

Honey, do I look fat? Perceptions of spouses' weight and weight concerns predict marital relationship quality

Journal of Social and
Personal Relationships
2020, Vol. 37(3) 865–884

© The Author(s) 2019

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/0265407519880961

journals.sagepub.com/home/spr



Anna K. Hochgraf 

Susan M. McHale

The Pennsylvania State University, USA

Abstract

The majority of adults in the U.S. are overweight or obese, and yet Western ideals of beauty include low body fat composition as a component of physical attractiveness. In turn, perceived discrepancies between actual and ideal body shape and weight mean that many adults experience weight concerns—and they also may be dissatisfied with their spouse's weight. This study examined whether weight concerns were linked to romantic relationship quality, an important domain of adult development. Specifically, we applied the Actor–Partner Interdependence Model to test how wives' and husbands' weight concerns and perceptions of their spouses' overweight contributed to their own and their spouse's reports of marital satisfaction and conflict over time. The sample was 197 heterosexual married couples ($M_{\text{age}} = 40.85$ and 42.81 years for wives and husbands, respectively; $M_{\text{length of marriage}} = 18.6$ years at Time 1) with children, who participated in a short-term longitudinal study of family relationships and adolescent development. Two-way interactions between partner perceptions of spouses' weight and gender indicated that husbands' perceptions that their wives were overweight predicted decreases in wives' marital satisfaction and increases in wives' reports of marital conflict across 1 year. In contrast, wives' perceptions of husbands' weight were not associated with changes in husbands' marital satisfaction or conflict. A two-way interaction between actor and

Corresponding author:

Anna K. Hochgraf, Department of Human Development and Family Studies, The Pennsylvania State University, University Park, State College, PA 16802, USA.

Email: akh7@psu.edu

partner weight concerns indicated that individuals reported more marital conflict when there was a discrepancy between their own and their spouse's weight concerns. Finally, a two-way interaction between actor and partner perceptions of spouse's weight indicated that, for individuals whose spouses rated them as below ideal weight, their perceptions of the spouse's overweight predicted their own lower marital satisfaction. Findings suggest that concerns about one's own and one's spouse's weight have negative ramifications for marital relationships.

Keywords

Body image, marital conflict, marital satisfaction, overweight, weight concerns

Recent estimates suggest 75% of middle-aged adults in the U.S. are overweight or obese (overweight defined as a body mass index (BMI) ≥ 25 and < 30 , obese defined as a BMI ≥ 30 ; Ogden, Carroll, Kit, & Flegal, 2014). This obesity epidemic has led to incongruence between Western ideals of attractiveness, which emphasize low body fat composition, and adults' actual bodies. As a result, many adults experience concerns about their weight, and they also may be dissatisfied with their spouses' weight. Indeed, estimates suggest that 21–41% of middle-aged men and 36–64% of middle-aged women report concerns about their weight, and 26% of middle-aged women report experiencing negative body- or weight-related comments from their spouse or significant other (Fallon, Harris, & Johnson, 2014; Frederick, Peplau, & Lever, 2006; Gagne et al., 2012; McLaren, Kuh, Hardy, & Gauvin, 2004). In turn, concerns about one's own weight and dissatisfaction with one's spouse's weight may have detrimental effects on relationship quality, an important contributor to adult well-being (Holt-Lunstad, Birmingham, & Jones, 2008). This study sought to address a critical gap in knowledge about how men's and women's perceptions of their spouses' weight and their own weight concerns may impact marital relationship quality.

According to the sociocultural model of body image, individuals internalize societal ideals of beauty as the result of repeated exposure to these ideals in the media and through interactions with family and peers (Tiggemann, 2011). Western ideals of beauty are particularly exacting for women, as they emphasize an extremely thin physique, often referred to as the 'thin ideal of beauty', that is difficult to attain for the majority of women (Tiggemann, 2011). In contrast, Western ideals of beauty for men are less stringent and emphasize a muscular physique (Tiggemann, 2011). Gender socialization processes lead both women and men to understand women's bodies as objects to be looked at and men's bodies as active (Murnen, 2011). Not only is a thin physique part of women's expected social roles, but sociocultural messages suggest that the thin ideal of beauty is key to the success of romantic relationships (Murnen, 2011). As a result, discrepancies between ideals and individuals' actual bodies (real or perceived) predict weight concerns (i.e., dissatisfaction with one's own weight, fear of weight gain, overvaluation of body shape and weight, and attempts to lose weight), particularly for women, and may negatively impact marital relationship quality (Killen et al., 1994; Markey & Markey, 2011, 2013; Murnen, 2011; Tiggemann, 2011).

Evidence from studies of romantic couples generally aligns with sociocultural and gender socialization models of body image. For example, Meltzer, McNulty, Jackson, and Karney (2014) found that men, but not women, reported higher marital satisfaction during the first 4 years of marriage if they perceived their spouse to be attractive. Although attractiveness is not synonymous with a slim physique, both men and women rate potential overweight romantic partners as less desirable (Boyes & Latner, 2009; Chen & Brown, 2005). Moreover, stigmatization appears to be stronger toward overweight women than men, and for men is linked with lower perceived relationship quality (Boyes & Latner, 2009; Chen & Brown, 2005). One study of heterosexual romantic relationships found that overweight women reported more relationship conflict than healthy weight women, regardless of their significant other's weight status, and healthy weight men with significant others who were overweight reported more couple conflict compared with other men (Burke, Randall, Corkery, Young, & Butler, 2012). This suggests that among heterosexual couples, there may be more relationship conflict when women are overweight—or further from a contemporary Western ideal of beauty. Prior research also suggests that weight concerns are associated with romantic attachment insecurity for women but not men (Cash, Theriault, & Annis, 2004), further underlining the centrality of women's weight and appearance in women's social roles and romantic relationship quality.

The links between weight concerns, perceptions of spouse's weight, and romantic relationship quality may be best understood within the couple context. A key tenet of family systems theory is the interdependence of subsystems, meaning that that members of family systems, or in this case, the marital subsystem, exert mutual influences on one another (Minuchin, 1985). From this perspective, spouses influence each other's feelings and behaviors. Similarly, a fundamental idea within Braiker and Kelley's (1979) reformulation of interdependence theory is that individuals in close relationships exhibit interdependence of behavior, personal characteristics, and attitudes. For this reason, we cannot fully understand the implications of weight concerns and perceptions of a spouse's weight for marital relationship quality without considering the perspectives of both members of the marital dyad and how each member contributes to their own and their spouse's marital evaluations. Congruent with the notion of interdependence (as well as gender socialization theory), among heterosexual newlyweds, wives' BMIs were negatively associated with husbands' reports of initial marital satisfaction as well as wives' reports of marital satisfaction across the first few years of marriage; further, both men and women were more satisfied with their marriages when wives' BMIs were lower than their husbands' (Meltzer, McNulty, Novak, Butler, & Karney, 2011). This pattern suggests that when husbands are relatively heavier than wives, there is reduced pressure on wives to conform to the thin ideal of beauty, and in turn, greater marital satisfaction for both spouses. Alternatively, when wives have lower BMIs, their bodies are closer to the thin ideal of beauty and the consequential satisfaction husbands experience may lead to greater affection toward wives, and in turn, improvements in wives' marital satisfaction. Similar findings highlighting both interdependence and gender differences in the importance of appearance for marital relationship quality have been reported for attractiveness: Among newlyweds, women's perceptions of their own attractiveness are

positively associated with their own and their husbands' marital satisfaction (Meltzer & McNulty, 2010).

