Health Psychology
2017, Vol. 36, No. 1, 21–30


0278-6133/17/$12.00 http://dx.doi.org/10.1037/hea0000432

# Happy You, Healthy Me? Having a Happy Partner Is Independently Associated With Better Health in Oneself

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***Objective:*** Happy people are healthy people. However, past research has largely overlooked the influence of romantic partners' happiness on physical health, particularly how a person's own emotional and physical well-being might also be affected by the happiness and health of their partner. ***Method:*** The current study helps fill this gap. In a large nationally representative sample ($N$ = 1,981 couples), a multilevel modeling procedure was employed to explore whether spousal life satisfaction contributes to self-health *over and above* the contribution of one's own life satisfaction. ***Results:*** First, own happiness predicted better self-health and exercise ($r$ values $>$ .07), consistent with previous studies. Importantly, spousal happiness also uniquely predicted better *self*-health ($r$ values $>$ .06), above and beyond own happiness and critical covariates. ***Conclusions:*** This finding significantly broadens extant assumptions about the link between happiness and health, suggesting novel social mechanisms: simply having a happy *partner* may enhance health as much as striving to being happy oneself. Candidate pathways that could account for this unique boost are discussed.

*Keywords:* life satisfaction, health, close relationships, well-being, social interaction

*Supplemental materials:* http://dx.doi.org/10.1037/hea0000432.supp

What makes a person healthy? One interesting way to approach this question is to first identify whether or not the person is happy. High self-reported life satisfaction has been shown to predict stronger immune performance, better cardiovascular functioning, less vulnerability to chronic stress, and even a longer life (Chida & Steptoe, 2008; Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002; Segerstrom & Sephton, 2010; Williams & Schneiderman, 2002). Moreover, a wide variety of both longitudinal and experimental studies indicate an association between happiness and health, above and beyond differences in demographics, life circumstances, and a person's baseline fitness (Davidson, 2004; Diener & Chan, 2011; Howell, Kern, & Lyubomirsky, 2007; Lyubomirsky, King, & Diener, 2005; Rozanski, Blumenthal, & Kaplan, 1999; Sapolsky, 2005). Not surprisingly, happier people are healthier people.

The goal of the current study, however, was to extend this association one step further by exploring the context of interpersonal relationships. For better and worse, daily life inevitably involves the presence of other people, and hence one's own health and happiness simply cannot exist in a vacuum. Recent research on social contagion reveals that an individual's well-being strongly assimilates with the well-being of his or her peers. People report better mood, greater happiness, and higher life satisfaction when surrounded by others who also feel positive, happy, and satisfied (Fowler & Christakis, 2008; Hill, Rand, Nowak, & Christakis, 2010). Similarly, people are more physically fit and enjoy better physical health when they are situated within fit and healthy social networks (Christakis & Fowler, 2007; Mednick, Christakis, & Fowler, 2010).

One intriguing but untested question is how these findings might cross over—that is, whether *happy* others influence one's own *health*. The current study specifically focuses on perhaps the most omnipresent and influential "other" in a person's everyday life: his or her romantic partner. Might having a happy partner promote better health in oneself? This kind of dyadic effect would have important implications for reexamining the robust effect of happiness on health found for the self. The prevailing mechanism suggested for this effect of happiness on health is behavioral in nature: positive affective states (like feeling satisfied with life) are highly energizing and facilitate motivation, action, and commitment (Cacioppo, Gardner, & Berntson, 1999; Carver & Scheier, 1990; Fredrickson, 2001; Watson, Wiese, Vaidya, & Tellegen, 1999), and therefore happy people are more likely to exercise, actively monitor their weight, exert high energy on routine tasks, seek stimulating leisure, and engage in other health-beneficial behaviors compared with unhappy people (Grant, Wardle, & Steptoe, 2009; Martinsen, Strand, Paulsson, & Kaggestad, 1989; Morgan, 1997; Rascuite & Downward, 2010; Veenhoven, 2008). But note how this framework seems devoid of social context and focuses primarily on internal processes and self-driven achievement. It implies, for example, that unhappy people can improve their health merely by looking inward to address personal energy capacities and expenditure. A model of well-being that only considers own-happiness galvanizing own-behavior *in isolation* over-

This article was published Online First September 19, 2016.

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looks the power of romantic partners in changing an individual's ability to sustain such a process.

Regardless of the impact of own happiness on health, people who are surrounded by happy versus unhappy romantic partners could be affected in a host of ways that are not captured by the existing literature. Indeed, romantic partners (compared with more distant sources of social influence) are especially impactful in a person's life. Extant research demonstrates that various characteristics of one's partner have large transactional effects on one's own individual health and well-being (Orth, 2013; Roberts, Smith, Jackson, & Edmonds, 2009). For example, romantic partners often have the ability to pressure and persuade the other partner to adhere to medical treatment, leading to faster recovery (Stephens et al., 2009). Many of these studies that examine the influence of partner characteristics on individual outcomes typically assess how partner characteristics affect relationship satisfaction cross-sectionally (Kenny, Kashy, & Cook, 2006). However, the happiness and health of couples are also likely intertwined over time. In fact, couples show a large degree of coordinated changes over time—they tend to change in similar ways with respect to their social activities, physical limitations, cognition, health, and happiness (e.g., Hoppmann & Gerstorf, 2009). For example, in a study by Pruchno, Wilson-Genderson, and Cartwright (2009), improvements in self-health among patients with end-stage renal disease were associated with declines in depressive symptoms within their spouses over time. Changes in psychological characteristics within couples also predict relationship satisfaction and stability (Erol & Orth, 2014). When one person initiates a positive health change, his or her partner is often quick to follow, whether it be quitting smoking, drinking less, exercising more, going for a cholesterol screening, getting a flu shot, or losing weight (Falba & Sindelar, 2008; Jackson, Steptoe, & Wardle, 2015). Despite evidence suggesting that couple members' health and health behavior are generally related, it remains unclear whether and how one partner's *happiness* might "cross over" and influence the other's health and health behavior.

