

# A Social Psychological Perspective on the Links Between Close Relationships and Health

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## Abstract

The association between the quality of people's close relationships and their physical health is well established. But from a psychological perspective, *how* do close relationships impact physical health? This article summarizes recent work seeking to identify the relationship processes and psychological mediators and moderators of the links between close relationships and health, with an emphasis on studies of married and cohabitating couples. We begin with a brief review of a recent meta-analysis of the links between marital quality and health. We then describe our *strength and strain* model of marriage and health, homing in on one process—partner responsiveness—and one moderator—adult attachment style—to illustrate ways in which basic relationship science can inform our understanding of how relationships impact physical health. We conclude with a brief discussion of promising directions in the study of close relationships and health.

## Keywords

marriage, health, marital quality, relationships, cortisol

There is a long tradition of studies investigating the links between social relationships and health. This area of research received a shot in the arm with House, Landis, and Umberson's article "Social Relationships and Health," which appeared in *Science* in 1988. That article used several epidemiological studies to illustrate a consistent link between stronger social ties and greater longevity. The authors concluded that "social relationships, or the relative lack thereof, constitute a major risk factor for health—rivaling the effects of well-established risk factors such as cigarette smoking, blood pressure, blood lipids, obesity, and physical activity" (p. 541). That claim was definitively supported in a meta-analysis of over 300,000 participants across 148 studies, indicating a 50% increased likelihood of survival for people with stronger social bonds (Holt-Lunstad, Smith, & Layton, 2010). Thus, the question of whether social relationships impact physical health has been answered with a resounding "yes." But from a psychological perspective, *how* do social relationships impact physical health?

A logical place where researchers have looked for answers to this "how" question is social psychology. Over the past three decades, relationship scientists have made numerous breakthroughs in identifying factors that lead to

intimate, satisfying, and committed relationships. At the same time, there has been considerable theoretical and empirical work on the mechanisms linking social relationships to health (Cohen, 1988; Lewis & Rook, 1999; Miller, Chen, & Cole, 2009; Pietromonaco, Uchino, & Dunkel Schetter, 2013; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). However, much of the existing theoretical work is based primarily on broad social networks, including family, friends, and acquaintances. Yet research in social psychology suggests the possibility that our closest relationships—those with a spouse or long-term romantic partner—have particularly potent effects on health. Moreover, a growing literature on the development of close relationships provides us with a blueprint for addressing the psychological processes by which relationships are linked to physical health.

The goal of this article is to provide a concise summary of the work that we (and others) have been doing

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to identify the relationship processes and psychological mediators and moderators of the links between close relationships and health, with a particular focus on long-term romantic relationships. We begin with a brief review of a recent meta-analysis of the links between marital quality and health. We then describe our *strength and strain* model of marriage and health, homing in on one process—partner responsiveness—and one potentially important moderator—adult attachment style—to illustrate ways in which basic relationship science can inform our understanding of how relationships impact physical health. We conclude with a brief discussion of promising directions in the study of close relationships and health.

## Meta-Analysis of Marital Quality and Health

A recent meta-analysis showed robust associations between the quality of people's marriages and their physical health (Robles, Slatcher, Trombello, & McGinn, 2014), including lower risk of mortality. Although the reported effect sizes generally would be considered small by conventional standards in psychology ( $r$ s between .07 and .21, depending on the type of health outcome), they are similar to the effect sizes of typical behavior interventions (e.g., increasing fruit and vegetable intake, decreasing sedentary activity) for improving health.

Perhaps most surprising about our meta-analysis was how little we could glean about the specific aspects of marriage—positive aspects (e.g., intimacy, understanding), negative aspects (e.g., conflict, hostility), or both—that matter most for physical health. Further, almost no studies examined moderators of the links between marital quality and health. Below, we describe our theoretical model, which provides a starting point for investigating the mediators and moderators of marriage-health links.