Although this literature is informative, there are still gaps in our understanding of the interplay between individuals' weight concerns, perceptions of their spouses' weight, and marital relationship quality. Much of the extant literature linking weight and marital relationship quality has focused on weight status as opposed to weight concerns or perceptions of spouse's weight, which, although closely related to objective weight status, are subjective. Given that individuals' feelings and behavior are shaped, in large part, by their perceptions (Thomas & Thomas, 1928), examining the effects of weight concerns and perceptions of spouse's weight on husbands' and wives' marital relationship quality may yield important new insights.

In addition, marital relationship quality is multidimensional, with positive (e.g., relationship satisfaction) and negative (e.g., conflict) characteristics (Fincham & Linfield, 1997). With some exceptions (e.g., Skoyen, Rentscher, & Butler, 2018), most studies linking physical appearance or weight with relationship quality have reported on relationship satisfaction alone or have treated relationship quality as a unidimensional construct (e.g., Boyes & Latner, 2009; Meltzer & McNulty, 2010; Meltzer et al., 2011; Meltzer, Novak, McNulty, Butler, & Karney, 2013). However, high conflict does not necessarily imply low relationship satisfaction. Thus, we can develop a more complete understanding of the role of weight concerns and perceptions of spouse's weight in marital relationships by examining their links with both relationship satisfaction and conflict.

The current study

This study builds on prior research by applying a dyadic data analysis technique, the Actor–Partner Interdependence Model (APIM; Kenny, Kashy, & Cook, 2006), to examine prospective links between weight concerns, perceptions of spouses' weight, and marital relationship quality among married couples in midlife. This approach enabled us to examine gender differences in these associations, as well as determine whether individuals' reports of marital satisfaction and conflict are driven by their own or spouses' weight concerns, their perceptions of their spouses' weight, or their spouses' perceptions of their weight. A prospective study design was selected to elucidate the direction of effect between weight concerns, perceptions of spouse's weight, and dimensions of marital relationship quality, a necessary step for determining risk and protective factors for marital relationship quality that cannot be accomplished with cross-sectional study designs (Kraemer et al., 1997). By controlling for initial marital relationship quality, this prospective approach enables detection of relative change in marital relationship quality over time attributable to the predictors. Further, unlike most prior research in this area, the current study examined middle-aged couples who had been married for an average of nearly two decades. Relationship dynamics may be quite different among long-term married couples than among newlyweds, and evidence suggests that men's and women's weight concerns do change across the lifespan (Keel, Baxter, Heatherton, & Joiner, 2007; McCabe, 2006). Thus, the current study extended

our understanding of the links between perceptions of spouse's weight, weight concerns, and marital relationship quality to midlife.

Based on prior research and sociocultural and gender socialization models of body image, we hypothesized that (1) actor effects and (2) partner effects for perceptions of spouses' weight and weight concerns would predict marital conflict and satisfaction 1 year later. Within the context of Western society, wherein sociocultural influences perpetuate thin ideals of beauty, an individual's perception that their spouse is overweight may be associated with reductions in their own marital satisfaction because it implies that they view their spouse as less attractive. Likewise, the recipient of this evaluation may feel dissatisfied with the relationship and may report more marital conflict, potentially because they feel objectified or even viewed critically by the spouse. Individuals with elevated weight concerns consider weight more important than other aspects of their lives (Killen et al., 1994); thus, weight concerns may predict lower marital satisfaction and higher conflict for individuals with weight concerns and their spouses. Based on the sociocultural and gender socialization models of body image and prior research suggesting a relatively greater importance of wives' weight for men's and women's evaluations of marital relationship quality, we also hypothesized that actor and partner effects would differ by gender, with (3) stronger actor and partner effects for wives' weight concerns than husbands' predicting marital relationship quality, (4) stronger actor effects for perceptions of spouse's weight among men, and (5) stronger partner effects for perceptions of spouse's weight among wives, such that husbands' perceptions of wives' weight would be more predictive of wives' marital relationship quality. We also explored interactions between actor and partner effects to determine whether the links between weight concerns and perceptions of spouses' weight were more nuanced than main actor and partner effects, and examined gender differences in these interactions.

Method

Participants

Participants included 197 heterosexual married couples with adolescent children who were part of a 3-year study of family relationships and development. The purpose of the parent study was to investigate how parents' work and personal characteristics were linked to family socialization experiences of adolescent siblings. We used data from Years 2 and 3 (referred to as Time 1 and Time 2 hereafter) because measures for key predictors were not collected in Year 1. Participants were predominantly European American, middle-aged adults: Mean age at Time 1 was 40.85 years for wives ($SD = 3.93$ and range = 32.85–51.20) and 42.81 years for husbands ($SD = 4.24$ and range = 33.89–59.01). On average, couples had been married for 18.6 years at Time 1 ($SD = 3.22$ and range = 4.94–31.04).

Study procedure

Recruitment letters were mailed through schools to families with one or more adolescents in 8th, 9th, or 10th grade in a northeastern state. Families were invited to participate

in the study if their first-born child was in 8th–10th grade, their second-born child was 1–4 years younger, and parents were married and both employed at least part-time. Parents provided informed consent and completed annual home interviews conducted by trained research assistants. All procedures were approved by the university's institutional review board.

Measures

Marital relationship qualities were captured by two dimensions: marital conflict and marital satisfaction. Husbands and wives reported marital conflict using the 5-item conflict subscale of Braiker and Kelley's (1979) Relationships Questionnaire at Times 1 and 2. Items reflect frequency, for example, "How often do you and your partner argue with each other?" (1 = *never/very infrequently*, 9 = *very often/frequently*) and intensity, for example, "When you and your partner argue, how serious are the problems or arguments?" (1 = *not at all*, 9 = *very much*) of conflict. Husbands' and wives' conflict scores were calculated by summing responses to each item. Cronbach's alphas were $\alpha = .80$ for men and $\alpha = .77$ for women at Time 1 and $\alpha = .77$ for men and $\alpha = .79$ for women at Time 2. Husbands and wives reported their marital satisfaction at Times 1 and 2 using the 7-item Domains of Marriage scale (Huston, McHale, & Crouter, 1986), for example, "How satisfied are you with how the two of you divide housework such as cooking, cleaning, yard work, and so on?" (1 = *extremely dissatisfied*, 9 = *extremely satisfied*). Cronbach's $\alpha = .88$ and $\alpha = .86$ for men and women, respectively, at both Times 1 and 2).

Participants reported their perceptions of their spouses' weight at Time 1 by rating their spouse on a 7-point scale (1 = *underweight*, 4 = *just about right*, and 7 = *overweight*). Test-retest reliability over a 1-year interval suggested acceptable reliability in this sample ($r = .78$ for women and $r = .74$ for men). Weight concerns were assessed with the Weight Concerns Scale (Killen et al., 1994) at Time 1. This 6-item scale captures preoccupation with body shape and weight, belief that one is overweight, fear of weight gain, and recent dieting behavior, for example, "How afraid are you of gaining three pounds?" (Killen et al., 1994). Response scales for items vary, thus items were rescaled then summed, with higher scores representing higher weight concerns. Internal consistency was acceptable (women's $\alpha = .84$ and men's $\alpha = .78$).

