Romantic Partners, Weight Status, and Weight Concerns
An Examination Using the Actor–Partner Interdependence Model

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Abstract
In this study, romantic partners’ weight status and weight concerns were examined using an Actor–Partner Interdependence Model. One hundred and four heterosexual couples’ (N = 208 participants) weight and height were assessed by researchers to compute body mass index and participants’ weight concerns were assessed. As expected, results indicated that participants’ weight concerns were associated with their weight status. Further, men and women who were relatively heavy and who had relatively thin romantic partners were most likely to express weight concerns. These findings extend our understanding of romantic partners’ relevance to individuals’ weight management and weight concerns.

Keywords
- Actor–Partner Interdependence Model
- romantic relationships
- weight concerns
- weight status

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WITH THE World Health Organization (WHO, 1998) describing obesity rates as ‘epidemic’ for the last decade, there is little doubt that societal concerns about weight are warranted. However, there is an imperfect relationship between weight status and weight concerns at the individual level; many people who are overweight are not concerned about their weight while some people who are underweight harbor weight concerns. In one recent study, the disconnect between weight status and weight concerns can be seen: 61 percent of participants who were concerned about their weight or dieting actually maintained a healthy weight while 13 percent of those who were not concerned about their weight or dieting were actually overweight or obese (Woodruff, Hanning, Lambraki, Storey, & McCargar, 2008). Research further indicates that weight concerns often do not predict healthy attempts at weight management (Killen et al., 1996; Polivy & Herman, 2002). Thus, in order to help people achieve healthy lifestyles that support long-term weight management, a better understanding of factors contributing to the development of weight concerns must be achieved. The purpose of this study is to explore romantic partners as a potential influence on the development of weight concerns.

Romantic partners are among one of the many personal, social, and behavioral contributors to weight status across the lifespan (Umberson, Liu, & Powers, 2009). These factors appear to have coalesced to contribute to a significant rise in obesity rates in the past two decades; approximately 64 percent of US adults are estimated to be overweight or obese, obesity is a leading cause of preventable morbidity and mortality, and 10 percent of deaths in the USA can be attributed to obesity (Danaei et al., 2009; Mokdad, Marks, Stroup, & Gerberding, 2004). Health professionals and researchers agree that repeated attempts at weight loss (e.g. ‘weight cycling’) can be harmful to health and a stable body weight in the ‘normal’ range (e.g. BMI range of 19–24 kg/m²) is most conducive to health and well-being (Brownell & Rodin, 1994a). However, when an individual’s health is at risk due to their weight status, sustained weight loss (even by 10 percent of their current weight; National Institutes of Health, National Heart, Lung, and Blood Institute, 1998) results in health benefits. Given the potential benefits for many of weight loss, it could be argued that concerns about weight issues are not only warranted, but also possibly a positive motivating factor in the development of individual and community-level interventions focused on healthy eating, physical activity, and weight loss. What complicates the understanding of obesity prevention and treatment is evidence indicating that weight-related concerns and related attempts to diet may prove counterproductive in the maintenance of a healthy weight status (Mann et al., 2007; Polivy & Herman, 2002).

A substantial body of research suggests that concerns about weight do not necessarily lead to positive weight maintenance or weight loss behaviors. It appears that individuals (especially women) who are dissatisfied with their bodies and unnecessarily concerned with their weight are vulnerable to participation in unhealthy dieting behaviors including fasting, bingeing, and purging (Goodrick, Poston, & Foreyt, 1996), which have been linked to both the development of obesity and eating disorders (Mann et al., 2007; Patton, Johnson-Sabine, Wood, Mann, & Wakeling, 1990). Consistent with this notion, weight concerns have been found to predict overweight status (i.e. not weight loss) five years later (Haines, Neumark-Sztainer, Wall, & Story, 2007). So, even though it would be healthy for some people to lose weight, prescribing weight loss is complicated by the fact that a substantial body of research suggests that weight loss efforts may backfire; dieting is often associated with weight gain rather than weight loss, which may prompt more drastic (i.e. unhealthy) weight loss efforts, disordered eating, and obesity (Brownell & Rodin, 1994b; Mann et al., 2007; Stice, Cameron, Killen, Hayward, & Taylor, 1999).

