### ARTICLE



# Associations between satisfaction with one's own and partner's body and relationship outcomes

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Statement of Relevance: The present study extends previous research using dyadic analyses to test an integrative model that includes satisfaction with one's own and one's partner's body, which relates to sexual and relationship satisfaction in heterosexual couples. By broadening our understanding of body image issues within romantic relationships according to gender, we deepen our knowledge of personal relationships.

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extends previous research using dyadic analyses to test an integrative model that includes satisfaction with one's own and one's partner's body, which relates to sexual and relationship satisfaction in heterosexual couples. By broadening our understanding of body image issues within romantic relationships according to gender, we deepen our knowledge of personal relationships.

#### KEYWORDS

actor-partner interdependence model, body dissatisfaction, dissatisfaction with partner's body, relationship satisfaction, romantic relationships, sexual satisfaction

#### INTRODUCTION 1

Body image, which refers to one's perceptions of and attitudes toward one's own body, particularly physical appearance (Cash & Pruzinsky, 2002), has received increasing interest from both the general population and researchers in the past decades (Grogan, 2016). Body dissatisfaction—one's negative thoughts and feelings about one's own body (Grogan, 2016)— is so widespread among women that scholars refer to such experiences as a form of "normative discontent" (Rodin, Silberstein, & Striegel-Moore, 1984). Although the concept was initially developed to describe women's experience toward their body, there is now evidence that men's body dissatisfaction is also relatively common (Karazsia, van Dulmen, Wong, & Crowther, 2013; Tantleff-Dunn, Barnes, & Gokee Larose, 2011); however, it has been less frequently studied. Thus, body image issues must now be addressed from both gender perspectives.

In general, body image plays an important role in individual well-being (Gillen, 2015). Body dissatisfaction is associated with poorer mental health-related indicators, such as more depression and anxiety, and lower self-esteem in both men and women (Kostanski & Gullone, 1998; Sondhaus, Kurtz, & Strube, 2001). The association between body dissatisfaction and eating disturbances is also well established, and body dissatisfaction is an important risk factor for the development of eating pathology (Stice & Shaw, 2002). In the past decades, growing interest has been brought to the interplay between body image and relationship outcomes. Body dissatisfaction has been consistently associated with sexual and relationship dissatisfaction (Friedman, Dixon, Brownell, Whisman, & Wilfley, 1999; Gillen & Markey, 2018), but much less is known about the associations between satisfaction with the partner's body and relationship outcomes. The present study extended previous reports by using dyadic analyses to test an integrative model in which sexual satisfaction mediated the associations between one's satisfaction with one's own and partner's body and relationship satisfaction in men and women who are in a committed cohabitating heterosexual relationship for at least 6 months.

#### Body image and relationship satisfaction 1.1

Body dissatisfaction can influence the development and maintenance of relationship well-being for both men and women (Cash, Thériault, & Annis, 2004b; Morrison, Doss, & Perez, 2009). In women's romantic relationships, body dissatisfaction has been associated with greater fears of intimacy (Cash, Thériault, & Annis, 2004), and with trust and jealousy issues (Ambwani & Strauss, 2007), which may negatively impact the relationship satisfaction of both partners. In fact, except for one study (Markey & Markey, 2006), greater body dissatisfaction has been consistently associated with poorer relationship satisfaction in people who were married or in a committed relationship even after controlling for the effects of body mass index (BMI; kg/m²), self-esteem, and gender (Friedman et al., 1999; Shaheen, Ali, Kumar, & Makhija, 2016). Although these studies underline the key role of body dissatisfaction in intimate relationships, they have not examined the simultaneous associations of self-reported body dissatisfaction in both partners with self-reported and partner-reported relationship dissatisfaction, thus precluding the full examination of dyadic effects.

