributions to actor relationship distress from internal stress reported by both the actor and the partner. Regression analyses from this block were identical to those conducted in steps 4-6 for Hypothesis 3, and thus generated identical results (see Table 6).

Finally, a four stage multiple regression was conducted to evaluate contributions to actor relationship distress from both actor and partner reports of internal stress, as well as actor appraisal of dyadic coping, and the interaction between partner report of internal stress and actor appraisal of dyadic coping. Regression equations from the first two stages were identical to those conducted in the second block of regression analyses (steps 4 and 5), and thus generated identical results (see Table 6). Introducing DCI_a generated significant results for wives, explaining 6.4% of the variance [$F(1, 115) = 13.78$, $p < .001$]. Finally, the addition of SEX_p*DCI_a to the regression model explained only an additional 1.0% of variance in GDS, a nonsignificant result.

Thus, for wives, there was no significant contributing element of relationship distress resulting from the interaction between wife appraisal of dyadic coping and husband internal stress, controlling for main effects including husband and wife internal stress, and wife appraisal of dyadic coping.

CONCLUSION

Understanding how stress can promote or hinder satisfaction in couples is important because relationship quality is the primary predictor of life satisfaction (e.g., Ruvolo, 1998). There is a wealth of evidence that emphasizes the importance of integrating both dyadic coping and communication skills in couple therapy to treat relationship distress but, thus far, no studies have examined the moderating effects of communication skills and dyadic coping on relationship satisfaction in the context of existing external and internal stressors. The present study evaluated whether dyadic coping skills, as posited by Bodenmann's systemic-transactional conceptualization of stress and coping in couples, or communication skills, or both, moderate the relation between stress and marital satisfaction.

The first model showed that actor reports of external stress contributed to marital satisfaction for husbands. Moreover, husbands' appraisals of couple communication and dyadic coping significantly contributed to relationship satisfaction above and beyond the contributions from the external stressor. Global distress is not significantly increased in cases where both the husband and wife concurrently report external stress. This also showed that actor reports of external stress contributed to marital satisfaction for wives as well. Wife appraisal of couple communication and dyadic coping significantly contributed to relationship satisfaction above and beyond the contributions from the external stressor.

Thus, for both husbands and for wives, if one partner is experiencing an external

stress, such as difficulty in his or her relationship with a child, the other partner's overall level of satisfaction in the marriage is unlikely to be impacted. However, it may be that our ability to generalize these findings to other external stress variables, such as difficulties with physical health or problems at work, is limited, because it is likely that these specific types of external stressors have a strong impact on *both* partners – directly on the partner experiencing the stressor, and indirectly on the other partner. The experience of this stressor, therefore, would likely be reflected in both actor and partner reports on a broader measure of external stress, even when only one partner is the direct target of the stressor. This phenomenon is reflected in the growing body of research in the area of clinical health psychology that informs couple-based interventions for salient physical health problems (Baucom, 2010; Baucom, Porter, Kirby, & Hudepohl, 2012; Schmaling & Sher, 2010). Serious physical illness has both acute and lasting effects on partners. For couples dealing with the serious physical illness of one partner, both men's and women's reports of overall relationship distress would likely evidence incremental impact of their partner's external stress above and beyond impact of their own experience of external stress. Future studies should try to elucidate potential moderating effects that coping and communication have on external stressors for this population.

Although there were no interaction effects found between external stress and dyadic coping or couple communication on global relationship distress for either husbands or for wives, this study focused on evaluating whether the interaction between *actor* report of dyadic coping/couple communication and partner external stress impacted *actor* report of global relationship distress. Given the finding that the partner's

experience of external stress does not significantly impact the actor's relationship satisfaction, future research could evaluate whether interventions targeting an actor's appraisal of couple communication or dyadic coping will significantly impact *partner* report of relationship distress when that partner is experiencing an external stressor.

The third model showed that actor reports of internal stress contributed to marital satisfaction for husbands. A husband's overall relationship satisfaction is impacted by both his own and his wife's sexual satisfaction. When both the husband and wife report dissatisfaction in their sex lives, men experience an incremental deleterious effect, reporting especially increased levels of overall relationship distress. However, the same effect does not occur for women. This model also showed that actor reports of internal stress contributed to marital satisfaction for wives. Although a wife's overall relationship satisfaction is impacted quite strongly by her own report of sexual satisfaction, her overall relationship satisfaction is *not* significantly impacted by her husband's report of sexual satisfaction – whether positive or negative.

Hence, an interesting question is: Are wives more self-focused when it comes to their experience of sex, unaffected by their spouse's appraisal of their sex life? Or are they somehow buffered from their husband's experience of their sex life? Is there a mechanism that protects wives from experiencing increased relationship distress when their husbands are dissatisfied sexually?

One factor to consider is the direction of the relation between global relationship distress and sexual satisfaction. For this sample, wives' sexual dissatisfaction accounted for about 40% of the variance in global distress in wives. But does sexual dissatisfaction

cause global dissatisfaction, or does overall relationship dissatisfaction impact sexual functioning and dissatisfaction? Or is the relationship bidirectional? It may be that feeling satisfied in their relationship leads wives subsequently to experience more gratification in their sex lives. Conversely, wives who are distressed in their marriage may experience deleterious effects of this global distress reflected in their sex lives. The quality of the relationship overall may be the factor that dictates a wife's appraisal of her sexual relationship. If the dynamics of the relation between SEX and GDS are different for men, this could explain why a husband's report of sexual satisfaction may not significantly impact a wife's report of overall satisfaction. Future studies should try to elucidate potential gender differences in both the direction and magnitude of the relation between these two variables, with the goal to understand further the delicate dynamics of this system.

