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Review

Relationship quality and physical health: Responsiveness as an active ingredient predicting health across the lifespan

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Abstract

A growing body of research has established responsiveness as a robust predictor of physical health. Here, we evaluate the extent to which this work establishes partner responsiveness as an *active ingredient*— a specific component within the broader construct of relationship quality that accounts for a demonstrated association between relationship quality and health. We review work demonstrating that responsiveness predicts a wide range of physical health outcomes, above and beyond other facets of relationship quality, and that it moderates the effects of other protective processes and risk factors. Finally, we discuss how new methodological and interdisciplinary approaches can provide generalizable, causal, and mechanistic evidence to further validate responsiveness as an active ingredient linking relationships and health.

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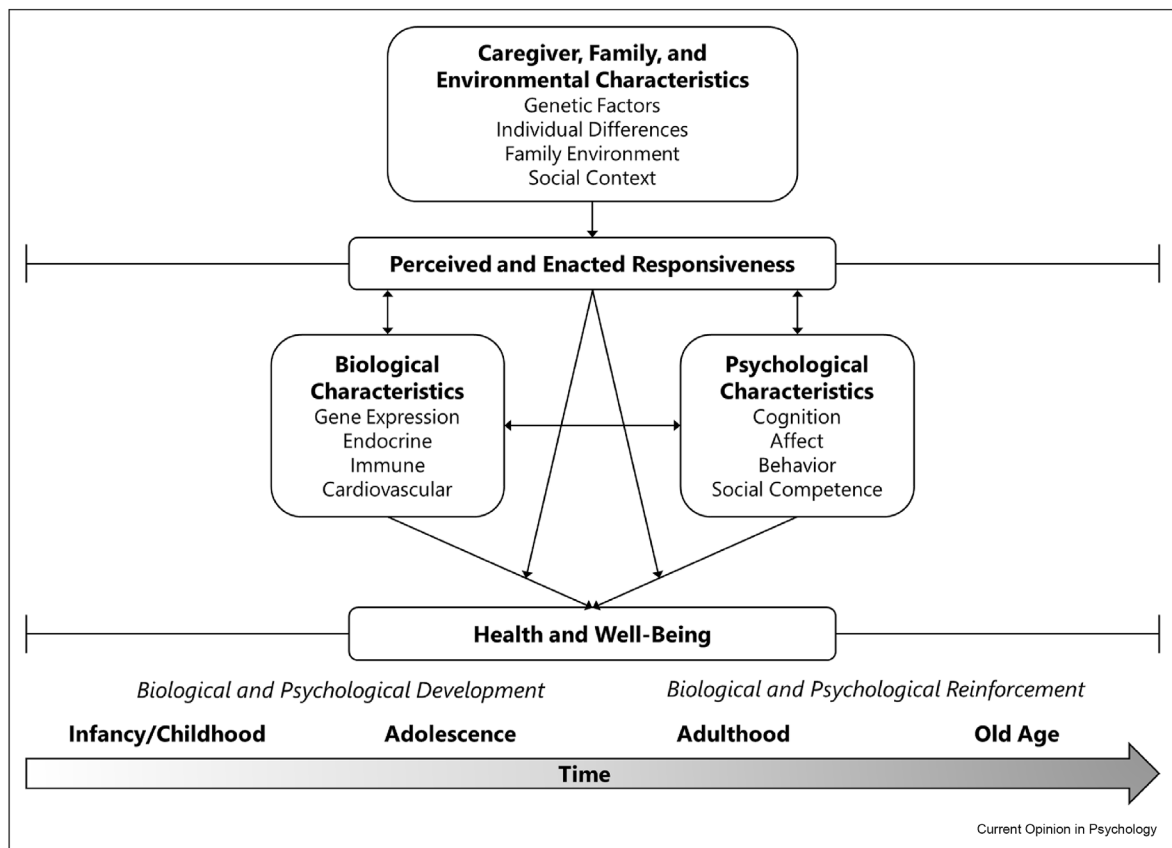
Responsiveness, Health, Lifespan.

