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RELATIONSHIPS, HEALTH, AND WELL-BEING

The role of responsiveness

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Three decades ago, House, Landis, and Umberson (1988) published their seminal article revealing that being more socially integrated is associated with greater longevity. Since then, research has found robust links between social relationships and health and well-being (HWB); for example, positive social relationships are associated with lower susceptibility to ailments and diseases ranging from the common cold to cancer (Cohen, 2004; Uchino, 2006) and better quality of life (Chu, Saucier, & Hafner, 2010; Myers, 2003). More recently, a meta-analysis of 148 studies showed that individuals with stronger social relationships have a roughly 50% lower risk of death, odds that rival other well-established risk factors such as smoking and alcohol consumption (Holt-Lunstad, Smith, & Layton, 2010). In short, social relationships have significance for public health.

Why are social relationships so important for HWB? The connectedness afforded by social ties fulfills the basic human need to belong (Baumeister & Leary, 1995), serves to instill calm when individuals are distressed (Bowlby, 1980; Mikulincer & Shaver, 2013), underlies overall happiness and life satisfaction (Myers, 2003), and provides a sense of meaning in life (Lambert et al., 2013). Nevertheless, beyond simple social integration, the *quality* of individuals' social relationships are especially meaningful predictors of HWB throughout life (Chen, Miller, Kobor, & Cole, 2011; Essex et al., 2011; Farrell, Simpson, Carlson, Englund, & Sung, 2017; Kiecolt-Glaser & Newton, 2001; Reis, 2012; Repetti, Taylor, & Seeman, 2002; Robles, Slatcher, Trombello, & McGinn, 2014). The specific elements of social relationship quality linked to HWB, however, are only beginning to be understood. In this chapter, we focus on *responsiveness* as a crucial factor in individuals' HWB. We review recent literature on responsiveness–HWB links, arguing that responsiveness should be conceptualized as a lifespan phenomenon because of its unique capacity to longitudinally influence HWB across diverse types of social relationships throughout childhood, adolescence, and adulthood.

Responsiveness across the lifespan

Individuals' caring, sensitivity, and availability for each other is thought to be essential to attachment and healthy social functioning "from the cradle to the grave" (Bowlby, 1980, p. 291; see also Mikulincer & Shaver, 2013; Slatcher & Selcuk, 2017). These qualities are captured in the construct of responsiveness. Responsiveness is defined as a relationship property that emerges from interactions in which individuals express caring, understanding, and validation for each other. This definition was derived by Reis and Shaver (1988) from several theoretical approaches, including attachment theory, object relations theory, and neopsychoanalytic theories, as well as empirical research in the self-disclosure and communication process traditions. Responsiveness has been studied from both dyadic and individual perspectives. In the former sense, researchers have studied *enacted responsiveness* (i.e., individuals' responsive behaviors toward each other), whereas in the latter sense, researchers have examined *perceived responsiveness* (i.e., individuals' beliefs about each other's responsiveness), which is theorized to emerge from interactions, but is also influenced by individuals' motivational perspectives (Reis & Shaver, 1988).

The construct of responsiveness is at the heart of many influential theories in relationship science (e.g., attachment theory, interdependence theory, risk regulation theory). When individuals perceive that close others are responsive to their needs and concerns, they feel more comfortable showing emotional vulnerability and "opening up" about their deepest selves (cf. Murray, Holmes, & Collins, 2006). A basic function of responsiveness is to down-regulate anxiety and other forms of negativity and to encourage feelings of security (Slatcher & Selcuk, 2017), which satisfies fundamental belongingness and attachment needs (Baumeister & Leary, 1995). Responsiveness, then, is vital in contexts involving coping with stressors and other negative experiences. Responsiveness also matters when things go right (e.g., in positive situations, see Gable, Reis, Impett, & Asher, 2004), as active, constructive reactions (e.g., expressing enthusiastic support) in response to sharing positive experiences increases closeness and feelings of value (Gable & Reis, 2010).

The specific definition offered above notwithstanding, responsiveness is typically construed as a general organizing principle in relationship science (Reis, 2012; see also Finkel, Simpson, & Eastwick, 2017); that is, as an umbrella construct that encompasses many more specific and nuanced instantiations. Thus, the idea of responsiveness identifies important and behaviorally meaningful similarities among constructs like empathy, warmth, social support, caregiving, self-verification, rapport, acceptance, and good listening. Although each of these attributes differs from the others, the concept of responsiveness emphasizes the properties that they share. As such, it highlights the wide variety of contexts and specific behaviors in which responsiveness permeates human relationships (Reis, 2012). For this reason, we see responsiveness as an important and multifaceted strength in social relationships (Repetti et al., 2002; Slatcher & Selcuk, 2017).