In addition to the interesting findings regarding gender, global relationship distress, and sexual dissatisfaction, the third model yielded results indicating that appraisals of couple communication moderate the relation between internal stress and overall relationship satisfaction for both husbands and for wives. This finding is discussed further below.

The fourth model showed that relationship satisfaction for husbands who experience sexual distress is significantly impacted by reports of dyadic coping. The adverse impact on global distress in husbands was greatest when the *wife* reported sexual dissatisfaction while the husband concurrently gave an appraisal of poor dyadic coping. It stands to note, however, that when a husband reported poor dyadic coping and also

reported being sexually dissatisfied, there was no incremental deleterious effect on the husband's overall relationship distress. That deleterious effect was experienced only when the husband reported poor dyadic coping in conjunction with his *wife's* report of sexual dissatisfaction. This model also showed that relationship satisfaction for wives who experience sexual distress is significantly impacted by reports of dyadic coping. The adverse impact on wife global distress was greatest among wives who concurrently reported sexual dissatisfaction and an appraisal of poor dyadic coping. These data highlight the relative importance of a wife's sexual satisfaction in determining overall marital satisfaction for both men and women.

Given that appraisals of dyadic coping and communication account for significant variance in global relationship distress for both husbands and wives, regardless of the nature of stress (internal versus external), it is likely that gains in both dyadic coping and communication skills achieved through couple therapy could result in gains in overall relationship satisfaction, a postulate that is not new to researchers or clinicians in the field. But results from this study suggest that this is especially true for couples experiencing an internal stressor, such as sexual dissatisfaction. The effects of that internal stressor are particularly deleterious when they are combined with poor dyadic coping or communication skills. Notably, husbands' own report of global distress is significantly impacted by their wives' report of an internal stressor. Moreover, evidence from this study indicates that communication skills predict relationship satisfaction for wives who experience high internal stress. Therefore, it stands to reason that global relationship satisfaction not only for *wives* experiencing an internal stressor

but also for their husbands could be improved if gains were made in communication skills and behaviors.

This does not eliminate, of course, the need also to improve coping skills and behaviors. The data show that gains in this area should, in fact, significantly impact gains in relationship satisfaction for couples experiencing an internal stressor. However, focusing on improving the communication system of the couple seems reasonable, given that improving communication may actually ameliorate or eliminate the actual internal stressor, whereas improving the dyadic coping system aims to decrease the couple's *experience* of the stressor, but is unlikely to reduce or eliminate the actual stressor itself. Communication skills are taught and modeled in session by the clinician, with the aim to equip the couple to use these skills outside of the session to tackle issues that generate internal stress. Although coping skills can also be taught in session by a clinician, couples may be less likely to use them outside of session if they are feeling frustrated with their partner or with the problem. Frustration may lead partners to become impatient and more motivated to eliminate the stressor. Therefore, they may be reluctant to engage in coping techniques that may serve only to decrease negative responses to the stressor, failing to eliminate the stressor itself. They may prefer instead to engage in problem solving communication behaviors designed to remove or resolve the internal stressor.

Some additional limitations of the present study bear noting. The nature of the independent predictor variable measuring external stress (*DSC*) required that analyses be restricted to married couples having children. Couples with children may differ in terms

of their relationship dynamics, their relationship duration and history, and in their age from couples without children – hence findings may not be generalizable to this latter group. Although the sample was diverse in terms of age and length of marriage, it was also limited in that it consisted only of heterosexual couples, an important restraint that merits consideration. Although research in the field of relationship satisfaction and couple therapy is increasingly inclusive of same-sex couples, most current studies are still heteronormative in nature, a matter that must be addressed and rectified in future studies. Findings from this study may not generalize to same sex couples.

Additionally, although preliminary analyses of psychometric properties of the Italian MSI-R are encouraging, the measure has not yet been validated. A study to determine internal consistency, discriminative validity, and measurement equivalence of the Italian measure compared to the original English language measure, is underway.

The reliance on self-report measures to capture data about participants' experience in their relationships is also a notable limitation. The study of interpersonal relationships behooves the question: are partners able to accurately observe their own, and each other's, communication and coping strategies? An early discussion by Olson (1977) examined this idea. He argued that there is no perfect measure of relationship processes or experiences. There are both subjective and objective components to partners' experiences in relationships, and it is critical that we understand both. He noted that no observer (neither inside nor outside the relationship) has unfettered access to both perspectives. However, subsequent research on the convergent validity of observational and self-report measures of marital interaction by Snyder, Trull, and Wills (1987)

showed that partners may be able with moderate accuracy to report on their own communication processes. Spouse reports of communication and outsider raters' reports of spousal communication show significant but modest correlations.

However, even if *able* to do so, are partners willing and motivated to report accurately? Is willingness and motivation to report accurately influenced by partners' levels of relationship distress? Weiss (1980) postulated a "negative sentiment override" construct, which argues that when partners become distressed in their relationship, they begin to see everything in negative, biased ways. This phenomenon may skew self-report relationship measures negatively for distressed couples. Moreover, both distressed and nondistressed partners may show bias in reporting their own behavior versus the partner's behavior. Clinical wisdom dictates that couples may be more motivated to describe their own behavior more positively, and rate their partner's behavior more negatively, than outside observers would rate, and that perhaps this would occur more frequently and with greater bias for distressed couples.