Understanding weight concerns is further desirable because many people’s weight concerns may not be warranted; they may not be a result of their weight status. Why would individuals who are not overweight or obese maintain concerns about their weight? Answers to this question may be found in examining individuals’ social and relational experiences (e.g. Markey, Gomel, & Markey, 2008). Among adults, a social influence that may prove especially relevant to the development of weight concerns is romantic partners. Relationship status and related experiences are undoubtedly a significant component of many adults’ lives, and past research suggests the potential importance of romantic relationships in determining adults’ body weight (e.g. Umberson et al., 2009). Assortative mating is one explanation for the similarities found among romantic partners’ weight statuses (Allison et al., 1996). A modest correlation among married partners has been found for weight status (Markey,
Markey, & Birch, 2001), which cannot be explained simply by cohabitation or age similarity (Allison et al., 1996). Further, changes in relationship status (i.e. marital status) have been found to predict changes in body weight (Sobal, 1984; Sobal, Rauschenbach, & Frongillo, 1992, 2003).

In addition to research suggesting that relationship status (usually operationalized as marital status) predicts weight status, there is evidence that relationship experiences are associated with weight status (Boyes & Latner, 2009). For example, research indicates that partners may become more similar to one another or adapt to each other across time in a relationship (e.g. in terms of eating behaviors; Bove, Sobal, & Rauschenbach, 2003). This similarity and ‘adaptation’ appears to result in validation from romantic partners (sometimes referred to as consensual validation; Byrne & Griffitt, 1966; Luo & Klohnen, 2005). But, what happens when romantic partners are dissimilar or mismatched in terms of a significant quality such as weight status? It seems likely that having a partner of a dissimilar weight, particularly a thinner partner, may make an individual more aware of or concerned about their own weight. Social comparison processes (e.g. Festinger, 1954) are likely to prompt individuals’ dissatisfaction with their own weight status when they compare themselves to significant others who are able to achieve socioculturally desirable weight statuses. Thus, the focus of this research is an attempt to understand a previously unexplored etiological factor in the development of weight concerns: romantic partners’ weight status. Using data from heterosexual romantic couples, we will address this issue using the Actor–Partner Interdependence Model.

**Actor–Partner Interdependence Model**

Actor–Partner Interdependence Models (APIM; Kenny, Kashy, & Cook, 2008) are statistical methods that make it possible to examine how an individual’s predictor variable simultaneously and independently relates to his or her own criterion variable and to his or her partner’s criterion variable. This methodology allows one to isolate several potential variables of influence. First, the association between an individual’s own weight status (i.e. body mass index) and his or her weight concerns can be estimated. The APIM denotes this as an ‘actor effect’ (see lines A and A’ in Fig. 1). Second, the association between the romantic partner’s weight status and the
individual’s own weight concerns can be estimated. This link between the partner’s weight status and the individual’s weight concerns is termed the ‘partner effect’ (see lines P and P’ in Fig. 1). Finally, to examine the extent to which similarity among romantic partners’ weight statuses predicts weight concerns, the interaction between the individuals’ weight status and partners’ weight status can be examined.

**Hypotheses**

Given the importance of understanding weight concerns, and the potential role that romantic partners may have in individuals’ development of weight concerns, this study will examine individuals’ and their partners’ weight statuses (operationalized as body mass index (BMI)) and weight concerns to determine patterns of association. The hypotheses that can be tested for each effect yielded by the APIM (i.e. actor effect, partner effect, and interaction effect) are presented below.