Because it is a deliberately broad and inclusive construct, and because different life stages necessarily require distinct research methods, responsiveness tends to be assessed in diverse ways. Studies of responsiveness in childhood typically focus on enacted responsiveness, either by observing and coding parent–child interactions (e.g., Fraley, Roisman, & Haltigan, 2013) or by having caregivers report on their parenting styles (e.g., Gondoli & Silverberg, 1997). Studies of perceived responsiveness in childhood are by necessity based on retrospections (e.g., Chen et al., 2011). Studies of enacted responsiveness among adolescents and adults also rely on observational coding and caregiver reports, although in these age groups the more common assessment is perceived responsiveness. In this case, self-reports are typical (e.g., questions asking about the degree to which people feel understood, appreciated, and cared for by their partners; Selcuk & Ong, 2013).

To illustrate how responsiveness operates across different life stages, we propose the Lifespan Model of Responsiveness (see Figure 7.1). This model builds on more general social lifespan models (e.g., the Risky Families Model, Repetti et al., 2002), sociobiological development models (e.g., the Biological Programming Model, Miller & Chen, 2013), and models of responsiveness in adulthood (e.g., the Strength and Strain Model of Marital Quality and Health, Slatcher & Selcuk, 2017). The Lifespan Model of Responsiveness is unique, however, in its focus on the antecedents and consequences of perceived and enacted responsiveness throughout life. We propose that responsiveness should predict HWB across the lifespan directly or indirectly through psychological or biological mechanisms that develop in childhood and adolescence and are then reinforced in adulthood. We also suggest that responsiveness should predict HWB via its moderating influence on other variables.

In the Lifespan Model of Responsiveness, we suggest that perceptions of responsiveness (and, later in life, responsive behaviors) are shaped by characteristics of early caregivers (e.g., caregiver attachment orientations) and interactions with caregivers, the family (e.g., conflict, instability, violence), and other environmental factors (e.g., socioeconomic status). Throughout life, perceived and enacted responsiveness then predicts psychological and biological characteristics which, in turn, predict HWB. Examples of psychological characteristics include cognitive (e.g., attachment orientations, self-control, stress appraisal), affective (e.g., positive and negative affect, depression, anxiety), and behavioral (e.g., sleep, diet, exercise, substance use) tendencies, as well as general social competence. Biological characteristics include gene expression (e.g., glucocorticoid receptor expression), endocrine functioning (e.g., hypothalamic–pituitary–adrenal [HPA] axis activation), immune tendencies (e.g., a pro-inflammatory phenotype), and cardiovascular patterns (e.g., blood pressure, heart rate variability, arrhythmias).

In the following sections, we describe evidence for a lifespan perspective on responsiveness–HWB links. We cover responsiveness processes in each major life stage (i.e., childhood, adolescence, adulthood). Within each section, we discuss studies that test direct and indirect associations of responsiveness with HWB, in addition to studies that demonstrate the moderating influence of responsiveness