Distressed couples may also lean toward a negative bias in reports of their communication and coping strategies because there may, in fact, be more instances of opportunity to engage in problem solving communication and coping for couples who experience many stressors; there is, then, greater opportunity for couples to fail in these domains. Moreover, expectancies or standards for how communication or coping "should" be in a relationship are likely to impact participants' reports on measures of these constructs. There is no universal, accepted ideal for how couples should communicate or cope within relationships, and standards or expectancies for these

constructs are likely to vary even *within* the couple system. Partners hold internalized models of love relationships that are likely formed by early experiences and exposure to other couples (e.g., their parents, caregivers), and these internalized models are likely to impact their standards for couple functioning within their own relationships.

An additional limitation of the study concerns the operationalization of the measures of internal and external stressors — using *SEX* as an exemplar of an internal stressor and *DSC* as an exemplar of an external stressor. When describing the construct of sexual satisfaction, it was noted that *SEX* could be conceptualized as an *external* stressor in certain contexts (e.g., when a partner experiences physical symptoms that serve as impediments to his or her sex life, such as erectile dysfunction or vaginismus), and at the very least may be influenced by external stressors such as health concerns, fatigue, intrusions of work and parenting into opportunities for sexual intimacy. Sexual dissatisfaction as the predictor variable of internal stress may ultimately be confounded, as evidenced by the relation between external stress and reports of sexual dissatisfaction (Bodenmann, Atkins, Schär, & Poffet, 2010). Findings from that study suggested that higher self-reported stress in daily life was associated with lower levels of sexual activity and satisfaction and a decrease in relationship satisfaction. Further exploration of the nature of sexual dissatisfaction, its correlates, and impact on relationship satisfaction should be conducted to understand better how best to integrate treatment interventions for relationship distress.

Similarly, although for the purposes of this study a measure of disagreements with children was conceptualized as an exemplar of an external stressor, it also bears

noting that disagreements or conflict between partners may actually affect how parents interact with or experience their children. There is convincing evidence that poor general marital satisfaction has a low-to-moderate correlation with a range of negative child outcomes, in particular for conduct problems (e.g., Emery & O'Leary, 1982; Kazdin, 1987; Reid & Crisafulli, 1990). Negative interactions between parents, such as spousal physical violence, verbal aggression, and intense disagreements about child rearing, have repeatedly been implicated as an important component in children's aggressive behavior and emotional problems (e.g., Dadds, Schwartz, & Sanders, 1987; Jouriles, Murphy, Farris, & Smith, 1991; Porter & O'Leary, 1980). Moreover, there is evidence showing that negative outcomes for children are associated not only with high conflict couples, both also for distressed couples with nonverbal negative affect. Katz and Gottman (1994) found that marriages characterized as high in mutual contempt and belligerence have been associated with angry, physically aggressive, and noncompliant children. These difficult behaviors demonstrated by children are likely to impact the relationship between the parent and the child. Thus, scores on DSC may actually reflect conflict that has its original source within the *couple*, and thus may not be a measure of pure external stress. It may also be that the effects of stress from having children do not map on to other external stressors, making DSC an imperfect measure of external stress. The dichotomization of SEX and DSC as internal versus external stressors, respectively, has limitations. That is, these scales are imperfect measures of the latent construct.

The cross-sectional nature of the data yields an additional limitation of this study. Because the data for moderation analyses were cross-sectional, the potential for reverse

causality cannot be disregarded. That is, although this study posits that sexual dissatisfaction and dissatisfaction with children predict or contribute to relationship distress, in fact the reverse may also be true: relationship distress may predict or contribute to sexual dissatisfaction or dissatisfaction with children. An alternative model that could have been tested for this study would transpose the independent variables and the dependent variables, to determine what impact overall relationship distress has on measures of sexual dissatisfaction and dissatisfaction with children. Although relationship distress would likely impact a partner to the extent that he or she would experience other external stressors as a result (e.g., difficulty performing at work, or limited emotional capacity to have healthy, positive relationships with others), it is likely that the reverse pathway for predicting a stressor from overall relationship distress would be stronger for an internal stressor than an external stressor. Drawing from Weiss's theory of negative sentiment override (1990), global relationship distress will likely color a partner's experience of more specific, narrow-band elements of the relationship. However, it is unclear how interaction effects of coping and communication would impact the relation between the variables in this model if the independent and dependent variables were transposed. Because the data for this study are cross-sectional, causal linkages remain to be tested in future studies assessing coping and communication skills training for couples experiencing internal and external stressors.

In addition to transposing the independent and dependent variables, there are additional alternative models that merit consideration, and that could be tested in future studies. Although the selection of independent variables (external/internal stressors) and

moderator variables (communication and coping) was based on theory [e.g., Bodenmann's (1995) systemic-transactional conceptualization of stress and coping in couples], the models operationalized in the hypotheses are potentially arbitrary in terms of distinguishing between independent variables and moderators. It is possible that the moderators for this study (ineffective communication or coping strategies) could also be thought of as internal relationship stressors. Thus, they could be tested in an alternative model as independent predictor variables. Similarly, an alternative model could be tested by transposing the independent variables and the moderators, conceptualizing the internal and external stressors as moderators of the relation between marital distress and communication/coping strategies. Moreover, as noted previously, the models for this study evaluated only *actor* reports of communication and coping strategies as moderators of the relation between individuals' own reports of internal/external stressors and relationship distress. An alternative model could test *partner* reports of communication and coping as moderator variables.