## The Strength and Strain Model

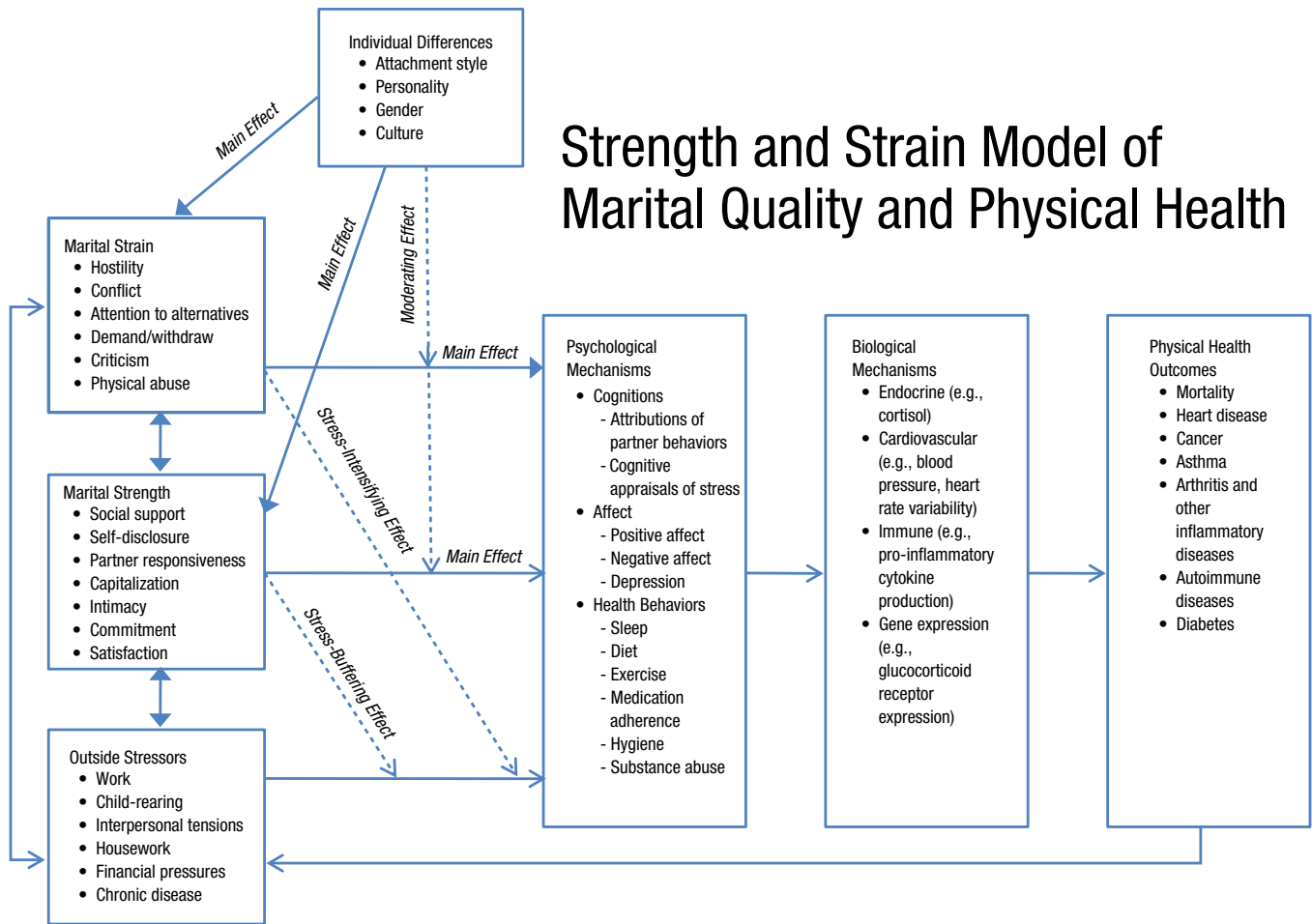
The theoretical model that guides our work (shown in Fig. 1) illustrates the hypothesized effects of marital quality on physical health (originally described in Slatcher, 2010, but refined here). In this model, *marital strengths* (positive aspects of marriage) and *marital strains* (negative aspects of marriage) both have main effects on health, as well as moderating effects on links between outside stressors (e.g., work stress) and health. Our model shares many common elements with earlier models of marriage and health (e.g., Burman & Margolin, 1992; Kiecolt-Glaser & Newton, 2001), models of stress and marriage (e.g., Karney & Bradbury, 1995), and models of social support and health (Cohen & Wills, 1985; Uchino et al., 1996), with a key difference that we use the term “strength” over the more widely used “support.” The

term “strength” is meant to capture the range of positive processes in relationships (e.g., intimacy, capitalization, support) that have increasingly been the focus of relationship scientists (Reis & Gable, 2003). It is this greater emphasis on positive relationship processes (beyond just social support in stressful contexts) that distinguishes our model from most prior models of marriage and health. Although both marital strain and marital strength are proposed to moderate the effects of outside stressors on health, only marital strength should buffer or protect against the negative health effects of stress—whereas marital strain should intensify or exacerbate those effects. This model also presupposes that individual differences, including gender, personality traits, and attachment style, should moderate the effects of marital quality on health. However, as indicated by our recent meta-analysis (Robles et al., 2014), almost no studies have tested moderators. The field is thus ripe for consideration of these factors. Below, we describe a process (partner responsiveness) and a moderator (adult attachment style) as examples of key parts of the strength and strain model.

