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# Does Partner Responsiveness Predict Hedonic and Eudaimonic Well-Being? A 10-Year Longitudinal Study

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## Abstract

Motivated by attachment theory and recent conceptualizations of perceived partner responsiveness as a core feature of close relationships, the present study examined change in hedonic and eudaimonic well-being over a decade in a sample of more than 2,000 married adults across the United States. Longitudinal analyses revealed that perceived partner responsiveness— the extent to which individuals believe that their partner cares for, appreciates, and understands them— predicted increases in eudaimonic well-being a decade later. These results remained after controlling for initial hedonic and eudaimonic well-being, age, gender, extraversion, neuroticism, and perceived responsiveness of family and friends. Affective reactivity, measured via an 8-day diary protocol in a subset of the sample, partially mediated this longitudinal association. After controlling for covariates, perceived partner responsiveness did not prospectively predict hedonic well-being. These findings are the first to document the long-term benefits of perceived partner responsiveness on eudaimonic well-being.

### Keywords

Attachment; Lifespan development; Marital quality; Marriage; Relationships; Well-being

Well-being is a key aspect of adult development, exerting lasting influences on physical and mental health, productivity, and even longevity (see Chida & Steptoe, 2008; Lyubomirsky et al., 2005; Ryff, 2013 for qualitative and meta-analytic reviews). Given the importance of well-being in adulthood, a great deal of attention has been devoted to its determinants.

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Social relationships has emerged as a robust predictor of well-being (Oishi, Krochik, & Akimoto, 2010; Reis, 2012), with marriage, arguably the most important adult social relationship in virtually all human cultures, being at the center of research attention (Diener, Gohm, Suh, & Oishi, 2000; Glenn, 1975). Although it has been suggested that marriage is strongly linked to well-being (Glenn & Weaver, 1981), it is still unclear what specific aspects of the marital relationship underlie these associations. Based on attachment theory and recent conceptualizations of relationship effects on health and well-being (Reis, 2012), we argue in that *perceived partner responsiveness*, i.e., the extent to which individuals feel cared for, appreciated, and understood by their partners, is a core aspect of marital relationships associated with well-being. Using a 10-year longitudinal dataset, the present study examined the extent to which perceived partner responsiveness prospectively predicted change in the two components of psychological well-being: hedonia and eudaimonia.

## Two Distinct conceptions of Well-Being: Hedonia and Eudaimonia

Theorizing and empirical research on well-being evolved in two distinct traditions focusing on two relatively distinct conceptions of well-being. In one tradition, referred to as the *hedonic* view of well-being, the focus has been on the experience of pleasure and avoidance of pain (Kahneman, Diener, & Schwarz, 1999; Lucas, Diener, & Suh, 1996). Researchers adopting the hedonic view conceptualize well-being as a broad judgment of how good (vs. bad) one's life is and how much pleasure (vs. pain) one experiences in life. As such, hedonic well-being is typically operationalized along three components: life satisfaction, the presence of positive affect, and the absence of negative affect (Lucas et al., 1996).

The *eudaimonic* view, on the other hand, views well-being as distinct from pleasure and positive affect (Keyes et al., 2002; Ryan & Deci, 2001). According to this view, high pleasure and positive affect do not necessarily mean that the individual experiences high psychological well-being. Researchers adopting the eudaimonic well-being approach have conceptualized well-being not in terms of attaining of pleasure, but of achieving one's potential, finding meaning in life, and meeting lifespan developmental challenges (Keyes, Shmotkin, & Ryff, 2002; Ryan & Deci, 2001; Ryff, 1989). Accordingly, issues of self-development, personal growth, purpose in life, and autonomous engagement with the environment have been at the center of the eudaimonic perspective. To date, one of the most comprehensive conceptualizations of eudaimonic well-being was made by Ryff and colleagues (Keyes et al., 2002; Ryff, 1989, 2013). Drawing from philosophical work of Aristotle as well as contemporary work on positive psychological functioning and lifespan development, Ryff identified six indicators of eudaimonic well-being: *self-acceptance* (being aware of one's limitations and feeling good about oneself at the same time), *environmental mastery* (successfully managing daily life situations, demands, and responsibilities), *positive relationships* (forming and maintaining close positive ties with others), *autonomy* (maintaining a sense of self-determination and independence), *purpose in life* (finding meaning in one's challenges and pursuits), and *personal growth* (making the most of one's capabilities by maintaining an open attitude to new information, experiences, and challenges).

Based on the theoretical distinctions between hedonic and eudaimonic well-being, a number of studies have investigated whether the two also form *empirically* distinct constructs. Analyses based on large representative samples comprising a broad spectrum of adults from diverse backgrounds have indicated that although eudaimonic and hedonic well-being are positively correlated, variation in these constructs is most parsimoniously represented as two separate factors as opposed to a single overarching factor (Gallagher, Lopez, & Preacher, 2013; Keyes et al., 2002).