In light of both conceptual and methodological insights acquired during completion of this study, future research could build upon the current project in various ways. For example, there may be ways to design the study differently to test the underlying theoretical constructs and conceptual models more effectively. The most problematic element was likely the selection of individual scales from the MSI-R to serve as exemplars for two multi-dimensional constructs: internal stressors and external stressors. Future studies may benefit from testing these models using measures of internal and external stressors that capture these latent constructs more broadly. Several

scales on the MSI-R measure various contributors to internal stress, including scales measuring interspousal aggression, and deficits in problem-solving and affective communication. Relatedly, additional scales on the MSI-R, such as a scale measuring conflict with in-laws, capture data about other external stressors common in marriage. It may be beneficial to include these scales as predictor variables in subsequent studies. Future research should also examine the various alternative models noted above that were not tested by this study.

There is also a good rationale for testing these models in future studies using path analysis, rather than hierarchical multiple regression. Using hierarchical multiple regression, it was not possible to test whether changes in R^2 are statistically different for men versus women. Using path modeling and a chi-square to test for differences between a constrained and unconstrained model gives evidence for significance of the R^2 difference from the regression model.

The present study examines the roles of both coping and communication in relationship satisfaction, and is the first to document the roles that these mechanisms play in the context of an external or internal stressor in the couple. This study also offers a unique contribution to a field that increasingly strives to examine cross-cultural and cross-national elements and, with further examination, may shed light on some of the cultural differences in couple functioning across countries. Continued efforts should be made to understand the unique characteristics of Italian couples, and this work should inform researchers seeking to diversify our understanding of couple functioning globally. It is important to acknowledge that the study is limited by the potential bias inherent in self-

report measures, the imperfect operationalization of the latent constructs by the predictor variables, the cross-sectional nature of the data, as well as the selection of specific models to test. Nonetheless, research of this nature that focuses on examining mechanisms of change and moderating effects on relationship satisfaction is of considerable value to the field. A better understanding of these issues will serve to inform prevention and intervention strategies for men and women experiencing relationship distress.

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APPENDIX

Table 1

Means and Standard Deviations for Men's and Women's Predictor and Outcome Variables

	Males		Females		Statistic
Variable	*M*	*SD*	*M*	*SD*	*F*
GDS	5.93	1.46	6.32	1.33	4.37*
DSC	17.11	1.99	17.33	1.85	0.72
CPQ	18.56	1.96	18.69	1.82	0.25
DCI	319.14	57.34	324.81	51.23	0.59
SEX	5.87	1.52	6.28	1.62	3.80*

*$p < .05$

Note. GDS = Global Distress; DSC = Dissatisfaction With Children; SEX = Sexual Dissatisfaction; CPQ = Communication Patterns Questionnaire; DCI = Dyadic Coping Inventory.

Table 2

Intercorrelations Among Predictor and Outcome Variables

Measure	1	2	3	4	5	6	7	8	9	10
1. Husband SEX	-	.501**	.167	.218*	-.302**	-.216*	-.394**	-.176	.502**	.369**
2. Wife SEX	.501**	-	.174	.212*	-.138	-.298**	-.316**	-.454**	.430**	.632**
3. Husband DSC	.167	.174	-	.539**	-.228*	-.224*	-.298*	-.132	.247**	.188*
4. Wife DSC	.218*	.212*	.539**	-	-.122	-.285**	-.157	-.282**	.198*	.255**
5. Husband CPQ	-.302**	-.138	-.228*	-.122	-	.397**	.387**	.177	-.329**	-.298**
6. Wife CPQ	-.216*	-.298**	-.224*	-.285**	.397**	-	.397**	.387**	-.327**	-.542**
7. Husband DCI	-.394**	-.316**	-.298**	-.157	.387**	.397**	-	.550**	-.449**	-.470**
8. Wife DCI	-.176	-.454**	-.132	-.282**	.177	.387**	.550**	-	-.237**	-.508**
9. Husband GDS	.502**	.430**	.247**	.198*	-.329**	-.327**	-.449**	-.237**	-	.565**
10. Wife GDS	.369**	.632**	.188*	.255**	-.298**	-.542**	-.470**	-.508**	.565**	-

*$p < .05$, **$p < .01$

Note. GDS = Global Distress; DSC = Dissatisfaction With Children; SEX = Sexual Dissatisfaction; CPQ = Communication Patterns Questionnaire; DCI = Dyadic Coping Inventory. $N = 119$.

Table 3

Summary of Hierarchical Regression Analysis for External Stress and Communication Variables Predicting Global Distress

Variable	Husband Effects			Wife Effects		
	β	R^2	ΔR^2	β	R^2	ΔR^2
Step 1. DSC_a	.247	.061	.061**	.255	.065	.065**
Step 2. CPQ_a	-.288	.140	.078***	-.511	.305	.239***
Step 3. DSC_a * CPQ_a	-.912	.160	.021	-.726	.317	.012
Step 4. DSC_a	.247	.061	.061**	.255	.065	.065**
Step 5. DSC_p	.091	.067	.006	.071	.069	.004
Step 6. DSC_a * DSC_p	.149	.071	.004	.238	.080	.011
Step 7. DSC_a	.247	.061	.061**	.255	.065	.065**
Step 8. DSC_p	.091	.067	.006	.071	.069	.004
Step 9. CPQ_a	-.288	.145	.079**	-.509	.305	.236***
Step 10. DSC_p * CPQ_a	-.847	.161	.015	-.493	.312	.007

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

Note. N = 119. DSC = Dissatisfaction With Children; CPQ = Communication Patterns Questionnaire; $_a$ = actor effects; $_p$ = partner effects.