The Lifespan Model of Responsiveness

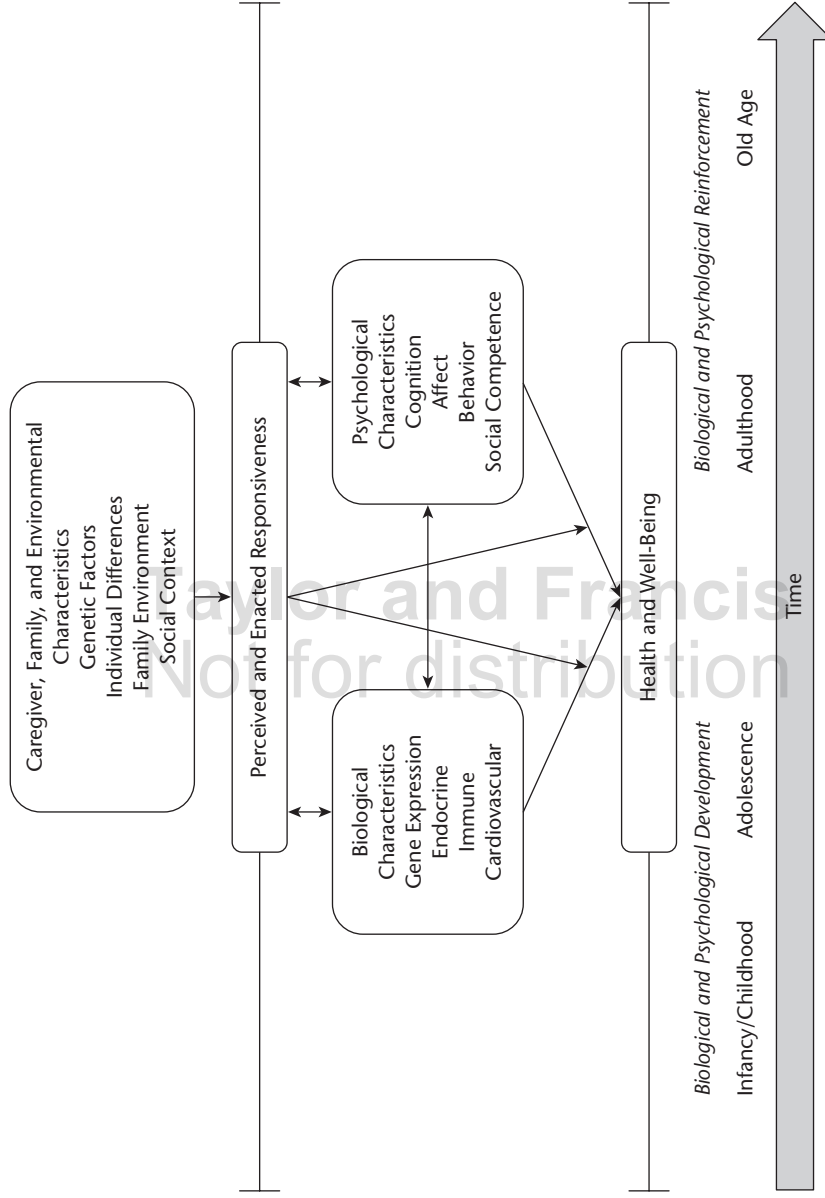


FIGURE 7.1 Conceptual model illustrating how responsiveness predicts psychological and physical health and well-being (HWB) across different stages of life. Responsiveness is argued to exert main effects on HWB through psychological and physical pathways, as well as via its moderating influence on other HWB-relevant predictors.

when predicting HWB from other variables. This discussion is not intended to be exhaustive but rather highlights some of the best evidence available about how responsiveness can influence HWB. We then conclude our review with a discussion of exciting recent research that directly investigates responsiveness and HWB across the full lifespan (i.e., from childhood through adolescence to adulthood).

Responsiveness in childhood

The idea that responsiveness influences HWB is a primary feature of attachment theory. According to Bowlby (1980), early experiences with important caregivers (i.e., *attachment figures*) shape perceptions and expectations about the self and future relationships. These internal working models develop over time to include the extent to which individuals feel they are worthy of being loved and believe close others will be available when needed, and can impact goals, feelings, and behavior across the lifespan (Simpson, Collins, Salvatore, & Sung, 2014). Briefly, humans (especially infants) rely on attachment figures for survival, and thus are motivated to seek proximity to their attachment figures during times of need. Consistently available and responsive caregivers foster *attachment security* within individuals, leading those individuals to develop positive views of the self and the willingness of others to provide love and care. Conversely, frequently rejecting, unavailable, or unresponsive caregivers foster *attachment insecurity* within individuals, leading those individuals to develop doubts about their self-worth and the supportiveness of others. The security that develops from responsive caregivers is characterized by feelings of safety and quiescence, which is argued to enhance HWB.

In childhood, responsiveness has typically been represented in the literature as enacted responsiveness; that is, caregiver (most frequently maternal) warmth and sensitivity. Children whose parents are more warm and responsive exhibit fewer behavior problems (Kochanska & Kim, 2013) and better developmental outcomes (e.g., expressive language, school readiness, Belsky & Fearon, 2002) in the first three years of life. Longitudinal research has revealed that maternal responsiveness in childhood has enduring predictive validity across different life stages. For example, Fraley et al. (2013) found that greater maternal sensitivity in early childhood was associated with social and academic competence at multiple time-points through adolescence (to age 15). Other researchers demonstrated, in a sample of 227 intact families, that greater maternal responsiveness in early childhood predicted lower risk of underage drinking and less engagement with substance-using peers in adolescence via higher parental monitoring in middle childhood (Eiden et al., 2016). Still other studies have shown that maternal rejection—which in our view is closely linked to maternal unresponsiveness—predicts childhood depression, as a meta-analysis by McLeod, Weisz, and Wood (2007) shows. There is also evidence that lower maternal responsiveness in childhood predicts blunted cortisol responses to stressors (Hackman et al., 2013), which is linked to externalizing behavior and poorer executive function in adolescence.

