

# Associations between self-rated physical Health and relationship satisfaction in couples with children

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#### Abstract

The degree to which individual self-rated physical health and concordance of self-rated physical health between partners are associated with relationship satisfaction was examined in a community sample of **399** couples with children. Couples completed self-report assessments of physical health (general health and physical functioning) and relationship satisfaction. Results suggest unique associations between partners' general health and their own relationship satisfaction. Further, higher between-partner concordance in physical functioning was uniquely associated with higher relationship satisfaction in women. Understanding associations between health and relationship processes is crucial and has implications for future research on couple-based interventions to promote physical health.

#### **Keywords**

couples, cross-sectional analysis, health concordance, health promotion, health status, middle-aged, parents, physical function, physical health, relationship quality

The physical health of individuals in romantic relationships is linked to the quality of their relationships (Kiecolt-Glaser and Wilson, 2017; Robles et al., 2014; Smith and Christakis, 2008). Although much of the work linking physical health to relationship quality is correlational, longitudinal studies have demonstrated effects of physical health on subsequent relationship quality (Faulkner et al., 2005; Ross et al., 2016) as well as effects of relationship quality on subsequent physical health (Robles et al., 2014). Thus, there is likely a cascade through which physical health and relationship functioning influence one another across the adult life span (Hoppmann et al., 2016). Understanding the early parts of this cascade has the potential to inform preventive interventions that protect couples as well as their children from the multitude of adverse consequences associated with relationship and health problems (e.g., Sayers et al., 1998). Children raised in dysfunctional or "risky" families are more likely to have emotional and behavioral problems (e.g., aggression, anxiety, depression) as well as health problems (e.g., heart disease, cancer, chronic lung disease) (Repetti et al., 2002).

Partners within couples tend to be similar across several domains (Gaunt, 2006; Luo, 2017), including physical

health (Davillas and Pudney, 2017; Hippisley-Cox et al., 2002; Meyler et al., 2007; O'Flynn et al., 2015; Pai et al., 2010). Consistent with this, several studies have demonstrated that higher concordance in health and health behavior is associated with greater relationship satisfaction (e.g., Cornelius et al., 2017; Gunn et al., 2015) and lower risk of divorce (Torvik et al., 2015). However, much of the literature on health and health concordance in couples is situated later in the cascade (e.g., in older adults, in couples following a chronic illness diagnosis; Hippisley-Cox et al., 2002). More work is needed to understand associations between health and relationship quality at pivotal intervention points early in the cascade. It is essential that this work consider the unique contributions of each partner's health, as well as the degree of concordance between them.

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Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (https://creativecommons.org/licenses/by-nc/4.0/) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (https://us.sagepub.com/en-us/nam/open-access-at-sage). Using dyadic data analytic methods, this study examines whether individual self-rated physical health and concordance in self-rated physical health between partners are associated with relationship satisfaction among couples with young children.

Given the unique stressors associated with parenthood (Nomaguchi and Milkie, 2017), the study of health and relationship functioning in the context of this social role is crucial. Parents of young children typically report lower levels of well-being compared with their non-parent counterparts (Umberson et al., 2010b). Further, parents are less physically active and more likely to be obese relative to non-parents (Umberson et al., 2010a), factors that have the potential to place parents at heightened risk for a range of chronic illnesses (e.g., type 2 diabetes; Galaviz et al., 2018). There are implications for the broader family, as parents' health and health behaviors are associated with those of their children (Pachucki et al., 2014; Umberson et al., 2010a). Understanding links between health and relationship functioning in parents of young children is vital for understanding both early points of intervention and the cascade as a whole.

## Current study

The current study examines associations between self-rated physical health and relationship quality in a community sample of couples with children between 4 and 8 years of age. Consistent with previous research, we hypothesize that individuals who report better health will have higher levels of relationship satisfaction (actor effect), as will their partners (partner effect). Further, we expect that concordance between partners in self-rated health will be associated with higher levels of relationship satisfaction. As a recent metaanalysis did not find evidence for gender differences in associations between relationship quality and self-rated health (Robles et al., 2014), we do not expect hypothesized associations to vary by gender.