Participants' reports of their age in years at Time 1 and household income (averaged across Times 1 and 2) were included as controls.

Analyses

Descriptive statistics were calculated for husbands' and wives' perceptions of their spouses' weight and weight concerns at Time 1 and marital conflict and marital satisfaction at Times 1 and 2. These were followed up with paired *t*-tests to test for mean differences in husbands' and wives' perceptions of their spouses' weight, weight concerns, marital conflict, and marital satisfaction, and change in relationship quality from Time 1 to Time 2. Holm-Bonferroni corrections for multiple comparisons were applied to all paired *t*-tests to reduce the likelihood of Type 1 error.

APIM within a multilevel modeling framework was used to address hypotheses and account for nonindependence of spouses' reports. APIM is dyadic data analysis technique that models individuals within couples by disentangling effects on a given outcome variable that can be attributed to each member of the couple (Kenny et al., 2006). For example, APIM can reveal how Person A's weight concerns predict their own marital satisfaction (an "Actor effect") and how Person B's weight concerns predict Person A's marital satisfaction (a "Partner effect"), as well as whether there are differences between husbands and wives (Gender $\times$ Actor and Gender $\times$ Partner interactions), or how Person B's weight concerns moderate the association between Person A's weight concerns and marital satisfaction (Actor weight concerns $\times$ Partner weight concerns interaction). In a multilevel modeling framework, individual-level predictors are included at Level 1, and couple-level predictors are included at Level 2. One benefit of conducting APIM using multilevel modeling is that multilevel modeling allows for missing data (Kenny et al., 2006), although less than 6% of data were missing in the years used in this study.

Based on recommendations by Kenny, Kashy, and Cook (2006) for multilevel data for distinguishable dyads, nonindependence of dyad members was handled by treating each spouse's scores as repeated measures within the dyad, and APIM models were estimated using restricted maximum likelihood and heterogeneous compound symmetry. Heterogeneous compound symmetry allowed for differences in error variances between husbands and wives. Weight concerns and perceptions of spouses' weight at Time 1 were examined as predictors of marital relationship qualities at Time 2 in separate models because the actor effect for weight concerns was correlated with the partner effect for perceptions of spouses' weight, and the partner effect for weight concerns was correlated with the actor effect for perceptions of spouses' weight. As two distinct dimensions of marital relationship quality were of interest, a total of four models were estimated. For the two models with weight concerns as a predictor (referred to as "weight concerns" models hereafter), Level 1 predictors were: the dependent variable at Time 1, age, gender, actor weight concerns at Time 1, partner weight concerns at Time 1; the two-way interactions between gender and actor weight concerns, gender and partner weight concerns, and actor and partner weight concerns; and the three-way interaction between gender, actor, and partner weight concerns. The Level 2 predictor was household income. In the two models using perceptions of spouses' weight at Time 1 as a predictor (referred to as "weight perceptions" models hereafter), perceptions of spouses' weight replaced the measure of weight concerns. Sensitivity analyses were conducted to confirm the direction of hypothesized associations between weight concerns, perceptions of spouse's weight, and marital relationship quality. All analyses were conducted in SAS version 9.4.

Results

Descriptive statistics

Descriptive statistics are presented in Table 1. On average, both husbands and wives perceived their spouse to be slightly overweight at Time 1 (means between 4 and 5 on a scale where 4 = *just about right*). A paired *t*-test, however, revealed that wives' ratings of their spouses' weight tended to be higher than husbands' ratings, $t(191) = 1.94$,

Table 1. Descriptive statistics and correlations between husbands' and wives' reports of perceptions of spouses' weight, weight concerns, marital satisfaction, and marital conflict.

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. W perceptions (T1)	—											
2. H perceptions (T1)	-.00	—										
3. W weight concerns (T1)	.09	.23*	—									
4. H weight concerns (T1)	.44*	.04	.04	—								
5. W conflict (T1)	.11	-.01	.09	-.00	—							
6. H conflict (T1)	.05	.13†	.16*	.19*	.38*	—						
7. W conflict (T2)	.15*	.15†	.20*	.07	.71*	.41*	—					
8. H conflict (T2)	.03	.11	.17*	.10	.40*	.75*	.52*	—				
9. W satisfaction (T1)	-.13†	-.16*	-.10	.06	-.52*	-.23*	-.47*	-.26*	—			
10. H satisfaction (T1)	-.07	-.16*	-.02	-.08	-.34*	-.45*	-.39*	-.45*	.35*	—		
11. W satisfaction (T2)	-.05	-.19*	-.17*	.05	-.42*	-.20*	-.52*	-.28*	.79*	.28*	—	
12. H satisfaction (T2)	-.02	-.22*	-.09	-.02	-.33*	-.41*	-.39*	-.50*	.33*	.77*	.31*	—
Mean	4.84	4.62	16.85	12.90	20.90	18.76	20.16	18.38	45.82	48.25	45.49	48.18
SD	1.02	0.88	7.00	5.13	6.41	6.39	6.23	6.17	10.09	9.08	10.15	9.22
Range	2.00–7.00	2.00–7.00	6.00–34.37	6.00–32.67	8.00–42.00	5.00–35.00	8.00–44.00	5.00–37.00	17.00–63.00	16.00–63.00	13.00–63.00	21.00–63.00

Note. W = wife; H = husband; N = 197 couples.

* $p < .05$; † $p < .10$.

$p = .05$, suggesting that wives perceived husbands as more overweight than husbands perceived wives. Wives also reported significantly higher levels of weight concerns (i.e., concerns about their own weight), than husbands did at Time 1, $t(191) = 6.40, p < .001$, with wives' mean signifying moderate and husbands' mean signifying low weight concerns. With respect to marriage relationship ratings, compared to their husbands, wives reported significantly more marital conflict at both measurement occasions, $t(191) = 4.15, p < .001$; $t(189) = 3.88, p < .001$, as well as less marital satisfaction, $t(190) = -2.87, p = .005$; $t(189) = -3.08, p = .002$, though in these established marriages, means were well below the midpoint of the scale for conflict and above the midpoint of the scale for satisfaction. Results from all paired t -tests comparing husbands and wives were statistically significant after Holm-Bonferroni corrections for multiple comparisons with the exception of perceptions of spouses' overweight, which was trending at $p = .05$.

As indicated by the high correlations between husbands' reports of marital conflict at Times 1 and 2 and marital satisfaction at Times 1 and 2, and wives' reports of marital conflict at Times 1 and 2 and marital satisfaction at Times 1 and 2 reported in Table 1, there was high stability in relationship quality across the 1-year measurement interval. Paired t -tests to assess change in relationship quality between Times 1 and 2 further indicated continuity over time: $t(189) = -0.86, p > .05$ for husbands' marital conflict, $t(189) = -0.32, p > .05$ for husbands' marital satisfaction, $t(192) = 1.94, p = .04$ for wives' marital conflict, and $t(191) = -0.58, p > .05$ for wives' marital satisfaction. Once Holm-Bonferroni corrections for multiple comparisons were applied, change in wives' marital conflict was no longer statistically significant.

