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**Examining the Validity of the Relationship Intimacy Model of Couple Adaptation to
Cancer with a Non-Cancer Population**

A Thesis submitted in partial satisfaction of the requirements for the degree of
Master of Arts

in

Psychological Sciences

by

Sara E. Fleszar

Committee in charge:

Professor Linda D. Cameron, Chair
Professor Jennifer Hahn-Holbrook
Professor Deborah Wiebe

2020

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Abstract

The Relationship Intimacy Model of Couple Adaptation to Cancer (RIM; Manne & Badr, 2008) theorizes that relationship-enhancing behaviors increase couples' intimacy and, in turn, improves psychological and relationship adaptation to cancer. In contrast, relationship-compromising behaviors reduce intimacy, which in turn negatively impacts outcomes. This model has been applied to examine the relationship experiences of couples along the cancer survivorship spectrum. Yet, it is unknown if the model accounts for relationship dynamics in situations outside the cancer context. The primary goal of this study is to test the validity of the RIM framework within general relationship dynamics and during a health event. Participants were asked to draw upon their interactions with their romantic partners, relationship intimacy, relationship satisfaction, and psychological adaptation in general daily life as well as during a recent health event. Participants (N = 505) were on average 20.1 (SD = 1.94) years old, female (75%), Hispanic/Latino (66.3%), and in committed relationships. Stepwise linear regression analyses revealed that in the context of general daily life: (1) partner responsiveness was positively associated with intimacy, positive affect, and relationship satisfaction, and negatively associated with negative affect; (2) perceived self-disclosure was positively associated with intimacy, positive affect, and relationship satisfaction; (3) both emotional suppression and self-demand/partner-withdraw were positively associated with intimacy, negative affect, and depression, and negatively associated with relationship satisfaction; and (4) partner-demand/self-withdraw was positively associated with intimacy and positive affect. In the context of a health event: (1) partner responsiveness was positively associated with intimacy, positive affect, and relationship satisfaction; (2) emotional suppression was negatively associated with positive affect and couples relationship satisfaction, and positively associated with negative affect and intrusiveness and avoidance; (3) criticism was negatively associated with relationship satisfaction; (4) partner-demand/self-withdraw was positively associated with negative affect and intrusiveness and avoidance; (5) self-demand/partner-withdraw was positively associated with intimacy. Mediation analyses revealed that in general daily life, intimacy mediated the relationships between: (1) partner responsiveness, emotional suppression, self-demand/partner-withdraw, partner-demand/self-withdraw and positive affect (2) partner responsiveness, partner-demand/self-withdraw and negative affect; and (3) relationship satisfaction and partner responsiveness, emotional suppression, self-demand/partner-withdraw, partner-demand/self-withdraw. During a health event, intimacy mediated the relationships between: (1) positive affect and partner's responsiveness, self-demand/partner-withdraw, and (2) negative affect and partner responsiveness. This study highlights important components of relationship behaviors that may predict relationship satisfaction and adaptation to health events and in general relationship dynamics. These findings can improve efforts to tailor couples-based interventions to promote adaptive coping and adjustment to different illness experiences and for relationship satisfaction in everyday life.

By Sara E. Fleszar for the partial satisfaction of the requirements for the degree of Master of Arts in Psychological Sciences
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Introduction

Since the 1990s, a multitude of theoretical frameworks have been developed for studying how romantic couples cope with chronic illnesses (Badr, Bakhshaie, & Chhabria, 2019; Baider, 1995; Martire, Schulz, Helgeson, Small, & Saghafi, 2010; Porter et al., 2017). Impacting individuals and relationship quality and functioning, chronic illness is one of the most significant stressors a couple may face (Revenson & DeLongis, 2011). Cancer as a chronic illness, in particular, has been targeted in the development of relationship functioning theoretical frameworks (Regan, Lambert, Falconier, Kissane, & Levesque, 2015). One such theory is Manne and Badr's (2008) Relationship Intimacy Model of Couples Adaptation to Cancer (RIM) framework (Figure 1). This theoretical model has been applied to examine the relationship experiences of couples along the cancer survivorship spectrum. Still, it is unknown if the model accounts for relationship dynamics in situations where couples face other non-cancer health conditions or in general daily life. Throughout the trajectory of a couple's relationship, they may experience a variety of health events or illnesses (e.g., flu/cold, appendicitis, broken bone) along with a variety of daily stressors. Although most health events or illnesses (hereafter health events) experienced by a couple may not be chronic, these health events may still require adjustments for both individuals. There is a paucity of research on components that predict couples' relationships and illness coping during these transient health events. The primary goal of this research is to test the validity of the RIM framework within a non-cancer population in the context of a health event. The secondary goal is to test its validity in accounting for relationship dynamics in daily life.

The Relationship Intimacy Model

The RIM framework consists of components from social support theory (Julien and Markman, 1991; Boler, Foster, Vinokur, & Ng, 1996), cognitive-social processing theory (Porter, Keefe, Hurwitz, & Faber, 2005), and relationship resilience models (Badr, Acitelli, & Carmack-Taylor, 2008). It proposes that, within the context of coping with cancer, relationship-enhancing behaviors involved in managing the cancer experience such as reciprocal self-disclosure (disclosing feelings to one another), partner responsiveness (feeling understood and accepted), and relationship engagement (feeling as though your partner views cancer in relational terms) work to increase couples' intimacy with the outcome of improved couples' psychological adaptation to cancer and relationship satisfaction. In contrast, relationship compromising behaviors while managing the cancer experience such as avoidance (avoid discussions and deny concerns), criticism (unsupportive reactions to a partner's coping), and pressure-withdraw (partner withdraws from discussions involving cancer topics) have a negative effect on intimacy, which in turn can negatively impact couples' psychological adaptation to cancer and relationship satisfaction (See Figure 1; Manne and Badr, 2008). Below each conceptual component of the model is discussed in detail. We consider the evidence for their associations with psychological adaptation to cancer and relationship satisfaction as well as its potential relevance for understanding psychological adaptation relationship satisfaction when coping with non-cancer health events and more generally in daily life.

Relationship-enhancing Behaviors

The relationship-enhancing components, reciprocal self-disclosure (hereafter referred to as perceived self-disclosure for clearer conceptualization), partner responsiveness, and relationship engagement combine to form an interconnected pattern of communication between partners. This interdependent exchange begins with self-disclosure, or the amount of information, such as facts, thoughts, or feelings the “speaker” has revealed to the partner. Self-disclosure is typically assessed with self-reports of perceived disclosure by the “speaker” (Laurenceau, Barrett, & Pietromonaco, 1998). Disclosure of private, personal information and emotions are associated with increases in relationship intimacy, felt acceptance, and relationship satisfaction over time, both within the context of coping with cancer (Dagan et al., 2013; Porter et al., 2009) and in daily life for people who are not facing cancer (Cameron & Overall, 2017; Lippert & Prager, 2001).

When “the listener” responds to “the speaker” with facts, thoughts, or expressions of emotions, these behaviors are perceived by “the speaker” as partner responsiveness. In this context, partner responsiveness is the extent to which “the speaker” believes that “the listener” understands and cares for them (Laurenceau et al., 1998). Perceived partner responsiveness has been shown to be a determining factor in relationship functioning and satisfaction in both healthy romantic couples and those coping with cancer (Dagan et al., 2013; Maisel & Gable, 2009). Perceived partner responsiveness has also been shown to be both a potential mediator and a potential moderator between relationship behaviors and outcomes. For example, Manne, Ostroff, Rini, Fox, Goldstein, and Grana (2004) found that for women with breast cancer, perceived responsiveness mediated the relationship between perceived self-disclosure and perceived intimacy and between perceived partner disclosure and intimacy. Further, Selcuk and Ong (2013) found that perceived partner responsiveness moderated the association between partner emotional support and mortality risk. Higher partner emotional support was associated with higher mortality risk for individuals who perceived their partner’s responsiveness as low, but not for individuals who perceived their partner’s responsiveness as high.

Accompanying this communication process are each partner’s perceptions and appraisals of one another’s perceived self-disclosure and partner-responsiveness. This process is conceptualized as relationship engagement, that is, the degree to which each partner feels that the other is engaged in the relationship (i.e., feeling accepted, understood, and cared for; Laurenceau et al., 1998). In the RIM model, Manne and Badr (2008) suggest that couples can actively participate in relationship engagement through openly discussing relationship changes (e.g., role changes, changing priorities), a commitment to focus on aspects of the relationship that have changed, and efforts to preserve essential components of the relationship. In a study assessing spousal support and marital satisfaction in couples coping with cancer, Hagedoorn, Kuijer, Buunk, DeJong, Wobbles, and Sanderman (2000) found that healthy partners who actively participated in relationship engagement with their partners with cancer, as compared with those healthy partners who did not actively engage with cancer, experienced higher relationship quality. Relationship engagement has also been examined in men who experienced a recent myocardial infarction (MI) and their wives, finding that the wives of MI patients who participated in active engagement had decreased levels of psychological

distress as compared with those MI patients who did not participate in active engagement (Coyne and Smith, 1991).

Relationship-compromising Behaviors

The RIM's relationship-compromising components are comprised of avoidance, criticism, and pressure-withdraw communication as they occur within the context of couples coping with cancer. Avoidance, as described in the RIM, involves efforts to avoid talking about their cancer-related concerns. Avoiding cancer-specific communications has been associated with reductions in relationship intimacy and greater psychological distress (Manne, Badr, Zaider, Nelson, Kissane, 2010). Avoidant behaviors are one facet of emotional suppression, which is defined as the restriction of emotionally expressive behaviors while emotionally stimulated (Gross & Levenson, 1993) and thus includes the aspects of holding back, subjective inauthenticity, and emotional incongruence as well as avoidant behaviors (English & John, 2013). Given the evidence of the strong negative associations of emotional suppression with positive intrapersonal and interpersonal outcomes (Cameron & Overall, 2018; DeSteno, Gross, & Kubzansky, 2013) as well as evidence demonstrating similar associations for the facets of holding back (e.g., Edmond, Shelby, Kimmick, Marcom, Peppercorn, & Keefe, 2013; Le & Impett, 2013), subjective inauthenticity (e.g., Gross & John, 2003), and emotional congruence (e.g., Druley, Stephens, Martire, Ennis, & Wojno, 2003), the avoidance component could usefully be broadened to incorporate all facets of emotional suppression.

While emotional suppression may be beneficial in some highly stressful events (Bonanno, Papa, Lalande, Westphal, & Coifman, 2004), emotional suppression generally tends to have negative consequences (Web, Miles, Sheeran, 2012; Aldao, Nolen-Heksema, Schweizer, 2010). For example, emotional suppression has been associated with poorer cancer adjustment and increases in symptomatic behaviors (Schlatter & Cameron, 2010), and cancer-related mortality (Chapman, Fiscella, Kawachi, Duberstein, & Muennig, 2013), and increased risk of adverse cardiac events in individuals with cardiac disease (Denollet, Gidron, Vrints, & Conraads, 2010). Effects may be exacerbated for individuals who are caretakers of those with chronic illness conditions. Impett et al. (2012) found that individuals who employ emotional suppression on days when they make a sacrifice, such as performing undesirable tasks for their partner, experienced lower levels of well-being, positive emotions, and relationship satisfaction. Sacrifice may be an important component, particularly for couples coping with illness. Moreover, individuals who frequently suppress emotions experience less positive affect and more negative affect (Gross & John, 2003), lower social satisfaction, and less closeness to others (Srivastava, Tamir, McGonigal, John, & Gross, 2009). Cameron and Overall (2017) conducted daily diary studies of emotional suppression and expression with partners, finding that higher levels of daily emotional suppression with partners were associated with more depressive mood, more fatigue, less self-esteem, and less life satisfaction as well as less felt acceptance, less relatedness, and less relationship satisfaction.