There are at least three salient reasons why having a happy (vs. unhappy) romantic partner might enhance a person's health, irrespective of one's own happiness. First, happy partners likely provide stronger social support for the self, such as being willing, available, and able to provide caretaking, as compared with unhappy partners who are more likely to be focused on their own stressors (Hawkley & Cacioppo, 2010; Robles & Kiecolt-Glaser, 2003; Scheier & Carver, 1977). Better caretaking environments should engender better health. Second, happy partners may get unhappy people involved with activities and contexts that promote health, such as maintaining regular sleep cycles and stocking balanced foods in the household, as compared with unhappy partners who are more likely to construct erratic, unplanned environments (Lopresti, Hood, & Drummond, 2013; Markwald et al., 2013). Finally, being surrounded by a happy partner should make a person's life easier even if not explicitly happier. Simply knowing that one's partner is satisfied with his or her individual circumstances may temper a person's need to seek self-destructive outlets such as binge drinking or drug abuse, and may more generally offer contentment in ways that afford health benefits down the road (Overall, Fletcher, & Simpson, 2010). These possibilities suggest people's health can be affected by factors beyond themselves and their own private emotional drives and states. In other words, a "personal energy" hypothesis as currently understood cannot apply if *someone else's* happiness (in this case, one's romantic partner) is associated with an individual's health, over and above the individual's own happiness.

## The Current Study

These possibilities were tested by examining the health and happiness of a large, nationally representative sample of older married couples in the United States. This analysis contributes to existing research in the following ways. First, testing an older adult population affords insights for better understanding health trajectories in later years of life, when the average person's health is particularly at risk. Identifying novel factors that may enhance health at these stages is therefore especially valuable. Second, the basic link between own happiness and own health was tested for within this large-scale and diverse data set, serving as a robust replication of past findings. Third, as outlined, existing research has focused on the health benefits of happiness for the self alone, neglecting a dyadic crossover. The current study addresses this gap by exploring if self-health is *independently* predicted by the happiness of one's spouse. Finally, by testing the effect of spousal happiness on self-health, contextual antecedents that may link emotional states to health outcomes are highlighted and clarified, providing a rich springboard for future research.

Happiness was assessed with a well-established psychological measure of global life satisfaction. Health was assessed in four diverse ways: each person's subjective rating of overall health; an index of each person's current physical impairments (e.g., mobility constraints, experiencing pain completing routine tasks); the presence of chronic diseases within each person (e.g., malignant tumors, diabetes); and each person's frequency of health behavior (e.g., frequency of exercise). Moreover, providing a robust test of the hypothesis, these outcomes were assessed within the same individuals in 2006, 2008, 2010, and again in 2012. Self and partner happiness and numerous covariates were assessed in 2006. Outcome measures (self-rated health, physical impairment, chronic disease, and physical activity) were assessed in 2006, 2008, 2010, and 2012. Multiple assessments increase statistical power, the precision of measurement, and help aid in examining the prospective prediction of happiness being associated with health over time, which can be ambiguous when using cross-sectional data. Multiple time points also assess the robustness of the role of self- and partner-happiness on health—to explore whether happiness continues to confer health benefits into older age.

## Method

### Participants

The Health and Retirement Study (HRS), sponsored by the National Institute on Aging and conducted by the University of Michigan, is a nationally representative prospective panel study that has surveyed over 22,000 Americans aged 50+ since 1992 (Sonnega et al., 2014). In 2006, half of HRS respondents were visited to complete an enhanced face-to-face interview and psychosocial survey, which included measures relevant to the current hypothesis. Health was assessed again in 2008, 2010, and 2012.

The current sample comprises data from heterosexual couples in which both husband and wife privately completed all target measures ($N$ = 1,981 couples or 3,962 individuals). The current sample vastly exceeds the suggested minimum of 782 couples required to estimate an effect of $r = .10$ at $p = .05$ (Kenny et al., 2006).

Participants ranged in age from 50 to 94 ($M$ = 66.88, $SD$ = 8.93). Ethnicity was 84.0% Caucasian, 8.3% African American, 6.4% Hispanic, and 1.4% other. Median education level was high school (15.3% had less than a high school education, 37.1% had a high school education or GED, 47.6% had at least some college education). Overall dropout rate was 16.0% across all waves. In terms of attrition analyses, participants with complete data were, on average, healthier ($d = .44$), had fewer limitations ($d = .40$), fewer chronic illnesses ($d = .40$), engaged in more light ($d = .36$), moderate ($d = .32$), and vigorous ($d = .20$) exercise, and were happier ($d = .10$). More critical, participants with complete data were younger ($d = .71$), and more highly educated ($d = .24$) compared with participants with missing data; moreover, women were more likely to have complete data versus men, $\chi^2(1) = 35.85$, $p < .001$. Therefore, these attrition-relevant variables of age, education, and gender were accounted for in our statistical analyses.

## Measures

**Happiness.** Happiness was assessed with the well-established Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). Participants rated their agreement with each of five items, on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*; $M$ = 4.57, $SD$ = 1.14; $\alpha = .89$).