# Method

## Participants

This study included 399 couples (798 individuals) from a larger study of family functioning. Recruitment occurred between 2005 and 2008 in Suffolk County, New York. To enhance the generalizability of the findings, participants were recruited through a random digit dialing protocol used in prior studies (Slep et al., 2006). Telephone exchanges in areas within an approximately 45-minute drive from the laboratory were selected and paired with a randomly-generated last four numbers. Whenever a call reached an adult, the respondent was told that the caller was from the university and was looking for families who might qualify to participate in a study of how families

cope with conflict. A brief demographic interview was administered to all willing respondents to determine study eligibility. To be eligible, respondents had to have been living together for at least one year (married or cohabiting; 96.2% reported being married), be parenting a 4- to 8-year-old child who was the biological child of at least one of the parents (age of child M=6.65, SD=1.46), and be able to complete questionnaires in English. Eligible respondents were then asked additional questions about family functioning. Eligible respondents who agreed to be contacted were later telephoned by research staff, who described the project in detail and scheduled interested respondents' initial appointments for the main study. To boost representation of racial/ethnic minorities, we also purchased a pre-screened list of residential numbers (i.e., eliminating the copious number of non-working and business numbers) for phone exchanges from areas of the county with higher proportions of minority individuals. These procedures likely resulted in a more representative sample than if we had used convenience sampling, but still resulted in an underrepresentation of ethnic minorities compared with Census data. In past studies using these procedures, participants, and those who qualified but chose not to participate, were similar on myriad demographic and family functioning facets (Slep et al., 2006). Finally, although not a requirement of the study, all couples were opposite sex.

Participant characteristics were as follows: length of relationship (M = 11.54 years, SD = 4.55); age (women: M = 38.82, SD = 5.54, min = 24, max = 55; men: M = 41.00, SD=5.53, min=24, max=59;); education (women—less than high school: 0.5%, high school, General Education Development diploma (GED) or some college: 33.9%; college degree: 41.2%, graduate degree: 24.4%; men-less than high school: 1.5%, high school, GED or some college: 40.8%, college degree: 36%, graduate degree: 21.7%;); racial and ethnic identification (women-White, non-Latinx: 90.1%, Latinx: 4.7%, Black or African American: 2.6%, Asian: 0.5%, Multiracial: 2.1%; men-White, non-Latinx: 89.6%, Latinx: 2.9%; Black or African American: 3.1%, Asian: 1.3%, Multiracial: 3.1%); household income (M=109,873 USD annually, SD=76,316); number of children living at home (M=2.72, SD=0.84); and age of youngest child (M = 4.92, SD = 2.41).

#### Procedure

All study procedures were approved by the university institutional review board. Families in the larger study participated in laboratory visits at Stony Brook University (Suffolk County, New York) of 4 hours at baseline and 6-months later. Each visit included assessments of parent, child, couple, and parent-child functioning. Data analyzed in the current study were collected during baseline.

Table 1. Descriptive statistics and correlations among study variables.

Variable	M (SD)	I	2	3	4	5	6	7				
I. o' satisfaction	30.76 (6.85)											
2. 9 satisfaction	29.49 (8.17)	.586***										
3. ♂ general health	52.84 (8.21)	.060	.051									
4. 9 general health	52.09 (9.45)	.094	.169**	.149**								
5. ♂ physical functioning	54.39 (5.13)	017	.002	.394***	.125*							
6. 9 physical functioning	53.34 (6.20)	.105*	. <b> 49</b> **	.114*	.575***	.126*						
7. General health concordance	8.89 (7.44)	.007	057	223***	458***	124*	309***					
8. Physical functioning concordance	4.38 (6.22)	040	149**	209***	438***	563***	699***	.337***				

 $\sigma$  = men,  $\rho$  = women. Concordance is computed as the absolute value of the difference between partners within a couple, with lower scores representing higher concordance.