Within the RIM framework, criticism also termed partner's unsupportive behaviors, refers explicitly to critical behaviors and unsupportive reactions to how a

partner is coping with their cancer. In a longitudinal study, Manne, Ostroff, Winkel, Grana, and Fox (2005) found that unsupportive partner behavior as perceived by both partners, predicted higher levels of avoidant coping and distress in women with early-stage breast cancer. More generally, studies with romantic couples who are not facing cancer show that criticism, which includes disagreeing or disapproving comments to a partner, is a strong predictor of negative relationship outcomes, including relationship dissatisfaction (Chambless & Blake, 2009) and divorce (Gottman & Levenson, 1992). Perceived criticism has also shown to be a predictor of clinical outcomes, such as the worsening of depression symptoms in clinically depressed populations (Masland & Hooley, 2015). In a sample of chronic lung disease patients and their partners, Lal and Bartle-Haring (2011) found that partners' unsupportive behaviors predicted decreases in relationship satisfaction and increases in depression in the patients. Although criticism has been associated with depression and avoidant coping behaviors in healthy populations, there is a lack of evidence linking criticism with intimacy and relationship satisfaction. The present study's findings will provide new evidence on the relationships between these constructs.

Pressure-withdraw is a maladaptive communication pattern occurring when a partner pressures the other to discuss a problem, and the other partner withdraws from the conversation. A cross-cultural study (samples from Brazil, Italy, Taiwan, and the U.S.) indicated that in healthy couples, higher pressure-withdraw communication was associated with greater distress and lower relationship satisfaction for both partners (Christensen, Eldridge, Catta-Preta, Lim, & Santagata, 2006). Further, communication patterns in which one partner pressures the other partner to talk about an issue while the other partner withdraws from communication has been associated with decreases in marital satisfaction (Caughlin, 2002; Christensen & Shenk, 1991). In the context of cancer, demand-withdraw communication has been linked with lower relationship satisfaction and higher distress for women with early-stage breast cancer and their partners (Manne, Ostroff, Norton, Fox, Goldstein, & Grana, 2006).

More recent research suggests that pressure-withdraw communication has two components, self-demand/partner-withdraw and partner-demand/self-withdraw. There is evidence to suggest that these two components have distinct associations with intrapersonal outcomes (Baucom, McFarland, & Christensen, 2010; Johnson & Roloff, 2000). For example, in a study examining demand/withdraw patterns during argumentative episodes, Malis and Roloff (2006) found that partner-demand/self-withdraw was more strongly associated with stress and attempts to avoid thinking about the argument than was self-demand/partner-withdraw. Conceptually very similar to demand-withdraw communication are the two interaction roles within an argument: initiator and resistor. During an argument, initiators and resisters have differing experiences of the same situation, thus eliciting distinct intrapersonal outcomes (Johnson & Roloff, 2000). In a study on couples coping with localized prostate cancer, both patients and partners who reported greater patient-demand/partner-withdraw communication also reported greater distress and less intimacy. Further, partner-withdraw/patient-demand communication was associated with less intimacy for patients and partners but was not associated with distress (Manne et al., 2010). The current study

will provide further evidence in support of pressure-withdraw communication as two distinct constructs: self-demand/partner-withdraw and partner-demand/self-withdraw.

Intimacy

The RIM proposes that intimacy both predicts relationship satisfaction and psychological adaptation to cancer and mediates the relationship between relationship-enhancing and -compromising behaviors and outcomes. In a study examining communications between prostate cancer survivors and their partners, Manne et al. (2010) found that intimacy mediated the relationship between the communication patterns, mutual constructive communication, mutual avoidance, and self-demand/partner-withdraw communication and psychological distress. Examining these same communication patterns in couples coping with head, neck, and lung cancer, intimacy was once again found to mediate the relationship between these same communication patterns and psychological distress (Manne, Badr, & Kashy, 2012). In previous literature on healthy couples, as an outcome of relationship behaviors, intimacy has been positively associated with energy, positive affect, life satisfaction, and sleep quality and negatively related to physical symptoms (Kane, Slatcher, Reynolds, Repetti, & Robles, 2014; Lun, Kesebir, & Oishi, 2008). For example, Ditzen, Hahlweg, Fehm-Wolfsdorf, and Baucom (2011) found that romantic partners had lower cortisol levels on days that included higher physical intimacy (i.e., holding hands, hugging). In similar studies, physical intimacy was negatively associated with somatic symptoms (Stadler, Snyder, Horn, Shrout, & Bolger, 2012).

Current Study

Manne and Badr (2008) specifically developed and tested the RIM framework within the context of coping with cancer. Based on evidence from the literature discussed, we propose that this paradigm can be extended to romantic partners experiencing other stressors, including non-cancer health events and during the course of daily life. The primary aim of this study is to test the RIM framework within the context of couples who have experienced a recent health event, thereby proving its generalizability to couples facing health events other than cancer and in daily life more generally. The present study examines the associations between relationship-enhancing and -compromising behaviors, intimacy, relationship satisfaction, and psychological distress in a sample of adults who are in romantic relationships, first regarding their experiences with a recent health event and second with regards to their current relationship dynamics in general. In both sets of analyses, we hypothesized that relationship-enhancing behaviors would be associated with greater relationship intimacy, lower levels of distress, and greater relationship satisfaction.

Conversely, we expected that relationship-compromising behaviors would be associated with decreased relationship intimacy, higher levels of distress, and decreased relationship satisfaction. This study will also extend prior research by examining the mediational relationship of intimacy on relationship behaviors with psychological distress and relationship satisfaction in both experiences with a recent health event and general relationship dynamics. We hypothesized that intimacy would mediate the associations of

relationship behaviors with psychological distress and relationship satisfaction in both sets of analyses.

Method

Participants and Procedure

Participants were 676 undergraduate students at the University of California, Merced, who self-selected to complete the study in response to a posting on an online participant management software from May to November 2019. Students with interest in participating in a cross-sectional survey examining intimacy and communication between romantic couples and their psychological and relationship adaptation to health events were directed to a consent form and survey administered through Qualtrics (Provo, Utah). Part one of the survey consisted of measures assessing participant's general relationship dynamics within the past week. Part two of the survey consisted of measures assessing participant's relationships based on a recent health symptom, health problem, or illness (hereafter termed health event). Inclusion criteria required participants to be 18 years or older, able to read English, and currently in a romantic relationship. Students were compensated with course credit for their participation.

Data from 171 participants were excluded from analysis (117 did not complete the survey; 54 took less than 15 minutes to complete the survey). The final sample ($N = 505$) included in data analysis were 378 (75%) females, 123 (24.4%) males, and 4 (6%) identified as other. Participants' ages ranged from 18 to 36 ($M = 20.1$, $SD = 1.94$) and 66.3% reported their ethnicity as Latino/Hispanic and 33.7% as non-Latino/Hispanic. Participants identified as White (33.1%), Asian (18.8%), Black or African American (5.4%), American Indian or Alaskan Native (0.8%), Native Hawaiian or Pacific Islander (1.0%), Multi-race (5.2%), and Other (35.6%). All participants reported being in a committed relationship, and the majority (97.6%) were unmarried and not living with their partner (84.4%). Relationship lengths ranged from one month to 9 years. Participants self-identified as heterosexual (83.7%), homosexual (3.0%), bisexual (10.5%), and other (2.8%). Participants who indicated having a recent health event ($n = 384$) while in a relationship with their current partner were included in the analyses on relationship constructs during a health event.

Measures

In this within-subjects, correlational study, participants were first asked to think about their romantic relationship during the past week. In part one of the survey, participants completed measures consisting of psychological distress, couples' relationship satisfaction, intimacy, and relationship-enhancing and -compromising behaviors based on their relationship in the past week. For part two of the survey, participants were asked to "think back on an experience with their current romantic partner when they had a recent health symptom, health problem, or illness" and qualitatively describe the health event. Then participants completed measures consisting of psychological distress, couples' relationship satisfaction, intimacy, and relationship-enhancing and -compromising behaviors based on the elicitation of this health event. Only participants who indicated and qualitatively described a recent health event were included in the analyses of relationship constructs during a health event.

Relationship-Enhancing Behaviors.

Perceived self-disclosure, partner responsiveness, and relationship engagement were assessed with adapted versions of the Perceived Self-Disclosure Scale, Perceived Partner Responsiveness Scale, and Perceived Partner Disclosure Scale, respectively (Laurenceau, Barrett, & Rovine, 2005; Manne & Badr, 2008; Manne et al., 2004). For perceived self-disclosure, participants rated the degree to which they disclosed thoughts (“How much did you disclose thoughts to your partner?”), information (“How much did you disclose information to your partner?”), and feelings (“How much did you disclose your feelings to your partner?”) to their partner (during the health event/in the past week). For partner responsiveness, participants rated the degree to which their partner disclosed thoughts and feelings (“How much did your partner disclose thoughts and feelings?”), positive emotions (“How much positive emotion did your partner disclose?”), and negative emotions (“How much negative emotion did your partner disclose?”) during the health event/in the past week. For relationship engagement, participants rated the degree to which they felt accepted (“To what degree did you feel accepted by your partner?”), understood (“To what degree did you feel understood by your partner?”), and cared for (“To what degree did you feel cared for by your partner during this discussion?”) during the health event/in the past week. All 9 items were rated on a 7-point Likert scale (1 = *not at all* to 7 = *very much*). Perceived self-disclosure, partner responsiveness, and relationship engagement were assessed in general daily life (i.e., part one of the survey) and while experiencing a recent health event (i.e., part two of the survey). Higher scores indicate greater perceived self-disclosure, partner responsiveness, and relationship engagement.

Relationship-Compromising Behaviors.

Emotional suppression was assessed with a 7-item measure adapted from prior research (Cameron & Overall, 2017; Girme, Overall, Simpson, & Fletcher, 2015) on emotional suppression within interactions with romantic partners (e.g., “I tried to hide my thoughts and feelings from my partner,” “I tried to control or suppress any negative emotions I felt”). Emotional suppression was assessed in general daily life and while experiencing a recent health event. Higher scores indicate greater emotional suppression.

Criticism was measured with the Partner Unsupportive Behaviors Scale (Manne et al., 2014), which consists of 13 items assessing partners’ critical and avoidant responses to handling cancer. This scale was adapted for use in this study to assess the criticism of a partner’s management of a health event; therefore, it was evaluated only within the health event measures (i.e., part one of the survey). Items are rated on a 4-point Likert scale (1 = never to 4 = often), and scores range from 13 to 52 with higher scores indicating greater critical and avoidant partner responses.

Pressure-withdraw was assessed with the partner-demand/self-withdraw and self-demand/partner-withdraw subscales of the Revised Communications Pattern Questionnaire (CPQ-R; Crenshaw, Christensen, Baucom, Epstein, & Baucom, 2017). The self-demand/partner-withdraw subscale consists of three items assessing the frequency of the participant pressuring their partner to talk about a problem. In response, their partner withdraws from the conversation. The partner-demand/self-withdraw subscale consists of three items assessing the frequency of their partner pressuring them to discuss a problem, and the participant withdrawing. The partner-demand/self-withdraw and self-

demand/partner-withdraw subscales were evaluated as separate constructs. Examples of items that were rated on a scale from 1 = *very unlikely* to 9 = *very likely* are “When a problem in my relationship arose I tried to start a discussion while my partner tried to avoid a discussion” and “After a discussion of a relationship problem both my partner and I felt understood by each other.” Partner-demand/self-withdraw and self-demand/partner-withdraw were assessed in general daily life and while experiencing a recent health event. Higher scores indicate greater partner-demand/self-withdraw and greater self-demand/partner-withdraw.