**Self-rated health.** Self-rated health was assessed with the item, "Would you say your health is excellent, very good, good, fair, or poor?" Responses were coded in numeric order such that higher values indicate better health ($M$ = 3.25, $SD$ = 1.05 across waves). Various studies show that self-rated health measures are strong indicators of actual health outcomes (Idler & Benyamini, 1997).

**Physical impairment.** Physical impairment was a summed measure of five activities that older adults typically struggle with. Each participant reported whether they experienced difficulty in showering/bathing themselves, dressing themselves, eating, getting out of bed, and walking across the room. Number of limitations was summed such that higher values indicate worse physical impairment ($M$ = .25, $SD$ = .79). This index was adapted from a number of well-established scales and indices of physical difficulty (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963; Lawton & Brody, 1969; Nagi, 1976; Rosow & Breslau, 1966).

**Chronic disease.** Chronic disease was a summed measure of eight major chronic illnesses. Each participant reported whether they have ever suffered from (a) high blood pressure, (b) diabetes, (c) cancer or a malignant tumor of any kind, (d) lung disease, (e) coronary heart disease including heart attacks and congestive heart failure, (f) emotional, nervous, or psychiatric problems, (g) arthritis or rheumatism, and (h) stroke. Again, number of major health problems was summed such that higher values indicate a greater presence of chronic disease ($M$ = 2.18, $SD$ = 1.44). This index of chronic illnesses assesses multiple morbidities among older adults.

**Physical activity.** Physical activity was assessed with three questions asking about different levels of activity in the last 12 months. Participants reported how often they engaged in forms of light (e.g., vacuuming, laundry; $M$ = 3.41, $SD$ = 1.11), moderate (e.g., gardening, walking at a moderate pace; $M$ = 3.11, $SD$ = 1.30), and vigorous (e.g., running/jogging, working out at the gym; $M$ = 2.07, $SD$ = 1.34) forms of physical activity on a scale from 1 (*hardly ever or never*) to 5 (*every day*). These items are recommended by the English Longitudinal Study of Ageing to assess physical health in populations of older adults (Steptoe, Breeze, Banks, & Nazroo, 2013).

**Concerns about self/partner health.** Finally, a "concerns" question regarding how upsetting the presence of "physical and/or emotional problems" in one's partner were to the self (1 = *not present*, 2 = *yes, but not upsetting*, 3 = *yes, somewhat upsetting*, 4 = *very upsetting*) was also included. An identical question was asked pertaining to how upsetting the individual considered their own "physical and/or emotional problems."

## Statistical Analyses

To account for the interdependence of individuals within dyads, multilevel modeling (MLM) procedures recommended for dyadic data analysis were used (Kenny et al., 2006). MLM estimates both *actor effects* (associations between a person's happiness and his or her own health) and *partner effects* (associations between a person's happiness and his or her partner's health) while accounting for the statistical nonindependence of members in a couple. Both actor and partner effects of happiness were tested as moderators of changes in health and health behavior over time. Happiness at the first assessment wave was treated as time-invariant and used as a predictor of changes in health and health behavior. The linear effect of time was modeled in each analysis. The full information maximum likelihood estimation algorithm was used, which accommodates incomplete data under the data-missing-at-random (MAR) assumption (Little & Rubin, 1987). To accommodate obvious violations of MAR assumptions, models incorporated attrition-relevant variables of age, education, and gender. Statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS) MIXED procedure (Peugh & Enders, 2005).

This structure of the dyadic models helps to account for the possibility that a link between partner happiness and self-health may reflect the opposite (that healthy selves make happy people and partners). Although we cannot definitively disentangle causality given the nonexperimental nature of the data, the high degree of statistical control provided by these models, as well as our analyses that prospectively predict happiness and health outcomes over time, provide a stronger test beyond simple bivariate correlations. Furthering this goal to more finely account for a directional interpretation of the data, the "concerns" questions about how upsetting both an individual's and his or her partner's health problems were to the self were also controlled for. If so, controlling for "health concerns" of the couple should theoretically eliminate any proposed effects for how health affects happiness. Finally, all analyses adjust for other sociodemographic factors previously linked to health, so as to underscore the unique benefits of partner happiness.

Following recommended procedures (Kenny et al., 2006), gender was contrast-coded (−1 = men, 1 = women) and predictor variables (partner/actor happiness) were grand-mean centered. Self-rated health, physical impairment, chronic disease, and physical activity served as the dependent measures. Separate multilevel models were conducted predicting each of the health measures from actor happiness, partner happiness, and the interaction between actor/partner happiness. Individual-level covariates (age, gender, education, and concerns about self/partner health) were also included in each model. Interactions between actor and partner happiness were included in order to test for the possibility of a multiplicative effect on health. For example, if an Actor × Partner interaction is significant, it could indicate that unhappy individuals might benefit the most from having a happy partner. Alternatively, it could indicate that the effects of happiness on health are only present (or particularly evident) if both members are happy. A nonsignificant interaction would indicate that the effect of an individual's happiness on health is independent and does not vary systematically depending on a partner's level of happiness.

## Results

### Preliminary Correlations

Preliminary correlations and descriptive statistics are presented in Table 1. Actor happiness was associated with better self-health and health behavior both cross-sectionally (within an assessment wave) and prospectively (at each future assessment point), consistent with past research. Importantly, *partner* happiness also predicted better *self*-health and health behavior both cross-sectionally and prospectively, consistent with a dyadic effect. Of course, there were substantial correlations between all of the measures of health and health behavior, and all measures were (unsurprisingly) correlated between members of each couple ($p$ values $< .001$).