## 1.2 | Physical attractiveness and relationship satisfaction

Given the important role that attractiveness plays in the formation and maintenance of romantic relationships, appreciation of the partner's body is an important issue when exploring relationship outcomes (Eastwick, Luchies, Finkel, & Hunt, 2014). According to interdependence theory (Thibaut & Kelley, 1959), relationship satisfaction depends on the fulfillment of each partner's expectations. Thus, it depends on the partners' perceptions of the balance between the rewards and costs of the relationship. In that sense, relationship satisfaction may depend on both the individual's assessment of his or her own body and that of the partner's body, as they enter into the equation of the costs and rewards of the relationship. Previous work indicates that physical attractiveness and body weight are important determinants of long-term relationship satisfaction, especially in men who seem to value physical attractiveness in a long-term mate more than women do (Meltzer, McNulty, Jackson, & Karney, 2014; Meltzer, McNulty, Novak, Butler, & Karney, 2011). In women, the attractiveness of their husband was shown to have no impact on their initial and long-term relationship satisfaction (Meltzer et al., 2014). Accordingly, the perception of the partner's attractiveness might be more important in men's evaluation of their relationship satisfaction.

A few studies have associated subjective physical attractiveness (i.e., self-reported attraction to the partner) with relationship outcomes (e.g., relationship and sexual satisfaction). Sangrador and Yela (2000) reported that physical attractiveness to the partner was linked to feelings and thoughts associated with love, as well as to relationship satisfaction for both men and women. More recently, an online study conducted with women in committed heterosexual relationships showed that women's current attraction to their partner was associated with greater sexual and relationship satisfaction (Mark & Herbenick, 2014). These studies stress the relevance of examining one's evaluation of the partner's body when studying relationship outcomes.

One longitudinal study further explored the contribution of women's own body satisfaction and their partner's satisfaction with their body to relationship satisfaction over a 2-month period, and found different patterns according to gender (Morrison et al., 2009). For women, body dissatisfaction predicted decreases in their own relationship satisfaction over time, but had no impact on men's relationship satisfaction. For men, dissatisfaction with their partner's body predicted decreases in both men's and women's relationship satisfaction over the subsequent 2 months, over and above women's perceptions of their partner's satisfaction with their body, which was included as a covariate. The authors suggested that men who are more dissatisfied with their partner's body might be prone to become less invested in their romantic

relationship, and be more aware of other potential partners (Morrison et al., 2009), thus leading to poorer couple satisfaction in both partners. This hypothesis is certainly interesting, although to gain a more complete picture of the interrelation between all these variables, it would be important to include men's own evaluation of their body satisfaction as well as women's evaluation of their partner's body.

## 1.3 | Body image and sexual satisfaction

Satisfaction with one's own body image can affect one's experience during sexual activities (Cash, Maikkula, & Yamamiya, 2004), and sexuality can be an important source of anxiety for people suffering from poor body image (Wiederman, 2000). Indeed, empirical research has shown that body dissatisfaction is associated with poorer sexual satisfaction and sexual functioning for both men and women (Ackard, Kearney-Cooke, & Peterson, 2000; Holt & Lyness, 2007; Pujols, Meston, & Seal, 2010; Quinn-Nilas, Benson, Milhausen, Buchholz, & Goncalves, 2016; Seal, Bradford, & Meston, 2009; Træen, Markovic, & Kvalem, 2016; Weaver & Byers, 2006). Sexual satisfaction is, in turn, interconnected with global relationship satisfaction. Sexual and relationship satisfaction are known to change concurrently over time (Byers, 2005; Sprecher, 2002), and a causal sequence has been established in which higher levels of sexual satisfaction lead to an increase in the relationship quality among married and cohabiting couples (Fallis, Rehman, Woody, & Purdon, 2016; Henderson-King & Veroff, 1994; Yeh, Lorenz, Wickrama, Conger, & Elder, 2006).