## Perceived Partner Responsiveness as a Predictor of Well-Being

A host of studies to date have documented that marriage is a key social relationship construct predicting well-being (e.g., Glenn & Weaver, 1981; Lyubomirsky et al., 2005; Proulx, Helms, & Buehler, 2007). Yet, it is still unclear what aspects of marriage affect long-term well-being and through which mechanisms. Drawing from diverse theoretical perspectives on close relationships—such as the attachment theory (Bowlby, 1988), applications of interdependence theory (e.g., Drigotas, Rusbult, Wieselquist, & Whitton, 1999), and models of social support (Cutrona, 1996)—Reis and colleagues (e.g., Reis, 2012; Reis, Clark & Holmes, 2004) argued that *perceived partner responsiveness*, i.e., the extent to which individuals believe that their partner really cares for, understands, and appreciates them, is the central process determining relationship happiness and linking romantic relationships to well-being and health. The idea that perceiving relationship partners as responsive leads to greater well-being figures prominently in attachment theory, one of the most influential theories of close relationships. According to attachment theory, maintaining relationships with responsive attachment figures (whether a parent during infancy and childhood or a romantic partner in adulthood) instills a sense of felt security, a psychological state characterized by calmness and safety, which in turn enhances well-being. A normative function of attachment relationships is stress buffering—i.e., the attachment figure's ability to down regulate one's reactivity to stressful events. In infancy and childhood, the quality of relationships with parents is an important regulator of stress reactivity, an effect that extends even into the adult years (Mallers, Charles, Neupert, & Almeida, 2010). In adulthood, romantic partners replace parents as primary attachment figures (e.g., Doherty & Feeney, 2004) and become the major close relationship partner regulating one's stress reactivity (Selcuk, Zayas, & Hazan, 2010). When individuals encounter stressful events (e.g., an interpersonal argument, a problem at work), a viable strategy for many married adults is to turn to their spouse to cope with the stress. Spouses' responsive behavior in such times alleviates stress reactivity and negative affect, and restores felt security. Such repeated positive interactions with responsive partners are thought to contribute to well-being over the long-term.

To date, this hypothesis has been largely examined in the context of hedonic well-being. For instance, naturally occurring or experimentally induced variation in perceived partner responsiveness is associated with greater sustainability of positive affect or alleviation of negative affect when disclosing a recent worry (Collins & Feeney, 2000), talking about a daily stressor (Maisel & Gable, 2009), or working on a challenging task (Feeney, 2004), suggesting that perceived partner responsiveness helps preserve hedonic well-being in the face of stressors. Other studies have found that merely holding the hand of one's partner or

looking at their photograph can alleviate negative affect induced by threatening stimuli or stressful life events (Coan, Schaefer, & Davidson, 2006; Selcuk, Zayas, Gunaydin, Hazan, & Kross, 2012). Taken together, these findings demonstrate that perceived partner responsiveness promotes hedonic well-being.

Although shown to promote hedonic well-being, the extent to which perceived partner responsiveness predicts eudaimonic well-being has not been studied much in the literature. Given the theoretical as well as empirical distinction between the two types of well-being, extant findings on the link between partner responsiveness and hedonic well-being cannot be assumed to hold for eudaimonic well-being and it is necessary to examine this question empirically. Prior studies have largely focused on the role of marital status in eudaimonic well-being (e.g., Bierman, Fazio, & Milkie, 2006), and a direct test of whether perceived partner responsiveness predicts eudaimonic well-being and through which mechanism is lacking.

According to attachment theory, with the felt security conferred by responsive spouses comes increased autonomy and engagement with environment, which are both integral parts of eudaimonic well-being (Ryff, 2013). Responsive partners provide a “secure base” (Bowlby, 1988) from which individuals autonomously pursue their goals, grow as a person, and actualize themselves. When individuals feel that a responsive partner is available when needed, they are more likely to embrace important challenges and pursue goals that would contribute to their personal growth and self-actualization (Mikulincer & Shaver, 2007). Supporting this view, individuals who perceived their partner as more responsive in a discussion of personal goals later reported higher confidence in achieving these goals (Feeney, 2004). Moreover, findings from a recent experimental study (Caprariello & Reis, 2011) indicated that feelings of safety and security conferred by responsive partners were associated with less defensive reactions to failure (attributing failure to external sources), which would be expected to increase one’s sense of personal growth and self-acceptance. Overall, the existing findings provide indirect support for the attachment theoretical contention that perceived partner responsiveness is linked to core aspects of eudaimonic well-being (Keyes et al., 2002; Ryff, 2013). However, to date, no studies have directly investigated the link between partner responsiveness and eudaimonic well-being.

According to attachment theory, alleviation of stress reactivity is an important mechanism by which perceived responsiveness enhances eudaimonic well-being as well. Having someone who is responsive to your needs is a crucial resource when things go wrong and would make it easier to cope with stressors and to autonomously and purposefully engage with the environment even in the face of adversity (Mikulincer & Shaver, 2007). That is, to the extent that individuals show lower reactivity to daily stressors, they are more likely to continue working toward daily life responsibilities and goals, learning new information, and growing as a person in an uninterrupted manner, which in the long run would promote eudaimonic well-being.

Integrating theoretical models on the neurobiology of attachment and eudaimonic well-being also leads to the hypothesis that reduced affective reactivity to stressors would mediate the association between perceived partner responsiveness and long-term enhancement of

eudaimonic well-being. Responsive interactions with spouses lead to enhanced oxytocin and opioid neurotransmission (e.g., Depue & Morrone-Strupinsky, 2005). The activation of these two neurotransmitter systems, in turn, down-regulates the reactivity of the hypothalamic-pituitary-adrenocortical axis and the autonomic nervous system, and results in lower stress reactivity. Interestingly, the same two neurotransmitter systems are also thought to be the major biological substrates of eudaimonic well-being (Ryff & Singer, 1998), suggesting that the long-term association between perceived partner responsiveness and eudaimonic well-being can be explained by lower reactivity to daily stressors, a mechanism yet to be empirically tested.

## The Present Study

Despite the strong theoretical contentions, no studies to date have investigated whether perceived partner responsiveness is concurrently associated with eudaimonic well-being or predicts *change* in eudaimonic well-being over the long-term. Addressing this critical gap in the literature was the primary aim of the present study. We examined this question in a large sample of married adults assessed on two occasions 10 years apart. In addition to providing the first test of whether perceived partner responsiveness would predict change in eudaimonic well-being a decade later, the present study extended past research in a number of ways. Prior work on perceived partner responsiveness has largely focused on hedonic well-being. The present study is the first to investigate whether perceived partner responsiveness predicts change in both hedonic and eudaimonic well-being. The advantage of such a design is that it is possible to test whether the observed associations between perceived partner responsiveness and one type of well-being is unique to partner responsiveness or can be accounted by the other type of well-being. Thus, our analyses predicting eudaimonic well-being controlled for hedonic well-being, and vice versa. Moreover, previous studies have rarely attempted to rule out the possibility that the associations between perceived partner responsiveness and well-being is attributable to personality traits or relationship experiences with people other than one's romantic partner. Therefore, in the present study, we controlled for extraversion and neuroticism, the two reliable personality predictors of well-being (e.g., Keyes et al., 2002), and perceived responsiveness of other social network members, namely family and friends.