1. **Actor effect**: Consistent with past research indicating an association (albeit, an imperfect one) between weight status and weight concerns, we expect participants’ own BMIs will be positively related to their own weight concerns even when controlling for their romantic partners’ BMIs (i.e. paths A and A’ in Fig. 1 will be significant and positive). In other words, relatively heavy individuals will have more weight concerns than relatively thin individuals.

2. **Partner effect**: Participants’ romantic partners’ weight statuses will be negatively related to individuals’ weight concerns after controlling for their own BMI (i.e. paths P and P’ in Fig. 1 will be significant and negative). In other words, holding individuals’ own BMIs constant, individuals in romantic relationships with thinner partners will have more weight concerns than individuals in romantic relationships with heavier partners.

3. **Interaction effect**: Consistent with social comparison theory, it is expected that participants’ own weight statuses and their romantic partners’ weight statuses will significantly interact with each other when predicting participants’ own weight concerns. Specifically, it is expected that individuals who are relatively heavy and who have a romantic partner who is relatively thin will be at particular risk for high levels of weight concerns.

**Method**

**Participants and procedure**

One hundred and four heterosexual couples (104 women, mean age = 23.87 years, SD = 7.32, range = 18–61 years, 104 men, mean age = 25.88 years, SD = 7.67, range = 18–61 years) participated in the present study as part of a larger study examining associations between romantic relationships and health. Seventy-three percent of the sample was European-American, 9 percent were African American, 8 percent were Hispanic, 7 percent were Asian, and 3 percent were of an ‘other’ ethnic background. In order to be eligible to participate in this study, individuals were required to be fluent in the English language and to be free of serious food allergies and chronic illnesses. All couples were required to have maintained heterosexual, exclusive, monogamous relationships for at least one year and not have children together. Forty percent of couples reported that they were dating and not cohabitating, 34 percent reported that they were cohabitating (living with each other), and 26 percent reported that they were married; couples had been romantically involved for 3.83 years on average (SD = 4.61, range = 1–35 years).1

Participants were recruited from a northeastern university campus and the surrounding area using fliers and advertisements. Participants were placed in separate rooms in the researchers’ laboratory while they completed the measures used in this study among a variety of other measures that assessed health and relationship constructs. Couples were compensated with $50.00, except for a minority (14%) of the participants who preferred to be compensated with two hours of research credit for their Introductory Psychology course. This methodology was approved by an Internal Review Board where the research took place and participants indicated their voluntary involvement in this research via a consent form.

**Measures**

**Body mass index** In this study, weight status was operationalized using body mass index scores (BMI: (weight(kg)/height²(m)). Based on the recommendations of Lohman, Roche, and Martorell (1988), three height and weight measurements were collected from each participant by a trained research assistant using a standard medical scale and a stadiometer to measure height. Participants’ average weight and height were used to calculate their BMIs.
**Weight concerns** Weight concerns were assessed using a slightly amended version of the Weight Concerns Scale (Killen et al., 1994). This five-item measure assesses fear of weight gain, worry about weight and body shape, the importance of weight, diet history, and perceived fatness. Question three was altered to read ‘Have you ever gone on a diet?’ (Instead of the original, ‘When was the last time you went on a diet?’) and question four was altered so that it contained five possible response options instead of four so that four of the five items had an equal number of response options (i.e. question three still had the response options, ‘No’, ‘I have gone on a diet once before’, and ‘I have gone on more than one diet before’). These revisions are consistent with others’ piloting and use of this measure (see Davison, Markey, & Birch, 2000). Cronbach’s alphas for this sample were .82 for women and .77 for men.