The present investigation builds on previous studies that highlighted the mediating role of sexual satisfaction in the association between body image and relationship satisfaction (Gagnon-Girouard et al., 2012; Meltzer & McNulty, 2010; van den Brink, Vollmann, Smeets, Hessen, & Woertman, 2018). Meltzer and McNulty (2010) first showed among recently married couples that women who perceived themselves as more attractive reported more frequent sexual interactions, which was associated with higher levels of sexual satisfaction for both partners, even after controlling for women's BMI and other potentially confounding variables. Women's own sexual satisfaction was also positively associated with self-reported relationship satisfaction in both spouses. However, this study did not address the association between body dissatisfaction in men and relationship outcomes. Two studies of cohabiting couples further examined the effect of both men's and women's body dissatisfaction using an actor-partner interdependence model (APIM; Gagnon-Girouard et al., 2012; van den Brink et al., 2018). Sexual dissatisfaction was found to mediate the association between body dissatisfaction and relationship quality only in women in one study (Gagnon-Girouard et al., 2012), and in both men and women in the other (van den Brink et al., 2018). Moreover, Gagnon-Girouard et al. (2012) found that women's body dissatisfaction was associated with their partner's sexual and relationship dissatisfaction, whereas van den Brink et al. (2018) found no partner effects. To extend these first dyadic examinations, and to be consistent with interdependence theory, specific assessments of dissatisfaction with the partner's body in both men and women should be considered. In summary, in light of past studies, and according to interdependence theory, it seems important to consider simultaneously the association of both own-body dissatisfaction and dissatisfaction with the partner's body with sexual and relationship satisfaction of both partners in an integrated dyadic model.

## 1.4 | Objective and hypothesis

The current study aimed to extend prior research by using a dyadic analysis design to examine an integrative model in which sexual satisfaction mediates the associations between one's dissatisfaction with one's own and partner's body and relationship satisfaction in men and women who are in a committed cohabitating heterosexual relationship. A single-model approach was selected to test simultaneously both own-body dissatisfaction and dissatisfaction with the partner's body as independent variables, in order to examine their interrelation in the explanation of men's and women's sexual and relationship satisfaction. Because relationship duration, the presence of children, and both partners' BMI may affect body image variables and relationship outcomes (Addis et al., 2006; Heiman et al., 2011; Schröder & Schmiedeberg, 2015; Swami et al., 2010; Tom, Chen, Liao, & Shao, 2005), the fit of the proposed mediational model was assessed controlling for these four variables. In line with past studies, we propose that the evaluation of women's bodies, whether it comes from the women themselves or from their partner, would be more influential in the prediction of relationship and sexual satisfaction of both partners, but that the specific associations between body image and relationship outcomes will differ by gender. We thus hypothesized that H1a) women's own body dissatisfaction will be negatively associated with sexual satisfaction, which will be positively related to relationship satisfaction in women (Gagnon-Girouard et al., 2012), and that H1b) no association will be found between women's dissatisfaction with their partner's body and sexual and relationship satisfaction in women (Meltzer et al., 2014). We also hypothesized that H2a) no association will be found between men's own-body dissatisfaction and their sexual and relationship satisfaction (Gagnon-Girouard et al., 2012), and that H2b) men's dissatisfaction with their partner's body will be negatively associated with sexual satisfaction, which will be positively related to relationship satisfaction in men (Meltzer et al., 2014; Morrison et al., 2009). Regarding the influence of one's own body image on the partner's relationship outcomes, we propose that H3) the evaluation of women's bodies, whether it comes from the women themselves or from their partner, would be more influential in the prediction of relationship and sexual satisfaction of their partners than men's bodies.

### 2 | METHOD

## 2.1 | Participants

A convenience sample of heterosexual couples (n = 231) was recruited online through email lists from a large university, as well as from a list of research volunteers from the general community. The inclusion criteria were: (a) currently involved in a heterosexual relationship, (b) aged 18 years or older, and (c) cohabiting with their romantic partner for at least 6 months. Both partners had to complete questionnaires separately to be included in the study. Seven hundred fifty-three women and 438 men accessed the survey web site. A total of 323 women and 254 men completed a substantial part of the questionnaires. From those, 231 couples were formed as only participants whose partner also completed the survey were included in the analyses.