 $\frac{1}{2} p < .001$ , p < .01, p < .05.

#### Measures

Relationship satisfaction. The Quality of Marriage Index (QMI; Norton, 1983) comprises five broadly worded statements about relationship satisfaction (e.g., "We have a good marriage") rated on a scale from 0 (very strong *disagreement*) to 6 (very strong agreement) and a global satisfaction item rated on a 10-point scale ("marriage" was replaced with "relationship" throughout the measure since not all couples in the study were married). The QMI has excellent convergent and discriminant validity (Heyman et al., 1994). Internal consistency in this study was excellent ( $\alpha s = .95$  for women and .96 for men). Items are summed to form a composite score that ranges from 0 to 39. Higher scores indicate higher relationship satisfaction, with scores less than 24.5 suggestive of clinically significant relationship distress (Funk and Rogge, 2007). As Table 1 displays, participants' composite scores were, on average, in the nondistressed range; as would be expected from a representative sample, 25.1% of women and 16.9% of men reported clinically significant relationship distress.

Self-rated physical health. Aspects of self-rated physical health were assessed with the Short Form Health Survey version 2 (SF-36v2; Ware et al., 2007). This measure is one of the most widely used measures of self-rated health and quality of life (Garratt et al., 2002), and has demonstrated good performance in healthy samples (Obidoa et al., 2010). Two scales of the SF-36v2 were examined in the current study. The Physical Functioning (PF) scale assesses the degree to which health limits the respondent in each of 10 activities (e.g., "lifting or carrying groceries," "walking several hundred yards") on a scale from 1 (Yes, limited a lot) to 3 (No, not limited at all). Internal consistency among scale items was good ( $\alpha = .88$  for women,  $\alpha = .86$  for men). The General Health (GH) scale assesses respondents' overall perceptions of health with five items (e.g., "I seem to get sick a little easier than other people," "My health is excellent") on 5-point scales.

Internal consistency among scale items was generally good ( $\alpha$ =.85 for women,  $\alpha$ =.79 for men). Norm-based scoring procedures were used to convert raw items responses to T-scores for PF and GH, with higher scores indicating better health (Ware et al., 2007).

#### Data analysis

Data were analyzed using Actor Partner Interdependence Models (APIMs; Kenny et al., 2006) with the dyadR package (Garcia and Kenny, 2019) in R 3.6.0 (R Core Team, 2019). The following is the mixed equation of the model tested:

Relationship satisfaction =  $\gamma_{00} + \gamma_{01}$ \*(Concordance) +  $\gamma_{10}$ \*(Gender) +  $\gamma_{20}$ \*(Actor Self-Rated Health) +  $\gamma_{30}$ \*(Partner Self-Rated Health) + r

Concordance scores were the absolute value of the difference in self-rated health between partners in a couple. Concordance, actor, and partner health predictors were grand mean centered, and gender was coded -.5 (men) and .5 (*women*). The overall intercept  $\gamma_{00}$  is the expected relationship satisfaction across spouses. The concordance coefficient  $(\gamma_{01})$  is the association between concordance and relationship satisfaction, with a negative coefficient indicating partners in couples with greater health concordance are more satisfied, and a positive coefficient indicating that partners in couples with less health concordance are more satisfied. The actor coefficient ( $\gamma_{20}$ ) is the association between physical health and one's own relationship satisfaction and the partner coefficient ( $\gamma_{30}$ ) is the association between physical health and one's partner's relationship satisfaction. Consistent with recommendations (Kenny et al., 2006), we also tested whether there were differences between men and women in the concordance, actor, and partner effects. Only significant interactions with gender were retained in the final models presented, and simple effects for men and women were estimated with two-intercept APIMs. After running the