Finally, the present study tested the attachment theoretical hypothesis that stress alleviation is a mechanism linking perceived responsiveness with well-being. To assess affective reactivity, a subset of participants completed measures of stressors and negative affect over eight consecutive days. These daily experience data were used to compute an affective reactivity score for each participant. Prior work investigating the consequences of affective reactivity using repeated daily assessments has demonstrated that daily affective reactivity is associated with elevated risk of affective disorders (depression or anxiety; Charles, Piazza, Mogle, Sliwinski, & Almeida, 2013), chronic health conditions (Piazza, Charles, Sliwinski, Mogle, & Almeida, 2013), sleep impairment (Ong, Exner-Cortens, Riffin, Steptoe, Zautra, & Almeida, 2013), inflammation (Sin, Graham-Engeland, Ong, & Almeida, in press), and mortality (Mroczek, Stawski, Turiano, Chan, Almeida, Neupert et al., 2013). Yet, no studies have so far examined whether daily affective reactivity predicts long-term changes in well-

being, or mediates the long-term association between perceived partner responsiveness and well-being. The present study aimed to close this important gap.

## Method

### Sample and Procedure

The data for the present study come from the first and second waves of the National Survey of Midlife Development in the United States (MIDUS) project (http://www.icpsr.umich.edu/icpsrweb/ICPSR/series/00203; Brim, Baltes, Bumpass, Cleary, Featherman, Hazzard et al., 2007; Ryff, Almeida, Ayanian, Carr, Cleary, Coe et al., 2007), and the first wave of the National Study of Daily Experiences, the daily diary substudy of the MIDUS (http://www.icpsr.umich.edu/icpsrweb/DSDR/studies/3725; Almeida, 2007). The first wave of the MIDUS project (MIDUS I) consisted of a total sample of 7,108 individuals from four samples (including 3,487 individuals in the MIDUS main national sample recruited via random digit dialing, along with 757 individuals recruited via oversampling in metropolitan areas, 951 siblings of a randomly selected group of national sample members, and 1914 twins). Respondents completed a phone interview and then a self-administered questionnaire in 1995–96. Eighty-nine percent of respondents (6,325) completed both the phone interview and the self-administered questionnaire. Of these, 4,273 identified themselves as married during the phone interview. In the self-administered survey phase, 45 of the 4,273 participants did not respond to questions asking the evaluation of their marital relationship. Of the remaining, 61 (1%) did not complete at least one measure of interest, resulting in a final sample of 4,167 for testing the concurrent associations between perceived partner responsiveness and well-being at Wave 1. Of the final sample for Wave 1 analyses, 49% were female and 51% were male; 93% were White and 7% from other racial backgrounds; 62% had some college education or more and 38% graduated from high school or less; and 74% were either working or self-employed. The mean age of the sample was 47 years (SD = 12 years). The final Wave 1 sample was not significantly different from the full MIDUS sample in terms of mean perceived partner responsiveness ($t(4166) = 1.754$, $p = .079$) but had a slightly higher mean in hedonic well-being ($t(4166) = 7.031$, $p < .001$, $d = 0.11$) and eudaimonic well-being ($t(4166) = 5.962$, $p < .001$, $d = 0.09$).

The second wave (MIDUS II) was conducted approximately 10 years later (2004–06). Sixty-six percent (2,765) of the 4167 respondents who were included in the Wave 1 analyses in the present study completed both the phone interview and the self-administered questionnaire in the 10-year follow up, resulting in a retention rate (66%) similar to the entire MIDUS longitudinal sample (see Radler & Ryff, 2010, for a detailed analysis of sample retention in the MIDUS project). In order to investigate the long-term associations between perceived partner responsiveness and well-being, we identified individuals whose marriage was intact over the two waves of data collection. The MIDUS survey did not include a question directly asking at MIDUS II whether married participants were still together with the same spouse as in MIDUS I. We identified a participant as remaining in the same relationship if the participant reported being married at the phone interview at both MIDUS I and MIDUS II and met at least one of the following four criteria: (i) the date of the current marriage in MIDUS II was before MIDUS I, or (ii) the date of the current marriage in MIDUS I is the

same as the date of current marriage in MIDUS II, or (iii) the participant only had one marriage in his or her life, or (iv) the number of marriages the participant reported in MIDUS I was equal to that reported in MIDUS II. Using these criteria, 2,404 individuals (out of 2,765) were identified as still being together with the same spouse, 67 were separated from or lost their spouse and remarried, 161 were separated or divorced from their spouse and did not remarry, 125 lost their spouse and did not remarry, 5 were remarried but then separated from or lost the new spouse, and 3 did not remain with their spouse but their current marital status was not identified. Of the 2,404 individuals who remained with their spouse and thus eligible for the longitudinal analyses, 56 (2%) did not complete at least one measure of interest (hedonic or eudaimonic well-being, personality, or perceived partner, family or friend responsiveness), leaving an analytic sample of 2,348. Of these participants, 51% were female and 49% were male; 96% were White and 4% from other racial backgrounds; 68% had some college education or more and 32% graduated from high school or less; and 62% were either working or self-employed. Of note, although the primary longitudinal sample included individuals who had complete data and whose marriages were intact over the two waves, we also ran supplementary analyses testing whether perceived partner responsiveness predicted change in hedonic or eudaimonic well-being a decade later by adding to the sample individuals who did not satisfy these criteria. The pattern of findings was the same as reported in the text, indicating that the results are robust to the inclusion of participants whose marriage dissolved over the 10-year period.