As might be expected based on the conceptual overlap between perceptions of spouses' weight and spouses' actual weight, there were statistically significant correlations between husbands' perceptions of wives' weight at Time 1 and wives' weight concerns at Time 1 ($r = .23, p = .001$), and between wives' perceptions of husbands' weight at Time 1 and husbands' weight concerns at Time 1 ($r = .44, p < .001$). Wives' perceptions of their husbands' weight were also positively correlated with their own reports of marital conflict at Time 2 ($r = .15, p = .04$). Husbands' perceptions of their wives' weight at Time 1 were also negatively correlated with their own satisfaction at Times 1 and 2 ($r = -.16, p = .03$; $r = -.22, p = .002$) and with their wives' marital satisfaction at Times 1 and 2 ($r = -.16, p = .03$; $r = -.19, p = .01$). In addition, wives' weight concerns were positively correlated with their own marital conflict ($r = .20, p = .005$) and negatively correlated with their own marital satisfaction ($r = -.17, p = .02$) at Time 2, and positively correlated with husbands' reports of marital conflict at Times 1 and 2 ($r = .16, p = .03$; $r = .17, p = .02$). Husbands' weight concerns at Time 1 were positively correlated with their own reports of conflict at Time 1 ($r = .19, p = .01$).

APIM model results

Marital conflict. In the two models predicting marital conflict (Table 2), the only significant control variable was prior level of conflict (standardized $\gamma = .68, SE = .04, p < .001, 95\% CI [0.61, 0.75]$ for the weight perceptions model, and standardized $\gamma = .69, SE = .04, p < .001, 95\% CI [0.61, 0.76]$ for the weight concerns model). Neither age nor household income were statistically significant. Gender was not a significant predictor of

Table 2. Unstandardized coefficients, SE, and CIs for Actor–Partner Interdependence Model examining associations between husbands' and wives' weight concerns, perceptions of each other's weight, and marital conflict the following year.

Marital conflict	Perceptions of spouse's weight			Weight concerns		
	γ	SE	95% CI	γ	SE	95% CI
Fixed effects						
Intercept	18.91**	0.52	[17.89, 19.94]	20.65**	0.40	[19.86, 21.45]
Prior marital conflict	0.66**	0.04	[0.59, 0.73]	0.67**	0.04	[0.60, 0.74]
Age	−0.02	0.06	[−0.14, 0.10]	0.01	0.06	[−0.10, 0.13]
Household income	−0.00	0.00	[−0.00, 0.00]	−0.00	0.00	[−0.00, 0.00]
Gender	−0.58	0.61	[−0.62, 1.78]	−1.01*	0.48	[−1.95, −0.07]
Actor effect	0.74	0.40	[−0.06, 1.54]	0.02	0.06	[−0.11, 0.14]
Partner effect	1.44**	0.48	[0.50, 2.39]	0.10	0.06	[−0.02, 0.23]
Gender × Actor	−0.24	0.57	[−1.36, 0.89]	−0.07	0.09	[−0.24, 0.11]
Gender × Partner	−1.19*	0.57	[−2.32, −0.06]	−0.10	0.09	[−0.27, 0.07]
Actor × Partner	−0.49	0.36	[−1.21, 0.24]	−0.02*	0.01	[−0.04, −0.00]
Actor × Partner × Gender	0.20	0.42	[−0.63, 1.03]	0.01	0.01	[−0.01, 0.03]

Note. SE = standard error; CI: confidence interval. Gender coded as *females* = 0, *males* = 1. Models estimated with heterogeneous compound symmetry and restricted maximum likelihood. Predictors were measured one year prior to the outcome variable, marital conflict. Actor effects represent the prospective association between individuals' perceptions of their spouses' weight/their own weight concerns and their own marital conflict. Partner effects represent the prospective association between spouses' perceptions of individuals' weight/spouses' weight concerns and individuals' marital conflict.

** $p < .01$; * $p < .05$.

conflict in the weight perceptions model, but there was a main effect for gender on conflict in the weight concerns model, such that wives reported more marital conflict than did husbands (standardized $\gamma = -.16$, $SE = .08$, $p < .03$, 95% CI [−0.31, −0.01]). Turning to main effects of the predictor variables, neither the actor effect of perceptions of spouse's weight on marital conflict nor the actor effect for weight concerns on marital conflict was significant (H1). Although the partner effect for weight concerns was nonsignificant, a significant partner effect of perceptions of spouse's weight on marital conflict emerged (standardized $\gamma = .24$, $SE = .08$, $p = .003$, 95% CI [0.08, 0.39]; H2). This main effect was qualified by an interaction with gender (standardized $\gamma = -.20$, $SE = .09$, $p = .04$, 95% CI [−0.38, −0.01]), and a follow-up test revealed that only the slope for wives was significant, as shown in Figure 1 (H5): On average, each SD increase in husbands' perceptions of wives' weight above the value for ideal weight was associated with a 0.24- SD increase in wives' reports of marital conflict, $p = .003$. That is, controlling for prior conflict, husbands' perceptions of wives' overweight predicted relative increases in wives' reports of marital conflict across 1 year. The other interaction terms for perceptions of spouse's weight and marital conflict [i.e., gender by actor (H4), actor by partner (exploratory), and gender by actor by partner (exploratory)] were not statistically significant. The only statistically significant interaction in the weight concerns model predicting conflict was an actor by partner weight concerns interaction (standardized $\gamma = -.16$, $SE = .07$, $p = .02$, 95% CI [−0.30, −0.02]; exploratory). This

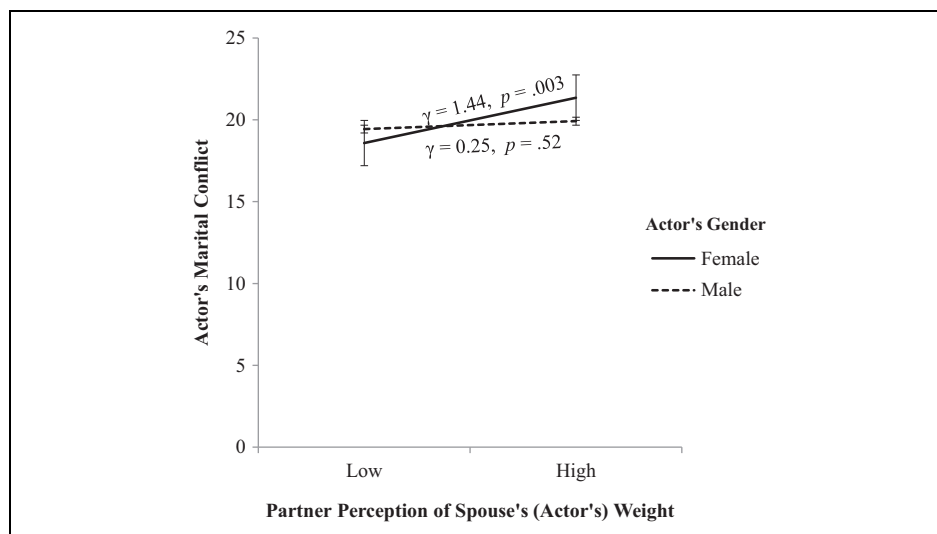


Figure 1. Gender by partner interaction effect for perceptions of spouses' weight predicting marital conflict the following year. *Note.* The variable "Perception of Spouse's Weight" was centered at the value corresponding to a weight of "just about right." Thus, low and high values for perceptions of spouse's weight refer to body weights that were respectively lower and higher than the weight that individuals viewed as ideal for their spouse. Simple slopes reflect unstandardized estimates.

interaction was probed at 1 *SD* above and below the mean for partner weight concerns. As shown in Figure 2, results indicated that the slope for individuals who had spouses with low weight concerns was significant: For individuals whose spouses reported lower than average weight concerns, a 1-*SD* increase in their own weight concerns above the sample mean corresponded to a 0.18-*SD* increase in their own reported marital conflict, $p = .002$. The slope for individuals whose spouses' weight concerns were above the sample average was nonsignificant.