Intimacy.

Intimacy was measured with the Personal Assessment of Intimacy in Relationships Scale (PAIR; Schaefer & Olson, 1981). The PAIR is a 36-item measure of relationship intimacy encompassing emotional, social, sexual, intellectual, and recreational aspects of intimacy. Participants rated the extent to which each “statement described your relationship with your partner during your health event” (e.g., “My partner listened to me when I needed someone to talk to,” “We enjoyed spending time with other couples”). Responses ranged from 1 = *did not describe my relationship at all* to 5 = *described my relationship very well*. Items were reverse coded where necessary, and scores were calculated such that higher scores indicated greater intimacy. Intimacy was assessed in general daily life and while experiencing a recent health event.

Psychological Distress.

The 20-item Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) was used to measure participants’ positive and negative moods in general daily life and while experiencing a recent health event. The questionnaire consists of 10 items addressing positive affect and 10 items addressing negative affect. Participants indicated the extent to which they felt each item (e.g., interested, distressed, excited) on a 5-point scale ranging from 1 = *not at all* to 5 = *extremely*. Separate positive and negative affect scores were calculated with higher scores indicating higher positive and negative affect.

The amount of intrusiveness and avoidance symptoms experienced during participants’ health event was measured using the intrusion and avoidance subscales of the Impact of Events Scale-Revised (IES-R; Weiss & Marmar, 1997). The intrusion and avoidance subscales were strongly correlated ($r = 0.85$), and so the subscales were combined into a single score. Items are rated on a 5-point Likert scale according to how frequently each occurred during the distressing health event (1 = *not at all* to 4 = *extremely*). Higher scores indicate greater intrusiveness and avoidance symptoms experienced during the health event. Intrusiveness and avoidance symptoms were only assessed within the health event measures.

Depression symptoms were assessed with the short version of the Center for Epidemiologic Studies Depression Scale (CES-D; Gellis, 2010). The 11-item scale assessed the perceived mood and level of functioning during the past week. Participants indicated the frequency to which they felt each item (e.g., “I felt depressed”; “People were unfriendly”) on a scale ranging from 1 = *rarely/none of the time* to 4 = *most/all of the time*. Higher scores reflect greater symptoms of depression. Depression was only assessed during the general relationship set of measures.

Couples Relationship Satisfaction.

The 32-item Couples Satisfaction Index (CSI; Funk & Rogge, 2007) was used to assess couples' relationship satisfaction. The CSI has a variety of question formats and response scales. The items inquire about satisfaction (e.g., "To what extent has your relationship met your original expectations") on a scale from 0 = *Not at all* to 5 = *Completely*, reward (e.g., "How rewarding is your relationship with your partner") on a scale from 0 = *Not at all* to 5 = *Completely*, warmth and comfort (e.g., "I have a warm and comfortable relationship with my partner") on a scale from 0 = *Not at all true* to 5 = *Completely true*, and happiness (e.g., "Please indicate the degree of happiness, all things considered, of your relationship") on a scale from 0 = *Worse than all others/extremely bad* to 5 = *Better than all others/extremely good*. After reverse coding of items, higher scores indicate greater relationship satisfaction. Relationship satisfaction was assessed in general daily life and while experiencing a recent health event

Statistical Analysis

Correlational analyses were conducted to examine the zero-order associations among the model constructs. Due to moderate-to-high collinearity among several of the predictors, stepwise linear regression analyses were performed using JASP Version (0.11.1). Stepwise linear regression analyses were employed to reduce excessive model complexity by choosing the best predictor variables among a large set of potential predictor variables. For general relationship dynamics, four models were examined: (1) relationship-enhancing behavior components (i.e., perceived self-disclosure, partner responsiveness, relationship engagement), relationship compromising behavior components (i.e., emotional suppression, criticism, pressure-withdraw), and relationship intimacy to predict negative affect; (1) relationship-enhancing behaviors, relationship compromising behaviors, and relationship intimacy to predict positive affect; (3) relationship-enhancing behaviors, relationship compromising behaviors, and relationship intimacy to predict depressive symptoms; and (4) relationship-enhancing behaviors, relationship compromising behaviors, and relationship intimacy to predict relationship satisfaction. In the context of a recent health event, four models were examined: (1) relationship-enhancing behavior components (i.e., perceived self-disclosure, partner responsiveness, relationship engagement), relationship compromising behavior components (i.e., emotional suppression, criticism, pressure-withdraw), and relationship intimacy to predict negative affect; (1) relationship-enhancing behaviors, relationship compromising behaviors, and relationship intimacy to predict positive affect; (3) relationship-enhancing behaviors, relationship compromising behaviors, and relationship intimacy to predict intrusiveness and avoidance; and (4) relationship-enhancing behaviors, relationship compromising behaviors, and relationship intimacy to predict relationship satisfaction. Results from these model analyses represent the predictor variables with the largest amount of variance accounted for in the relationship satisfaction and psychological distress measures.

Mediational analyses were conducted to test if couples' relationship intimacy mediated the relationship between the significant predictor variables from the general relationship dynamics stepwise regression results and negative affect, positive affect, intrusiveness and avoidance, and relationship satisfaction. Mediational analyses were also

conducted to test if couples' relationship intimacy mediated the relationship between the significant predictor variables from the health events stepwise regression results and negative affect, positive affect, depressive symptoms, and relationship satisfaction. Mediation analyses were conducted with MPlus (Version 6.11; with 5000 bootstrapped resamples). Significant variables from the stepwise regressions were simultaneously entered into the mediation models for each outcome variable (i.e., relationship satisfaction, negative affect, positive affect, depression, and intrusiveness and avoidance).

Results

Preliminary Analyses

The means, standard deviations, and correlations for the measures of the model constructs during a health event are displayed in Table 1. A significant difference between genders in emotional suppression scores was found ($F(2,378) = 3.27, p = .039$), such that male participants had significantly higher emotional suppression scores as compared with female participants. There were no statistical differences between race and ethnicity on relationship construct means. Analyses on relationship constructs during a health event included gender as a covariate. When comparing participants who indicated a health event to those who did not, those with a health event had relatively higher scores on perceived self-disclosure ($t(500) = -4.74, p < .001$), relationship engagement ($t(500) = -4.88, p < .001$), and negative affect ($t(502) = -2.91, p = .004$). Relationship compromising and enhancing behavior model constructs are often characterized as types of communication, and as such, we expected several constructs to be moderately-to-strongly correlate. As expected, self-demand/partner-withdraw and partner-demand/self-withdraw were strongly positively correlated. Further, relationship satisfaction was strongly positively correlated with partner responsiveness and negatively correlated with criticism.

The means, standard deviations, and correlations for general relationship measures of the model constructs are displayed in Table 2. A significant difference was found between depression scores and ethnicity ($t(499) = -4.36, p < .001$), such that non-Hispanic White participants had higher depression scores as compared with Latino/Hispanic participants. Further, there were significant differences between gender and perceived self-disclosure ($F(2,501) = 3.63, p = .027$), emotional suppression ($F(2,498) = 3.12, p = .045$), partner-demand/self-withdraw ($F(2,499) = 3.68, p = .026$), and depression ($F(2,498) = 3.57, p = .029$). Male participants had significantly lower scores on perceived self-disclosure and significantly higher scores on emotional suppression and partner-demand/self-withdraw compared with women. Participants who identified as other gender had significantly higher depression scores compared with male participants. There were no statistical differences between race and construct means. Gender and ethnicity were included as covariates in analyses on the general relationship measures. As expected, self-demand/partner-withdraw and partner-demand/self-withdraw were strongly positively correlated. Relationship satisfaction and relationship engagement were also strongly positively correlated.

Health events were categorized as physical ($n=293$) or psychological ($n=91$). Examples of indicated physical health events include flu/cold, chronic ear infections, gallbladder stones, and kidney infection. Psychological health events included events

such as depression, anxiety, and stress. Preliminary analyses revealed that, compared to participants with psychological health events, those with physical health events reported significantly lower levels of intrusion and avoidance ($t(379) = -8.28, p < .001$), emotional suppression ($t(380) = -4.28, p < .001$), criticism ($t(378) = -4.09, p < .001$), self-demand/partner withdraw ($t(379) = -4.54, p < .001$), partner-demand/self-withdraw ($t(379) = -4.37, p < .001$), and negative affect ($t(382) = -4.04, p < .001$) as well as higher levels of partner responsiveness ($t(382) = 4.65, p < .001$), relationship satisfaction ($t(371) = 5.94, p < .001$), and positive affect ($t(382) = 2.88, p = .004$).

Main Analyses

Analyses of relationship measures during a health event.

Table 3 presents the results of the stepwise regression analyses of relationship measures during a health event as predictors of intimacy, positive and negative affect, intrusiveness and avoidance, and couples relationship satisfaction. As predicted, higher intimacy was predicted by partner responsiveness. Contrary to predictions, higher intimacy was predicted by higher levels of self-demand/partner-withdraw. Further, higher perceived self-disclosure and relationship engagement scores and lower emotional suppression, criticism, and partner-demand/self-withdraw were not significant predictors of relationship intimacy. Positive affect during a health event, as hypothesized, was significantly predicted by higher partner responsiveness and lower emotional suppression. Perceived self-disclosure, relationship engagement, criticism, self-demand/partner-withdraw, and partner-demand/self-withdraw were not significant predictors of positive affect during a health event. As expected, both negative affect and intrusiveness and avoidance were significantly predicted by higher emotional suppression and partner-demand/self-withdraw. Relationship-enhancing behaviors, criticism, and self-demand/partner-withdraw were not significant predictors of either outcome. As hypothesized, higher partner responsiveness and lower criticism and emotional suppression significantly predicted couples' relationship satisfaction. Couples' relationship satisfaction was not significantly predicted by perceived self-disclosure, relationship engagement, self-demand/partner-withdraw, and partner-demand/self-withdraw.

Analyses of general relationship measures.

Table 4 presents the results of the stepwise regression analyses of general relationship behaviors as predictors of intimacy, positive and negative affect, depression, and couples' relationship satisfaction. As predicted, higher intimacy was predicted by perceived self-disclosure and partner responsiveness. Contrary to our hypotheses, higher intimacy was significantly predicted by higher emotional suppression, self-demand/partner-withdraw, and partner-demand/self-withdraw. Relationship engagement was not found to be a significant predictor of intimacy. As hypothesized, positive affect was significantly predicted by higher perceived self-disclosure, partner responsiveness, intimacy, and lower partner-demand/self-withdraw. Perceived self-disclosure, relationship engagement, and self-demand/partner-withdraw were not significant predictors of positive affect. As expected, negative affect was significantly predicted by higher emotional suppression and self-demand/partner-withdraw and lower partner responsiveness.

Contrary to predicted, higher intimacy predicted negative affect. Negative affect was not predicted by perceived self-disclosure, relationship engagement, partner-demand/self-withdraw. Consistent with hypotheses, depression was significantly predicted by higher emotional suppression and self-demand/partner-withdraw. Relationship enhancing behaviors and partner-demand/self-withdraw were not found to be predictors of depression. As predicted, couples' relationship satisfaction was significantly predicted by higher perceived self-disclosure, partner responsiveness, and intimacy, and lower levels of emotional suppression and self-demand/partner-withdraw. Relationship engagement and partner-demand/self-withdraw did not significantly predict couples' relationship satisfaction.