In 2004, Reis, Clark, & Holmes [1] made a case for perceived partner responsiveness as a central, organizing construct in relationship science spanning domains (e.g., need fulfilment, self-growth, social support) and relationship types (e.g., parent-child relationships, intimate relationships). However, one domain they did not consider was physical health. Since this seminal chapter was published, a growing body of research has

established responsiveness as a robust predictor of physical health. Here, we evaluate the extent to which this work establishes partner responsiveness as an *active ingredient*— a specific component within the broader construct of relationship quality that accounts for a demonstrated association between relationship quality and health [2]. We review work demonstrating that responsiveness predicts a wide range of physical health outcomes, above and beyond other facets of relationship quality, and that it moderates the effects of other protective processes and risk factors. Finally, we identify important future directions to further validate responsiveness as an active ingredient in relationship quality.

We base our review of this work on Stanton et al.'s [3] Lifespan Model of Responsiveness, an organizing framework for understanding how responsiveness influences health and well-being from infancy/childhood to old age (see [Figure 1](#)). In conceptualizing responsiveness as a lifespan construct, we draw on developmentally appropriate terminology. Social psychological studies of close relationships frequently examine perceived partner responsiveness as feeling understood, valued, and cared for by a partner, or enacted responsiveness by focusing on behaviors which communicate these facets [1]. Developmental psychology commonly draws upon the constructs of parental sensitivity, which focuses more on understanding and validation of another's signals and needs, and parental warmth, which focuses on caring and affection, to capture observed or perceived caregiver responsiveness. According to the Lifespan Model of Responsiveness, perceived responsiveness and responsive behavior are shaped by both proximate relationship experiences and broader experiences, including characteristics of early caregivers (e.g., caregiver attachment orientations), family (e.g., harmony; instability; violence), and the environment (e.g., socioeconomic status). This model proposes that responsiveness influences health and well-being directly, or indirectly via psychological (e.g., self-control; affect) and biological (e.g., endocrine, immune, or cardiovascular) mechanisms that develop in infancy/childhood and adolescence and are then reinforced in adulthood. Furthermore, it proposes that

Figure 1



The Lifespan Model of Responsiveness, a theoretical model developed by Stanton et al. (2019) illustrating how responsiveness influences health and well-being across different stages of life.

responsiveness also moderates the links between other variables (e.g., received social support; stress) and health outcomes.

Empirical support for responsiveness as an active ingredient

The effects of responsiveness have been demonstrated across the biological chain of processes resulting in disease morbidity and mortality. Studies using the Midlife in the United States (MIDUS) dataset have established that greater responsiveness in adult romantic relationships [4–6] and greater parental warmth in childhood [7] are associated with lower all-cause mortality rates in middle age. This may be due responsiveness playing a role in disease morbidity and prognosis: Lower parental responsiveness and warmth in childhood and adolescence are associated with greater rates of symptoms and illnesses [8] and cardiovascular problems [7] in adulthood. Conversely, responsiveness in romantic relationships is associated with better arthritis outcomes, including less pain [9] and better physical functioning [10].

Responsiveness may produce these outcomes through the neuroendocrine and immunological dynamics that regulate pathological processes. Lower inflammation and cardiometabolic risk reduce the probability of developing many common diseases or experiencing early mortality [17]. Responsiveness from romantic partners [11,12] and parents [13] is associated with steeper declines in cortisol throughout the day and lower circulating levels of inflammatory cytokines [14,15]. These markers are associated with a lower risk of common but serious diseases like cardiovascular disease, cancer, asthma, and diabetes [16,17]. These benefits of responsiveness can also be seen in reducing cardiometabolic risk factors, including obesity and blood pressure [18–20].

Examining biological response during acute stress can provide insights into how responsiveness reduces the frequency and intensity of stress responses, reducing allostatic load (the cumulative physiological wear-and-tear from repeated activation of biological stress systems) and thereby shaping the endocrine,

immunological, and cardiometabolic processes described above. Having a responsive partner or parent is associated with lesser cortisol reactivity [21,22] and higher (healthier) heart rate variability ([21,23] cf. [24]) in response to a variety of stressor tasks. Responsiveness also promotes physiological synchrony between relationship partners [23,25], which could promote reduced stress responses across the dyad given the stress-buffering effects of responsiveness (cf. Pauley [25]).