## Partner Responsiveness, Attachment, and Health

Partner responsiveness refers to the extent to which individuals are caring, understanding, and validating of their partners (Reis, 2013). Numerous influential relationship theories (attachment theory, interdependence theory, social support theory) ascribe a central role to partner responsiveness in linking relationships to health and well-being. Among these, attachment theory is probably the one that most prominently features responsiveness as the core aspect of close relationships “from the cradle to the grave” (Bowlby, 1988). Perceiving partners—the prototypical attachment figures in adulthood (Hazan & Shaver, 1987)—as responsive brings a sustained sense of security, which in turn is thought to promote health and well-being in the long run. Failures to perceive partners as responsive, on the other hand, lead to two types of attachment insecurities. Attachment anxiety (characterized by worries of rejection and abandonment) is linked to inconsistent partner responsiveness, where the partner is sometimes responsive and sometimes not, or responsive only to persistent distress signals and excessive reassurance seeking (Mikulincer & Shaver, 2007). Attachment avoidance (characterized by discomfort with depending on relationship partners) is linked to consistent partner unavailability and unresponsiveness (Mikulincer & Shaver, 2007). Both attachment insecurities are thought to increase the likelihood of later physical health problems.

Recent work investigating attachment-related health effects using diverse methodologies (e.g., experiments, longitudinal follow-ups, daily-experience designs) has



**Fig. 1.** Theoretical model illustrating how marital quality influences physical health directly via psychological and biological pathways and indirectly via its moderating influence on the effects of outside stressors (either stress-intensifying or stress-buffering). Also included in the model are individual difference factors, which can moderate the health effects of relationship processes or, alternatively, can directly impact relationship processes (main effects).

shown that differences in partner responsiveness are likely to influence later health by way of regulating physiological responses to stress, promoting health behaviors, reducing pain, and moderating the effectiveness of social support.

### ***Alteration of stress regulatory systems***

Prior developmental work showed that during childhood, maternal responsiveness leads to sustained changes over time in the functioning of the hypothalamic-pituitary-adrenocortical axis (HPA), the body's major stress-regulation system, and its hormonal product, cortisol (Gunnar & Quevedo, 2007). Is such a long-term fine-tuning of the HPA system possible in adulthood? If romantic partners are capable of inducing such changes, then this would probably be one of the most critical pathways through which close relationships affect later health. Our research group investigated this question in a large sample of

married and cohabiting adults in a 10-year longitudinal study. We found that partner responsiveness predicted a "healthier" diurnal cortisol profile (as indicated by steeper declines in daytime cortisol) a decade later (Slatcher, Selcuk, & Ong, 2015). This long-term association between responsiveness and diurnal cortisol was partially mediated by a psychological mechanism, namely negative affect, as suggested in Figure 1. To the best of our knowledge, this is the only evidence so far in humans suggesting the exciting possibility that adult romantic relationships may lead to long-term alterations in the HPA axis, potentially resulting in beneficial changes in cortisol production and, thus, physical health.

### ***Immune functioning***

Our findings indicate that relationships with unresponsive partners may be linked to dysregulated cortisol profiles. This is particularly true for anxiously attached

individuals, whose chronic worries about abandonment and intense signaling of distress to get partner support result in increased cortisol production in daily life (Jaremka et al., 2013). Overproduction of cortisol, in turn, is associated with alterations in the immune system. Recent work has linked attachment anxiety with indicators of weaker immune functioning, including lower T-cell counts (involved in activating immune cells and responding to infections; Jaremka et al., 2013), higher levels of latent herpesvirus reactivation (Fagundes et al., 2014), and exacerbated inflammatory response to cardiac surgery (Kidd et al., 2014), suggesting that failures to perceive one's partner as responsive may lead to impairments in the immune system.

### **Health behaviors**

The associations between partner responsiveness and health behaviors have not been studied extensively, but attachment theory can guide future investigations of relationship effects on health behaviors. An excellent example is research on adult sleep (Troxel, 2010). High-quality sleep requires down-regulation of arousal and anxiety, which is precisely what partner responsiveness serves to alleviate. Recent data from our group indicate that partner responsiveness indirectly predicts increased subjective sleep quality and objective (actigraph-assessed) sleep efficiency through decreased anxious arousal (Selcuk, Stanton, Slatcher, & Ong, 2016). Corroborating these findings, both types of insecure attachment styles have also been linked to poorer sleep (Adams, Stoops, & Skomro, 2014).