Analyses testing whether the long-term association between perceived partner responsiveness and well-being is mediated by affective reactivity to daily stressors were based on 555 MIDUS respondents who also participated in the National Study of Daily Experiences (NSDE) and had affective reactivity data. The NSDE is an 8-day daily telephone diary study assessing affective reactions to everyday stressors. The NSDE data were collected during 1996–1997 after completion of data collection in MIDUS I and before MIDUS II. Mean age of participants in the longitudinal sample who completed the NSDE was slightly lower ($M$ = 46.50 years) than those who did not ($M$ = 47.92 years, $t$ = 2.500, $p$ = .012). There were no differences between the participants who completed the NSDE vs. those who did not in terms of gender, racial background, education, current work status (all $\chi 2$s < 1.032, $p$s > .309), perceived partner responsiveness, hedonic, or eudaimonic well-being (all $t$s < 0.315, all $p$s > .752).

## Measures

Measures used in the present study were MIDUS perceived partner, family, and friend responsiveness, hedonic and eudaimonic well-being, extraversion, neuroticism, and NSDE affective reactivity. Table 1 provides the Cronbach's alphas (range = .66 – .92), means, standard deviations, and correlations of the variables. For all variables, items were reverse-coded where necessary so that higher scores reflected higher standing on the variable.

**Perceived partner responsiveness—**Perceived partner responsiveness was measured with three items (revised from Schuster, Kessler, & Aseltine, 1990). The items, also used in a previous study on perceived partner responsiveness (Selcuk & Ong, 2013), asked participants to answer the following questions: "How much does your spouse or partner

really care about you?" "How much does he or she understand the way you feel about things?" and "How much does he or she appreciate you?" These questions matched the three components of perceived partner responsiveness (understanding, validating, and caring) identified in the literature (Reis et al., 2004). Participants answered the questions on a 4-point scale (1 = *a lot* to 4 = *not at all*).

**Hedonic well-being—**In line with prior work (e.g., Gallagher, Lopez, & Preacher, 2009), hedonic well-being was operationalized as the extent to which participants were satisfied with their life and the frequency with which they experienced positive and negative affect. *Life satisfaction* was measured by a single item asking participants to rate their life overall on a Likert scale ranging from 0 (*the worst possible*) to 10 (*the best possible*). *Positive* and *negative affect* were measured with a 12-item instrument developed for the MIDUS project. The measure was constructed based on widely used and well-validated measures of affect and well-being (e.g., the Affect Balance Scale [Bradburn, 1969], the General Well-Being Schedule [Fazio, 1977]). Participants indicated how much of the time they felt "cheerful," "in good spirits," "extremely happy," "calm and peaceful," "satisfied," "full of life," "so sad nothing could cheer you up," "nervous," "restless or fidgety," "hopeless," "that everything was an effort," and "worthless" in the past 30 days (1 = *all of the time* to 5 = *none of the time*). A *hedonic well-being* score was computed by standardizing and averaging all 13 items—one assessing life satisfaction, 6 assessing positive affect, and 6 assessing negative affect.

**Eudaimonic well-being—**Eudaimonic well-being was assessed with 15 items. The items corresponded to the components of eudaimonic well-being identified by Ryff (1989): self-acceptance (e.g., "I like most parts of my personality."), environmental mastery (e.g., "I am quite good at managing the many responsibilities of my daily life."), autonomy (e.g., "I judge myself by what I think is important, not by the values of what others think is important."), purpose in life (e.g., "Some people wander aimlessly through life, but I am not one of them."), and personal growth (e.g., "For me, life has been a continuous process of learning, changing, and growth."). Participants indicated how much they agree to each statement on a scale ranging from 1 (*strongly agree*) to 7 (*strongly disagree*). The scale also had three items assessing positive relations with others. These items were not included in the present analyses because participants are likely to take into account the quality of their marriage when evaluating their relationships which in turn may artificially increase the association between perceived partner responsiveness and eudaimonic well-being. Following prior work showing that self-acceptance, environmental mastery, autonomy, purpose in life, and personal growth all load on a single latent construct (Gallagher et al., 2009), we computed a composite eudaimonic well-being score by averaging across all items.

**Perceived responsiveness of family and friends—**Participants' perception of their family's and friends' responsiveness was measured with two items that were also used for measuring perceived partner responsiveness. For family (excluding spouse) and friends separately, participants rated how much these social network members "really care for you" and "understand the way you feel about things." Participants rated the items on a 4-point scale (1 = *a lot* to 4 = *not at all*).

**Extraversion and neuroticism—**Extraversion and neuroticism were measured using the Midlife Development Inventory Personality Scales (Lachman & Weaver, 1997), an instrument developed specifically for the MIDUS project. The items were largely taken from existing well-validated personality inventories (e.g., the Big Five Inventory; John, 1990). The extraversion subscale consisted of five items (outgoing, friendly, lively, active, talkative), and the neuroticism subscale consisted of four items (moody, worrying, nervous, calm). Participants were asked to indicate how much each item described them (1 = *a lot* to 4 = *not at all*).

**Daily affective reactivity—**On each of the eight days during the NSDE, participants completed the Daily Inventory of Stressful Events (Almeida, Wethington, & Kessler, 2002). The measure asks participants to indicate whether they experienced any of the following common daily stressors: an interpersonal conflict, a situation that could end in an argument but they decided to avoid, a problem at work, a problem at home, something bad happening to a close other, perceived discrimination, and any other stressful experience not covered by the previous categories. Participants also indicated the frequency with which they experienced several negative affective states that day (0 = *none of the time* to 4 = *all of the time*). The items were adapted from the Non-Specific Psychological Distress Scale (Kessler, Andrews, Colpe, Hiripi, Mroczek, Normand et al., 2002) and included the affective states of being depressed, restless, nervous, worthless, sad, tired, and hopeless.