### Happier Selves Are Associated With Healthier Selves

In dyadic models that adjusted for gender, age, educational attainment, and concerns about both an individual's and his or her partner's health, the basic effect of self-happiness on self-health and behavior was found across all measures (see Tables 2 and 3). The happier participants were, the more likely they were to experience better self-rated health, less physical impairment, and lower rates of chronic disease. Happier participants were also more physically active than unhappy participants. None of these effects were meaningfully moderated by the linear effect of time (2006–2012; $r$ values $< .04$), suggesting that the associations between self-happiness and self-health and health behavior persist 6 years later. These analyses provide one of the most highly controlled, large-scale, and representative replications of past research on the effects of a person's own happiness on health.

### Happier Partners Are Associated With Healthier Selves

Most critically for purposes of the current study, the happiness of a person's partner also emerged as a *unique* and statistically significant predictor of self-health and behavior across nearly every measure (see Tables 2 and 3 for empirical results; see Figure 1 for a visual depiction). For self-rated health, physical impairment, and all forms of exercise, having a happy partner predicted healthier outcomes *above and beyond* the contributions of an individual's personal happiness and all covariates; participants with happy partners were significantly more likely to report better health, experience less physical impairment, and exercise more frequently than participants with unhappy partners, even after accounting for the impact of their own happiness and other life circumstances. Again, none of these effects meaningfully diminished over time (2006–2012; $r$ values $< .05$), suggesting that having a happy partner could afford surprisingly long-lasting effects on a person's own health.

Among all of these effects, there was only one exception in the relationship between partner happiness and self-health: having a happy partner did *not* predict lower rates of chronic disease, and in fact, the two variables were unrelated (see Table 2, Column 3).

Finally, none of the Actor × Partner interactions were significant (see Tables 2 and 3). This finding is particularly important because it again suggests partner happiness predicts better self-health *regardless of* a person's own initial happiness. In the few cases in which time did moderate actor/partner effects, decomposing these interactions revealed that, in most cases, the effects of actor/partner happiness on an individual's health increase over time, which if anything might further support the hypotheses (see Figures S1–S3 in the online supplemental material). In other words, some health disparities between happy and unhappy individuals/partners became even larger over time. However, moderation effects were small in magnitude ($r < .05$) and of little practical significance to the central framework, and thus are not discussed further.

The covariances between husbands' and wives' intercepts and slopes are also presented in Tables 2 and 3. Across the six outcomes, the intercepts of health and health behavior were significantly correlated within couples, such that there was significant similarity in couples' starting values of health and health behavior. Within individuals, intercepts and slopes were often correlated, such that an individual's starting point was associated with how they changed over time. Remaining cross-partner covariances were not significant—one partner's starting point on health (behavior) was unrelated to changes in the health (behavior) in their partner. Changes in health (behavior) over time between people were not correlated, with one incidental exception: changes in moderate levels of exercise were coordinated between partners over time.

## Discussion

Most people strive to be happy and healthy. But these goals are not mutually exclusive; being rich or poor in one has substantial ramifications for the other. A growing body of research suggests feeling happy and satisfied with life can actually improve one's health (Davidson, 2004; Howell et al., 2007; Lyubomirsky et al., 2005; Rozanski et al., 1999; Sapolsky, 2005). However, previous research mainly focuses on individual psychosocial predictors of physical health and chronic disease rather than situating questions of health within one's broader social relationships (Howell et al., 2007). The current study extends this effect to account for the inevitable context of other people, and specifically a person's romantic partner, whose presence can greatly impact one's own feelings, behaviors, and outcomes (Falba & Sindelar, 2008; Kim, Chopik, & Smith, 2014; Pruchno et al.,