### **Pain regulation**

Responsive interactions with partners result in the release of endogenous opioids, which not only instill a sense of security and contentment but also reduce feelings of pain (Machin & Dunbar, 2011). Indeed, one of the first studies on the health implications of partner responsiveness showed that greater partner responsiveness predicted lower levels of knee pain 3 months after knee replacement surgery (Khan et al., 2009). Conversely, failure to appraise partner behaviors as responsive, as in the case of those who are anxiously or avoidantly attached, increases vulnerability to developing chronic pain (Meredith, Ownsworth, & Strong, 2008).

### **Moderation of received support**

A counterintuitive research finding is that receiving support from loved ones is sometimes associated with poorer well-being (Bolger, Zuckerman, & Kessler, 2000) and physical health outcomes, including early mortality

(Uchino, 2009). In a recent examination of partner responsiveness in moderating the association between partner support and physical health, we found that received partner support predicted a higher risk for all-cause mortality a decade later for individuals who perceived their partner as unresponsive (Selcuk & Ong, 2013). However, this paradoxical association disappeared for individuals who perceived their partner as responsive.

In sum, accumulating evidence has started to uncover a network of processes linking partner responsiveness to health. Importantly, studies have also indicated that partner responsiveness has a discriminant role in predicting health-related biology, since the effects of responsiveness hold even after partialling out potential confounds, including other positive or negative aspects of relationships (Slatcher et al., 2015), psychological symptoms (Selcuk & Ong, 2013; Slatcher et al., 2015), personality traits, and physical health indicators (e.g., chronic symptoms; Selcuk & Ong, 2013).

We should note that much of the work reviewed here focused on middle-aged or older adults with established long-term relationships, when much of the protective health benefits are realized. Early-stage romantic relationships, which are more commonly studied in young adulthood, do not always demonstrate the typical characteristics of full-blown attachment bonds (e.g., partners being secure bases for each other; Zeifman & Hazan, 2008). We speculate that although perceptions of responsiveness in early-stage relationships would promote the development of attachment and intimacy, the effects on health are likely to be conferred over a much longer time period. Of course, only future empirical work will tell whether and how the health effects of romantic relationships change with age and relationship development.

### **Moving Forward With Greater Interdisciplinary Integration**

Although many relationship researchers (including ourselves) were influenced by developmental attachment theory, work on childhood and romantic attachment have progressed relatively separately from each other. Integration of these fields will help us better understand life-span effects of relationships on health. Early life stress, particularly unresponsive caregiving, is associated with insecure attachment (Ainsworth, Blehar, Waters, & Wall, 1978), which in turn affects developing stress neurobiology and health (Loman & Gunnar, 2010). Growing evidence shows that these early effects extend well into adulthood (e.g., Taylor, Karlamangla, Friedman, & Seeman, 2011). Early caregiving environment shapes not only later health but also later romantic attachment experiences (Fraley, Roisman, Booth-LaForce, Owen, & Holland, 2013). The question, then, is whether romantic attachment experiences

would in turn affect offspring care and health, a possibility that has not yet been studied much. To help bridge this gap, we have started examining the implications of partner responsiveness for the health of offspring. For instance, we found that mothers' avoidant attachment to their partners was negatively associated with maternal responsiveness toward their toddlers (Selcuk et al., 2010) and, in another study, with responsiveness toward their adolescent children (Stanton et al., in press). Notably, maternal responsiveness, in turn, predicted greater ("healthier") glucocorticoid receptor gene expression in youth with asthma (Stanton et al., in press), showing how partner responsiveness may affect not only one's own health-related biology but also that of one's offspring.

Another future step is for social and clinical psychologists to bring together their expertise in basic relationship processes and intervention science, respectively, in randomized trials investigating health effects of marital interventions. Interventions aiming at improving attachment security by removing the barriers to partners' responsive behaviors toward each other have already been shown to be effective in alleviating marital distress over time (Johnson et al., 2013), and such interventions targeting marital strains and strengths may lead to beneficial psychological and physiological changes conducive to a healthier and longer life.

Research in the area of close relationships and health is in an early stage of development, and objective measures of health and biomarkers of disease processes are still limited. However, preliminary evidence suggests that close relationships play an important role in our physical health and that the social psychology literature can provide answers to questions of what the psychological mediators and moderators of relationship-health links might be.

### Recommended Reading

- House, J. S., Landis, K. R., & Umberson, D. (1988). (See References). A seminal article on the links between social relationships and health.
- Miller, G., Chen, E., & Cole, S. W. (2009). (See References). An excellent review of the biological processes underlying the associations between psychosocial factors and health.
- Robles, T. F., Slatcher, R. B., Trombello, J. M., & McGinn, M. M. (2014). (See References). A comprehensive review and meta-analysis of the past 50 years of research on the links between marital quality and physical health.
- Slatcher, R. B. (2010). (See References). A review article that introduced the strength and strain model.

### Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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