Initial multilevel modeling analyses with the number of stressors as the dependent variable and perceived partner responsiveness as the person-level predictor indicated that participants who perceived their spouse as responsive reported fewer stressors in daily life ($B = -0.078$, $SE = 0.035$, $p = .027$). Therefore, we controlled for individual differences in the number of stressors when computing affective reactivity (see also Charles et al., 2013; Mroczek et al., 2013, for a similar approach.) Affective reactivity was estimated with the following 2-Level model using HLM v.7:

$$\text{Level 1:Negative Affect}_{ij} = \pi_{0j} + \pi_{1j}\,\text{Stressor Exposure}_{ij} + e_{ij}$$
$$\text{Level 2:}\pi_{0j} = \beta_{00} + \beta_{01}\,\text{Person- Mean Stressor Exposure}_{j} + r_{0j}$$
$$\pi_{1j} = \beta_{10} + r_{1j}$$

At Level 1, $\pi_{0j}$ is the intercept and represents negative affect experienced on a day when the participant did not experience a stressor. Stressor Exposure was a dichotomous variable and was coded as 0 when no stressors were experienced vs. as 1 when at least one stressor was experienced. Hence, $\pi_{1j}$ is the within-person affective reactivity slope corresponding to the difference in participant's negative affect on days when at least one stressor was experienced compared to days when no stressors were experienced. (We also estimated affective reactivity by treating Stressor Exposure as a continuous variable reflecting the number of stressors a person experienced on a day. The resulting reactivity scores were very highly correlated with the ones estimated by treating Stressor Exposure as a dichotomous variable, $r = .95$, $p < .001$. Thus, to be consistent with prior work, we retained Stressor Exposure as a dichotomous variable.) The error term, $e_{ij}$, represented the participant's deviation from her or his average negative affect. At Level 2, $\beta_{00}$ and $\beta_{10}$ represent the sample average of

negative affect on no-stressor days and affective reactivity, respectively. Additionally, β01 represents the association between person-mean frequency of stressor exposure and negative affect. Including the person-mean frequency of stressor exposure in the model allowed us to estimate affective reactivity while controlling for the effect of between-participant stressor exposure differences on negative affect. Finally, the error terms, r0*j* and r1*j* represented deviations from average negative affect and average affective reactivity in the entire sample. Using this two-level model, a within-person affective reactivity slope (π*1j*) was estimated for each participant in the sample.

## Results

### Predicting Well-Being at Wave 1

To investigate whether perceived partner responsiveness predicted hedonic and eudaimonic well-being at Wave 1, we constructed two multiple regression models. Model 1 predicted MIDUS I hedonic and eudaimonic well-being from MIDUS I perceived partner responsiveness. Model 2 repeated the same analyses by adding the covariates to the model. In addition to controlling for age, gender, extraversion, neuroticism, perceived family responsiveness, and perceived friend responsiveness, we controlled for eudaimonic well-being when predicting hedonic well-being, and vice versa. To facilitate the interpretation of the intercepts and the comparison of the associations of predictors with hedonic vs. eudaimonic well-being, all variables (except gender) were standardized using the entire MIDUS data prior to being entered into the models. The analyses revealed that perceived partner responsiveness was positively associated with both hedonic ($B = 0.322$, $SE = 0.014$, $p < .001$) and eudaimonic well-being ($B = 0.311$, $SE = 0.015$, $p < .001$) at Wave 1, and this association remained significant even after controlling for all the covariates ($B = 0.126$, $SE = 0.012$, $p < .001$ for hedonic and $B = 0.088$, $SE = 0.013$, $p < .001$ for eudaimonic well-being; see Table 2 for *R2*s, all regression coefficients, their standard errors, *p* values, and 95% confidence intervals).

### Predicting Well-Being at Wave 2

Next, we constructed two regression models to investigate whether perceived partner responsiveness prospectively predicted change in hedonic and eudaimonic well-being over the 10-year period. Again, continuous variables were standardized before being entered into the models.

**Hedonic well-being—**As displayed in Model 1a of Table 3, MIDUS I perceived partner responsiveness predicted MIDUS II hedonic well-being, controlling for MIDUS I hedonic well-being ($B = 0.055$, $SE = 0.019$, $p = .004$). However, MIDUS I perceived partner responsiveness was no longer associated with change in hedonic well-being over a decade, after we controlled for MIDUS I eudaimonic well-being, extraversion, neuroticism, perceived family responsiveness, perceived friend responsiveness, age, and gender ($B = 0.027$, $SE = 0.020$, $p = .172$; Model 2a of Table 3).

**Eudaimonic well-being—**Perceived partner responsiveness predicted eudaimonic well-being a decade later, after controlling for MIDUS I eudaimonic well-being ($B = 0.099$, $SE =$

0.019, $p < .001$; Model 1b of Table 3). Importantly, the positive association between MIDUS I perceived partner responsiveness and change in eudaimonic well-being held even after controlling for MIDUS I hedonic well-being, extraversion, neuroticism, perceived family responsiveness, perceived friend responsiveness, age, and gender ($B = 0.057$, $SE = 0.020$, $p = .004$; Model 2b of Table 3).

### Mediating Role of Daily Affective Reactivity

We tested whether the long-term association between perceived partner responsiveness and eudaimonic well-being was mediated by daily affective reactivity by estimating bootstrap confidence intervals for the indirect association (Preacher & Hayes, 2008). To rule out the possibility that the observed associations are due to Wave 1 levels of eudaimonic well-being, we first regressed Wave 2 eudaimonic well-being scores on Wave 1 eudaimonic well-being and used the resulting residuals as the dependent variable in the mediational analysis. As shown in Figure 1, Wave 1 perceived partner responsiveness was associated with lower affective reactivity to daily stressors. Attenuated stress reactivity, in turn, predicted greater eudaimonic well-being, indicating that affective reactivity to daily stressors partially mediated the long-term association between perceived partner responsiveness and eudaimonic well-being (95% CI for the indirect association = [0.004, 0.055]). Affective reactivity accounted for 11% of the association between perceived partner responsiveness and eudaimonic well-being, after controlling for initial levels of eudaimonic well-being.