Table 1
*Study Descriptives and Preliminary Correlation*

| | 2006 | | | | | | | | 2008 | | | | | | 2010 | | | | | | 2012 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 2006 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Actor life satisfaction | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. Partner life satisfaction | .36 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. Health | .26 | .17 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. Chronic disease | −.12 | −.06 | −.44 | | | | | | | | | | | | | | | | | | | | | | | |
| 5. Physical impairment | −.18 | −.14 | −.34 | .23 | | | | | | | | | | | | | | | | | | | | | | |
| 6. Light exercise | .09 | .05 | .22 | −.19 | −.22 | | | | | | | | | | | | | | | | | | | | | |
| 7. Moderate exercise | .13 | .10 | .31 | −.21 | −.25 | .37 | | | | | | | | | | | | | | | | | | | | |
| 8. Vigorous exercise | .10 | .05 | .27 | −.19 | −.15 | .17 | .34 | | | | | | | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. Health | .26 | .16 | **.67** | −.42 | −.28 | .21 | .29 | .25 | | | | | | | | | | | | | | | | | | |
| 10. Chronic disease | −.13 | −.07 | −.45 | **.94** | .24 | −.19 | −.21 | −.18 | −.46 | | | | | | | | | | | | | | | | | |
| 11. Physical impairment | −.17 | −.10 | −.32 | .24 | **.56** | −.22 | −.23 | −.15 | −.37 | .26 | | | | | | | | | | | | | | | | |
| 12. Light exercise | .09 | .07 | .24 | −.20 | −.22 | **.45** | .26 | .15 | .24 | −.21 | −.31 | | | | | | | | | | | | | | | |
| 13. Moderate exercise | .12 | .09 | .32 | −.21 | −.20 | .26 | **.46** | .31 | .35 | −.22 | −.29 | .41 | | | | | | | | | | | | | | |
| 14. Vigorous exercise | .09 | .07 | .29 | −.21 | −.14 | .17 | .30 | **.50** | .31 | −.22 | −.19 | .21 | .39 | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15. Health | .25 | .15 | **.61** | −.40 | −.25 | .17 | .25 | .24 | **.64** | −.42 | −.30 | .20 | .28 | .26 | | | | | | | | | | | | |
| 16. Chronic disease | −.13 | −.08 | −.45 | **.89** | .22 | −.17 | −.19 | −.18 | −.44 | **.94** | .25 | −.18 | −.21 | −.21 | −.45 | | | | | | | | | | | |
| 17. Physical impairment | −.14 | −.11 | −.28 | .21 | **.44** | −.17 | −.19 | −.14 | −.29 | .23 | **.54** | −.22 | −.22 | −.14 | −.37 | .27 | | | | | | | | | | |
| 18. Light exercise | .10 | .07 | .25 | −.19 | −.14 | **.39** | .24 | .18 | .22 | −.20 | −.20 | **.45** | .27 | .20 | .28 | −.22 | −.31 | | | | | | | | | |
| 19. Moderate exercise | .11 | .07 | .28 | −.22 | −.14 | .24 | **.41** | .32 | .31 | −.23 | −.20 | .25 | **.47** | .34 | .34 | −.24 | −.27 | .41 | | | | | | | | |
| 20. Vigorous exercise | .09 | .05 | .23 | −.18 | −.12 | .15 | .26 | **.44** | .25 | −.20 | −.14 | .19 | .31 | **.49** | .28 | −.21 | −.17 | .25 | .44 | | | | | | | |
| 2012 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21. Health | .26 | .17 | **.61** | −.39 | −.24 | .17 | .23 | .20 | **.64** | −.41 | −.30 | .19 | .28 | .24 | **.68** | −.43 | −.32 | .23 | .29 | .24 | | | | | | |
| 22. Chronic disease | −.13 | −.08 | −.44 | **.84** | .21 | −.15 | −.18 | −.16 | −.44 | **.89** | .24 | −.16 | −.21 | −.19 | −.45 | **.95** | .25 | −.19 | −.22 | −.20 | −.46 | | | | | |
| 23. Physical impairment | −.13 | −.09 | −.28 | .22 | **.39** | −.17 | −.17 | −.13 | −.30 | .23 | **.55** | −.19 | −.20 | −.14 | −.34 | .25 | **.68** | −.26 | −.23 | −.17 | −.38 | .27 | | | | |
| 24. Light exercise | .10 | .06 | .27 | −.23 | −.16 | **.39** | .25 | .16 | .25 | −.24 | −.23 | **.43** | .27 | .20 | .30 | −.24 | −.29 | **.53** | .32 | .23 | .33 | −.26 | −.37 | | | |
| 25. Moderate exercise | .13 | .09 | .28 | −.23 | −.16 | .24 | **.36** | .30 | .29 | −.24 | −.20 | .23 | **.41** | .32 | .33 | −.25 | −.24 | .33 | **.51** | .35 | .36 | −.26 | −.30 | .45 | | |
| 26. Vigorous exercise | .07 | .09 | .25 | −.20 | −.13 | .14 | .26 | **.40** | .26 | −.21 | −.15 | .17 | .31 | **.44** | .27 | −.22 | −.16 | .23 | .38 | **.52** | .32 | −.23 | −.20 | .29 | .47 | |
| *M* | 4.57 | 4.57 | 3.33 | 1.91 | .19 | 3.57 | 3.29 | 2.08 | 3.19 | 2.12 | .23 | 3.47 | 3.16 | 2.04 | 3.24 | 2.31 | .30 | 3.29 | 2.97 | 2.07 | 3.21 | 2.45 | .31 | 3.27 | 3.00 | 2.07 |
| *SD* | 1.14 | 1.14 | 1.04 | 1.37 | .63 | 1.05 | 1.27 | 1.37 | 1.04 | 1.43 | .73 | 1.11 | 1.29 | 1.33 | 1.05 | 1.45 | .88 | 1.13 | 1.32 | 1.33 | 1.04 | 1.47 | .92 | 1.14 | 1.30 | 1.33 |

*Note*. *N* values range from 3,321 to 3,938. All correlations are significant at $p < .002$. Bolded correlations represent the test–retest correlations for health and health behavior.

Table 2
*Multilevel Models Predicting Self-Rated Health, Physical Impairment, and Chronic Disease*