**Statistical methods** All reported significance levels were based on non-directional tests. In order to test Hypothesis 1 and 2, structural equation modeling (SEM) was used to test an APIM including only the main effects (the actor and partner effects; paths A and P in Fig. 1). This model simultaneously tests the unique contributions of actor BMI and partner BMI in predicting weight concerns for both men and women. In this model, the two predictors (men’s BMIs and women’s BMIs) and the two error terms of weight concerns were allowed to be correlated with each other. Using SEM, it is possible to compare the size of the actor and partner effects within the model. For example, tests can determine whether or not the men’s actor effect is equal to the women’s actor effect. To test for possible gender differences in the actor effects, a chi-square difference test is performed, which compares the chi-square goodness-of-fit value when the two parameters are forced to be equal to the same model when parameters are free to vary (Kenny et al., 2008). If the difference between the two chi-squares is not significant, then it is concluded that there are no significant gender differences for the actor effect.

A second APIM analysis tested Hypothesis 3 and whether or not the interaction between individuals’ and partners’ BMIs predicted weight concerns. To do this, a new variable was created, which was the product of the women’s BMI and the men’s BMI. As suggested by Aiken and West (1991) and Kenny et al. (2008), BMI was centered by subtracting the mean of both men’s and women’s scores. This interaction term was then included as an independent variable, along with the actor and partner main effects, in a new model.

**Results**

In the following analyses, the results obtained were similar regardless of the length or type of relationship (i.e. dating, cohabitating, married) examined; thus, all participants are included together in the reported results. The APIM used to test Hypotheses 1 and 2 indicated no significant gender differences for either the actor ($\chi^2$ difference [1] = 1.98, $p = .17$) or partner ($\chi^2$ difference [1] = 1.91, $p = .16$) effects. When the APIM actor and partner paths were both constrained to be equivalent for men and women, the model achieved good fit ($\chi^2$ [2] = 2.96, $p = .23$; CFI = .99; IFI = .99). The resulting standardized actor and partner effects are presented in Fig. 1. Consistent with Hypotheses 1 and 2, there was a significant and positive actor effect and a significant and negative partner effect.

In order to test Hypothesis 3, a second APIM analysis examined whether or not the interaction between individuals’ and partners’ BMIs predicted weight concerns. When the men’s and women’s interaction paths were constrained to be equivalent, a nonsignificant $\chi^2$ difference emerged, suggesting that the interaction effect was similar for men and women ($\chi^2$ [1] = 1.28, $p = .26$). When the final APIM constrained all the paths to be equivalent for men and women, the model achieved good fit ($\chi^2$ [3] = 2.44, $p = .49$; CFI = 1.00; IFI = 1.00). Perhaps most importantly, consistent with Hypothesis 3, the interaction path itself was significant ($\beta = -.16, p < .05$), indicating that for both men and women the interaction between actor and partner BMI was significant. In order to display this interaction, Fig. 2 presents a graphical representation derived by calculating simple regression equations corresponding to individuals scoring at the mean, 1.5 standard deviations above the mean, and 1.5 standard deviations below the mean for each predictor variable (Aiken & West, 1991). Figure 2 displays the predicted weight concerns for women, but because the equations for men and women are equivalent (except for different intercepts) the figures would be identical for men except that all the predicted values would be lower by a constant score of 4.12 (the difference between intercepts for men and women). To be certain that men’s and women’s age did not confound these findings, additional APIMs
were created, which controlled for both men’s and women’s age. The overall findings from these models did not differ from the findings presented in Figs 1 and 2. As seen in Fig. 2, when individuals had low BMIs his or her partner’s BMI had little relation to his or her own weight concerns. However, when individuals had high BMIs their romantic partners’ BMI was negatively related to their own weight concerns. In other words, individuals who had high BMIs and were in a relationship with individuals maintaining low BMIs were at particular risk for having high levels of weight concerns.

**Discussion**

Understanding predictors of weight concerns is important given the imperfect relationship between weight status and weight concerns and the potentially negative behavioral consequences of weight concerns (Goodrick et al., 1996; Haines et al., 2007; Mann et al., 2007; Patton et al., 1990). This study first examined the link between individuals’ own weight status and weight concerns. Second, the extent to which individuals’ romantic partners’ weight status was predictive of their own weight concerns was examined. Finally, the interaction between an individual’s own weight status and his or her partner’s weight status was investigated as a possible predictor of weight concerns.