Marital satisfaction. Turning to the two models predicting marital satisfaction, shown in Table 3, the only statistically significant control variable was prior level of marital satisfaction (standardized $\gamma = -.76$, $SE = .03$, $p < .001$, 95% CI [0.69, 0.83] for the weight perceptions model and standardized $\gamma = .77$, $SE = .03$, $p < .001$, 95% CI [0.70, 0.84] for the weight concerns model). The main effect for gender was not significant for either model. There were also no significant actor effects for perceptions of spouse's weight or weight concerns in predicting marital satisfaction (H1). A significant negative partner effect emerged for perceptions of spouses' weight (standardized $\gamma = -.20$, $SE = .07$, $p = .004$, 95% CI [-0.34, -0.06]; H2). However, this was qualified by significant two-way interactions with gender (H5) and with actors' perceptions of spouses' weight (exploratory). The trend for the exploratory three-way interaction with gender and actors' perceptions of spouses' weight was not followed up. The partner perception of

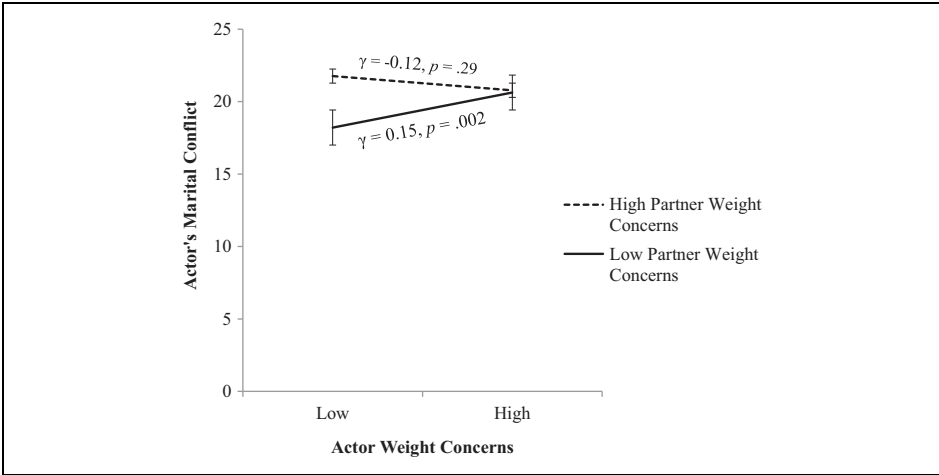


Figure 2. Actor by partner interaction effect for weight concerns predicting marital conflict the following year. Note. The weight concerns variable was grand mean centered. The simple slopes reflect unstandardized estimates.

Table 3. Unstandardized coefficients and SEs for Actor–Partner Interdependence Model examining associations between husbands’ and wives’ weight concerns, perceptions of each other’s weight, and marital satisfaction the following year.

Marital satisfaction	Perceptions of spouse’s weight			Weight concerns		
	γ	SE	95% CI	γ	SE	95% CI
Fixed effects						
Intercept	46.67**	0.76	[45.17, 48.17]	45.33**	0.59	[44.17, 46.49]
Prior marital satisfaction	0.76**	0.03	[0.70, 0.83]	0.78**	0.03	[0.71, 0.84]
Age	0.03	0.08	[−0.13, 0.20]	−0.01	0.08	[−0.18, 0.15]
Household income	0.00	0.00	[−0.00, 0.00]	0.00	0.00	[−0.00, 0.00]
Gender	0.07	0.99	[−1.88, 2.02]	1.11	0.78	[−0.43, 2.66]
Actor effect	−0.61	0.59	[−1.77, 0.55]	−0.12	0.09	[−0.29, 0.06]
Partner effect	−2.00**	0.69	[3.37, −0.63]	−0.05	0.09	[−0.23, 0.13]
Gender × Actor	−0.51	0.86	[−2.20, 1.17]	0.19	0.13	[−0.06, 0.44]
Gender × Partner	2.09*	0.86	[0.40, 3.79]	−0.08	0.13	[−0.33, 0.17]
Actor × partner	1.38*	0.53	[0.33, 2.42]	0.01	0.01	[−0.02, 0.03]
Actor × Partner × Gender	−1.38	0.69	[−2.74, −0.02]	−0.01	0.02	[−0.04, 0.02]

Note. SE = standard error; CI: confidence interval. Gender coded as *females* = 0, *males* = 1. Models estimated with heterogeneous compound symmetry and restricted maximum likelihood. Predictors were measured 1 year prior to outcome variable, marital satisfaction. Actor effects represent the prospective association between individuals’ perceptions of their spouses’ weight/their own weight concerns and their own marital satisfaction. Partner effects represent the prospective association between spouses’ perceptions of individuals’ weight/spouses’ weight concerns and individuals’ marital satisfaction.

** $p < .01$; * $p < .05$.

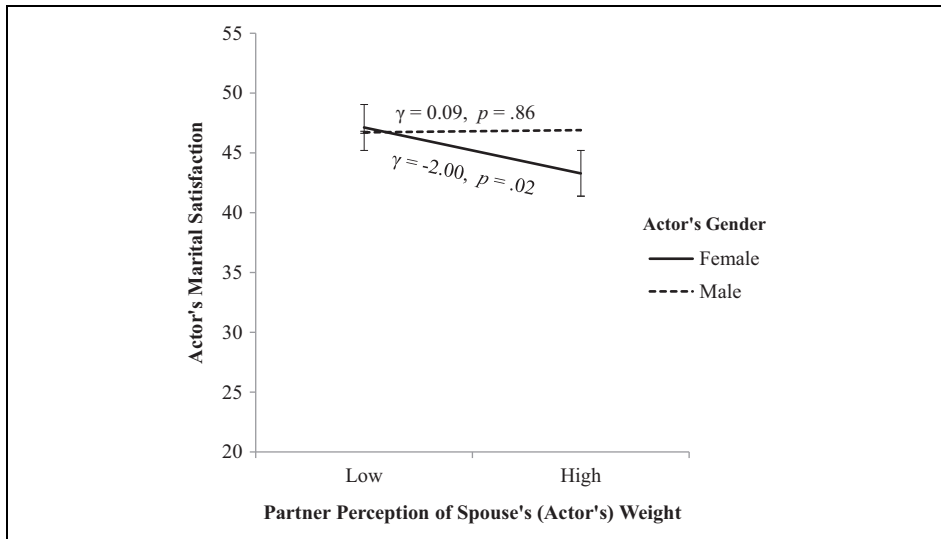


Figure 3. Gender by partner interaction effect for perceptions of spouses' weight predicting marital satisfaction the following year. *Note.* The variable "Perception of Spouse's Weight" was centered at the value corresponding to a weight of "just about right." Thus, low and high values for perceptions of spouse's weight refer to body weights that were respectively lower and higher than the weight that individuals viewed as ideal for their spouse. The simple slopes are unstandardized estimates.