Table 4

Summary of Hierarchical Regression Analysis for External Stress and Coping Variables Predicting Global Distress

Variable	Husband Effects			Wife Effects		
	β	R^2	ΔR^2	β	R^2	ΔR^2
Step 1. DSC_a	.247	.061	.061**	.255	.065	.065**
Step 2. DCI_a	-.411	.215	.154***	-.474	.272	.206***
Step 3. DSC_a * DCI_a	-.075	.215	.000	-.013	.272	.000
Step 4. DSC_a	.247	.061	.061**	.255	.065	.065**
Step 5. DSC_p	.091	.067	.006	.071	.069	.004
Step 6. DSC_a * DSC_p	.149	.071	.004	.123	.080	.011
Step 7. DSC_a	.247	.061	.061**	.255	.065	.065**
Step 8. DSC_p	.091	.067	.006	.071	.069	.004
Step 9. DCI_a	-.412	.221	.155***	-.475	.277	.236***
Step 10. DSC_p * DCI_a	.043	.221	.000	-.043	.278	.002

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

Note. N = 119. DSC = Dissatisfaction With Children; DCI = Dyadic Coping Inventory; $_a$ = actor effects; $_p$ = partner effects.

Table 5

Summary of Hierarchical Regression Analysis for Internal Stress and Communication Variables Predicting Global Distress

Variable	Husband Effects			Wife Effects		
	β	R^2	ΔR^2	β	R^2	ΔR^2
Step 1. SEX_a	.502	.252	.252***	.632	.400	.400***
Step 2. CPQ_a	-.195	.287	.035*	-.388	.537	.137***
Step 3. SEX_a * CPQ_a	-.239	.334	.047**	-.256	.585	.048***
Step 4. SEX_a	.502	.252	.252***	.632	.400	.400***
Step 5. SEX_p	.239	.295	.043**	.070	.403	.004
Step 6. SEX_a * SEX_p	.291	.358	.063**	.083	.408	.005
Step 7. SEX_a	.502	.252	.252***	.632	.400	.400***
Step 8. SEX_p	.239	.295	.043**	.070	.403	.004
Step 9. CPQ_a	-.104	.331	.036*	-.385	.538	.135***
Step 10. SEX_p * CPQ_a	-.269	.392	.062**	-.087	.544	.006

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

Note. N = 119. SEX = Sexual Dissatisfaction; CPQ = Communication Patterns Questionnaire; $_a$ = actor effects; $_p$ = partner effects.

Table 6

Summary of Hierarchical Regression Analysis for Internal Stress and Coping Variables Predicting Global Distress

Variable	Husband Effects			Wife Effects		
	β	R^2	ΔR^2	β	R^2	ΔR^2
Step 1. SEX_a	.502	.252	.252***	.632	.400	.400***
Step 2. DCI_a	-.297	327	.074**	-.278	.461	.062***
Step 3. SEX_a * DCI_a	-.147	.343	.017	-.242	.502	.041**
Step 4. SEX_a	.502	.252	.252***	.632	.400	.400***
Step 5. SEX_p	.239	.295	.043**	.070	.403	.004
Step 6. SEX_a * SEX_p	.291	.358	.063**	.083	.408	.005
Step 7. SEX_a	.502	.252	.252***	.632	.400	.400***
Step 8. SEX_p	.239	.295	.043**	.070	.403	.004
Step 9. DCI_a	-.269	.355	.060**	-.284	.467	.064***
Step 10. SEX_p * DCI_a	-.166	.377	.022*	-.108	.477	.010

*p < .05, **p < .01, ***p < .001

Note. N = 119. SEX = Sexual Dissatisfaction; DCI = Dyadic Coping Inventory; $_a$ = actor effects; $_p$ = partner effects