Beyond the robust associations between responsiveness and health markers across the lifespan, two additional features strengthen the case for responsiveness as an active ingredient in relationship-health links. First, responsiveness predicts unique variation in health outcomes beyond markers of poor relationship quality such as conflict [6,12,15,26], intrusiveness [20], and use of physical discipline [22]. Furthermore, responsiveness has unique predictive power above and beyond other positive facets of relationship quality, including relationship satisfaction [10,23,27] and social support provided and received [4,6,12,28]. When these positive or negative measures of relationship quality are included as predictors simultaneously with responsiveness, responsiveness remains a significant predictor, suggesting it is explaining unique variation in health outcomes above and beyond these other measures. Although entering responsiveness and other measures of relationship quality as simultaneous predictors is not an infallible method for identifying independent, meaningful constructs [29], it provides preliminary evidence in responsiveness' favor.

Second, although most investigations of responsiveness and health have considered responsiveness as a driver of health outcomes (i.e., as a main effect), responsiveness can moderate the effects of psychosocial factors on health. In some cases, responsiveness appears to protect at-risk individuals from poor health. For instance, a longitudinal study of middle school children living in rural poverty showed that cumulative risk (an index of economic and social stressors and poor living conditions) predicted an increase in allostatic load across a 3 year period, but only among those whose mothers were low in responsiveness [24]. Similarly, in a study that followed participants from early childhood into their thirties, experiencing higher stress at two life stages (either in early childhood and adolescence or in adolescence and currently) predicted the worst health outcomes. Higher maternal sensitivity, however, buffered these effects [8].

Not only does responsiveness buffer the impact of life stress, but it also strengthens the health benefits of positive relationship experiences. For example, greater received partner support predicted a higher risk for all-cause mortality a decade later for those who perceived their partner to be unresponsive. However, this seemingly paradoxical association disappeared among those

who perceived their partner as responsive [5]. Findings on the enhancing effects of responsiveness also extend to youth. For example, more positive family routines (e.g., regular meals together, consistent bedtimes) predicted healthier eating, especially when children perceived high parental warmth/responsiveness [30]. Similarly, for youths with asthma, higher daily self-disclosure was associated with higher (i.e., healthier) expression of the glucocorticoid receptor gene *NR3C1* only when perceptions of responsiveness were high [26]. Together, these results indicate that the health benefits of positive relationship processes throughout the lifespan depend on whether interaction partners are perceived as responsive.

Next steps to establish responsiveness as an active ingredient

With a flourishing correlational literature on how responsiveness links to physical health, the next step to validate responsiveness as an active ingredient in relationship-health links is to test causality. Responsiveness can be experimentally manipulated [31,32], which opens the door for intervention development to increase or maintain responsiveness to promote lifelong health. For example, there are effective trainings for improving listening skills [33], and Itzchakov and colleagues [32] propose this as strategy for improving a specific facet of responsiveness. In the absence of experimental data, which may be expensive and time-intensive, researchers may improve understanding of responsiveness as an active ingredient by applying statistical techniques that allow causal estimations to be drawn from observational data. Scholars have developed algorithms (e.g., Structural Agnostic Modeling [34]) that estimate the underlying causal structure from observational data and can be combined with statistical techniques like targeted learning approaches [35] to estimate causal effects between variables and illuminate relevant mediators and moderators in cross sectional or longitudinal data.

Another key step in establishing responsiveness as an active ingredient is better understanding the psychological and behavioral mechanisms that explain how responsiveness influences health across the lifespan. Only by understanding psychological and behavioral mechanisms can researchers design and evaluate optimally effective interventions for improving health [36]. One promising group of psychological mechanisms are affective processes, including emotions experienced and expressed, emotion regulation, and affect reactivity to stress [37]. A few studies have shown evidence of mediational paths supporting affective processes as mechanisms: Having a responsive partner is associated with lower cortisol levels [12,38], inflammatory cytokines [15], and lower mortality rates [6] via higher positive affect [15,39] and lower negative affect

(reactivity) [6,12]. However, more experimental studies and longitudinal designs testing the mechanistic role of affective processes are needed to establish causality and a timeline of change [40].