spouse's weight by gender interaction (standardized $\gamma = .21$, $SE = .09$, $p = .02$, 95% CI [.04, 0.38]) was probed for wives and husbands, and as shown in Figure 3, results revealed that only the slope for wives was significant: Each SD increase in husbands' perceptions of their wives' weight was associated with a 0.20 - SD decrease in wives' marital satisfaction, $p = .004$. That is, controlling for prior satisfaction, the more overweight husbands perceived their wives to be, the less satisfied wives were with their marriages 1 year later. The actor perception by partner perception of spouse's weight interaction also was probed at 1 SD above and below the value for ideal weight (see Figure 4). On average, for men and women whose spouses perceived them to be below ideal weight (i.e., less than "just about right" on our scale), every 1 SD increase in actors' perceptions of spouses' weight was associated with a 0.20 - SD decrease in their own marital satisfaction, $p = .05$. The slope for men and women whose partners perceived them to be above ideal weight was nonsignificant. Finally, neither the partner effects (H2) nor any of the interaction terms for the weight concerns model predicting marital satisfaction (actor by gender [H3], partner by gender [H3], actor by partner [exploratory], actor by partner by gender [exploratory]) were significant.

Sensitivity analyses

As a sensitivity analysis for the hypothesized direction of effect, main effects models were estimated with actor and partner effects for marital conflict and satisfaction

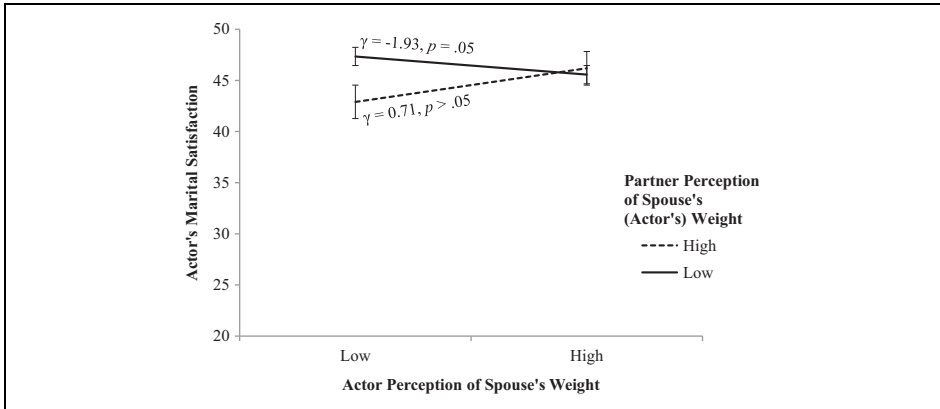


Figure 4. Actor by partner interaction effect for perception of spouse's weight predicting marital satisfaction the following year. Note. The variable "Perception of Spouse's Weight" was centered at the value corresponding to a weight of "just about right." Thus, low and high values for perceptions of spouse's weight refer to body weights that were respectively lower and higher than the weight that individuals viewed as ideal for their spouse. The simple slopes are unstandardized estimates.

predicting weight concerns and perceptions of spouse's weight 1 year later. Control variables from the main analyses were included in these sensitivity analyses. For the marital conflict model predicting weight concerns, there was a small, yet statistically significant, actor effect ($\gamma = .06$, $SE = .03$, $p = .04$, 95% CI [0.004, 0.12]) indicating that the more marital conflict individuals reported at Time 1, the more weight concerns they experienced the following year. For the marital conflict model predicting perceptions of spouse's weight, neither the actor nor partner effects were statistically significant. For the marital satisfaction model predicting weight concerns, there was a statistically significant, albeit small, negative actor effect ($\gamma = -.05$, $SE = .02$, $p = .02$, 95% CI [-0.09, -0.01]) suggesting that the more satisfied individuals were with their marriages at Time 1, the fewer weight concerns they reported 1 year later. The partner effect for marital satisfaction predicting weight concerns was not significant. For the marital satisfaction model predicting perceptions of spouse's weight, neither the actor nor partner effects were statistically significant.

Discussion

The purpose of this study was to test whether individuals' weight concerns and perceptions of their spouses' weight predicted changes in their own and spouses' reports of two dimensions of marital relationship quality: marital conflict and satisfaction. The hypotheses for the study were guided by sociocultural and gender socialization models of body image as well as prior literature on individuals' weight and romantic relationship quality. Importantly, models used to test the study hypotheses controlled for individuals' age, couples' household income, and initial levels of marital relationship quality (i.e., marital conflict and satisfaction at Time 1), so that estimates for fixed effects reflect

relative *changes* in level of marital relationship quality over the following year that may be attributed to the predictors, adjusting for age and income.

The first hypothesis, that individuals' weight concerns and perceptions of their spouses' weight would be positively associated with their own reports of marital conflict and negatively associated with their own reports of marital satisfaction (main actor effects), was not supported. Instead, more complex findings emerged. The second hypothesis, that individuals would experience decreases in marital satisfaction and increases in conflict when their spouse reported elevated weight concerns or perceived them to be overweight (main partner effects) was partially supported: There was a significant, positive partner effect for perceptions of spouse's weight predicting marital conflict and marital satisfaction, but no partner effects for weight concerns predicting marital conflict or satisfaction were detected. However, as hypothesized, these partner effects were moderated by gender, such that the heavier husbands perceived their wives to be, the more conflict and less satisfaction wives reported the following year (see Figures 1 and 3). Contrary to the third hypothesis, women's weight concerns did not better predict their own and husbands' reports of marital relationship quality than men's weight concerns predicted their own and wives' reports of marital relationship quality (gender by actor and gender by partner interactions). Similarly, husbands' perceptions of their wives' weight did not better predict husbands' reports of marital relationship quality than wives' perceptions of their husbands' weight predicted wives' marital relationship quality (gender by actor interaction). In terms of the exploratory actor by partner and actor by partner by gender interactions, two effects emerged. A significant actor by partner interaction effect for weight concerns predicting marital conflict revealed that, for individuals whose spouses reported low weight concerns, elevations in their own weight concerns predicted increases in their own marital conflict (see Figure 2). A significant actor by partner interaction effect for perceptions of spouse's weight predicting marital satisfaction indicated that individuals' perceptions that their spouses were overweight predicted lower marital satisfaction the following year, but only if their partners perceived them to be thin. These actor by partner interaction effects suggest that mismatches between spouses' weight or weight concerns predicted declines in marital relationship quality for the individual with lower weight and for the individual with higher weight concerns, respectively.

These findings are consistent with family systems and interdependence theories, which highlight the interdependence of married individuals (Braiker & Kelley, 1979; Cox & Paley, 1997). The partner effects and actor-partner interactions observed in this study demonstrate the importance of considering how individuals' functioning is shaped by their own and their family members' experiences.