| | Self-rated health | | | | Physical impairment | | | | Chronic disease | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *b* | *SE*(*b*) | *Z* | *r* | *b* | *SE*(*b*) | *Z* | *r* | *b* | *SE*(*b*) | *Z* | *r* |
| Gender | .04 | .01 | 3.65*** | .08 | −.01 | .01 | −1.15 | .03 | −.03 | .02 | −1.72† | .04 |
| Age | −.01 | .001 | −9.10*** | .19 | .08 | .001 | 7.27*** | .15 | .04 | .002 | 16.18*** | .32 |
| Time | −.03 | .003 | −12.26*** | .28 | .04 | .003 | 13.95*** | .34 | .11 | .002 | 46.59*** | .74 |
| Actor happiness | .13 | .01 | 11.31*** | .19 | −.07 | .01 | −7.08*** | .13 | −.06 | .02 | −3.36*** | .06 |
| Partner happiness | .06 | .01 | 5.08*** | .08 | −.04 | .01 | −3.77*** | .07 | −.03 | .02 | −1.62 | .03 |
| Actor happiness × Time | −.0004 | .002 | −.16 | .003 | −.01 | .003 | −2.02* | .04 | −.004 | .002 | −1.61 | .03 |
| Partner happiness × Time | .0004 | .002 | .16 | .003 | −.001 | .003 | −.57 | .01 | −.01 | .002 | −3.00** | .05 |
| Actor × Partner happiness | −.005 | .01 | −.60 | .01 | .02 | .01 | 1.85† | .04 | .02 | .01 | 1.20 | .03 |
| Concerns about own health | −.45 | .01 | −36.47*** | .52 | .17 | .01 | 17.86*** | .28 | .54 | .02 | 26.17*** | .40 |
| Concerns about spousal health | .03 | .01 | 2.47* | .04 | −.03 | .01 | −2.81** | .05 | .02 | .02 | .90 | .01 |
| Education | | | | | | | | | | | | |
| Some high school | −.60 | .04 | −15.41*** | .26 | .12 | .03 | 4.15*** | .07 | .36 | .07 | 5.50*** | .09 |
| General education diploma (GED) | −.38 | .06 | −6.65*** | .11 | .05 | .04 | 1.21 | .02 | .35 | .10 | 3.66*** | .06 |
| High school graduate | −.26 | .03 | −8.36*** | .14 | .01 | .02 | .50 | .01 | .20 | .05 | 3.76*** | .06 |
| Some college | −.11 | .03 | −3.26** | .05 | −.01 | .03 | −.58 | .01 | .16 | .06 | 2.88** | .05 |
| Random effects | | | | | | | | | | | | |
| Cov. intercept male, intercept female | .06*** | .01 | | | .02* | .01 | | | .24*** | .03 | | |
| Cov. intercept male, slope male | .02*** | .003 | | | .05*** | .003 | | | .04*** | .004 | | |
| Cov. intercept female, slope female | .01*** | .002 | | | .06*** | .003 | | | .03*** | .004 | | |
| Cov. intercept male, slope female | .001 | .003 | | | −.002 | .003 | | | .01† | .004 | | |
| Cov. slope male, intercept female | −.01* | .003 | | | −.001 | .002 | | | .003 | .004 | | |
| Cov. slope male, slope female | .001 | .001 | | | −.001 | .001 | | | .001 | .0005 | | |

*Note.* $N = 3{,}938$. Effects are reported as unstandardized regression coefficients. Reference group for education is at least a college degree. Gender: −1: men; 1 = women.
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

2009; Roberts et al., 2009; Stephens et al., 2009). Results suggest a novel crossover: using various health indicators within a nationally representative sample of older adults, one spouse's happiness uniquely predicted the other's health *over and above* the other's own happiness.

What accounts for this crossover? A number of important covariates were controlled for, but still other variables may shed light. One related study finds that having a partner low in neuroticism and high in conscientiousness also predicts better health (Roberts et al., 2009); perhaps the current study reflects a similar

Table 3
*Multilevel Models Predicting Light, Moderate, and Vigorous Exercise*

| | Light exercise | | | | Moderate exercise | | | | Vigorous exercise | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *b* | *SE*(*b*) | *Z* | *r* | *b* | *SE*(*b*) | *Z* | *r* | *b* | *SE*(*b*) | *Z* | *r* |
| Gender | .24 | .01 | 19.92*** | .40 | −.07 | .01 | −5.36*** | .12 | −.14 | .01 | −9.78*** | .21 |
| Age | −.02 | .001 | −14.66*** | .29 | −.02 | .002 | −10.49*** | .21 | −.02 | .002 | −9.76*** | .19 |
| Time | −.07 | .003 | −19.68*** | .43 | −.07 | .004 | −15.97*** | .35 | −.01 | .004 | −2.03* | .05 |
| Actor happiness | .08 | .01 | 6.92*** | .12 | .09 | .01 | 6.47*** | .10 | .06 | .02 | 4.14*** | .07 |
| Partner happiness | .04 | .01 | 3.62*** | .06 | .05 | .01 | 3.81*** | .06 | .04 | .01 | 2.73** | .04 |
| Actor happiness × Time | .004 | .003 | 1.37 | .03 | .002 | .004 | .48 | .01 | −.01 | .004 | −2.11* | .04 |
| Partner happiness × Time | .002 | .003 | .65 | .01 | −.001 | .004 | −.36 | .01 | .01 | .004 | 1.75† | .03 |
| Actor × Partner happiness | .01 | .01 | 1.17 | .03 | .004 | .01 | .37 | .01 | .01 | .01 | .47 | .01 |
| Concerns about own health | −.14 | .01 | −10.82*** | .18 | −.21 | .02 | −12.72*** | .21 | −.19 | .02 | −11.06*** | .18 |
| Concerns about spousal health | .05 | .01 | 4.25*** | .07 | .02 | .02 | 1.40 | .02 | .01 | .02 | .81 | .01 |
| Education | | | | | | | | | | | | |
| Some high school | −.27 | .04 | −6.61*** | .12 | −.41 | .05 | −7.96*** | .14 | −.37 | .06 | −6.64*** | .11 |
| General education diploma (GED) | −.15 | .06 | −2.50* | .04 | −.35 | .07 | −4.66*** | .08 | −.37 | .08 | −4.60*** | .07 |
| High school graduate | −.12 | .03 | −3.69*** | .06 | −.28 | .04 | −6.71*** | .11 | −.27 | .04 | −6.06*** | .10 |
| Some college | −.04 | .03 | −1.20 | .02 | −.13 | .04 | −3.05** | .05 | −.14 | .05 | −3.14** | .05 |
| Random effects | | | | | | | | | | | | |
| Cov. intercept male, intercept female | .05*** | .01 | | | .17*** | .02 | | | .24*** | .02 | | |
| Cov. intercept male, slope male | .01** | .004 | | | .01* | .01 | | | −.01 | .01 | | |
| Cov. intercept female, slope female | .01*** | .003 | | | .01 | .01 | | | −.001 | .01 | | |
| Cov. intercept male, slope female | −.01 | .004 | | | .002 | .01 | | | −.02** | .01 | | |
| Cov. slope male, intercept female | −.01 | .004 | | | .01 | .01 | | | −.005 | .01 | | |
| Cov. slope male, slope female | .001 | .001 | | | .01*** | .002 | | | .001 | .002 | | |