A promising but understudied behavioral mechanism for responsiveness-health links is through health behaviors. For instance, perceived partner responsiveness negatively predicts smoking frequency/severity over time [41], is positively associated with sleep quality [28,42,43], and has been indirectly linked to less binge eating [44]. Additionally, children ate more nutrient-dense, regular meals when parents imposed more rules and routines in a warm and responsive fashion [30]. Hence, responsiveness may promote healthy and reduce unhealthy behaviors. Critically, these studies only examine the effects of responsiveness on behavior, and not whether these behaviors mediate (or moderate) links between responsiveness and relevant health outcomes like obesity, cancer, heart disease, and diabetes, as well as mortality. Further investigation is needed to evaluate indirect links between responsiveness and health outcomes through health behaviors to determine if they serve as mechanisms and if so, why and how they do so [40].

Scholars can also advance the field of responsiveness and physical health by moving beyond simply testing absolute levels and linear processes. When predicting all-cause mortality, for instance, it was the *change* in responsiveness over a decade—rather than absolute levels of responsiveness—that played a significant role [6]. Health effects of fluctuations in responsiveness over time have not been tested, but fluctuations in maternal responsiveness over the first 13 years of life predicted adult relationship competency above and beyond mean levels of responsiveness, suggesting that this variation is meaningful [45]. Testing nonlinear patterns of responsiveness (e.g., curvilinear effects; daily fluctuations) may reveal important complexities inherent in the links between responsiveness and health over time.

Communication and collaboration across subfields where researchers are studying responsiveness and health seem likely to drive progress. Responsiveness is a central concept in both developmental studies of parent-child relationships (where it is often referred to as parental warmth or sensitivity) and social psychological studies of adult intimate relationships (where the term partner responsiveness is widely used). Much could be gained by each field from considering the other's perspective: For example, developmental perspectives often emphasize the balance between being responsive without being overbearing or intrusive, while social psychologists tend to view more responsiveness as uniformly positive (cf. [46,47]). Social psychologists

often consider three facets of responsiveness—understanding, validation, and caring—and developmental researchers could benefit by breaking down their responsiveness constructs in similar ways. Furthermore, these fields could come together to better understand how responsiveness operates not just across dyads, but across family units: For example, past research has demonstrated that responsiveness between parents can cross over to predict youth health and well-being outcomes [13], in some cases via responsiveness from parent to child [48]. Similarly, listening is emerging in industrial-organizational psychology as an important construct for promoting employee empowerment and well-being in workplaces [33]. This research is working to specify what specific behaviors communicate and promote attention and comprehension, which could inform behavioral studies of enacted responsiveness [32].

Finally, researchers cannot fully understand how responsiveness may improve physical health without pinpointing *for whom* responsiveness may be most beneficial. Recent studies that have tested links between responsiveness and wellbeing across cultures have revealed that these links may be accentuated in Western (vs. Eastern) cultures [49], potentially because people in Western cultures perceive more responsiveness from close others [50]. The benefits of responsiveness may also vary by socioeconomic status [51] or minority group membership [52]. Although scholars are beginning to attend to historically underrepresented groups when investigating relationships [53], most paths in the responsiveness-physical health domain are currently unexplored. Similarly, individual difference factors such as attachment orientations, personality traits, or self-esteem may also influence who benefits most from responsiveness [54]. Furthermore, the majority of research on responsiveness and health has focused on responsiveness between romantic partners and in parent-child dyads. There are numerous other close relationships, including friendships and sibling relationships, that form key bonds in our social networks, especially for adults without a romantic partner [55]. We would expect responsiveness would also serve as an active ingredient predicting health in these relationship contexts, but this has gone unstudied thus far.

In conclusion, in the 20 years since Reis et al. [1] proposed that partner responsiveness is an organizing construct in relationship science, researchers have created a compelling body of evidence that responsiveness plays a similarly central and active role in explaining how high-quality relationships promote physical health and longevity. Continuing to build upon this work by establishing causal and mechanistic evidence and generalizability will enable us to capitalize on the power of responsiveness to improve health across the lifespan.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

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- * of special interest
- ** of outstanding interest

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