Our findings of gender differences in the associations between partner perceptions of spouse's weight and marital relationship quality are consistent with our hypotheses and prior work by Meltzer and colleagues (Meltzer & McNulty, 2010; Meltzer et al., 2014) who studied samples of newlyweds, and Burke and colleagues (Burke et al., 2012), who studied a small sample of heterosexual couples in romantic relationships, and extended this work to longer term marital relationships in midlife. The finding that husbands' perceptions that their wives were overweight were linked to women's reports of marital conflict and satisfaction, but wives' perceptions of their husbands' weight were unrelated

to men's reports of conflict and satisfaction is in line with gender socialization processes that are theorized to sensitize women, more so than men, to the importance of physical appearance (Murnen, 2011; Smolak, 2004). It may be that in the context of sociocultural pressure to be thin, women whose husbands perceive them to be heavier than ideal weight feel objectified or slighted by their husbands, which manifests as increases in marital conflict and decreases in marital satisfaction. The women in this study also reported higher mean levels of weight concerns, more marital conflict, and less marital satisfaction; and they were more likely to report that their spouse was overweight than were men. Thus, the significant partner effect for husbands' perceptions of their wives' weight suggests that women may be more sensitive to their spouses' perceptions, and, coupled with the trend for wives to report greater spouse overweight than husbands, that men, specifically those in midlife, may be unfairly criticized for overvaluing wives' physical appearance. Further, although the strength of the associations in the actor-partner interactions did not differ for men and women, their average scores on these measures suggested that, consistent with our hypotheses, women were more negatively impacted by these processes than were men. On the other hand, our failure to detect gender differences in the actor-partner interactions may suggest that the implications of heterosexual men's weight concerns have been underestimated. Some men do experience weight concerns, and these concerns may have consequences for men's relationship quality. Gender socialization processes are thought to objectify women more so than men (Fredrickson & Roberts, 1997; Moradi & Huang, 2008), and yet, both men and women reported poorer marital quality when there were mismatches between the spouses on the measures of weight concerns and perceptions of spouse's weight.

The finding that mismatches between spouses' weight predicted lower marital satisfaction for the thinner spouse is consistent with interdependence theory, which holds that conflict or dissatisfaction arises within close relationships when there is incompatibility between individuals' personal characteristics or attitudes such that the relationship is not highly rewarding for both individuals (Braiker & Kelley, 1979). Through the lens of interdependence theory, this finding may be interpreted to suggest that the thinner individual in the marital dyad may find their relationship less satisfying, or rewarding, as the extent of their spouse's overweight increases. This finding also appears to reflect thin ideal internalization, or the acceptance of a societal ideal of beauty emphasizing a slim physique, a key principle of sociocultural models of body image (Tiggemann, 2011). Notably, Meltzer and colleagues (Meltzer et al., 2011) reported similar findings for discrepancies between spouses' weight predicting marital satisfaction using individuals' actual weight status as opposed to perceptions of spouses' weight. However, in that study, the results were gendered, such that both men and women reported higher marital satisfaction when wives were thinner than husbands (Meltzer et al., 2011). It may be that the lack of gender differences for this effect in the current study reflects a difference between married couples in midlife (the current study) and newlywed couples in young adulthood (Meltzer et al., 2011).

The finding that mismatches in spouses' levels of weight concerns predicted increases in conflict for the spouse with higher weight concerns also can be interpreted in light of interdependence theory. However, a more intuitive interpretation may be that individuals with elevated weight concerns who are married to individuals with low weight concerns

may perceive lower levels of understanding from their spouse, which in turn manifests in conflict. These findings should not be overinterpreted prior to replication. However, the consequences of both men and women's concerns about weight for marital relationship functioning merit additional research.

Findings from this study have implications for marriage intervention programs. Our findings suggest that weight is a salient issue among married couples—even those in long-term marriages such as our sample. However, individuals may not know how to discuss concerns about their own or spouse's weight in a supportive manner. An important step is to investigate how couples can optimally navigate discussions about weight in ways that are supportive of one another's health and maintain marital harmony. Additionally, it may be useful to adopt and refine strategies developed for eating disorder prevention programs for marriage interventions. In particular, cognitive dissonance exercises aimed at discrediting the thin ideal of beauty (Stice, Rohde, Butryn, Shaw, & Marti, 2015) may mitigate weight concerns and, in turn, the link between perceptions of partners' weight and marital relationship quality. New content could also be added to emphasize and reframe the natural changes in physical appearance that occur with childbirth and aging in positive ways.

This study was limited to a focus on couples in established relationships and data from two measurement occasions spaced 1 year apart. It may be enlightening to examine the linkages revealed in the current study across more than 2 years of marriage and at different points in the marital relationship. In addition, replication in larger, diverse samples with differing body ideals will be critical to establish whether these findings generalize beyond the population examined in the current study. A further limitation of this study is the one-item measure of perceptions of spouse's weight. Although a multi-item, validated measure of perceptions would be preferable, the measure utilized in the current study exhibited high stability over a 1-year interval and was correlated with spouses' weight concerns in the expected direction, and the findings suggest that it may prove fruitful to include this construct in future research. A potentially meaningful addition to this study would have been an objective measure of body composition. Although self-reports of height and weight were collected for men and women, 25% of these data were missing. Thus, due to concerns about biasing model estimates, BMI was not included as a covariate. However, using the available BMI data, it appears that perceptions of spouses' weight were highly correlated with spouses' reports of their own BMI. This suggests that our measure of perceptions of spouse's weight is closely related to spouses' actual weight, but includes a subjective component. Nevertheless, future studies should consider including an objective measure of body composition as a covariate. Finally, an important direction for future research will be to evaluate mediators that explain the links between perceptions of spouse's weight, weight concerns, and marital relationship quality. We have suggested a few possible explanations, but there may be others, such as intimacy, that mediate these links. Such research is key to advancing theory in this area.

Despite these limitations, at the most general level, this study revealed nuanced connections between husbands' and wives' psychological and physical health and marital relationship qualities. Moreover, findings suggest the need for a critical examination of the narrative surrounding men and women's weight concerns, perceptions of

spouses' weight, and relationship quality. In light of the obesity epidemic in the U.S. and a relentless thin ideal of beauty, future research should continue to investigate the consequences of concerns about weight for individuals and families.

Authors' Note

The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute on Drug Abuse, the National Institute of Child Health and Human Development, or the National Institutes of Health.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article. This study was funded by the National Institute of Child Health and Human Development (R01 HD29409, PIs: Susan M. McHale and Ann C. Crouter). We are grateful to the families who participated in our study. This project was supported by the Prevention and Methodology Training Program (T32 DA017629, PI: Linda M. Collins), funded by the National Institute on Drug Abuse. Research reported in this publication was also supported by the National Center for Advancing Translational Sciences, NIH Grants TL1 TR002016 and UL1 TR002014.

ORCID iD

Anna K. Hochgraf  <https://orcid.org/0000-0002-4030-2930>

Open research statement

As part of IARR's encouragement of open research practices, the authors have provided the following information: This research was not pre-registered. The data and materials used in the research are available upon request by emailing akh7@psu.edu.