Experiencing greater responsiveness in childhood also has downstream links with physical health. Chen and colleagues (2011), for instance, asked 53 adults to

recall their socioeconomic status and perceptions of maternal warmth in childhood. Although low socioeconomic status is frequently associated with poorer HWB, individuals who recalled greater maternal warmth in childhood had relatively healthier pro-inflammatory signaling (e.g., less interleukin-6 production). Research has also found that adults who report having had high-quality relationships with their mothers and fathers in childhood experience lower levels of daily psychological distress (Mallers, Charles, Neupert, & Almeida, 2010). These studies are limited by their reliance on recalled childhood parental warmth (compared to actual parental warmth measured in childhood), but their findings suggest that responsiveness in early life may buffer against detrimental immunologic outcomes and psychological distress. Thus, caregiver responsiveness in childhood appears to leave a lasting imprint on individuals as they mature.

Some research suggests that parental responsiveness may have a unique capacity to buffer children's HPA axis stress responses, with parental social buffering effects potentially diminishing as children grow older. In a study where children (ages 9–10) and adolescents (ages 15–16) were asked to prepare a speech that would be judged by strangers, researchers experimentally manipulated support provision and then assessed participants' levels of salivary cortisol before and after the speech task (Hostinar, Johnson, & Gunnar, 2015). The authors found that receiving responsive support notes from the parent, compared to a stranger, eliminated cortisol stress responses in children, but not adolescents. One explanation for this finding is that children rely almost exclusively on parents for responsiveness, whereas adolescents may perceive responsiveness from multiple social relationships (e.g., peers), a possibility we discuss in the next section.

Responsiveness in adolescence

In adolescence, responsiveness (and unresponsiveness) increasingly comes from multiple sources, including caregivers, teachers, coaches, peers, and romantic partners. This multiplicity has interesting implications for adolescent HWB, given that youths' biological characteristics (e.g., gene expression, immune functioning) are still developing. Although some research has found that parental responsiveness may not buffer against stress reactivity (Hostinar et al., 2015), there is ample evidence to suggest that caregiver responsiveness may still have meaningful downstream associations with adolescent HWB. For example, Tobin et al. (2015) asked youths to wear the Electronically Activated Recorder—a device that periodically records sound from the environment throughout the day—for four days. Trained coders then rated the recordings for expressions of maternal responsiveness and youth positive and negative affect. Tobin and colleagues found that greater maternal responsiveness predicted youth positive (but not negative) affect which, in turn, was linked to healthier immune responses (i.e., less interleukin-5 and interleukin-13 production).

In another study, Stanton and colleagues (2017) discovered that lower maternal warmth served as a mechanism linking greater maternal attachment anxiety

and attachment avoidance to youths' lower expression levels of the glucocorticoid receptor gene *NR3C1*. Given that higher *NR3C1* expression is associated with better stress regulation and immune response (Carpe et al., 2010), these findings suggest that lower maternal warmth in adolescence may program youths to exhibit a pro-inflammatory phenotype, which is linked to later disease (Miller & Chen, 2013). This idea is echoed in a recent study demonstrating that receiving greater maternal responsiveness during adolescence was related to reduced risk of developing a cardiovascular disease in young adulthood approximately 10–15 years later (Doom, Gunnar, & Clark, 2016).

Responsiveness is a key component of the development of intimacy, especially when individuals disclose information about themselves and their innermost thoughts and feelings (Reis & Shaver, 1988). Responsiveness may therefore be especially important in adolescence, as youths expand their social ties beyond family to develop close friendships and potentially experience romantic love for the first time. Imami et al. (2018) found that responsiveness interacts with self-disclosure to predict adolescent HWB. Specifically, greater perceived responsiveness from others was linked to higher *NR3C1* expression and daily positive affect for youths with asthma who engaged in high levels of self-disclosure in everyday life, but not among those who engaged in low levels of self-disclosure. These studies suggest that responsiveness experienced in adolescence may set the stage for later HWB.

Responsiveness in adulthood

As individuals transition from adolescence to adulthood and enter into long-term romantic relationships, their romantic partners often become a primary source of responsiveness. Recent studies provide strong evidence for beneficial associations between greater partner responsiveness and HWB in adulthood. For example, both enacted and perceived responsiveness are linked to improved pain regulation (Machin & Dunbar, 2011; Master et al., 2009), higher eudaimonic well-being (i.e., well-being associated with achieving one's potential and finding meaning in life, Selcuk, Gunaydin, Ong, & Almeida, 2016), better sleep (Selcuk, Stanton, Slatcher, & Ong, 2017), fewer depressive symptoms (Whiffen, 2005), greater sexual satisfaction (Birnbaum et al., 2016), and "healthier" (i.e., steeper) diurnal cortisol slopes over ten years (Slatcher, Selcuk, & Ong, 2015).