The women were between 19 and 68 years old (M = 30.09, SD = 11.18), and the men were between 19 and 74 years old (M = 32.11, SD = 12.32). The women's BMIs<sup>1</sup> (kg/m<sup>2</sup>) ranged from 15.05 to 49.93 (M = 23.56, SD = 5.12), whereas the men's BMIs ranged from 16.60 to 52.06

 $(M=24.45,\ SD=4.15)$ . Eighty percent of the couples were in common-law relationships (i.e., cohabitation without a marriage license) and 20% were married. Twenty-seven percent of the couples reported having children. Relationship duration ranged from 0.67 (8 months) to 44 years  $(M=7.18,\ SD=8.73)$ . The median annual household income was CAN \$40,000 to CAN \$59,999 per year, which was around the median wage in the area where the study was conducted. The demographic characteristics of the sample are presented in Table 1.

TABLE 1 Demographic characteristics of the participants according to gender

	Women $(n = 231)$ % $(n)$	Men $(n = 231)$ % $(n)$
First language		
French	95 (219)	97 (224)
English	1 (3)	0.5 (1)
Other	4 (9)	2.5 (6)
Ethnicity		
Caucasian (White)	95 (219)	96 (222)
African American (Black)	1 (2)	0.5 (1)
Native	0 (0)	0.5 (1)
Asian	1 (3)	0 (0)
Latin	1 (2)	1.5 (4)
Other	2 (5)	1 (2)
Would rather not answer	0 (0)	0.5 (1)
Occupation <sup>a</sup>		
Full-time student	57 (132)	37 (84)
Part-time student	10 (22)	7 (15)
Full-time worker	34 (79)	47 (109)
Part-time worker	25 (57)	13 (31)
Seasonal worker	4 (10)	4 (8)
Self-employed	5 (11)	10 (22)
Other	8 (18)	8 (18)
Education		
None/uncompleted elementary	0 (0)	0.5 (1)
Elementary	0 (0)	1.5 (3)
High school	4 (9)	18 (42)
College <sup>b</sup>	33 (76)	27 (62)
University	63 (146)	53 (123)

<sup>&</sup>lt;sup>a</sup>The participants were allowed to select more than one occupation.

<sup>&</sup>lt;sup>b</sup>College refers to preuniversity or technical education.

## 2.2 | Procedure

The survey was posted on a secure web site (i.e., Survey Methods), and was available via the link sent within the recruitment email. The participants completed questionnaires online, which included a consent form approved by our university's institutional review board. Partners were asked to complete questionnaires independently, and to create a couple ID to allow the research team to subsequently match partners. The participants who completed the survey were included in a lottery drawing to win a \$50 gift card for a restaurant.

## 2.3 | Measures

## 2.3.1 | Body image

Body dissatisfaction and dissatisfaction with the partner's body were assessed with the Contour Drawing Rating Scale (CDRS) (Thompson & Gray, 1995). Figure drawing scales are commonly adopted measures to assess body image (Gardner & Brown, 2010). They were frequently used among couples in past studies (e.g., Gagnon-Girouard et al., 2012; Markey & Markey, 2006). The CDRS comprises nine female figures and nine male figures of graduated sizes, ranging from 1 (the thinnest) to 9 (the largest). The participants were asked to select the figure representing their own current and ideal figure (i.e., which figure looked most like them and which figure they would most want to look like), as well as their partner's current and ideal figure (i.e., which figure looked like their partner and which figure they would want their partner to look like). The discrepancy between one's ideal (own and partner's) body figure and perceived current (own and partner's) body figure provided a body dissatisfaction score, with higher scores indicating greater dissatisfaction with their own/partner's body. The CDRS provided strong test–retest reliability and validity (Thompson & Gray, 1995).

### 2.3.2 | Sexual satisfaction

The sexual satisfaction subscale of the Derogatis Sexual Functioning Inventory (Derogatis & Melisaratos, 1979) is a 10-item true-false questionnaire used to assess sexual satisfaction among men and women (e.g., "I have satisfying orgasms"; "I have good communication with my partner about sex"). A sum of endorsement was calculated to create a total score ranging from 0 to 10; a higher score reflected higher sexual satisfaction (Derogatis, 1998). The scale previously showed good internal consistency (Derogatis & Melisaratos, 1979; Gagnon-Girouard et al., 2012), and was successfully used in past studies examining the relation between body image and relationship or sexual satisfaction (Gagnon-Girouard et al., 2012; Penhollow & Young, 2008; Tang, Ph, Lai, Phil, & Chung, 1997). In the current sample, the ordinal coefficient alpha using polychoric correlations given the dichotomous response choice was .82.