	General health				Physical functioning				
	В	SE	Þ	SC	В	SE	Þ	SC	
Intercept	30.18	0.33	.000***	_	30.25	0.34	.000***	_	
Gender	-1.23	0.35	.000***	-0.08	-1.26	0.35	.000***	-0.08	
Actor effect	0.10	0.03	.002**	0.12	0.02	0.08	.798	0.02	
Gender $ imes$ Actor	_	_	_	_	_	-	_	_	
Partner effect	0.05	0.03	.081	0.06	-0.01	0.08	.976	-0.01	
Gender $ imes$ Partner	-	_	_	_	-0.34	0.12	.005**	-0.13	
Concordance effect	0.05	0.05	.359	0.05	-0.09	0.10	.400	-0.07	
$Gender \times Discrepancy$	-	_	-	-	-0.34	0.09	.000**	-0.14	

Table 2. Associations between health and relationship satisfaction.

B: unstandardized regression coefficient; SE: standard error; SC: standardized regression coefficient (calculated as unstandardized coefficient times SD of predictor over SD of outcome), which represents the predicted change in outcome (in SDs) given a 1 SD increase in predictor. \*\*\*p < 0.001, \*\*p < 0.01.

above models, we conducted sensitivity analyses with each of the following demographic variables added to the model: age of youngest child, number of children, length of relationship, and household income. There were no substantive differences in the results when these covariates were included; for ease of interpretation, we present results of the models without covariates.

## Results

Table 1 presents descriptive statistics and zero-order correlations among study variables. As expected, women's and men's variables were significantly associated and women's relationship satisfaction was correlated with selfrated health in expected directions. However, men's relationship satisfaction was not significantly correlated with self-rated health.

Table 2 presents full results of the APIMs. There was a significant main effect of gender in both models, indicating that men reported better health than women (p < .001). Study hypotheses were partially supported. There was a significant association between greater self-rated general health and greater relationship satisfaction (p < .01), but there were not significant associations between partner's general health and relationship satisfaction (p=.081) or between general health concordance and relationship satisfaction.

There was not a significant association between selfrated physical functioning and relationship satisfaction. The association between partner's self-rated physical functioning and relationship satisfaction, and the association between physical functioning concordance and relationship satisfaction, depended on gender. Neither the association between women's physical functioning and men's relationship satisfaction (B=0.17, SE=0.09, p=.054, standardized coefficient [SC]=0.10) nor the association between men's physical functioning and women's relationship satisfaction (B=-0.17, SE=0.11, p=.109, SC=-0.08) were significantly different from zero. There was a significant association between physical functioning concordance and relationship satisfaction for women (B=-0.25, SE=0.12, p=0.045, SC=-0.20) but not men (B=0.08, SE=0.11, p=0.468, SC=0.07). As hypothesized, the significant concordance coefficient for women was negative, indicating women's satisfaction is significantly higher when their self-rated physical functioning is more concordant with their partner's.

Post hoc tests. We ran a series of post hoc tests to better understand the association between physical functioning concordance and women's relationship satisfaction. To determine whether this association depended on women's level of health, we examined whether there was a significant interaction between concordance and actor physical functioning in women in a two-intercept APIM. This interaction was significant, B = -0.02, SE = 0.01, p = 0.008. At average levels of women's health, physical functioning concordance was associated with satisfaction in women, B = -0.36, SE=0.13, p=0.006, SC=-0.29 (with the negative coefficient indicating that women's satisfaction is higher when their self-rated physical functioning is more concordant with their partner's). We used re-centering to examine associations between concordance and women's satisfaction at low (-1 SD) and high (+1 SD) levels of women's physical functioning. Greater physical functioning concordance was significantly associated with greater satisfaction in women at both low (B=-0.26, SE=0.12, p=0.004, SC=-0.21) and high (B=-0.46, SE=0.15, p=0.002, SC=-0.38) levels of women's physical functioning. Thus, the magnitude of the association between physical functioning concordance and women's satisfaction was stronger in women who reported better physical functioning.