## Discussion

Motivated by attachment theory (Bowlby, 1988) and recent conceptualizations of perceived partner responsiveness as a core aspect of interpersonal well-being and flourishing (Reis, 2012), the present study investigated whether perceived partner responsiveness concurrently and prospectively predicted hedonic and eudaimonic well-being in married individuals using data collected at two time points separated by 10 years. Corroborating existing experimental and observational evidence that perceived partner responsiveness enhances positive affect and attenuates negative affect (Collins & Feeney, 2000; Reis, 2012; Selcuk et al., 2012), we found that perceived partner responsiveness was concurrently associated with greater hedonic well-being, even after controlling for age, gender, eudaimonic well-being, extraversion, neuroticism, and perceived family and friend responsiveness. The association between perceived partner responsiveness and eudaimonic well-being has been less widely studied to date. We addressed this gap by showing that perceived partner responsiveness also concurrently predicted greater eudaimonic well-being, again even after controlling for potential confounding factors.

More importantly, we tested whether perceived partner responsiveness predicted change in well-being over the long-term using longitudinal data from more than 2,000 married adults. After adjusting for covariates, perceived partner responsiveness was no longer significantly associated with change in hedonic well-being a decade later. However, our analyses indicated that perceived partner responsiveness did predict change in eudaimonic well-being over such a long temporal window as 10 years. Notably, the prospective link between perceived partner responsiveness and eudaimonic well-being held after controlling for a

wide range of covariates including initial hedonic and eudaimonic well-being, demographics (age and gender) personality traits known to affect well-being (extraversion and neuroticism), and perceived responsiveness of other social network members (family and friends).

How big are the associations between perceived partner responsiveness and eudaimonic well-being? The concurrent association at Wave 1 was .31 which is similar to what has been documented in prior work on the cross-sectional links between quality of marital relationships and personal well-being, typically measured by indices of hedonic well-being (e.g., happiness) or mental health (e.g., depression; Whisman, 2001). After controlling for covariates, this association became smaller (.09 at the concurrent and .06 at the longitudinal level). Although small, these associations are still meaningful for a number of reasons. First, extending the majority of prior work, the present study used a wide array of covariates. Thus, the observed associations represent the unique contribution of perceived partner responsiveness in explaining variation in eudaimonic well-being, after taking into account the effects of other theoretically relevant determinants of eudaimonic well-being including hedonic well-being, personality, and perceived responsiveness of other social network members. It is also important to note that the longitudinal analyses also controlled for Wave 1 eudaimonic well-being. Second, and perhaps more important, these small effects are likely to have important practical consequences because partner responsiveness would exert its effects regularly on a daily basis, probably more frequently than any other social or environmental factor. As a result of such frequent repeated exposure, small effects may lead to important consequences for personal well-being. For instance, in a recent meta-analysis of the links between marriage and physical health Robles, Slatcher, Trombello, and McGinn (2014) found that marital quality predicted biomarkers predicting disease progression with an effect size comparable to the present study and noted that daily effects of similar size are typically considered important policy targets for improving public well-being. In a similar vein, interventions aimed at improving perceived partner responsiveness have the potential to lead to lasting improvements in personal well-being.

What is the underlying mechanism that accounts for the longitudinal association between perceived partner responsiveness and eudaimonic well-being? According to attachment theory one mechanism is attenuation of affective reactivity in response to stressors in daily life. Prior research provides compelling evidence that a central function of romantic relationships is attenuation of affective reactivity to stressors (e.g., Selcuk et al., 2012; see Selcuk et al., 2010 for a review). Yet, whether lower daily affective reactivity would explain the long-term association between perceived partner responsiveness and eudaimonic well-being has not been studied. Our findings provide evidence for the theoretical contention that perceived partner responsiveness is associated with attenuated affective reactivity to daily stressors. The attenuated affective reactivity, in turn, prospectively predicted eudaimonic well-being and it partially mediated the long-term association between perceived partner responsiveness and change in eudaimonic well-being.

The finding that perceived partner responsiveness uniquely predicts long-term change in eudaimonic well-being has a number of implications for family, marriage, and relationships research. First, although the link between social relationships and well-being has long been

recognized, it has been increasingly argued that the processes underlying this link are not yet fully understood and as a result, the literatures on relationships and well-being have remained relatively separate from one another (Oishi et al., 2010; Reis, 2012). Together with recent theorizing (Reis, 2012) and empirical work (Feeney, 2004; Maisel & Gable, 2009; Selcuk et al, 2012; Selcuk & Ong, 2013; Slatcher, Selcuk, & Ong, in press), present findings suggest that perceived partner responsiveness can be used to integrate several diverse processes underlying the effect of relationships on psychological functioning, ranging from affect regulation to self-actualization. As such, perceived partner responsiveness is a promising candidate to bridge the gap between the relationships and well-being literatures (Oishi et al., 2010; Reis, 2012). The present findings support this contention by showing the long-range consequences of perceived partner responsiveness for eudaimonic well-being.

Second, the present findings have the potential to advance the understanding of how marriage affects physical and mental health. In their meta-analysis demonstrating the links between the quality of marital relationships and biomarkers predicting future physical disease (e.g., low density cholesterol levels), Robles et al. (2014) concluded that psychological mechanisms underlying these associations are largely unknown. Interestingly, a separate study (Ryff, Singer, & Love, 2004) found that these biomarkers were linked to levels of eudaimonic well-being. Given our findings that perceived partner responsiveness promotes eudaimonic well-being over the long-term, one of the missing psychological mechanisms Robles et al. (2014) noted may be eudaimonic well-being. Similarly, given that eudaimonic well-being is also associated with lower risk for mental health disorders (Ryff, 2013), improvement in eudaimonic well-being may explain the association between quality of marriage and resilience against mental health risks documented in previous longitudinal work (Proulx, Helms, & Buehler, 2007). Testing these possibilities is an important avenue for future research.