Given that partner responsiveness levels—like many other markers of relationship quality—are not static over time, it is prudent to examine how HWB might vary depending on longitudinal changes in responsiveness. In the first study exploring these questions, researchers used a sample of 1,208 individuals who provided three waves of data, each a decade apart, testing how absolute levels of responsiveness at Wave 1, as well as the change in responsiveness from Waves 1–2, predicted all-cause mortality at Wave 3 via Wave 2 daily negative affect reactivity (Stanton, Selcuk, Farrell, Slatcher, & Ong, 2019). The authors found robust prospective links between Wave 1–2 responsiveness change and Wave 3 all-cause mortality, explained by Wave 2 daily negative affect reactivity. Links between

absolute levels of Wave 1 responsiveness, Wave 2 daily negative affect reactivity, and Wave 3 all-cause mortality were in a similar direction but were eliminated when controlling for marital risk and neuroticism. These findings advance our knowledge of how the dynamic nature of responsiveness matters later in life.

Beyond direct and indirect associations, responsiveness also appears to play a moderating role in the links between relationship processes and adult HWB. A longstanding paradox in the relationships and health literature has been that although the *availability* of social support tends to be associated with health benefits, the *receipt* of social support from close others is sometimes associated with poorer physical health, and even mortality (Uchino, 2009). One potential resolution is suggested by Selcuk and Ong (2013), who found that perceived partner responsiveness interacted with social support receipt to predict mortality. Individuals who received high social support had a greater risk of mortality a decade later when partner responsiveness was low, whereas those who received high social support from a responsive partner were more likely to survive. This suggests that even typically helpful behaviors such as social support can be harmful for adult HWB if they are perceived as unresponsive (e.g., perceiving a partner's help as an obligation rather than an act of caring), and provides further evidence that greater responsiveness acts as a protective buffer in HWB contexts.

Full lifespan research

To date, few studies have assessed the links between responsiveness and HWB across different stages of life. Recent publications from large-scale longitudinal studies, however, are beginning to shed light on responsiveness as a lifespan phenomenon. For example, Farrell and colleagues (2017) analyzed data from 163 individuals involved in a long-term study spanning birth to adulthood. The authors coded mother-child interactions in early childhood for maternal provision of responsive, sensitive support to the child and assessed life stress during early childhood, middle childhood, adolescence, young adulthood, and at age 32. They then collected physical health measures (overall health perceptions, body mass index [BMI], and physical illness/symptoms) at age 32. Farrell et al. found robust evidence that higher levels of stress during early childhood, adolescence, and concurrently (age 32) were associated with poorer physical health, and that experiencing high stress at multiple life stages (i.e., early childhood and adolescence, and adolescence and concurrently) led to the worst health outcomes. Importantly, the authors also found that greater maternal responsiveness enacted in early childhood buffered against these negative links; individuals who experienced high stress during childhood but also experienced high maternal responsiveness had *equally good* physical health at age 32 compared to their low-stress, high-maternal responsiveness counterparts.

Another study replicated and extended Fraley and colleagues' (2013) work by testing the enduring associations of early childhood maternal sensitivity with social and academic competence at age 32 (Raby et al., 2015). Specifically, the authors replicated the finding that childhood maternal responsiveness predicted

social skills and academic achievement through adolescence. They also found that the enduring effect of childhood maternal responsiveness extended into adulthood; individuals who experienced greater maternal sensitivity in early childhood demonstrated more effective romantic engagement and greater educational attainment at age 32. These rigorous studies highlight the value of investigating responsiveness and HWB across the lifespan.

Promising directions for future research

Future research on responsiveness and HWB across the lifespan should move in several different directions. Studies of how responsiveness prospectively predicts HWB across life stages are beginning to emerge thanks to rich longitudinal datasets. Researchers should continue striving for methods that directly measure processes throughout life (as opposed to those involving adult participants recalling childhood experiences, although we have learned and will continue to learn important information about human psychology from these methods). Scholars would also benefit from a formal meta-analysis of the associations between responsiveness and HWB. The effect sizes in the studies reviewed in this chapter are small, but comparable to previously reported effects of relationship quality on HWB (see Robles et al., 2014). Interestingly, the effect sizes of other HWB-relevant behaviors (e.g., exercise, fruit and vegetable consumption) are also small, as noted in Robles et al. (2014). This suggests that the associations between responsiveness and HWB are potentially meaningful when put in context with other HWB behaviors; nevertheless, meta-analytic evidence is needed to corroborate this possibility.