To determine whether the direction of discordance (i.e., women reporting better physical functioning than men or vice versa) was related to women's satisfaction, we subtracted men's physical functioning from women's physical functioning (rather than the absolute value previously examined). This difference score was positively correlated with women's satisfaction (r=0.121, p=0.016), suggesting that when partners are discordant in physical functioning, women's satisfaction is higher when their own physical functioning is higher than their partner's.

# Discussion

Much of the work examining health and relationship quality has been conducted in couples late in the developmental cascade linking these factors across time. The current study extends this work by examining these factors in couples earlier in the cascade and in a challenging role for many adults: parenting young children. Results in this community sample of couples replicate previous findings linking physical health and relationship quality and extend the literature on health concordance.

Previous work has demonstrated concordance in partners' health both early and late in the adult lifespan (Bourassa et al., 2015; Torvik et al., 2015; Westman et al., 2008). This is the first study to examine associations between concordance in self-rated health and relationship quality among couples with young children. Replicating extensive previous work in this area, (e.g., Kiecolt-Glaser and Wilson, 2017; Robles et al., 2014), men's and women's perceptions of better general health were significantly associated with higher levels of their own relationship satisfaction (actor effect). Contrary to expectations, there were not significant associations between men's and women's perceptions of general health and their partners' relationship satisfaction, nor significant associations between general health concordance and relationship satisfaction. Thus, partners' relationship satisfaction was only uniquely linked with their perception of their own overall physical health when considered in concert with partner physical health and between-partner concordance.

The pattern of results was somewhat different for physical functioning. There were not significant associations between self-rated physical functioning and either partner's relationship satisfaction over and above effects of concordance. Hypothesized associations between higher physical health concordance and higher relationship satisfaction were significant only for women, and were strongest when women reported higher levels of physical functioning. This is consistent with the finding that similarity in perceived health and health behavior predicts the likelihood of divorce over and above the main effects of each partners' health (Torvik et al., 2015). When partners are not concordant in self-rated physical functioning, women's self-rated physical functioning being higher than their partner's physical functioning is related to higher relationship satisfaction in women.

The parenthood status of the couples in the current study may explain the finding that only women's satisfaction was lower when their physical functioning was less concordant with that of their partners. One partner having worse physical functioning than the other may have a larger impact on the lives of parents of young and physically active children. For mothers, who in previous studies tend to be the primary caretaker of young children (e.g., Doucet, 2015), discordant physical functioning may be particularly challenging, as it may further limit fathers' involvement regardless of whose functioning is worse. Alternatively, women being less satisfied in the relationship may have a larger impact on partners' similarity in health during this life stage. The demands of parenthood in the context of a relationship with low satisfaction may reduce couple's shared health activities, leading to discrepancy in self-rated health.

This study has several limitations. First, these data were cross-sectional. Although physical health and relationship functioning appear to influence one another across time, we cannot draw conclusions on the directionality of associations in the current study. Longitudinal work is needed to better understand the relative influences of health and relationships on one another across time and across adult development. Second, although we sought to recruit a diverse sample of families for the larger study, the sample was less racially and ethnically diverse than the county from which we recruited. Third, although both subjective and objective measures of health are linked with relationship quality in previous work (Robles et al., 2014), this study examined only partner perceptions of physical health in a general population sample of couples with children. Findings may not generalize to objective measures of physical health, or to other samples of couples (e.g., couples later in the lifespan, couples with chronic health conditions).

Despite limitations, this study has important clinical implications. Given that concordance in physical functioning involves both partners, links between it and either partner's relationship satisfaction suggest more research is needed on the utility of couple-based physical health interventions. Indeed, couple-based behavioral interventions for chronic illnesses on average lead to superior outcomes compared with individually-delivered interventions (Hartmann et al., 2010; Martire et al., 2010). Yet more research is needed on health promotion and disease prevention interventions designed for generally healthy couples earlier in the cascade. Results of couple-based interventions designed to increase physical activity suggest this is an area of promise-particularly when the primary intervention focus is on the couple instead of on a given partner (Carr et al., 2019; Richards et al., 2018). Future treatment development and evaluation work has the potential to improve the social and physical health of couples and families at a critical life stage.