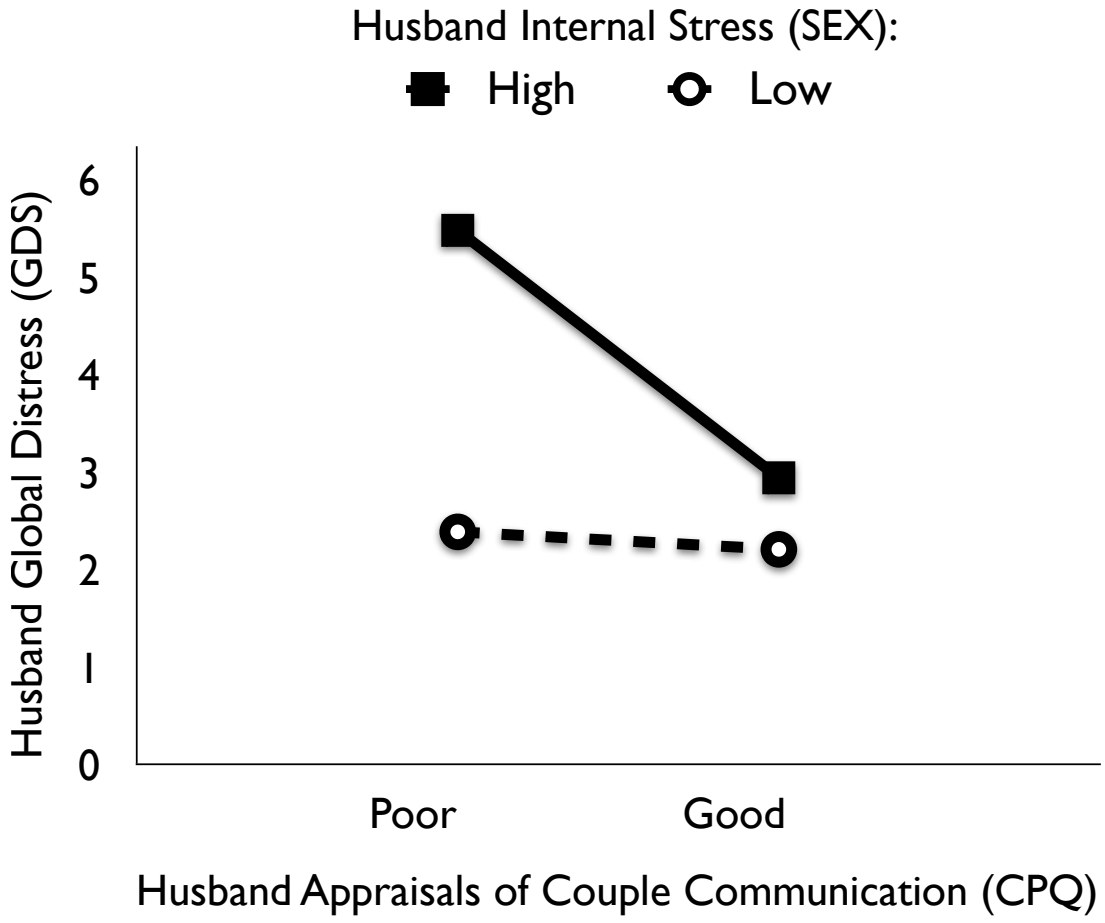

Figure 1. Interaction effect of husband appraisal of couple communication and husband internal stress on husband global distress

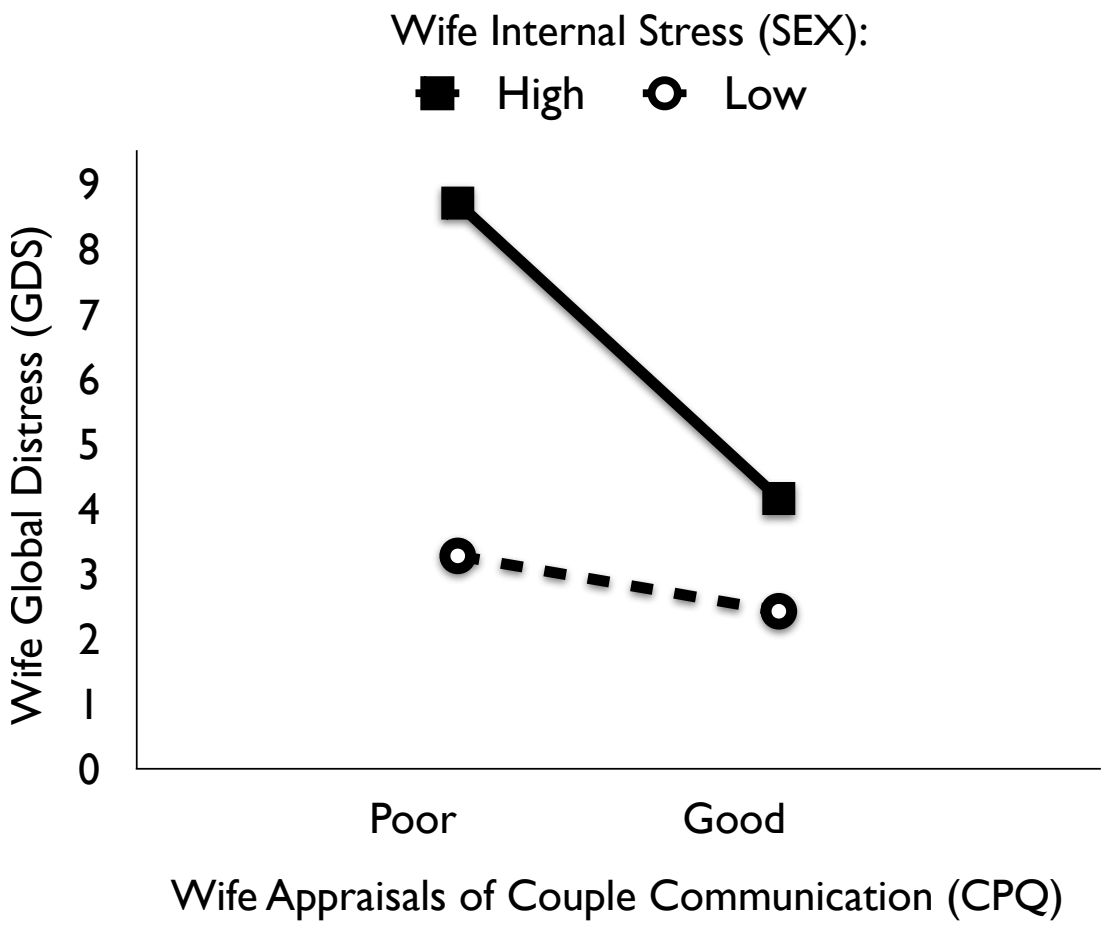

Figure 2. Interaction effect of wife appraisal of couple communication and wife internal stress on wife global distress