Finally, from an applied perspective, our findings have implications for therapy. An important goal of couple therapy is to help partners be more responsive to each other. Indeed, removing the barriers in front of perceived partner responsiveness—such as the individual's maladaptive relational schemas or the partner's unresponsive behavior—improves couple well-being by alleviating or eliminating marital distress over time (Cloutier, Manion, Gordon, Walker, & Johnson, 2002). The present findings indicate that enhancing perceived partner responsiveness can also be an effective method in individual therapy to improve well-being and help adults flourish and realize their potential in the long-run.

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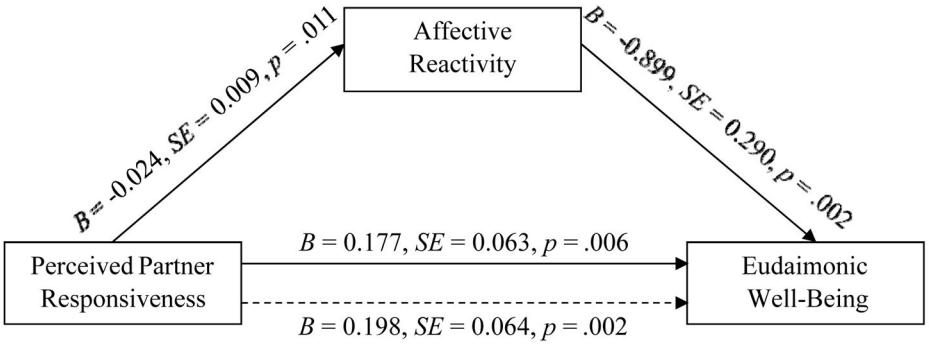


**Figure 1.**

The indirect longitudinal association between perceived partner responsiveness and eudaimonic well-being. The numbers above the solid line at the bottom represents the association between perceived partner responsiveness and eudaimonic well-being when affective reactivity is included in the model. The numbers below the dashed line represents the same association when affective reactivity is not included in the model. To rule out the possibility that the observed associations are due to Wave 1 eudaimonic well-being, residual eudaimonic well-being scores (obtained via regressing the Wave 2 eudaimonic well-being scores on Wave 1 eudaimonic well-being scores) were used as the dependent variable in the mediation analyses. $N = 555$ for all analyses.

**Table 1**

Descriptive Statistics and Correlations among Variables

| | M2 HWB | M2 EWB | M1 HWB | M1 EWB | M1 PPR | M1 Age | M1 EXT | M1 NEU | M1 PFamR | M1 PFriR | Reactivity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| M2 EWB | .587*** | | | | | | | | | | |
| M1 HWB | .570*** | .443*** | | | | | | | | | |
| M1 EWB | .411*** | .605*** | .577*** | | | | | | | | |
| M1 PPR | .244*** | .269*** | .332*** | .306*** | | | | | | | |
| M1 Age | .163*** | .048* | .120*** | −.008 | .052*** | | | | | | |
| M1 EXT | .214*** | .297*** | .331*** | .356*** | .146*** | −.003 | | | | | |
| M1 NEU | −.390*** | −.365*** | −.558*** | −.456*** | −.179*** | −.131*** | −.159*** | | | | |
| M1 PFamR | .231*** | .262*** | .309*** | .307*** | .294*** | .137*** | .224*** | −.171*** | | | |
| M1 PFriR | .213*** | .293*** | .259*** | .324*** | .206*** | .041** | .330*** | −.141*** | .413*** | | |
| Reactivity | −.371*** | −.349*** | −.420*** | −.397*** | −.108* | −.118** | −.142*** | .298*** | −.129** | −.114** | |
| Gendera | −.050* | −.022 | −.056*** | −.059*** | −.122*** | −.051*** | .059*** | .114*** | .099*** | .199*** | .093* |
| *M* | 0.059 | 5.608 | 0.119 | 5.680 | 3.593 | 47.590 | 3.189 | 2.190 | 3.510 | 3.267 | 0.119 |
| *SD* | 0.667 | 0.761 | 0.630 | 0.724 | 0.523 | 11.762 | 0.553 | 0.652 | 0.556 | 0.634 | 0.112 |
| Cronbach's $\alpha$ | .914 | .786 | .920 | .768 | .833 | - | .779 | .750 | .663 | .813 | - |

*Note.* M1 = MIDUS I; M2 = MIDUS II; HWB = Hedonic well-being; EWB = Eudaimonic well-being; PPR = Perceived partner responsiveness; EXT = Extraversion; NEU = Neuroticism; PFamR = Perceived family responsiveness (excluding spouse); PFriR = Perceived friend responsiveness. Reactivity = Affective reactivity. For continuous variables, higher scores reflect higher standing on the variable. The sample size was 4,167 for estimates including only MIDUS I variables, 2,348 for estimates including MIDUS II variables but excluding affective reactivity, and 555 for estimates including affective reactivity.

[a]0 = *male*, 1 = *female*;

*$p < .05$.