*Note.* $N = 3{,}938$. Effects are reported as unstandardized regression coefficients. Reference group for education is at least a college degree. Gender: −1: men; 1 = women.
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

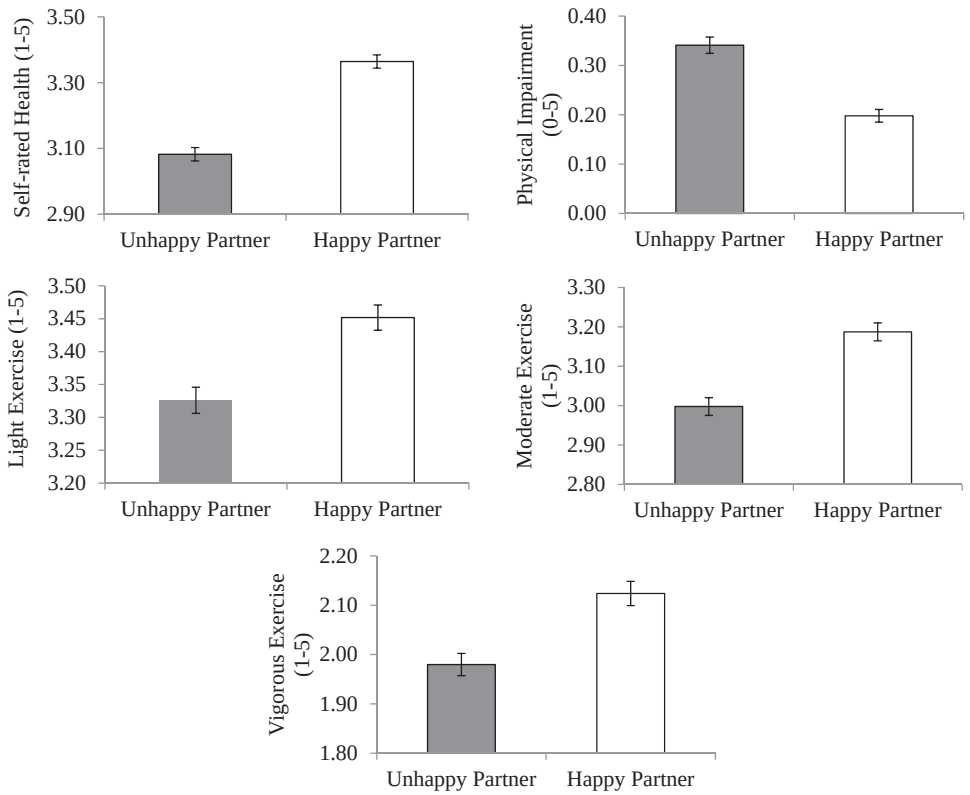


*Figure 1.* Effects of having a happy versus unhappy partner on own health (visually depicted as median splits for ease of interpreting MLM results). Statistical analyses were run on continuous values. Error bars represent ±1 standard error.

effect of personality. However, when rerunning each model controlling for the actor and partner effects of these exact traits, all results remained identical. Another possibility is some gender distinguishability within the dyads, a common consequence with this analytical approach (Kenny et al., 2006). Such distinguishability would suggest that the observed effects in the current study are stronger for husbands (or wives) or the effects are specific to husbands (or wives; Robb, Small, & Haley, 2008; Roberts et al., 2009). However, gender did not moderate any result when rerunning the models with every possible interaction, suggesting that this dyadic effect is equally strong for both men and women alike.

Therefore, these findings appear to raise novel insights into the link between happiness and health. Indeed, the fact that one person's health can be predicted by the happiness of someone else *independently* of his or her own happiness significantly challenges current assumptions in the literature, in important ways. Unhappy people face a notoriously difficult struggle in maintaining physical health, largely because negative emotional states are thought to undermine the motivation and energy required to engage in healthy change (Cacioppo et al., 1999; Carver & Scheier, 1990; Fredrickson, 2001; Grant et al., 2009; Martinsen et al., 1989; Morgan, 1997; Rascuite & Downward, 2010; Veenhoven, 2008; Watson et al., 1999). In light of this robust observation, prior work has largely focused on the self in isolation, proposing ways to improve a person's self-driven energy capacity and expenditure (e.g., via pharmacological or therapy-based means; Artinian et al., 2010; Baranowski, Anderson, & Carmack, 1998; Conn, Hafdahl, & Mehr, 2011; Dishman & Buckworth, 2007; Hillsdon, Foster, & Thorogood, 2005). Meta-analyses of the effectiveness of such interventions reveal small effect sizes (about an overall change in health and health-related behavior of .30 standard deviations, Hillsdon et al., 2005), and long-term prospects of success hover at or below chance (Rhodes & Pfaeffli, 2010). Such interventions may more generally neglect that the self lives in rich social contexts comprised of other people who likely influence this process, perhaps no more so than a romantic partner. The current study demonstrates that happy partners seem to substitute as proxies for a happy self. Precisely because happiness is thought to fuel energy, happy spouses may devote more effort to improving the lives of their unhappy counterparts, who may be less motivated to do so on their own (Lopresti et al., 2013; Scheier & Carver, 1977). It could also be that being around happy partners independently ignites energy in the self, evidenced by increased health-related *behavior* (e.g., exercise) even among unhappy people with happy partners. The current study also conceptually aligns with work demonstrating spousal interrelations between depression and functional limitations and chronic disease over time (Ayotte, Yang, & Jones, 2010; Hoppmann, Gerstorf, & Hibbert, 2011). The current findings emphasize the importance of considering social and transactional contexts in which the self actually operates, and not just the happiness and health of the self in isolation.