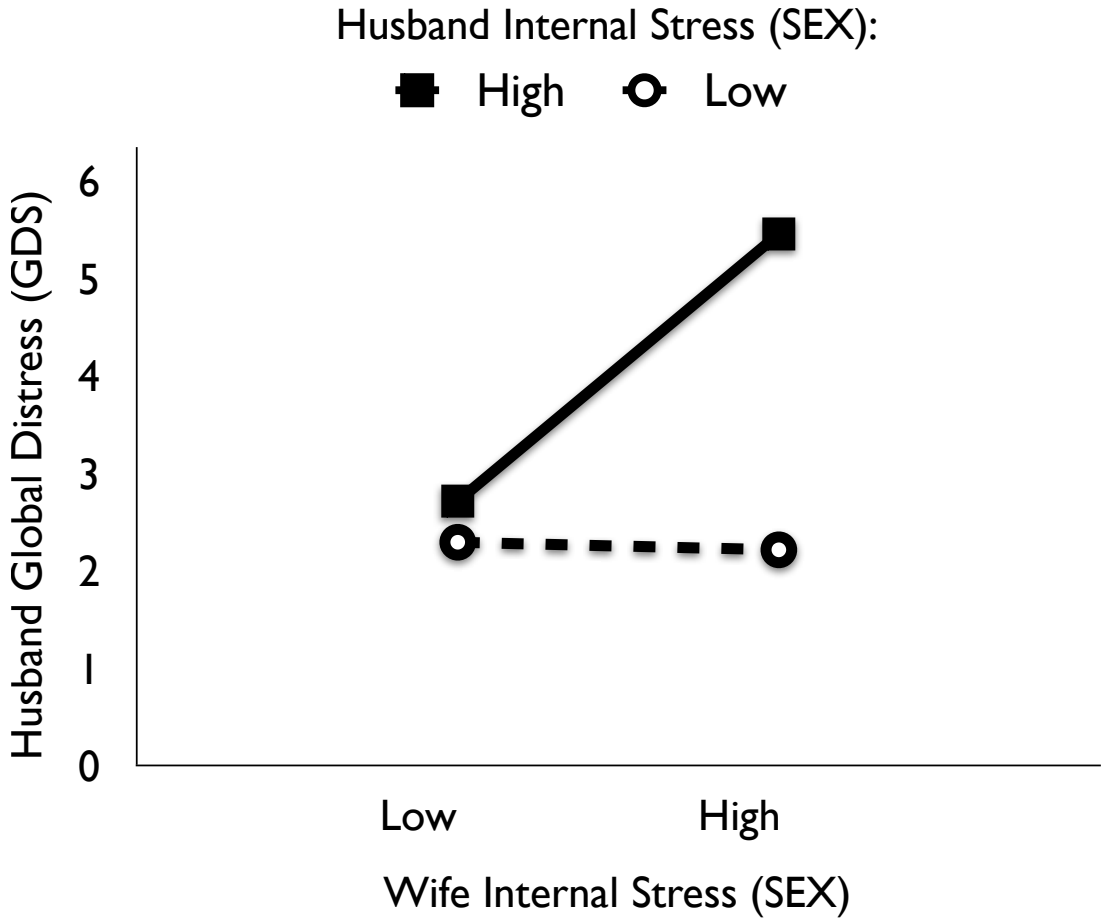

Figure 3. Interaction effect of wife internal stress and husband internal stress on husband global distress

Figure 4. Interaction effect of husband appraisal of couple communication and wife internal stress on husband global distress