Patterns of associations of relationship behaviors with intimacy, indices of psychological distress, and relationship satisfaction.

Table 5 summarizes the patterns of direct associations of relationship behaviors with intimacy, indices of psychological distress, and relationship satisfaction. During a health event, emotional suppression was directly associated with four outcomes, followed by partner responsiveness, which was associated with three outcomes, then self-demand/partner-withdraw being associated with two outcomes, and criticism and partner-demand/self-withdraw both associated with one outcome. Relationship engagement and perceived self-disclosure were not directly associated with any outcome during a health event. In general daily life, partner responsiveness, emotional suppression, and self-demand/partner withdraw were all directly associated with four outcomes, followed by perceived self-disclosure's associations with three outcomes, and then partner-demand/self-withdraw which was associated with two outcomes. Relationship engagement and criticism were not directly associated with any outcome in daily, general life.

Mediational Analyses

Mediational analyses were conducted to examine if couples' relationship intimacy mediated the relationship between relationship-enhancing and relationship-compromising predictor variables during a health event on the outcome variables: negative and positive affect, intrusiveness and avoidance, and couples' relationship satisfaction. For positive affect (see Figure 2), there was a significant indirect relationship between partner responsiveness, 95% CI = [.034, .123], on positive affect through intimacy and a significant direct association of partner responsiveness with positive affect indicating that intimacy mediated the relationship of partner responsiveness with positive affect. There was also a significant indirect relationship between self-demand/partner-withdraw, 95% CI = [.009, .072], on positive affect through intimacy and no significant direct association of self-demand/partner-withdraw with positive affect indicating that intimacy mediated the relationship of self-demand/partner-withdraw with positive affect. For negative affect (see Figure 3), there was a significant indirect relationship between partner responsiveness and negative affect through intimacy and no significant direct relationship, indicating mediation via intimacy, 95% CI = [.011, .082]. There were no significant indirect effects of the relationship predictors during a health event and couples' relationship satisfaction or intrusiveness and avoidance through intimacy.

Mediational analyses were conducted on the second set of data to examine if couples' relationship intimacy mediated the relationship between the significant general relationship predictor variables on the outcome variables: positive and negative affect, depression, and couples' relationship satisfaction. For general positive affect (see Figure 4), the model revealed a significant indirect relationship of partner responsiveness, 95% CI = [.030, .090], emotional suppression, 95% CI = [.005, .049], self-demand/partner-withdraw, 95% CI = [.006, .059], and partner-demand/self-withdraw, 95% CI = [.017, .067], on positive affect through relationship intimacy and no significant direct effects between partner responsiveness, emotional suppression, self-demand/partner-withdraw, and partner-demand/self-withdraw and positive affect indicating that intimacy mediated the associations between partner responsiveness, emotional suppression, self-demand/partner-withdraw, and partner-demand/self-withdraw and positive affect. For general negative affect (see Figure 5), significant indirect relationships of partner responsiveness, 95% CI = [.006, .048], and partner-demand/self-withdraw, 95% CI = [.003, .035], on negative affect through relationship intimacy were found. Further, the direct association of partner responsiveness on negative affect was statistically significant, indicating the mediation of partner responsiveness on negative affect through intimacy. The direct association of partner-demand/self-withdraw on negative affect was not significant, indicating mediation of partner-demand/self-withdraw on negative affect through intimacy. For couples' relationship satisfaction (see Figure 6), there were significant indirect relationships of partner responsiveness, 95% CI = [.018, .055], emotional suppression, 95% CI = [.003, .030], self-demand/partner-withdraw, 95% CI = [.004, .035], and partner-demand/self-withdraw, 95% CI = [.009, .041], on couples' relationship satisfaction through relationship intimacy and significant direct associations between couples' relationship satisfaction on partner responsiveness, emotional suppression, and self-demand/partner-withdraw indicating that intimacy mediated the relationships. There were no significant direct associations found between couples' relationship satisfaction and partner-demand/self-withdraw, indicating that intimacy mediated the relationship between partner-demand/self-withdraw and couples' relationship satisfaction.

Discussion

This study is a cross-sectional evaluation of the validity of the RIM framework within the context of a recent health event and for relationship dynamics in general. This is the first study to our knowledge to examine the full RIM model of associations between relationship-enhancing behaviors (i.e., perceived self-disclosure, partner responsiveness, and relationship engagement), relationship compromising behaviors (i.e., avoidance, criticism, pressure-withdraw), intimacy, psychological distress, and relationship satisfaction within a non-cancer population. The RIM is composed of components of well-developed and tested theories such as the social support theory (Julien and Markman, 1991; Boler, Foster, Vinokur, & Ng, 1996), cognitive-social processing theory (Porter, Keefe, Hurwitz, & Faber, 2005), and relationship resilience model (Badr, Acitelli, & Carmack-Taylor, 2008). Thus, we predicted that the RIM framework would be generalizable to couples facing non-cancer health events (e.g., common cold, flu) and in relationship dynamics in daily life. Overall, the findings

provide partial support for the predicted associations between relationship-enhancing behaviors, relationship compromising behaviors, intimacy, psychological distress, and relationship satisfaction. However, two notable patterns emerged that suggest unique distinctions in the fit of the RIM framework with relationship dynamics during a health event and general relationship dynamics. First, based on the number of significant associations with outcomes, the RIM framework was supported more for everyday relationship dynamics than for relationship dynamics during a health event. Second, several relationship behaviors were fairly consistently linked with intimacy, psychological distress, and relationship satisfaction, whereas others had few or no associations with these personal and relationship outcomes. These distinctive patterns will be discussed in turn, followed by considerations of correlations between model factors that are in the opposite direction to RIM predictions. We will then discuss the potential mediational relationships of intimacy on relationship behaviors with psychological distress and relationship satisfaction in both experiences with a recent health event and general relationship dynamics.

Comparisons of RIM Model Fit in the Contexts of Health Events versus General Daily Life

The relatively better fit of the RIM model for relationship dynamics in general, daily life than for relationship dynamics during a health event is reflected in comparisons across the two contexts in (1) relationship behaviors associated with intimacy; (2) the associations of intimacy with psychological distress and relationship satisfaction; (3) the direct associations of relationship behaviors with psychological distress and relationship satisfaction; (4) fit of the mediational models. First, most of the seven relationship behaviors, all except relationship engagement and criticism, were independently associated with intimacy in general life. In contrast, only two behaviors, perceived responsiveness and self-demand/partner withdraw, were associated with intimacy during a health event. In turn, intimacy was associated with positive affect, negative affect, and relationship satisfaction in the context of general life. In contrast, intimacy was not associated with these three indices of well-being in the context of a health event.

In the context of general life, there were multiple, direct associations of relationship behaviors with indices of psychological distress and relationship satisfaction: (1) partner responsiveness was positively associated with intimacy, positive affect, and relationship satisfaction, and negatively associated with negative affect; (2) perceived self-disclosure was positively associated with intimacy, positive affect, and relationship satisfaction; (3) both emotional suppression and self-demand/partner-withdraw were positively associated with intimacy, negative affect, and depression, and negatively associated with relationship satisfaction; and (4) partner-demand/self-withdraw was positively associated with intimacy and positive affect. In the context of a health event, however, relatively fewer direct associations of relationship behaviors with indices of personal and relationship well-being emerged: (1) partner responsiveness was positively associated with intimacy, positive affect, and relationship satisfaction; (2) emotional suppression was negatively associated with positive affect and couples relationship satisfaction, and positively associated with negative affect and intrusiveness and avoidance; (3) criticism was negatively associated with relationship satisfaction; (4)

partner-demand/self-withdraw was positively associated with negative affect and intrusiveness and avoidance; (5) self-demand/partner-withdraw was positively associated with intimacy.

Finally, mediational models revealed a better fit for relationship dynamics in the context of general, daily life, and relatively limited and weak fit for those in the context of health events. While there were multiple intimacy mediated relationships for general, daily life, there were fewer during a health event. For example, in general, intimacy mediated the relationship between (1) positive affect and partner responsiveness, emotional suppression, self-demand/partner-withdraw, and partner-demand/self-withdraw; (2) negative affect and partner responsiveness and partner-demand/self-withdraw; and (3) couples' relationship satisfaction and partner responsiveness, emotional suppression, self-demand/partner-withdraw, and partner-demand/self-withdraw. During a health event, intimacy only mediated the relationships between (1) positive affect and partner responsiveness and self-demand/partner-withdraw; and (2) negative affect and partner responsiveness.

Taken together, these differences between the RIM model fit for relationship dynamics in the context of general daily life versus a health event suggest that the model, which has been shown to account for relationship dynamics within the context of coping with cancer (Manne & Badr, 2008; Manne et al., 2010; Manne et al., 2012), captures relationship dynamics more generally and for couples who are not facing cancer. Yet surprisingly, the RIM framework does worse in capturing relationship dynamics during health events. One potential reason for this discrepancy could be the differences in the timelines for the two sets of self-reported measures. The measures for general daily life focused on experiences in the past week, whereas the health event measures tapped-into experiences that may have occurred up to months beforehand. The wide variety of health events could also have contributed to the relatively poorer fit for relationship dynamics in this context. Further research with couples who are currently facing a common health issue is needed to determine whether the RIM model better captures relationship dynamics in more time-constrained and health-specific conditions.

Whereas the RIM framework captured multiple links of the model constructs and particularly within the context of relationship dynamics in general daily life, they revealed patterns of associations that were in directions opposite to those proposed by the theoretical model. Surprisingly, relationship engagement had no significant relationships with any RIM construct. Also, contrary to what we expected, higher intimacy was associated with higher levels of self-demand/partner-withdraw in both sets of analyses and, in general, daily life measures, higher intimacy was associated with higher emotional suppression, partner-demand/self-withdraw, and negative affect. In general, emotional suppression leads to adverse outcomes (Web, Miles, & Sheeran, 2012); however, during a multitude of situations, the ability to suppress one's emotions may be valuable (Bonanno, Papa, Lalande, Westphal, & Coifman, 2004). For example, hiding one's anger during a disagreement may be helpful in coming to a mutual agreement, and in return, this may help to build a closer relationship. Given other evidence that, in romantic relationships of healthy adults, emotional suppression is associated with poorer relationship outcomes (e.g., Cameron & Overall, 2017), we suspect that couples with

high intimacy are more likely to engage in the full range of emotion regulation dynamics including more maladaptive ones such as emotional suppression.

Differences Between Relationship Behaviors in Their Roles in Relationship Dynamics

Partner responsiveness was invariably associated with higher levels of positive relationship outcomes (i.e., intimacy, positive affect, couples' relationship satisfaction). This is not surprising as partner responsiveness has been hypothesized as the core unifying theme in relationship research and, as such, one of the most important constructs within a romantic relationship (Reis, 2012). Among a long list of outcomes, most notably, partner responsiveness has predicted marriage satisfaction and longevity and has been linked with health outcomes such as better sleep quality, healthy diurnal cortisol levels, and decreases in anxiety and arousal (Gadassi, 2015; Selcuk, Stanton, Slatcher, & Ong, 2016; Slatcher, Selcuk, & Ong, 2015; Selcuk, Zayas, & Hazan, 2010).