#### **Authors' Note**

The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

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#### References

- Bourassa KJ, Memel M, Woolverton C, et al. (2015) A dyadic approach to health, cognition, and quality of life in aging adults. *Psychology and Aging* 30(2): 449–461.
- Carr RM, Prestwich A, Kwasnicka D, et al. (2019) Dyadic interventions to promote physical activity and reduce sedentary behaviour: Systematic review and meta-analysis. *Health Psychology Review* 13(1): 91–109.
- Cornelius T, Desrosiers A and Kershaw T (2017) Smoking concordance during pregnancy: Are there relationship benefits? *Social Science & Medicine* 192: 30–35.
- Davillas A and Pudney S (2017) Concordance of health states in couples: Analysis of self-reported, nurse administered and blood-based biomarker data in the UK Understanding Society panel. *Journal of Health Economics* 56: 87–102.
- Doucet A (2015) Parental responsibilities: Dilemmas of measurement and gender equality. *Journal of Marriage and Family* 77(1): 224–242.
- Faulkner RA, Davey M and Davey A (2005) Gender-related predictors of change in marital satisfaction and marital conflict. *The American Journal of Family Therapy* 33(1): 61–83.
- Funk JL and Rogge RD (2007) Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. *Journal of Family Psychology* 21(4): 572–583.
- Galaviz KI, Narayan KMV, Lobelo F, et al. (2018) Lifestyle and the prevention of type 2 diabetes: A status report. *American Journal of Lifestyle Medicine* 12(1): 4–20.
- Garcia RL and Kenny DA (2019) dyadR. R package.
- Garratt A, Schmidt L, Mackintosh A, et al. (2002) Quality of life measurement: Bibliographic study of patient assessed health outcome measures. *BMJ* 324(7351): 1417.
- Gaunt R (2006) Couple similarity and marital satisfaction: Are similar spouses happier? *Journal of Personality* 74(5): 1401–1420.
- Gunn HE, Buysse DJ, Hasler BP, et al. (2015) Sleep concordance in couples is associated with relationship characteristics. *Sleep* 38(6): 933–939.