Future studies should also identify the critical psychological and physical pathways through which responsiveness is linked to HWB across life. One pathway that appears to provide particularly robust mechanisms underlying the associations between relationships and HWB is that of affective processes (Farrell et al., 2018). For example, responsiveness promotes emotional openness, especially with negative emotions (Ruan, Reis, & Clark, 2018). In a health context, many studies have demonstrated the capacity for responsiveness to downregulate affective negativity in adulthood (e.g., lower levels of general negative affect, Slatcher et al., 2015; lower negative affect reactivity to daily stressors, Selcuk et al., 2016). Moreover, responsiveness in childhood and adolescence also seems to promote positivity (e.g., higher levels of general positive affect, Tobin et al., 2015). These affective processes, in turn, help explain responsiveness–HWB associations at various life stages.

Research would benefit from a greater understanding of other important pathways linking responsiveness to HWB across the entire lifespan. For example, low maternal responsiveness in childhood is likely to yield the development of insecure attachment orientations (i.e., high attachment anxiety and/or avoidance), which are linked to poorer emotion regulation (Mikulincer & Shaver, 2013; Stanton & Campbell, 2014) and perceiving more frequent threats and escalating threat severity (Simpson & Rholes, 2012) in adulthood. In turn, impaired emotion regulation and/or a lower threshold for threat perception contribute to worse mental health

(e.g., more depressive symptoms), heightened emotional (e.g., greater negative affect reactivity) or physiological (e.g., greater cortisol or cytokine reactivity) responses to stressors, or a relatively compromised immune system. These links have been tested separately, but not across all life stages. Alternatively, maternal responsiveness in childhood may have more direct biological programming effects (e.g., low maternal responsiveness in childhood may establish relatively permanent pro-inflammatory phenotypes in individuals that make them more susceptible to health problems later in life, Miller & Chen, 2013). Longitudinal studies that test psychological and biological mediating variables (ideally simultaneously and establishing causal connections where possible) will allow scholars to obtain the most comprehensive picture of responsiveness–HWB links.

Following from this, scholars taking a responsiveness perspective on HWB may wish to differentiate between the narrow and proximal aspects of HWB (e.g., biomarkers, cardiac output, depressive symptoms) and the broad and distal aspects of HWB (e.g., global health perceptions, pro-inflammatory phenotype, meaning in life). Existing studies suggest that at least some mechanisms linking responsiveness to HWB are the same; for example, research has found that negative affect reactivity to daily stressors underlies the links between perceived responsiveness and mortality risk (narrow and proximal; see Stanton et al., 2019) as well as eudaimonic well-being (broad and distal; see Selcuk et al., 2016). Nonetheless, it is possible that the mechanisms linking responsiveness to various HWB outcomes throughout life vary based on the outcomes themselves.

When considering responsiveness as a lifespan phenomenon, researchers will also need to understand which pathways and outcomes are age-dependent and which are age-independent—in other words, which processes related to responsiveness are unique to a particular life stage and which are common to all life stages. In the Lifespan Model of Responsiveness described at the beginning of this chapter, we propose that the associations between responsiveness, attachment security, and emotion regulation, for instance, are age-independent such that greater responsiveness should foster greater attachment security and better emotion regulation throughout one's entire life, a notion that is supported by empirical literature (e.g., Simpson et al., 2014). The specific manifestation of those links, however, might be age-dependent. For example, in childhood attachment security and emotion regulation are argued to depend on the primary caregiver's responsiveness (Bowlby, 1980), and the three constructs are connected in a somewhat unidirectional manner because infants and children are perceivers but not providers of responsiveness. In adolescence and adulthood, on the other hand, the three constructs (attachment security, emotion regulation, and responsiveness) are connected in a more reciprocal manner because adolescents and adults are both perceivers and providers of responsiveness. The predictions that follow from the Lifespan Model of Responsiveness, however, are currently mostly hypothetical. A promising avenue for future studies, then, is to explore the interconnectedness of pathways relevant to responsiveness and HWB across the lifespan.

We and others have argued that responsiveness is a phenomenon spanning all life stages that has important implications for HWB. But is responsiveness a

universal phenomenon, or are there cultural differences? A recent cross-cultural study compared the links between perceived partner responsiveness in adulthood and hedonic and eudaimonic well-being in samples of individuals in the United States and Japan (Tasfiliz et al., 2018). The authors found that responsiveness was linked to greater hedonic and eudaimonic well-being in both countries, but the effects were more pronounced in the United States. This finding may suggest that potential benefits of responsiveness to well-being are relatively universal, but that there still may be meaningful differences between various cultures. Studies may fruitfully explore the how and in what situations responsiveness operates in individualist versus collectivist cultures. Future research should investigate whether these patterns appear for physical health outcomes as well, and test responsiveness–HWB links in a variety of other cultures.