Emotional suppression was also found to be a noteworthy construct having significant relationships with positive affect, negative affect, intrusiveness and avoidance, and couples' relationship satisfaction during a health event as well as general daily negative affect, depression, and couples' relationship satisfaction. As an emotional regulation strategy, emotional suppression is utilized to manage unpleasant emotions (Gross & Levenson, 1993). An individual experiencing intrusive thoughts about a distressing health event may employ emotional suppression to regulate distressing emotions. Moreover, avoidant behaviors are a feature of emotional suppression and may explain withdrawing from a discussion with your partner about distressing events, as described by the communication pattern, partner-demand/self-withdraw. As such, this study provides further evidence that both emotional suppression and partner-demand/self-withdraw may be predictive of higher levels of intrusiveness and avoidance during a health event.

The current study found that depression was positively associated with emotional suppression and self-demand/partner-withdraw which is consistent with previous literature which links depression to more avoidant and negative communication behaviors (Krieger, Altenstein, Baettig, Doerig, & Holtforth, 2013; Gabriel, Beach, & Bodenmann, 2010). More specifically, high levels of depressive symptoms have been associated with higher levels of demand and withdrawal behaviors during discussions of conflict in romantic relationships (Holley, Haase, Chui, & Bloch, 2018). Further, negative emotions, which are a characteristic of depression, have been found to contribute to a higher likelihood of engaging in demand/withdraw behaviors (Rehman, Ginting, Karimiha, Goodnight, 2010). It is important to note that while we examined depression was as an outcome variable, these are bidirectional associations.

Previous research has demonstrated that criticism, or partners' unsupportive behaviors, during a health event predict higher levels of avoidant coping, distress, exacerbation of depression symptoms, and relationship dissatisfaction (Manne et al., 2005; Chambless & Blake, 2009; Gottman & Levenson, 1992; Masland & Hooley, 2015; Lal and Bartle-Haring, 2011). The current study was able to provide new evidence in support of a significant relationship between criticism and relationship satisfaction,

specifically during a health event. Couples' relationship satisfaction was significantly associated with lower criticism.

These findings also suggest that demand/withdraw communication patterns may be more complicated than what is currently known. Research that measures demand/withdraw as one construct is relatively consistent in finding that increases in demand/withdraw communication patterns are associated with negative relationship outcomes (e.g., Holley et al., 2018; Malis & Roloff, 2006). In this study, however, findings on-demand/withdraw communication become inconsistent when the two subscales, self-demand/partner-withdraw, and partner-demand/self-withdraw, were separated as two constructs. As discussed previously, demand/withdraw communication is characterized by one partner demanding a discussion of an issue, and in return, the other partner refuses to discuss the issue. The partner who "demands" is often the partner who is less satisfied with the current relationship engagement (McGinn, McFarland, & Christensen, 2009). Therefore, the partner who is the "withdrawer" may not perceive any negative outcomes within this communication pattern. Further, some research suggests that females as the "demanders" and males as the "withdrawers" has more negative relationship consequences than males as "demanders" and females as "withdrawers" (Gottman & Levenson, 2000). Other research has proposed that the intensity of the demand/withdraw pattern, or the type of relationship power structure may affect an individual's perceptions of the demand/withdraw communication pattern (e.g., traditional vs. egalitarian; Vogel, Murphy, Werner-Wilson, Cutrona, & Seeman, 2007). Further research is needed to determine the factors that influence an individual to engage in each state of demand/withdraw (i.e., partner-demand/self-withdraw vs. self-demand/partner-withdraw).

The current study's findings on intimacy are consistent with the RIM framework as well as with other proposed intimacy models, namely Reis and Shaver's (1988) Interpersonal Process Model of Intimacy. Manne and Badr (2008) included the Interpersonal Process Model of Intimacy constructs within the RIM framework because of the growing evidence linking perceived self-disclosure and partner responsiveness with intimacy (e.g., Manne et al., 2004). Reis and Shaver (1988) conceptualized intimacy as an interpersonal process emphasizing two intimate interactions: self-disclosure and partner responsiveness. Laurenceau et al. (1998) were the first to empirically examine these proposed predictors of intimacy, finding that self-disclosure and partner responsiveness predicted intimacy levels. The current study, which adds to this growing body of literature, confirms previous research findings that indicate that in general daily life circumstances, intimacy is significantly associated with partner responsiveness and perceived self-disclosure. Although there was no relationship between intimacy and perceived self-disclosure during a health event, the significant relationship held between intimacy and partner responsiveness.

This study sheds light on specific relationship processes that may be operating during differing life events (i.e., general daily life vs. during a health event). For example, in both general relationship dynamics and during a health event, intimacy was significantly associated with self-demand/partner-withdraw and partner responsiveness. However, intimacy in general, daily life was also significantly associated with partner-demand/self-withdraw, perceived self-disclosure, and emotional suppression. We suspect

that specific components of relationship processes may become more salient during life events that cause distress, such as a health event. In the case of intimacy, the perception of self-demand/partner-withdraw (e.g., partner withdrawing from a conversation about your illness) and partner responsiveness (e.g., feeling like your partner understands and accepts you) may be more salient during a health event than in general daily life.

Increasing evidence supports the mediational role of intimacy in the links between relationship behaviors and psychological and relationship outcomes (Manne et al., 2012; Manne et al., 2010). Although intimacy mediation has been tested between psychological and relationship outcomes, and differing relationship-enhancing and -compromising behaviors, this is the first mediational analysis of the full RIM framework. Manne et al.'s (2009) evaluated a partial version of the RIM framework (i.e., relationship communication, intimacy, psychological distress) with prostate cancer patients and their partners finding that intimacy mediated the relationship between psychological distress and patient-demand/partner-withdraw. Similarly, Yoo, Bartle-Haring, Day, and Gangamma (2003) found that intimacy mediated the association between the partner's appraisal of their partners' communication and their relationship satisfaction. The present study is the first step into the nuances of relationship dynamics by suggesting that intimacy might play a mediational role between relationship behaviors, psychological distress, and relationship satisfaction. Results indicate that intimacy may play a distinct mediational role between relationship components and psychological and relationship outcomes during different life events (e.g., during distress health events vs. daily life dynamics). Future studies are needed to validate the current mediational findings.

Study Limitations and Conclusions

The current study includes several limitations that warrant acknowledgment. First, the sample is similar to those of other social science studies, comprised of a college student population that is predominantly female and young. Second, because of the nature of this particular data collection method, we were unable to assess the couple as a unit of analysis. A dyadic approach to the methodology and statistical analyses is recommended for selecting a future study design. Third, the cross-sectional design of this study limits causal and predictive inferences in terms of the directionality of examined effects as well as the findings of the mediational analyses. We cannot state definitively that particular relationship behaviors predict specific outcomes.

Consequently, future research on the links between relationship-enhancing and -compromising behaviors, intimacy, psychological distress, and relationship satisfaction should use prospective longitudinal study designs. Lastly, the presented study is based on self-report measures that are sensitive to memory biases. For example, participants were asked to think back on a recent time when they experienced a health event and then answer a series of measures. Future studies may benefit from including multiple methods of assessments such as daily diaries, ecological momentary assessments, or researcher observation of a couple's communication patterns.

Despite these limitations, the study has several strengths. The ethnic diversity of the sample is a strength, and as the U.S.'s diversity grows, it is increasingly important to diversify social science's samples. Moreover, this study is the first to examine the mediational relationship between intimacy and relationship-enhancing and -

compromising behaviors, psychological distress, and relationship satisfaction. Most importantly, however, this study is the first to examine a framework developed within the context of couples facing cancer with a non-cancer population in both daily life dynamics and during a health event. This study identifies critical relationship constructs that are consistent in both cancer and non-cancer populations, which suggests that there is substantial overlap in relationship processes. Further, critical components have been identified for future evaluations of the RIM under varying dynamic life circumstances as well as possible elements for relationship-enhancing interventions.

References

- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review, 30*, 217–237. doi:10.1016/j.cpr.2009.11.004
- Badr, H., Acitelli, L. K., & Carmack Taylor, C. L. (2008). Does talking about their relationship affect couples' marital and psychological adjustment to lung cancer? *Journal of Cancer Survivorship, 2*, 53–64. doi:10.1007/s11764-008-0044-3
- Badr, H., Bakhshaie, J., & Chhabria, K. (2019). Dyadic interventions for cancer survivors and caregivers: State of the science and new directions. *Seminars in Oncology Nursing, 35*, 337-341. doi:10.1016/j.soncn.2019.06.004
- Baider, L. (1995). Psychological intervention with couples after mastectomy. *Supportive Care in Cancer, 3*, 239-243. doi:10.1007/BF00335896
- Baucom, B. R., McFarland, P. T., & Christensen, A. (2010). Gender, topic, and time in observed demand–withdraw interaction in cross- and same-sex couples. *Journal of Family Psychology, 24*, 233-242. doi:10.1037/a0019717
- Bolger, N., Foster, M., Vinokur, A. D., & Ng, R. (1996). Close relationships and adjustments to a life crisis: The case of breast cancer. *Journal of Personality and Social Psychology, 70*, 283–294. doi:10.1037/0022-3514.70.2.283
- Bonanno, G. A., Papa, A., Lalande, K., Westphal, M., & Coifman, K. (2004). The importance of being flexible: The ability to both enhance and suppress emotional expression predicts long-term adjustment. *Psychological Science, 15*, 482-487. doi:10.1111/j.0956-7976.2004.00705.x
- Cameron, L. D., & Overall, N. C. (2018). Suppression and expression as distinct emotion-regulation processes in daily interactions: Longitudinal and meta-analyses. *Emotion, 18*, 465-480. doi:10.1037/emo0000334
- Caughlin, J. P. (2002). The demand/withdraw pattern of communication as a predictor of marital satisfaction over time. *Human Communication Research, 28*, 49-85. doi:10.1111/j.1468-2958.2002.tb00798.x
- Chapman, B. P., Fiscella, K., Kawachi, I., Duberstein, P., & Muennig, P. (2013). Emotion suppression and mortality risk over a 12-year follow-up. *Journal of Psychosomatic Research, 75*, 381-385. doi:10.1016/j.jpsychores.2013.07.014
- Christensen, A., Eldridge, K., Catta-Preta, A. B., Lim, V. R., & Santagata, R. (2006). Cross-cultural consistency of the demand/withdraw interaction pattern in couples. *Journal of Marriage and Family, 68*, 1029–1044. doi:10.1111/j.1741-3737.2006.00311.x
- Christensen, A., & Shenk, J. L. (1991). Communication, conflict, and psychological distance in nondistressed, clinic, and divorcing couples. *Journal of Consulting and Clinical Psychology, 59*, 458-463. doi:10.1037//0022-006x.59.3.458
- Coyne, J. C., & Smith, D. A. (1991). Couples coping with a myocardial infarction: A contextual perspective on wives' distress. *Journal of Personality and Social Psychology, 61*, 404–412. doi:10.1037/0022-3514.61.3.404
- Crawford, J. R., & Henry, J. D. (2004). The positive and negative affect schedule (PANAS): construct validity, measurement properties and normative data in a large non-clinical sample. *British Journal of Clinical Psychology, 43*, 245-265. doi:10.1348/0144665031752934