**$p < .01$.

***$p < .001$.

**Table 2**

Regression Models Predicting Well-Being at Wave 1

| | **Hedonic Well-Being** | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Model 1a** | | | | **Model 2a** | | | |
| | ***B*** | ***SE*** | ***p*** | **95% CI** | ***B*** | ***SE*** | ***p*** | **95% CI** |
| Intercept | 0.092 | 0.014 | <.001 | (0.066, 0.119) | −0.161 | 0.043 | <.001 | (−0.245, −0.077) |
| M1 PPR | 0.322 | 0.014 | <.001 | (0.294, 0.350) | 0.126 | 0.012 | <.001 | (0.103, 0.149) |
| M1 EWB | | | | | 0.292 | 0.013 | <.001 | (0.266, 0.318) |
| M1 Age | | | | | 0.004 | 0.001 | <.001 | (0.003, 0.006) |
| Gendera | | | | | 0.009 | 0.021 | .673 | (−0.033, 0.051) |
| M1 Extraversion | | | | | 0.119 | 0.011 | <.001 | (0.097, 0.141) |
| M1 Neuroticism | | | | | −0.333 | 0.012 | <.001 | (−0.356, −0.310) |
| M1 PFamR | | | | | 0.075 | 0.013 | <.001 | (0.051, 0.100) |
| M1 PFriR | | | | | 0.005 | 0.012 | .654 | (−0.018, 0.029) |
| Adjusted R2 | | | .110 | | | | .491 | |
| | Eudaimonic Well-Being | | | | | | | |
| | Model 1b | | | | Model 2b | | | |
| | *B* | *SE* | *p* | 95% CI | *B* | *SE* | *P* | 95% CI |
| Intercept | 0.081 | 0.014 | <.001 | (0.053, 0.109) | 0.447 | 0.047 | <.001 | (0.355, 0.539) |
| M1 PPR | 0.311 | 0.015 | <.001 | (0.282, 0.340) | 0.088 | 0.013 | <.001 | (0.062, 0.113) |
| M1 HWB | | | | | 0.356 | 0.016 | <.001 | (0.325, 0.388) |
| M1 Age | | | | | −0.008 | 0.001 | <.001 | (−0.009, −0.006) |
| Gendera | | | | | −0.100 | 0.024 | <.001 | (−0.146, −0.053) |
| M1 Extraversion | | | | | 0.139 | 0.013 | <.001 | (0.114, 0.164) |
| M1 Neuroticism | | | | | −0.202 | 0.014 | <.001 | (−0.229, −0.174) |
| M1 PFamR | | | | | 0.079 | 0.014 | <.001 | (0.052, 0.106) |
| M1 PFriR | | | | | 0.122 | 0.013 | <.001 | (0.095, 0.148) |
| Adjusted R2 | | | .093 | | | | .434 | |

*Note.* M1 = MIDUS I; HWB = Hedonic well-being; EWB = Eudaimonic well-being; PPR = Perceived partner responsiveness; PFamR = Perceived family responsiveness (excluding spouse); PFriR = Perceived friend responsiveness. All continuous variables were standardized before being entered into the models. For continuous variables, higher scores reflect higher standing on the variable. $N$ = 4,167 in all models.

[a] 0 = *male*, 1 = *female*

**Table 3**

Regression Models Predicting Well-Being 10 Years Later

| | Hedonic Well-Being | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Model 1a** | | | | **Model 2a** | | | |
| | ***B*** | ***SE*** | ***p*** | **95% CI** | ***B*** | ***SE*** | ***P*** | **95% CI** |
| Intercept | −0.015 | 0.016 | .336 | (−0.047, 0.016) | −0.003 | 0.023 | .886 | (−0.049, 0.042) |
| M1 HWB | 0.590 | 0.019 | <.001 | (0.552, 0.628) | 0.467 | 0.025 | <.001 | (0.418, 0.515) |
| M1 PPR | 0.055 | 0.019 | .004 | (0.018, 0.093) | 0.027 | 0.020 | .172 | (−0.012, 0.066) |
| M1 EWB | | | | | 0.102 | 0.022 | <.001 | (0.059, 0.145) |
| M2 Age | | | | | 0.081 | 0.018 | <.001 | (0.047, 0.116) |
| Gender[a] | | | | | −0.036 | 0.033 | .277 | (−0.100, 0.029) |
| M1 Extraversion | | | | | −0.006 | 0.018 | .735 | (−0.041, 0.029) |
| M1 Neuroticism | | | | | −0.070 | 0.020 | <.001 | (−0.109, −0.032) |
| M1 PFamR | | | | | 0.014 | 0.019 | .482 | (−0.024, 0.051) |
| M1 PFriR | | | | | 0.041 | 0.019 | .031 | (0.004, 0.077) |
| Adjusted $R^2$ | | | .327 | | | | .348 | |
| | Eudaimonic Well-Being | | | | | | | |
| | Model 1b | | | | Model 2b | | | |
| | *B* | *SE* | *P* | 95% CI | *B* | *SE* | *P* | 95% CI |
| Intercept | −0.009 | 0.016 | .573 | (−0.040, 0.022) | 0.001 | 0.023 | .965 | (−0.045, 0.047) |
| M1 EWB | 0.594 | 0.018 | <.001 | (0.559, 0.629) | 0.472 | 0.022 | <.001 | (0.429, 0.514) |
| M1 PPR | 0.099 | 0.019 | <.001 | (0.062, 0.136) | 0.057 | 0.020 | .004 | (0.018, 0.096) |
| M1 HWB | | | | | 0.083 | 0.025 | .001 | (0.034, 0.131) |
| M2 Age | | | | | −0.001 | 0.018 | .952 | (−0.036, 0.034) |
| Gender[a] | | | | | −0.021 | 0.033 | .525 | (−0.085, 0.043) |
| M1 Extraversion | | | | | 0.053 | 0.018 | .003 | (0.018, 0.088) |
| M1 Neuroticism | | | | | −0.079 | 0.020 | <.001 | (−0.117, −0.040) |
| M1 PFamR | | | | | 0.027 | 0.019 | .163 | (−0.011, 0.065) |

| | Hedonic Well-Being | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Model 1a | | | | Model 2a | | | |
| | ***B*** | ***SE*** | ***p*** | **95% CI** | ***B*** | ***SE*** | ***P*** | **95% CI** |
| M1 PFriR | | | | | 0.071 | 0.019 | <.001 | (0.034, 0.107) |
| Adjusted $R^2$ | | | .373 | | | | .395 | |

*Note*. M1 = MIDUS I; M2 = MIDUS II; HWB = Hedonic well-being; EWB = Eudaimonic well-being; PPR = Perceived partner responsiveness; PFamR = Perceived family responsiveness (excluding spouse); PFriR = Perceived friend responsiveness. All continuous variables were standardized before being entered into the models. For continuous variables, higher scores reflect higher standing on the variable. *N* = 2,348 in all models.

[a] 0 = *male*, 1 = *female*

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