This observation opens the door for many valuable avenues of follow-up work. One avenue should further tease apart causality. Nonetheless, the current study provides a strong first step at investigating these important dyadic effects. Laboratory experiments not only seem impractical (e.g., randomly assigning happy and unhappy partners) but also rather artificial. The meaningful benefits of partner happiness are likely cumulative in nature and emerge only after significant time spent together; interpretable improvements in health seem unlikely to stem from ephemeral increases in emotional states. Conversely, the analytic approach employed in the current study has many strengths. First, a large, real-world, and representative sample of older couples on an array of health measures was used. Assessing older couples raises especially vital implications: for a population that faces more health problems on average, broader factors beyond the self (e.g., partner circumstances) might preserve health and well-being. Second, multilevel modeling techniques were used to statistically model the interdependence between couple members and the novel effect of *others* on one's own happiness and health, whereas past studies have almost exclusively focused on the link within individuals alone (Howell et al., 2007). Third, participants were followed over a 6-year period, serving as a prospective test of self and partner happiness on health and health behavior over time. Past related research is almost exclusively cross-sectional and thus obscures this direction of statistical relationships (Howell et al., 2007; Lyubomirsky et al., 2005). Fourth, the multilevel models carefully controlled for and included many covariates to strengthen the confidence in the observed associations, from items that counteract opposing interpretations (e.g., that better couple health causes more happiness) to key sociodemographic factors, underscoring the dyadic influence itself. Across all covariates and secondary analyses, effects of self and partner happiness on health remained, beyond these other major contributors.

The current study also has important limitations. First, as emphasized, causality cannot be definitively discerned with these data. Future research should seek to better unpack the different possible directions of the data. Second, other kinds of dyads should be investigated. The current study employed a large-scale sample of older married couples, but it remains unclear whether the effects of others' happiness on health extend to younger couples or simply being surrounded by other counterparts (e.g., happy neighbors or coworkers). Although married couples were chosen because of their coordinated lifestyles and the amount of time they spend together (Jackson et al., 2015), testing for the current patterns in these other relationship contexts can shed further light on discrete mechanisms linking dyadic contexts to health. To the extent these findings are indeed driven by increased *transactional support* from the happy other, for example, dyadic effects of happiness on health should become weaker as happy others grow less invested in the person and relationship (e.g., strangers as opposed to spouses). Third, future research should expand the current study's self-report measures of health, which is especially problematic for constructs that may be better assessed objectively, like physical activity and chronic disease. Other indicators of health (e.g., biomarkers, physician reports, behavioral coding) could prove useful.

Finally, future research might further examine the null effect of partner happiness on chronic disease, the only measure of health that did not support the hypothesized relationship between happiness and health. On the one hand, this null effect may reflect the relatively strong epidemiological link between chronic illnesses and more proximate causes, such as a person's dietary intake, sleep cycle, and genetic predispositions (Bennermo et al., 2004; de Kloet, Joëls, & Holsboer, 2005; Gianaros & Wager, 2015; Kuh & Ben-Shlomo, 2004; Lane et al., 2009; Lazarus, 1966; Monroe, 2008; Simopoulos, 2008), which could supersede any social effects like partner happiness. Moreover, chronic disease is often the result of an accumulation of risk factors across the life span and many of the illnesses may have been diagnosed prior to study participation at age 50 (and possibly before the effects of partner happiness can exert their influence); because the HRS asked if participants were *ever* diagnosed with a chronic illness, it is impossible to determine their exact onset, which is a limitation of the current study. On the other hand, to the extent that the null effect represents a substantive pattern, it might actually provide additional insight into directionality. The dyadic models validate the unique influence of partner happiness on personal health by accounting for many key variables and the nonindependence of the data. Given this null effect of partner happiness on chronic disease, the alternative explanation that self-health improves partner happiness becomes even more unlikely; if anything, people should be *happiest* when partners lack these major illnesses, thereby rendering the link between the variables highly significant. The fact that it was not runs counter to this explanation. Ultimately, of course, experimental data would provide a more precise assessment of directionality.

In sum, the current study reveals a robust *independent* association between the emotional well-being of one's partner with the physical well-being of the self. This observation highlights the need for a better understanding of the general link between happiness and health, which to date has been surprisingly isolated from dyadic contexts. Although many fruitful questions remain, the current results make important initial advances in understanding how happiness and health could interact in other ways beyond the self. The presence of one person's sickness may be subtly indicated by the absent smile of another.

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Received February 18, 2016
Revision received July 12, 2016
Accepted August 11, 2016 ■