- Creamer, M., Bell, R., & Failla, S. (2003). Psychometric properties of the Impact of Event Scale—Revised. *Behaviour Research and Therapy*, *41*, 1489-1496. doi:<https://doi.org/10.1016/j.brat.2003.07.010>
- Crenshaw, A. O., Christensen, A., Baucom, D. H., Epstein, N. B., & Baucom, B. R. W. (2017). Revised scoring and improved reliability for the Communication Patterns Questionnaire. *Psychological Assessment*, *29*, 913-925. doi:10.1037/pas0000385
- Dagan, M., Sanderman, R., Hoff, C., Meijerink, W. J. H. J., Baas, P. C., van Haastert, M., & Hagedoorn, M. (2013). The interplay between partners' responsiveness and patients' need for emotional expression in couples coping with cancer. *Journal of Behavioral Medicine*, *37*, 828-838. doi:10.1007/s10865-013-9543-4
- Denollet, J., Gidron, Y., Vrints, C. J., & Conraads, V. M. (2010). Anger, suppressed anger, and risk of adverse events in patients with coronary artery disease. *The American Journal of Cardiology*, *105*, 1555-1560. doi:<https://doi.org/10.1016/j.amjcard.2010.01.015>
- DeSteno, D., Gross, J. J., & Kubzansky, L. (2013). Affective science and health: the importance of emotion and emotion regulation. *Health Psychology*, *32*, 474-486. doi:10.1037/a0030259
- Ditzen, B., Hahlweg, K., Fehm-Wolfsdorf, G., & Baucom, D. (2011). Assisting couples to develop healthy relationships: Effects of couples relationship education on cortisol. *Psychoneuroendocrinology*, *36*, 597-607. doi:10.1016/j.psyneuen.2010.07.019
- Druley, J. A., Stephens, M. A. P., Martire, L. M., Ennis, N., & Wojno, W. C. (2003). Emotional congruence in older couples coping with wives' osteoarthritis: Exacerbating effects of pain behavior. *Psychology and Aging*, *18*, 406-414. doi:10.1037/0882-7974.18.3.406
- Edmond, S. N., Shelby, R. A., Kimmick, G. G., Marcom, P. K., Peppercorn, J. M., & Keefe, F. J. (2013). Symptom communication in breast cancer: Relationships of holding back and self-efficacy for communication to symptoms and adjustment. *Journal of Psychosocial Oncology*, *31*, 698-711. doi:10.1080/07347332.2013.835023
- English, T., & John, O. P. (2013). Understanding the social effects of emotion regulation: The mediating role of authenticity for individual differences in suppression. *Emotion*, *13*, 314-329. doi:10.1037/a0029847
- Funk, J. L., & Rogge, R. D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. *Journal of Family Psychology*, *21*, 572-583. doi:10.1037/0893-3200.21.4.572
- Gabriel, B., Beach, S. R., Bodenmann, G. (2010). Depression, marital satisfaction and communication in couples: Investigating gender differences. *Behavior Therapy*, *41*, 306-316. doi:10.1016/j.beth.2009.09.001
- Gadassi, R., Bar-Nahum, L. E., Newhouse, S., Anderson, R., Heiman, J. R., Rafaeli, E., & Janssen, E. (2015). Perceived partner responsiveness mediates the association between sexual and marital satisfaction: A daily diary study in newlywed couples. *Archives of Sexual Behavior*, *45*, 109-120. doi:10.1007/s10508-014-0448-2

- Gellis, Z. D. (2010). Assessment of a brief CES-D measure for depression in homebound medically ill older adults. *Journal of Gerontological Social Work, 53*, 289–303. doi:10.1080/01634371003741417
- Girme, Y. U., Overall, N. C., Simpson, J. A., & Fletcher, G. J. (2015). “All or nothing”: Attachment avoidance and the curvilinear effects of partner support. *Journal of Personality and Social Psychology, 108*, 450–475. doi:10.1037/a0038866
- Gottman, J. M. and Levenson, R. W. (2000). The timing of divorce: Predicting when a couple will divorce over a 14-year period. *Journal of Marriage and the Family, 62*: 737–745. doi:10.1111/j.1741-3737.2000.00737.x
- Gottman, J. M., & Levenson, R. W. (1992). Marital processes predictive of later dissolution: Behavior, physiology, and health. *Journal of Personality and Social Psychology, 63*, 221–233. doi:10.1037/0022-3514.63.2.221
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*, 348–362. doi:10.1037/0022-3514.85.2.348
- Gross, J. J., & Levenson, R. W. (1993). Emotional suppression: Physiology, self-report, and expressive behavior. *Journal of Personality and Social Psychology, 64*, 970–986. doi:10.1037//0022
- Hagedoorn, M., Kuijer, R. G., Buunk, B. P., DeJong, G. M., Wobbes, T., & Sanderman, R. (2000). Marital satisfaction in patients with cancer: Does support from intimate partners benefit those who need it most? *Health Psychology, 19*, 274–282. doi:10.1037/0278-6133.19.3.274 3514.64.6.970
- Holley, S. R., Haase, C. M., Chui, I., & Bloch, L. (2018). Depression, emotion regulation, and the demand/withdraw pattern during intimate relationship conflict. *Journal of Social and Personal Relationships, 35*, 408–430. doi:10.1177/0265407517733334
- Impett, E. A., Kogan, A., English, T., John, O., Oveis, C., Gordon, A. M., & Keltner, D. (2012). Suppression sours sacrifice: Emotional and relational costs of suppressing emotions in romantic relationships. *Personality and Social Psychology Bulletin, 38*, 707–720. doi:10.1177/0146167212437249
- Johnson, K. L., & Roloff, M. E. (2000). The influence of argumentative role (initiator vs. resistor) on perceptions of serial argument resolvability and relational harm. *Argumentation, 14*, 1–15. doi:10.1023/A:1007837310258
- Julien, D. & Markman, H.J. (1991). Social support and social networks as determinants of individual and marital outcomes. *Journal Social and Personal Relations, 8*, 549–568. doi.org/10.1177/026540759184006
- Kane, H. S., Slatcher, R. B., Reynolds, B. M., Repetti, R. L., & Robles, T. F. (2014). Daily self-disclosure and sleep in couples. *Health Psychology, 33*, 813–822. doi:10.1037/hea0000077
- Kayser, K., Watson, L. E., & Andrade, J. T. (2007). Cancer as a “we-disease”: Examining the process of coping from a relational perspective. *Families, Systems, & Health, 25*, 404–418. doi:10.1037/1091-7527.25.4.404
- Krieger, T., Altenstein, D., Baettig, I., Doerig, N., & Holtforth, M. G. (2013). Self-compassion in depression: Associations with depressive Symptoms, rumination, and avoidance in depressed outpatients. *Behavior Therapy, 44*, 501–513. doi:10.1016/j.beth.2013.04.004

- Kuijer, R. G., Ybema, J. F., Buunk, B. P., De Jong, G. M., Thijs-Boer, F., & Sanderman, R. (2000). Active engagement, protective buffering, and overprotection: Three ways of giving support by intimate partners of patients with cancer. *Journal of Social and Clinical Psychology, 19*, 256–275. doi:10.1521/jscp.2000.19.2.256
- Laurenceau, J. P., Barrett, L. F., & Pietromonaco, P. R. (1998). Intimacy as an interpersonal process: The importance of self-disclosure, partner disclosure, and perceived partner responsiveness in interpersonal exchanges. *Journal of Personality and Social Psychology, 74*, 1238-1251. doi:10.1037//0022-3514.74.5.1238
- Laurenceau, J. P., Barrett, L. F., & Rovine, M. J. (2005). The interpersonal process model of intimacy in marriage: A daily-diary and multilevel modeling approach. *Journal of Family Psychology, 19*, 314-323. doi:10.1037/0893-3200.19.2.314
- Le, B. M., & Impett, E. A. (2013). When holding back helps: Suppressing negative emotions during sacrifice feels authentic and is beneficial for highly interdependent people. *Psychological Science, 24*, 1809–1815. doi:10.1177/0956797613475365
- Lippert, T., & Prager, K. J. (2001). Daily experiences of intimacy: A study of couples. *Personal Relationships, 8*, 283–298. doi:10.1111/j.1475-6811.2001.tb00041.x
- Lun, J., Kesebir, S., & Oishi, S. (2008). On feeling understood and feeling well: The role of interdependence. *Journal of Research in Personality, 42*, 1623-1628. doi:10.1016/j.jrp.2008.06.009
- Maisel, N. C., & Gable, S. L. (2009). The paradox of received social support: The importance of responsiveness. *Psychological Science, 20*, 928-932. doi:10.1111/j.1467-9280.2009.02388.x
- Malis, R. S., & Roloff, M. E. (2006). Demand/withdraw patterns in serial arguments: Implications for well-being. *Human Communication Research, 32*, 198-216. doi:10.1111/j.1468-2958.2006.00009.x
- Manne, S., & Badr, H. (2008). Intimacy and relationship processes in couples' psychosocial adaptation to cancer. *Cancer, 112*, 2541-2555. doi:10.1002/cncr.23450
- Manne, S., Badr, H., & Kashy, D. A. (2012). A longitudinal analysis of intimacy processes and psychological distress among couples coping with head and neck or lung cancers. *Journal of Behavioral Medicine, 35*, 334-346. doi:10.1007/s10865-011-9349-1
- Manne, S., Badr, H., Zaidler, T., Nelson, C., & Kissane, D. (2010). Cancer-related communication, relationship intimacy, and psychological distress among couples coping with localized prostate cancer. *Journal of Cancer Survivorship, 4*, 74-85. doi:10.1007/s11764-009-0109-y
- Manne, S., Kashy, D. A., Siegel, S., Myers Virtue, S., Heckman, C., & Ryan, D. (2014). Unsupportive partner behaviors, social-cognitive processing, and psychological outcomes in couples coping with early stage breast cancer. *Journal of Family Psychology, 28*, 214-224. doi:10.1037/a0036053
- Manne, S. L., Ostroff, J. S., Norton, T. R., Fox, K., Goldstein, L., & Grana, G. (2006). Cancer-related relationship communication in couples coping with early stage breast cancer. *Psycho-Oncology, 15*, 234–247. doi:10.1002/pon.941