Our review of the literature shows that responsiveness robustly predicts better HWB, as well as buffers against negative HWB, throughout life. A limitation of some current studies, however, is that responsiveness is often examined in contexts that can be inherently distressing (e.g., in relation to early life strain, socioeconomic disadvantage, daily conflict, or other adversity). This perhaps provides a somewhat biased understanding of how responsiveness is related to HWB over time because these types of negative contexts solely allow responsiveness to function as a buffer against deleterious outcomes (e.g., perceiving responsiveness when divulging a problem experienced at work is more likely to reduce negative affect than it is to enhance positive affect). Nevertheless, theoretically, responsiveness is argued to play a core role not only when things go wrong, but also when things go right. A question unanswered by extant literature, then, is how responsiveness in positive contexts (e.g., in relation to opportunities for close others to capitalize on each other's good news, or when encouraging a partner's goal striving) is linked longitudinally with HWB. Given that general positive affect is associated with better HWB (Farrell et al., 2018), and capitalization over happy experiences contributes to salubrious relationship functioning (Gable & Reis, 2010), examining responsiveness in positive contexts is an area that researchers should be eager to explore. In this regard, it bears mentioning that responsiveness in positive contexts may predict HWB via different psychological and physical mechanisms than in negative contexts.

The bulk of existing studies on the associations between responsiveness and HWB have assessed perceptions of a *close other's* responsiveness, rather than individuals' beliefs about their *own* responsiveness. One exception comes from Reis, Maniaci, and Rogge (2017), who found that providing responsiveness, in the form of newlyweds' compassionate acts toward their partners, was associated with improved emotional well-being for oneself. Studies conducted with adult samples suggest that individuals tend to project their judgments of their own responsiveness onto their perceptions of their romantic partner's responsiveness, which in turn predicts relationship quality more than the partner's actual reported responsiveness (Lemay, Clark, & Feeney, 2007). Separate work has demonstrated that romantic partners are both accurate and biased when perceiving each other's responsiveness,

but interestingly, both accuracy and positive bias predict individuals' well-being immediately and over time (Lemay & Neal, 2014). Notably, we know almost nothing about how these cognitive and behavioral processes operate in childhood or adolescence. The interplay of perceived responsiveness, enacted responsiveness, and projection of one's own responsiveness onto a partner in predicting HWB, and how the interplay of these processes might change across the lifespan, are fruitful avenues for future research.

Responsiveness dynamics in social relationships are inherently interdependent, meaning that each person's perceived and enacted responsiveness influences the other person. Despite the interpersonal nature of responsiveness, the majority of responsiveness–HWB studies involve reports from individual participants. To be sure, the Lifespan Model of Responsiveness assumes that one's own responsiveness is linked to one's *own* HWB outcomes; however, how might one's own responsiveness be linked to a *close other's* HWB outcomes? To the best of our knowledge there is little research that has explored this question, although the dyadic research that has been conducted is promising (see Crocker & Canevello, 2008; Reis et al., 2017). For example, there is evidence to suggest that in adult romantic relationships, when one partner behaves in a negative or unresponsive manner (e.g., devaluing or ignoring the other partner), the other partner is more likely to develop depressive symptoms three months later (Whiffen, 2005). In same-sex adolescent friendships, individuals' empathy (a contributor to responsiveness) is related to greater intimacy in the friendship and conflict management competence, which then predicts greater closeness and less discord for both members of the dyad (Chow, Ruhl, & Buhrmester, 2013). These studies lay the groundwork for potentially important longitudinal research that directly examines dyadic responsiveness and HWB across the lifespan.

Additionally, more longitudinal research is needed for dyads in which one person is ill (e.g., a child diagnosed with leukemia, an adolescent with severe asthma, a romantic partner suffering from cardiovascular problems) and the other person (e.g., a family member, friend, or spouse) must act as caregiver. Chronic caregiving has been shown to have negative effects on the caregiver's health over time (Vitaliano, Zhang, & Scanlan, 2003), which raises the interesting question of whether having to consistently be responsive—possibly without the ill person returning the responsiveness—might eventually be a strain. In a similar vein, is it difficult to perceive and enact responsiveness when experiencing negative HWB? A recent study demonstrated that cardiovascular indexes of threat impair responsiveness when adult romantic partners discuss conflicting interests (Peters, Reis, & Jamieson, 2018). Perhaps suffering from an acute or chronic illness (e.g., major depression, cardiovascular disease) may similarly undermine a person's ability to appreciate another's responsiveness or to behave responsively themselves. It may also be fruitful to establish boundary conditions on the positive associations of responsiveness and HWB. For instance, responsiveness may be less effective if it is perceived to be inauthentic, when it appears to be expressed due to obligation rather than caring, or when it reinforces negative behaviors. Likewise, an individual who prioritizes being

responsive to another person to the exclusion of their own needs (cf. unmitigated communion, Helgeson & Fritz, 1998) may not reap HWB-relevant benefits.