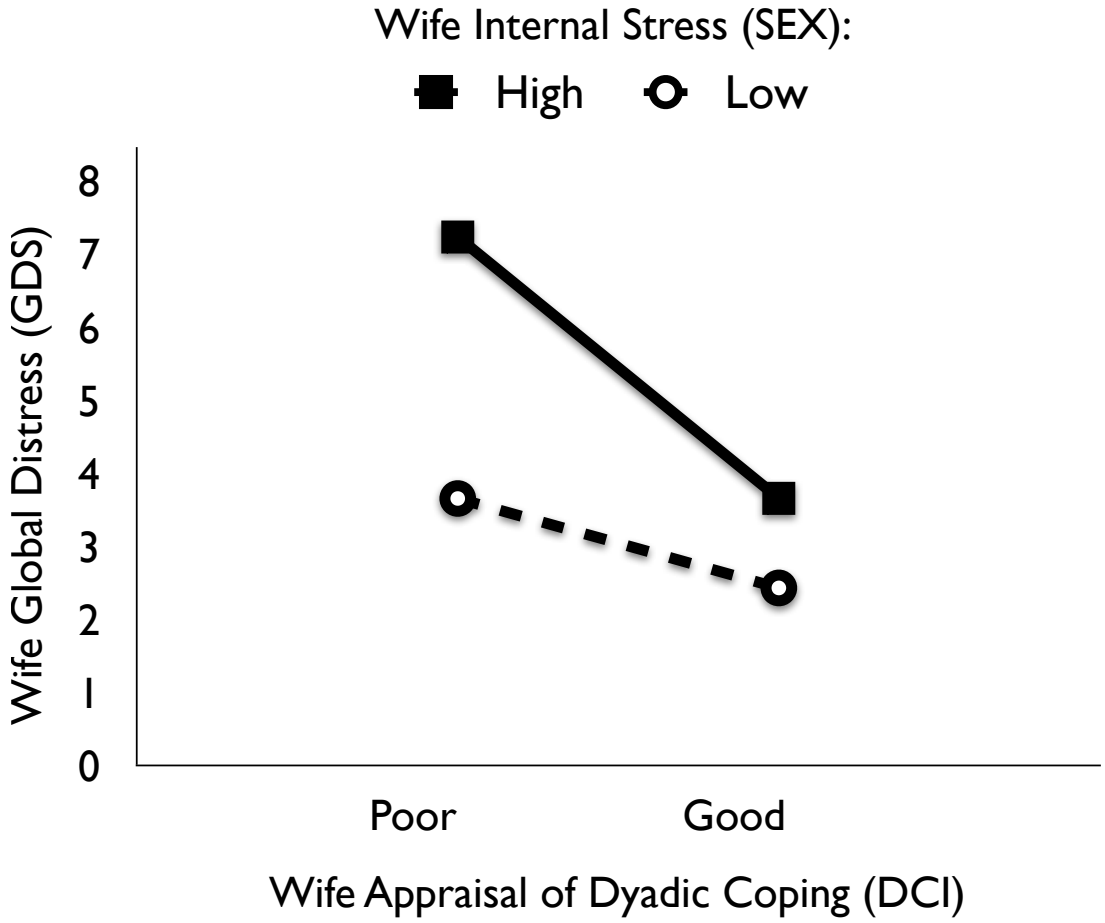

Figure 5. Interaction effect of wife appraisal of dyadic coping and wife internal stress on wife global distress

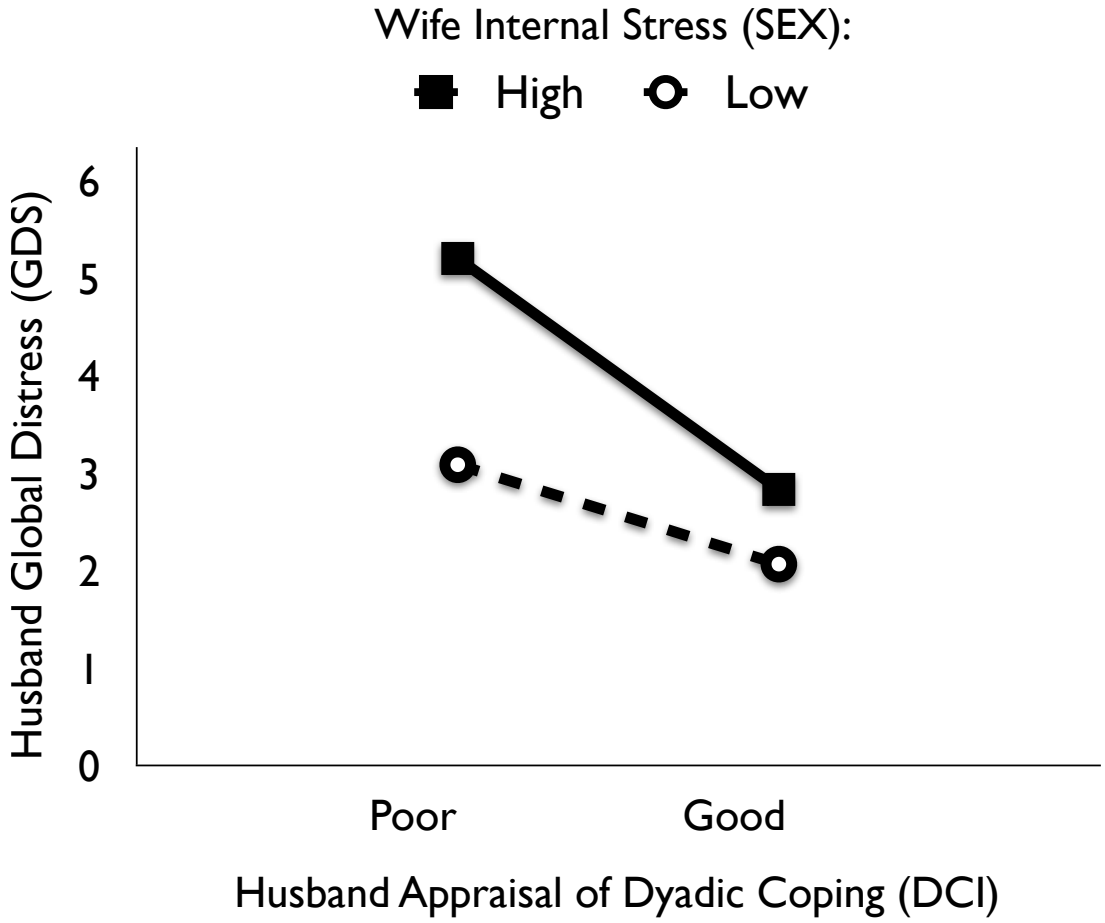

Figure 6. Interaction effect of husband appraisal of dyadic coping and wife internal stress on husband global distress