- Manne, S., Ostroff, J., Rini, C., Fox, K., Goldstein, L., & Grana, G. (2004). The Interpersonal Process Model of Intimacy: The Role of Self-Disclosure, Partner Disclosure, and Partner Responsiveness in Interactions Between Breast Cancer Patients and Their Partners. *Journal of Family Psychology, 18*, 589–599. doi:10.1037/0893-3200.18.4.589
- Manne, S. L., Ostroff, J., Winkel, G., Grana, G., & Fox, K. (2005). Partner unsupportive responses, avoidant coping, and distress among women with early stage breast cancer: Patient and partner perspectives. *Health Psychology, 24*, 635–641. doi:10.1037/0278-6133.24.6.635
- Manne, S., Sherman, M., Ross, S., Ostroff, J., Heyman, R. E., & Fox, K. (2004). Couples' support-related communication, psychological distress, and relationship satisfaction among women with early stage breast cancer. *Journal of Consulting and Clinical Psychology, 72*, 660-670. doi:10.1037/0022-006X.72.4.660
- Martire, L. M., Schulz, R., Helgeson, V. S., Small, B. J., & Saghafi, E. M. (2010). Review and meta-analysis of couple-oriented interventions for chronic illness. *Annals of Behavioral Medicine, 40*, 325-342. doi:10.1007/s12160-010-9216-2
- Masland, S. R., & Hooley, J. M. (2015). Perceived criticism: A research update for clinical practitioners. *Clinical Psychology: Science and Practice, 22*, 211-222. doi:10.1111/cpsp.12110
- McGinn, M. M., McFarland, P. T. and Christensen, A. (2009) Antecedents and consequences of demand/withdraw. *Journal of Family Psychology, 23*, 749–757. doi: 10.1037/a0016185.
- Porter, L. S., Keefe, F. J., Baucom, D. H., Hurwitz, H., Moser, B., Patterson, E., & Kim, H. J. (2009). Partner-assisted emotional disclosure for patients with gastrointestinal cancer. *Cancer, 115*, 4326–4338. doi:10.1002/cncr.24578
- Porter, L. S., Keefe, F. J., Baucom, D. H., Olsen, M., Zafar, S. Y., & Uronis, H. (2017). A randomized pilot trial of a videoconference couples communication intervention for advanced G.I. cancer. *Psychooncology, 26*, 1027-1035. doi:10.1002/pon.4121
- Porter, L. S., Keefe, F. J., Hurwitz, H., & Faber, M. (2005). Disclosure between patients with gastrointestinal cancer and their spouses. *Psycho-Oncology, 14*, 1030–1042. doi:10.1002/pon.915
- Regan, T. W., Lambert, S. D., Kelly, B., Falconier, M., Kissane, D., & Levesque, J. V. (2015). Couples coping with cancer: exploration of theoretical frameworks from dyadic studies. *Psycho-Oncology, 24*, 1605–1617. doi: 10.1002/pon.3854
- Rehman, U. S., Ginting, J., Karimiha, G., Goodnight, J. A. (2010). Revisiting the relationship between depressive symptoms and marital communication using an experimental paradigm: The moderating effect of acute sad mood. *Behaviour Research and Therapy, 48*, 97–105. doi:10.1016/j.brat.2009.09.013
- Reis, H. T. (2012). Perceived partner responsiveness as an organizing theme for the study of relationships and well-being. In L. Campbell & T. J. Loving (Eds.), *Interdisciplinary research on close relationships: The case for integration* (pp. 27–52). American Psychological Association. doi:10.1037/13486-002
- Reis, H.T., Shaver, P., Intimacy as an interpersonal process. In S. Duck (Eds.), *Handbook of Personal Relationships* (pp. 367-389). Chichester, UK: John Wiley & Sons.

- Revenson, T. A., & DeLongis, A. (2011). Couples coping with chronic illness. In S. Folkman (Ed.), *The Oxford handbook of stress, health, and coping* (pp. 101-123). New York, NY: Oxford University Press.
- Schaefer, M. T., & Olson, D. H. (1981). Assessing intimacy: The Pair Inventory*. *Journal of Marital and Family Therapy, 7*, 47-60. doi:10.1111/j.1752-0606.1981.tb01351.x
- Schlatter, M. C., & Cameron, L. D. (2010). Emotional suppression tendencies as predictors of symptoms, mood, and coping appraisals during A.C. chemotherapy for breast cancer treatment. *Annual Behavioral Medicine, 40*, 15-29. doi:10.1007/s12160-010-9204-6
- Selcuk, E., & Ong, A. D. (2013). Perceived partner responsiveness moderates the association between received emotional support and all-cause mortality. *Health Psychology, 32*, 231-235. doi: 10.1037/a0028276
- Selcuk, E., Stanton, S. C. E., Slatcher, R. B., & Ong, A. D. (2016). Perceived partner responsiveness predicts better sleep quality through lower anxiety. *Social Psychological and Personality Science, 8*, 83-92. doi:10.1177/1948550616662128
- Selcuk, E., Zayas, V., & Hazan, C. (2010). Beyond satisfaction: The role of attachment in marital functioning. *Journal of Family Theory & Review, 2*, 258-279. doi:10.1111/j.1756-2589.2010.00061.x
- Slatcher, R. B., Selcuk, E., & Ong, A. D. (2015). Perceived partner responsiveness predicts diurnal cortisol profiles 10 years later. *Psychological Science, 26*, 972-982. doi:10.1177/0956797615575022
- Srivastava, S., Tamir, M., McGonigal, K. M., John, O. P., & Gross, J. J. (2009). The social costs of emotional suppression: a prospective study of the transition to college. *Journal of Personality and Social Psychology, 96*, 883-897. doi:10.1037/a0014755
- Stadler, G., Snyder, K. A., Horn, A. B., Shrout, P. E., & Bolger, N. P. (2012). Close Relationships and Health in Daily Life. *Psychosomatic Medicine, 74*, 398-409. doi:10.1097/psy.0b013e31825473b8
- Traa, M. J., De Vries, J., Bodenmann, G., & Den Ouden, B. L. (2014). Dyadic coping and relationship functioning in couples coping with cancer: A systematic review. *British Journal of Health Psychology, 20*, 85-114. doi:10.1111/bjhp.12094
- Vogel, D. L., Murphy, M. J., Werner-Wilson, R. J., Cutrona, C. E., & Seeman, J. (2007). Sex differences in the use of demand and withdraw behavior in marriage: Examining the social structure hypothesis. *Journal of Counseling Psychology, 54*, 165-177. doi:10.1037/0022-0167.54.2.165
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.
- Webb, T. L., Miles, E., & Sheeran, P. (2012). Dealing with feeling: A meta-analysis of the effectiveness of strategies derived from the process model of emotion regulation. *Psychological Bulletin, 138*, 775-808. doi:10.1037/a0027600

Weiss, D. S., & Marmar, C. R. (1997). The Impact of Event Scale—Revised. In *Assessing psychological trauma and PTSD*. (pp. 399-411). New York, NY, U.S.: Guilford Press.

Yoo, H., Bartle-Haring, S., Day, R. D., & Gangamma, R. (2013). Couple communication, emotional and sexual intimacy, and relationship satisfaction. *Journal of Sex & Marital Therapy*, *40*, 275–293. doi:10.1080/0092623x.2012.75107

Table 1

Means, Standard Deviations, and Correlations of The Relationship Intimacy Model of Couples Adaptation to a Health Event (N=384)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	α
1. Perceived Self-disclosure	12.8	5.67	—												.963
2. Partner Responsiveness	18.3	3.36	.202***	—											.733
3. Relationship Engagement	12.3	4.63	.761***	.206***	—										.925
4. Emotional Suppression	24.0	11.6	-.099	-.374***	-.131*	—									.950
5. Criticism	21.2	7.94	-.105*	-.683***	-.121*	.414***	—								.936
6. SD/PW	14.0	10.5	.053	-.491***	.049	.320***	.679***	—							.924
7. PD/SD	14.6	9.92	.023	-.480***	.067	.352***	.640***	.876***	—						.892
8. Intimacy	108	10.1	.172***	.236***	.166**	-.002	-.013	.134**	.118*	—					.931
9. Positive Affect	3.04	1.01	.141**	.298***	.120*	-.248***	-.244***	-.108*	-.126*	.236***	—				.928
10. Negative Affect	2.23	.890	-.029	-.329***	-.028	.354***	.394***	.380***	.408***	.108*	-.381***	—			.916
11. Intrusiveness & Avoidance	35.1	14.9	.013	-.298***	.045	.387***	.394***	.407***	.426***	.108*	-.130*	.502***	—		.950
12. Relationship Satisfaction	152	32.7	.160**	.760***	.200***	-.448***	-.703***	-.494***	-.481***	.179***	.457***	-.493***	-.412***	—	.983

* $p < .05$, ** $p < .01$, *** $p < .001$; SD/PW and PD/SD are abbreviations of Self demand/Partner-withdraw and Partner-demand/Self-withdraw

Table 2

Means, Standard Deviations, and Correlations of General Relationship Experience Measures (N=505)

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	α
1. Perceived Self-disclosure	16.8	3.61	—											.921
2. Partner Responsiveness	18.3	3.01	.653***	—										.687
3. Relationship Engagement	15.1	3.36	.579***	.456***	—									.893
4. Emotional Suppression	24.2	10.3	-.420***	-.301***	-.422***	—								.926
5. SD/PW	18.6	11.1	-.196***	-.156***	-.437***	.320***	—							.856
6. PD/SD	17.4	9.60	-.224***	-.119**	-.380***	.374***	.730***	—						.820
7. Intimacy	108	10.4	.197***	.193***	.171***	.047	.157***	.185***	—					.931
8. Positive Affect	3.32	.751	.357***	.251***	.346***	-.236***	-.176***	-.164***	.273***	—				.888
9. Negative Affect	2.00	.713	-.207***	-.118**	-.361***	.350***	.330***	.254***	.114*	-.152***	—			.882
10. Depression	10.8	4.60	-.206***	-.141**	-.283***	.416***	.262***	.254***	.081	-.085	.575***	—		.859
11. Relationship Satisfaction	156	28.2	.569***	.432***	.768***	-.497***	-.487***	-.410***	.206***	.402***	-.333***	-.493***	—	.973

* $p < .05$, ** $p < .01$, *** $p < .001$; SD/PW and PD/SD are abbreviations of Self-demand/Partner-withdraw and Partner-demand/Self-withdraw

Table 3

Stepwise Regression Results of Relationship Measures During a Health Event as Predictors of Intimacy, Positive Affect, Negative Affect, Intrusiveness and Avoidance, and Couples Relationship Satisfaction

	B	SE B	β	<i>t</i>	<i>p</i>	95% CI		R^2_{adj}
						Lower	Upper	
Relationship Intimacy								
(Intercept)	82.4	3.49		23.6	<.001	75.5	89.3	.132
Partner responsiveness	1.16	.165	.391	7.03	<.001	.835	1.48	
Self-demand/Partner-withdraw	.320	.053	.333	5.98	<.001	.215	.425	
Positive Affect								
(Intercept)	2.03	.349		5.82	<.001	1.35	2.72	.106
Partner Responsiveness	.073	.016	.243	4.62	<.001	.042	.104	
Emotional Suppression	-.014	.005	-.155	-2.96	.003	-.023	-.005	
Negative Affect								
(Intercept)	.939	.110		8.55	<.001	.723	1.16	.310
Partner-demand/Self-withdraw	.019	.004	.209	4.29	<.001	.010	.027	
Emotional Suppression	.011	.004	.142	2.96	.003	.004	.018	
Intrusiveness & Avoidance								
(Intercept)	19.9	3.06		6.52	<.001	13.9	25.9	.214
Partner-demand/Self-withdraw	.536	.152	.311	3.53	<.001	.235	.837	
Emotional Suppression	.320	.122	.231	2.62	.010	.078	.562	
Couples Relationship Satisfaction								
(Intercept)	107	11.2		9.58	<.001	85.2	129	.657
Partner Responsiveness	4.77	.414	.490	11.5	<.001	3.96	5.59	
Criticism	-1.22	.179	-.295	-6.84	<.001	-1.57	-.871	
Emotional Suppression	-.340	.096	-.122	-3.56	<.001	-.529	-.152	

Table 4

Stepwise Regression Results of General Relationship Measures as Predictors of Intimacy, Positive Affect, Negative Affect, Depression, and Couples Relationship Satisfaction