- Hartmann M, Bäzner E, Wild B, et al. (2010) Effects of interventions involving the family in the treatment of adult patients with chronic physical diseases: A meta-analysis. *Psychotherapy and Psychosomatics* 79(3): 136–148.
- Heyman RE, Sayers SL and Bellack AS (1994) Global marital satisfaction versus marital adjustment: An empirical comparison of three measures. *Journal of Family Psychology* 8(4): 432–446.
- Hippisley-Cox J, Coupland C, Pringle M, et al. (2002) Married couples' risk of same disease: Cross sectional study. *BMJ* 325(7365): 636.
- Hoppmann CA, Michalowski V and Gerstorf D (2016) Spousal interrelationships in health across adulthood: Health behaviors and everyday stress as potential underlying mechanisms. In Bookwala J (ed) Couple relationships in the middle and later years: Their nature, complexity, and role in health and illness (pp. 239–257). American Psychological Association. DOI: 10. 1037/14897-013.
- Kenny DA, Kashy DA and Cook WL (2006) *Dyadic Data Analysis*. New York, NY: Guilford Press.
- Kiecolt-Glaser JK and Wilson SJ (2017) Lovesick: How couples' relationships influence health. *Annual Review of Clinical Psychology* 13(1): 421–443.
- Luo S (2017) Assortative mating and couple similarity: Patterns, mechanisms, and consequences. *Social and Personality Psychology Compass* 11(8): e12337.
- Martire LM, Schulz R, Helgeson VS, et al. (2010) Review and meta-analysis of couple-oriented interventions for chronic illness. *Annals of Behavioral Medicine* 40(3): 325–342.
- Meyler D, Stimpson JP and Peek MK (2007) Health concordance within couples: A systematic review. Social Science & Medicine 64(11): 2297–2310.
- Nomaguchi K and Milkie MA (2017) Sociological perspectives on parenting stress: How social structure and culture shape parental strain and the well-being of parents and children. In Deater-Deckard K. and Panneton R. (eds) *Parental Stress and Early Child Development: Adaptive and Maladaptive Outcomes* (pp. 47–73). Springer International Publishing.
- Norton R (1983) Measuring marital quality: A critical look at the dependent variable. *Journal of Marriage and Family* 45(1): 141–151.
- Obidoa C, Reisine S and Cherniack M (2010) How does the SF-36 perform in healthy populations? A structured review of longitudinal studies. *Journal of Social, Behavioral, and Health Sciences* 4(1): 30–48.
- O'Flynn AM, McHugh SM, Madden JM, et al. (2015) Applying the ideal cardiovascular health metrics to couples: A cross-sectional study in primary care. *Clinical Cardiology* 38(1): 32–38.
- Pachucki MC, Lovenheim MF and Harding M (2014) Withinfamily obesity associations: Evaluation of parent, child, and sibling relationships. *American Journal of Preventive Medicine* 47(4): 382–391.
- Pai C-W, Godboldo-Brooks A and Edington DW (2010) Spousal concordance for overall health risk status and preventive service compliance. *Annals of Epidemiology* 20(7): 539–546.
- R Core Team (2019) R: A Language and Environment for Statistical Computing. Vienna, Austria: R Foundation for Statistical Computing.

- Repetti RL, Taylor SE and Seeman TE (2002) Risky families: Family social environments and the mental and physical health of offspring. *Psychological Bulletin* 128(2): 330–366.
- Richards EA, Franks MM, McDonough MH, et al. (2018) 'Let's move:' A systematic review of spouse-involved interventions to promote physical activity. *International Journal of Health Promotion and Education* 56(1): 51–67.
- Robles TF, Slatcher RB, Trombello JM, et al. (2014) Marital quality and health: A meta-analytic review. *Psychological Bulletin* 140(1): 140–187.
- Ross KM, Ranby KW, Wooldridge JS, et al. (2016) Effects of physical and mental health on relationship satisfaction: A dyadic, longitudinal examination of couples facing prostate cancer. *Psycho-Oncology* 25(8): 898–904.
- Sayers S, Kohn C and Heavey C (1998) Prevention of marital dysfunction: Behavioral approaches and beyond. *Clinical Psychology Review* 18(6): 713–744.
- Slep AMS, Heyman RE, Williams MC, et al. (2006) Using random telephone sampling to recruit generalizable

samples for family violence studies. *Journal of Family Psychology* 20(4): 680–689.

- Smith KP and Christakis NA (2008) Social networks and health. Annual Review of Sociology 34(1): 405–429.
- Torvik FA, Gustavson K, Røysamb E, et al. (2015) Health, health behaviors, and health dissimilarities predict divorce: Results from the HUNT study. *BMC Psychology* 3(1): 13.
- Umberson D, Crosnoe R and Reczek C (2010a) Social relationships and health behavior across the life course. *Annual Review of Sociology* 36(1): 139–157.
- Umberson D, Pudrovska T and Reczek C (2010b) Parenthood, childlessness, and well-being: A life course perspective. *Journal of Marriage and the Family* 72(3): 612–629.
- Ware JE, Kosinski M, Bjorner JB, et al. (2007) User's Manual for the SF-36v2<sup>™</sup> Health Survey (2nd ed.). Lincoln, RI: QualityMetric Incorporated.
- Westman M, Keinan G, Roziner I, et al. (2008) The crossover of perceived health between spouses. *Journal of Occupational Health Psychology* 13(2): 168–180.