References

- Boyes, A. D., & Latner, J. D. (2009). Weight stigma in existing romantic relationships. *Journal of Sex & Marital Therapy*, 35, 282–293. doi:10.1080/00926230902851280
- Braiker, H. B., & Kelley, H. H. (1979). Conflict in the development of close relationships. In R. Burgess & T. Huston (Eds.), *Social exchange in developing relationships* (pp. 135–168). New York, NY: Academic Press.
- Burke, T. J., Randall, A. K., Corkery, S. A., Young, V. J., & Butler, E. A. (2012). "You're going to eat that?" Relationship processes and conflict among mixed-weight couples. *Journal of Social and Personal Relationships*, 29, 1109–1130. doi:10.1177/0265407512451199
- Cash, T. F., Theriault, J., & Annis, N. M. (2004). Body image in an interpersonal context: Adult attachment, fear of intimacy, and social anxiety. *Journal of Social and Clinical Psychology*, 23, 89–103. doi:10.1521/jscp.23.1.89.26987
- Chen, E. Y., & Brown, M. (2005). Obesity stigma in sexual relationships. *Obesity*, 13, 1393–1397. doi:10.1038/oby.2005.168
- Cox, M. J., & Paley, B. (1997). Families as systems. *Annual Review of Psychology*, 48, 243–267. doi:10.1146/annurev.psych.48.1.243
- Fallon, E. A., Harris, B. S., & Johnson, P. (2014). Prevalence of body dissatisfaction among a United States adult sample. *Eating Behaviors*, 15, 151–158. doi:10.1016/j.eatbeh.2013.11.007

- Fincham, F. D., & Linfield, K. J. (1997). A new look at marital quality: Can spouses feel positive and negative about their marriage? *Journal of Family Psychology*, *11*, 489–502. doi:10.1037/0893-3200.11.4.489-502
- Frederick, D. A., Peplau, L. A., & Lever, J. (2006). The swimsuit issue: Correlates of body image in a sample of 52,677 heterosexual adults. *Body Image*, *3*, 413–419. doi:10.1016/j.bodyim.2006.08.002
- Fredrickson, B. L., & Roberts, T. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, *21*, 173–206. doi:10.1111/j.1471-6402.1997.tb00108.x
- Gagne, D. A., Von Holle, A., Brownley, K. A., Runfola, C. D., Hofmeier, S., Branch, K. E., & Bulik, C. M. (2012). Eating disorder symptoms and weight and shape concerns in a large web-based convenience sample of women ages 50 and above: Results of the gender and body image (GABI) study. *International Journal of Eating Disorders*, *45*, 832–844. doi:10.1002/eat.22030
- Holt-Lunstad, J., Birmingham, W., & Jones, B. Q. (2008). Is there something unique about marriage? The relative impact of marital status, relationship quality, and network social support on ambulatory blood pressure and mental health. *Annals of Behavioral Medicine*, *35*, 239–244. doi:10.1007/s12160-008-9018-y
- Huston, T. L., McHale, S. M., & Crouter, A. C. (1986). Changes in the marital relationship during the first year of marriage. In R. Gilmour & S. Duck (Eds.), *The emerging field of personal relationships* (pp. 109–132). Hillsdale, NJ: Lawrence Erlbaum.
- Keel, P. K., Baxter, M. G., Heatherton, T. F., & Joiner Jr, T. E. (2007). A 20-year longitudinal study of body weight, dieting, and eating disorder symptoms. *Journal of Abnormal Psychology*, *116*, 422–432. doi:10.1037/0021-843X.116.2.422
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). Analyzing mixed independent variables: The actor-partner interdependence model. In D. A. Kenny (Ed.), *Dyadic data analysis*. New York, NY: Guilford.
- Killen, J. D., Taylor, C. B., Hayward, C., Wilson, D. M., Haydel, K. F., Hammer, L. D., . . . Kraemer, H. (1994). Pursuit of thinness and onset of eating disorder symptoms in a community sample of adolescent girls: A three-year prospective analysis. *International Journal of Eating Disorders*, *16*, 227–238. doi:10.1002/1098-108X(199411)16:3<227::AID-EAT2260160303>3.0.CO;2-L
- Kraemer, H. C., Kazdin, A. E., Offord, D. R., Kessler, R. C., Jensen, P. S., & Kupfer, D. J. (1997). Coming to terms with the terms of risk. *Archives of General Psychiatry*, *54*, 337–343. doi:10.1001/archpsyc.1997.01830160065009
- Markey, C., & Markey, P. (2011). Romantic partners, weight status, and weight concerns: An examination using the actor-partner interdependence model. *Journal of Health Psychology*, *16*, 217–225. doi:10.1177/1359105310375636
- Markey, C. N., & Markey, P. M. (2013). Weight disparities between female same-sex romantic partners and weight concerns: Examining partner comparison. *Psychology of Women Quarterly*, *37*, 469–477. doi:10.1177/0361684313484128
- McCabe, M. P. (2006). Satisfaction in marriage and committed heterosexual relationships: Past, present, and future. *Annual Review of Sex Research*, *17*, 39–58. doi:10.1080/10532528.2006.10559836
- McLaren, L., Kuh, D., Hardy, R., & Gauvin, L. (2004). Positive and negative body-related comments and their relationship with body dissatisfaction in middle-aged women. *Psychology & Health*, *19*, 261–272. doi:10.1080/0887044031000148246

- Meltzer, A. L., & McNulty, J. K. (2010). Body image and marital satisfaction: Evidence for the mediating role of sexual frequency and sexual satisfaction. *Journal of Family Psychology, 24*, 156–164. doi:10.1037/a0019063
- Meltzer, A. L., McNulty, J. K., Jackson, G. L., & Karney, B. R. (2014). Sex differences in the implications of partner physical attractiveness for the trajectory of marital satisfaction. *Journal of Personality and Social Psychology, 106*, 418–428. doi:10.1037/a0034424
- Meltzer, A. L., McNulty, J. K., Novak, S. A., Butler, E. A., & Karney, B. R. (2011). Marriages are more satisfying when wives are thinner than their husbands. *Social Psychological and Personality Science, 2*, 416–424. doi:10.1177/1948550610395781
- Meltzer, A. L., Novak, S. A., McNulty, J. K., Butler, E. A., & Karney, B. R. (2013). Marital satisfaction predicts weight gain in early marriage. *Health Psychology, 32*, 824. doi:10.1037/a0031593
- Minuchin, P. (1985). Families and individual development: Provocations from the field of family therapy. *Child Development, 56*, 289–302. doi:10.2307/1129720
- Moradi, B., & Huang, Y. (2008). Objectification theory and psychology of women: A decade of advances and future directions. *Psychology of Women Quarterly, 32*, 377–398. doi:10.1111/j.1471-6402.2008.00452.x
- Murnen, S. K. (2011). Gender and body images. In T. F. Cash & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention* (pp.173–182). New York, NY: Guilford.
- Ogden, C. L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2014). Prevalence of childhood and adult obesity in the United States, 2011–2012. *JAMA, 311*, 806–814. doi:10.1001/jama.2014.732
- Skoyen, J. A., Rentscher, K. E., & Butler, E. A. (2018). Relationship quality and couples' unhealthy behaviors predict body mass index in women. *Journal of Social and Personal Relationships, 35*, 224–245. doi:10.1177/0265407516680909
- Smolak, L. (2004). Body image in children and adolescents: Where do we go from here? *Body Image, 1*, 15–28. doi:10.1016/S1740-1445(03)00008-1
- Stice, E., Rohde, P., Butryn, M. L., Shaw, H., & Marti, C. N. (2015). Effectiveness trial of a selective dissonance-based eating disorder prevention program with female college students: Effects at 2-and 3-year follow-up. *Behaviour Research and Therapy, 71*, 20–26. doi:10.1016/j.brat.2015.05.012
- Thomas, W. I., & Thomas, D. S. (1928). *The child in America: Behavior problems and programs*. New York, NY: Knopf.
- Tiggemann, M. (2011). Sociocultural perspectives on human appearance and body image. In T. F. Cash & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention* (pp. 12–19). New York, NY: Guilford.