	B	SE B	β	<i>t</i>	<i>p</i>	95% CI		R ² _{adj}
						Lower	Upper	
Relationship Intimacy								
(Intercept)	75.6	4.21		17.9	< .001	67.3	83.9	.122
Partner-demand/Self-withdraw	.200	.069	.183	2.91	.004	.065	.335	
Partner Responsiveness	.888	.201	.254	4.43	< .001	.494	1.28	
Perceived Self-disclosure	.437	.159	.148	2.75	.006	.125	.749	
Emotional Suppression	.109	.050	.108	2.15	.032	.009	.208	
Self-demand/Partner-withdraw	.126	.060	.134	2.10	.037	.008	.243	
Positive Affect								
(Intercept)	.017	.355		.049	.961	-.680	.715	.210
Perceived Self-disclosure	.047	.011	.218	4.40	< .001	.026	.067	
Intimacy	.016	.003	.222	5.21	< .001	.010	.022	
Partner responsiveness	.038	.013	.151	2.88	.004	.012	.064	
Partner-demand/Self-withdraw	-.008	.004	-.108	-2.39	.017	-.015	-.001	
Negative Affect								
(Intercept)	15.1	3.47		4.35	< .001	8.27	21.9	.205
Emotional Suppression	.143	.031	.209	4.61	< .001	.082	.204	
Self-demand/Partner-withdraw	.099	.030	.156	3.35	< .001	.041	.157	
Partner Responsiveness	-.489	.117	-.207	-4.18	< .001	-.720	-.259	
Intimacy	.078	.029	.115	2.72	.007	.022	.134	
Depression								
(Intercept)	3.69	.697		5.30	< .001	2.32	5.06	.218
Emotional Suppression	.160	.019	.361	8.56	< .001	.123	.196	
Self-demand/Partner-withdraw	.061	.017	.149	3.52	< .001	.027	.095	
Couples Relationship Satisfaction								
(Intercept)	32.1	8.96		3.58	< .001	14.5	49.7	.672
Partner responsiveness	4.63	.336	.494	13.8	< .001	3.97	5.29	
Emotional Suppression	-.451	.082	-.167	-5.48	< .001	-.612	-.289	
Self-demand/Partner-withdraw	-.553	.076	-.220	-7.26	< .001	-.702	-.403	
Intimacy	.388	.074	.144	5.22	< .001	.242	.534	
Perceived Self-disclosure	1.11	.263	.140	4.22	< .001	.591	1.62	

Table 5

Summary of Patterns of the Significant, Direct Associations of Relationship Behaviors with Intimacy, Personal Well-Being, and Relationship Satisfaction

	Partner Responsiveness	Relationship Engagement	Perceived Self- Disclosure	Emotional Suppression	Criticism	Self-Demand/ Partner- Withdraw	Partner- Demand/Self- Withdraw
Health Events:							
Intimacy	(+)					(+)	
Positive Affect	(+)			(-)			
Negative Affect				(+)		(+)	
Intrusiveness/ Avoidance				(+)			(+)
Relationship Satisfaction	(+)			(-)	(-)		
General Life:							
Intimacy	(+)		(+)	(+)		(+)	(+)
Positive Affect	(+)		(+)				(-)
Negative Affect	(-)			(+)		(+)	
Depression				(+)		(+)	
Relationship Satisfaction	(+)		(+)	(-)		(-)	

Note. (+) indicates positive direct associations of relationship behaviors with listed outcomes; (-) indicates negative direct associations of relationship behaviors with listed outcomes.

Figure 1

Manne & Badr's (2008) Relationship Intimacy Model of Couples Adaptation to Cancer

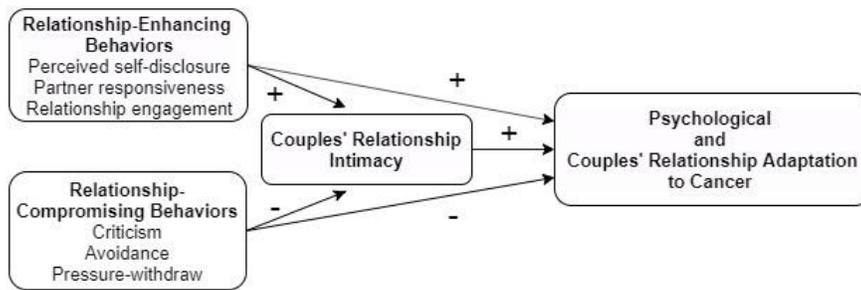
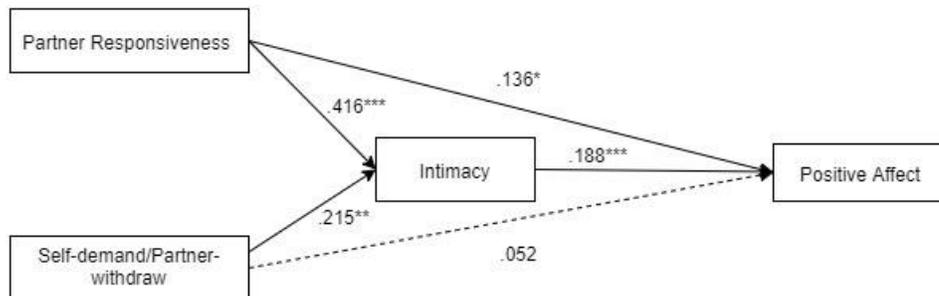


Figure 2

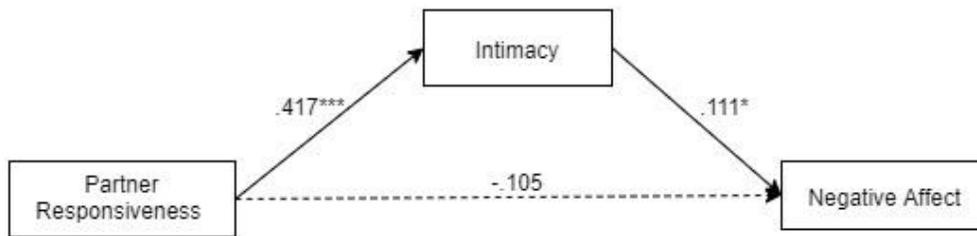
Health Event Mediation Analyses: Positive Affect



Standardized indirect associations of positive affect on partner responsiveness through intimacy (with 5000 bootstrapped resamples) = .078**. Standardized indirect associations of positive affect on self-demand/partner-withdraw through intimacy (with 5000 bootstrapped resamples) = .041*. Note: For all analyses, values represent standardized regression coefficients. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Figure 3

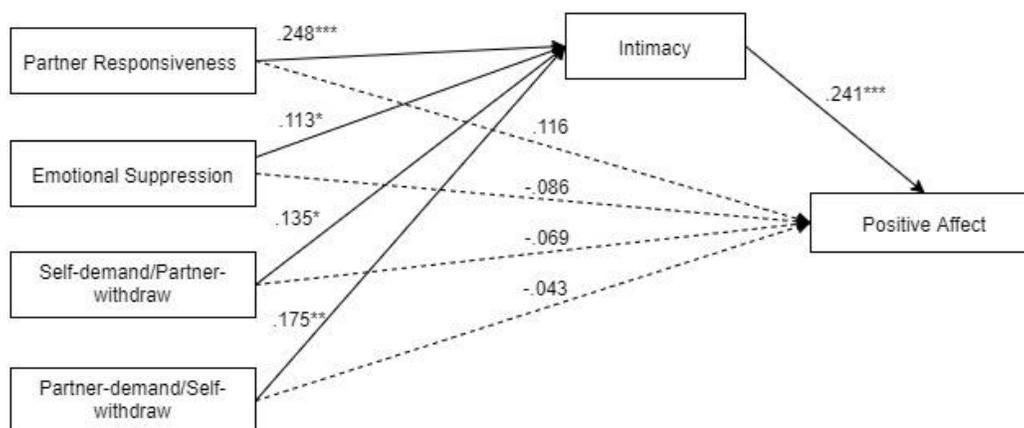
Health Event Mediation Analyses: Negative Affect



Standardized indirect associations of negative affect on partner responsiveness through intimacy (with 5000 bootstrapped resamples) = .046*. Note: For all analyses, values represent standardized regression coefficients. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Figure 4

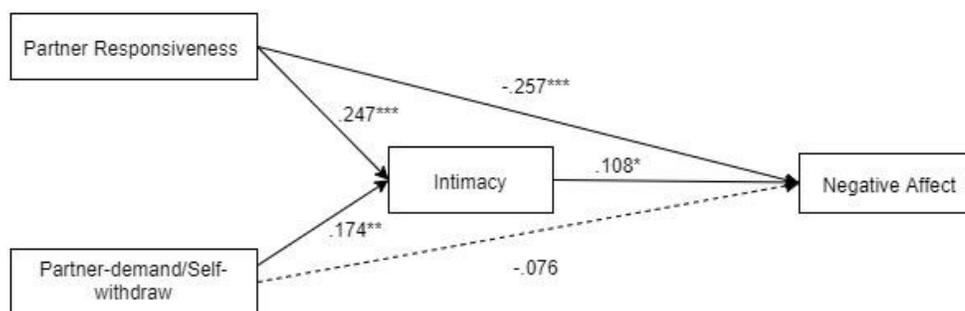
General Relationship Measures Mediation Analyses: Positive Affect



Standardized indirect associations of positive affect on partner responsiveness through intimacy (with 5000 bootstrapped resamples) = .060**. Standardized indirect associations of positive affect on emotional suppression through intimacy (with 5000 bootstrapped resamples) = .027*. Standardized indirect associations of positive affect on self-demand/partner-withdraw through intimacy (with 5000 bootstrapped resamples) = .033*. Standardized indirect associations of positive affect on partner-demand/self-withdraw through intimacy (with 5000 bootstrapped resamples) = .042*. Note: For all analyses, values represent standardized regression coefficients. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Figure 5

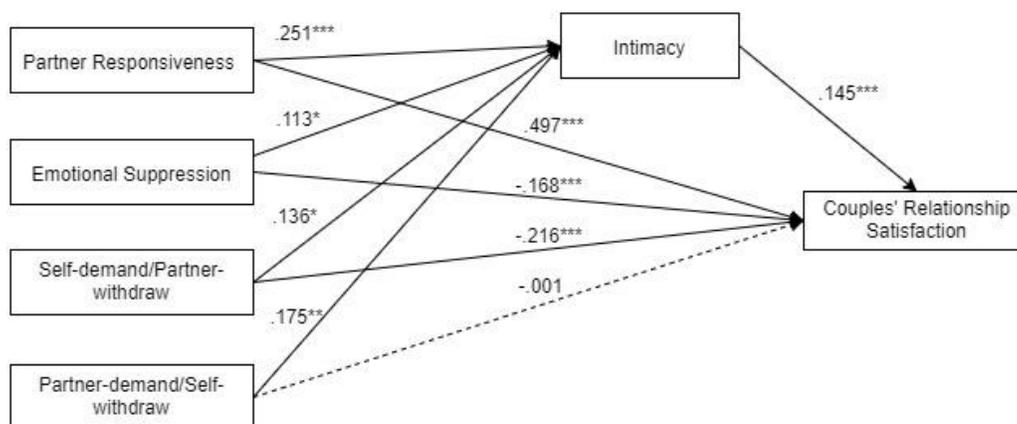
General Relationship Measures Mediation Analyses: Negative Affect



Standardized indirect associations of negative affect on partner responsiveness through intimacy (with 5000 bootstrapped resamples) = $.027^*$. Standardized indirect associations of positive affect on partner-demand/self-withdraw through intimacy (with 5000 bootstrapped resamples) = $.019^*$. Note: For all analyses, values represent standardized regression coefficients. $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

Figure 6

General Relationship Measures Mediation Analyses: Couples' Relationship Satisfaction



Standardized indirect associations of couples' relationship satisfaction on partner responsiveness through intimacy (with 5000 bootstrapped resamples) = .036**. Standardized indirect associations of couples' relationship satisfaction on emotional suppression through intimacy (with 5000 bootstrapped resamples) = .016*. Standardized indirect associations of couples' relationship satisfaction on self-demand/partner-withdraw through intimacy (with 5000 bootstrapped resamples) = .020*. Standardized indirect associations of couples' relationship satisfaction on partner-demand/self-withdraw through intimacy (with 5000 bootstrapped resamples) = .025**. Note: For all analyses, values represent standardized regression coefficients. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.