As expected, for both men and women, weight status was associated with weight concerns. This finding is consistent with past research suggesting that weight concerns and body dissatisfaction increase as weight increases (Davison et al., 2000; Markey et al., 2001). Being concerned about one’s weight is a logical response to the maintenance of a relatively high body mass index and is also no doubt influenced by sociocultural emphasis on the importance of thinness to physical attractiveness (Schwartz & Brownell, 2004). Although media and cultural influences are particularly prone to stress the importance of thinness for women (Markey & Markey, 2005, 2009, Sypeck et al., 2006), the results from this study indicate that both men and women are similarly likely to be concerned about their weight when they maintain a relatively heavy weight status.

The second aim of the study was to examine the extent to which romantic partners’ weight statuses were associated with men’s and women’s weight concerns. Consistent with this prediction, when individuals’ own BMIs were held constant using an APIM, significant negative relations emerged between romantic partners’ weight status and men’s and women’s weight concerns. Such findings suggest that, when individuals’ own BMIs are held constant, individuals in romantic relationships with relatively thin partners tend to be more concerned about their own weight than individuals in romantic relationships with relatively heavy partners.
The final aim of the study was to examine whether or not individuals’ own BMIs and their romantic partners’ BMIs interacted when predicting weight concerns. Results indicated that individuals who were relatively heavy and who had romantic partners who were relatively thin tended to have more weight concerns than similar individuals in romantic relationships with heavy partners. Social comparison (see Festinger, 1954) may account for this result; it is reasonable to expect that an individual who is relatively heavy and relatively concerned with their weight will be more so when they are in a relationship with someone who is relatively thin. It seems that the consensual validation often sought in relationships (i.e. security with oneself because one’s own qualities are maintained by one’s romantic partner; Byrne & Griffitt, 1966; Luo & Klohn, 2005) might be missing when partners are mismatched on weight status.

Limitations and implications

This sample was fairly diverse in terms of relationship status, ethnic, and socioeconomic background, but was relatively homogenous in terms of age (i.e. young adults) and all couples did not have children living with them. Replication of these findings with larger samples of more diverse couples will strengthen our understanding of the role of romantic partners in determining individuals’ weight concerns. Further, the processes linking romantic partners’ weight status and weight concerns cannot be determined using these data. Although we speculate that social comparison and the desire for consensual validation may be contributing to individuals’ weight concerns when they are mismatched with their partner on weight status, additional research is needed to confirm that other processes are not responsible for the relations we found. Additional research should also aim to explore not only weight status and weight concerns, but individuals’ actual eating patterns in the context of their relationships; this will facilitate an understanding of romantic partners’ potential contributions to each others’ adoption of healthier attitudes and behaviors concerning weight.

In spite of these limitations, this study highlights the role of romantic partners in determining individuals’ weight concerns. Rising rates of obesity make it critical to understand factors contributing to individuals’ weight status, attitudes about their weight, and associated behaviors (Wadden, Brownell, & Foster, 2002). Clearly, these results should not be construed to suggest that individuals should partner with others who are heavier than they are in an effort to reduce their own weight concerns. Instead, supportive relationships may prove instrumental in individuals’ attempts to manage their weight and cope with weight-related concerns (Carr & Friedman, 2006). Although a significant portion of adults’ eating-related experiences are likely to include romantic partners, romantic partners have rarely been considered in efforts to manage individuals’ weight and related concerns. As it has been suggested elsewhere (e.g. Markey et al., 2008; Markey, Markey, & Gray, 2007), romantic partners may prove a significant resource in the design and implementation of education and intervention efforts that address the development of better eating habits and related declines in weight concerns.

Notes

1. Additional information about this sample is available from the authors.
2. Information regarding the correlations among variables included in this study is available from the authors.

References


Author biographies

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