Further clarification is needed regarding when responsiveness promotes better HWB versus when unresponsiveness exacerbates poorer HWB. For example, greater perceived responsiveness is linked to higher health-relevant gene expression and positive affect for youth with asthma who engage in high self-disclosure (Imami et al., 2018). In contrast, receiving unresponsive social support is associated with a higher mortality risk a decade later for romantically-involved adults (Selcuk & Ong, 2013). It is feasible that the relation of responsiveness to HWB differs depending on the outcome variable of interest, life stage, or individual differences. These are empirical questions readily amenable to future research.

Responsiveness interventions

Given that responsiveness is a tractable marker of social relationship quality linked to HWB across the lifespan, future studies should seek to illuminate specific methods for increasing or maintaining responsiveness over time. Interventions targeted at responsiveness will undoubtedly need to consider both perceived and enacted components of responsiveness. In terms of helping close others (e.g., parents and children, friends, peers, romantic partners) optimize their *perceptions* of each other's responsiveness, research has demonstrated the relationship benefits of reframing compliments in an abstract way (i.e., thinking of compliments as broad, global indicators of one's value to a close other, see Marigold & Anderson, 2016). This strategy may be especially effective for individuals who struggle with negative views of the self and relationships (e.g., those who score low on self-esteem and/or high on attachment anxiety, attachment avoidance, rejection sensitivity, or neuroticism), which is important since these individuals are more likely to suffer from poorer HWB (e.g., Lahey, 2009; Stanton & Campbell, 2014; Trzesniewski et al., 2006).

In terms of helping close others optimize their *enacted* responsiveness toward each other, recent studies suggest that holding compassionate goals (i.e., goals that focus on supporting others out of consideration for their well-being, Crocker & Canevello, 2008), engaging in compassionate acts (Reis et al., 2017), and expressing gratitude (Gordon, Impett, Kogan, Oveis, & Keltner, 2012) may create a positive feedback loop of responsiveness in relationships—that is, by providing benefits both as a result of one's own responsive behavior and also by encouraging others to reciprocate in kind. Additionally, because perceived and enacted responsiveness are correlated and reciprocal (Debrot et al., 2012), expecting responsiveness from close others may create a self-fulfilling prophecy (see Marigold & Anderson, 2016). These responsiveness-bolstering processes have exciting potential for promoting better HWB, but their efficacy in a health context has yet to be systematically investigated.

Developing interventions to increase or maintain responsiveness at different stages of life is not without theoretical and practical challenges. For example, different life stages likely require different types of interventions (e.g., infants and children, and perhaps some elderly persons, do not have the same cognitive and

emotional capacity to enact responsiveness that adolescents and adults have, which researchers would have to consider). Researchers will also need to discover whether responsiveness-bolstering interventions should target dyad members individually (person-level intervention), as a unit (dyad-level intervention), or both. Determining the most effective timecourse for these types of interventions will be important as well; for instance, are “booster-shot” intervention sessions necessary and, if so, how should they be staggered? Moreover, although responsiveness across the lifespan has common themes, it seems plausible that certain behaviors may be perceived to vary in their responsiveness by different individuals and in different relationships (e.g., men may view kind acts as especially responsive, whereas women may view active listening as especially responsive), which introduces difficulties into broad intervention design. Longitudinal intervention studies also involve a large time commitment from both researchers and participants, as well as access to all resources essential for assessment of HWB over time. These challenges are not trivial, but neither are they insurmountable. Responsiveness-bolstering intervention studies will likely have immense and important societal benefits and are a logical next step for future research on social relationship quality and HWB across the lifespan.

Concluding remarks

Responsiveness is at the heart of many social relationship processes. The research and theorizing reviewed in this chapter suggest that responsiveness has enduring associations with HWB across all stages of life. Now that these links have been identified, we expect that research on responsiveness and HWB throughout childhood, adolescence, and adulthood is likely to move in several interesting new directions over the next few decades. Through responsiveness, close others may understand each other better and work together to improve the quality of their relationships and their lives.

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