## 2.3.3 | Relationship satisfaction

The Dyadic Adjustment Scale (DAS) (Spanier, 1976) is a 32-item measure used to assess romantic relationship satisfaction among either married or unmarried cohabiting couples. Example

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items from this scale are: "How often do you and your partner quarrel?" with responses ranging from "never" to "all the time" on a 6-point Likert-type scale and "Do you and your mate engage in outside interests together?" with responses ranging from "never" to "every day" on a 6-point Likert-type scale. The DAS comprises four subscales from which can be derived a total score by summing items. The total score ranges from 0 to 151 with higher scores indicating higher relationship satisfaction (Spanier, 1976). The DAS has previously shown acceptable internal consistency as well as satisfactory reliability (Graham, Liu, & Jeziorski, 2006). In the current sample,  $\alpha = .88$ .

#### 2.3.4 **Control variables**

The participants' self-reported height and weight were used to calculate BMI (weight (kg)/ height (m)<sup>2</sup>), and they reported relationship duration (in years) and the presence of children.

#### 2.4 Statistical analyses

Descriptive and correlation analyses were computed using SPSS 24 to examine the sample characteristics, the mean differences between men and women, and the relationships between study variables. Then, path analyses within an APIM framework (Kenny, Kashy, & Cook, 2006) were conducted using Mplus version 8.0 (Muthén & Muthén, 2012). APIM analyses were conducted because they account for the interdependence between partners as couples are nested data. These analyses allow testing for actor effects (e.g., the effect of women's body dissatisfaction on their own sexual satisfaction) while controlling for partner effects, and for partner effects (e.g., the effect of women's body dissatisfaction on their partner's sexual satisfaction) while controlling for actor effects. The hypothesized mediation model examined simultaneously the effect of women's and men's body dissatisfaction, as well as women's and men's dissatisfaction with their partner's body on women's and men's relationship satisfaction via their effects on women's and men's sexual satisfaction. Thus, all actor and partner effects were estimated simultaneously in the hypothesized model, and no paths were removed to control for its association despite being nonsignificant. Theoretically, partners were expected to be distinguishable by their gender, and an omnibus within-dyad test of distinguishability was conducted before conducting APIM analyses to confirm this hypothesis (Kenny et al., 2006). This chi-square test constrained variances and intrapersonal and interpersonal covariances to be equal across genders, with a significant p-value indicating that the pattern of variances and covariances differed significantly between women and men.

Because some study variables were slightly non-normally distributed (i.e., dissatisfaction with own and partner's body), the maximum likelihood parameter estimates with standard errors and chi-square test statistics that are robust to non-normality were used (robust maximum likelihood (MLR); Muthén & Muthén, 2012). As participants could skip items or a questionnaire, some total scores were missing. The highest frequency of missing data was 1.7% (for women's body dissatisfaction and women's dissatisfaction with their partner's body), and these missing values were treated using the full information maximum likelihood method. Based on Kline's guidelines (Kline, 2011), overall model fit was tested by considering several fit indices together: the chi-square statistic, the comparative fit index (CFI), the root mean square error of

Wiley. approximation (RMSEA), and the standardized root-mean-square residual (SRMR). Indicators of good fit are a nonstatistically significant chi-square value, a CFI value of .95 or higher, a RMSEA value below .06, and a SRMR value below .08 (Kline, 2011). Following Preacher and Hayes's recommendations (Preacher & Hayes, 2008), 95% bootstrap confidence intervals with 5,000 resamples were conducted to examine the significance of indirect effects.

#### 3 RESULTS

#### **Descriptive statistics** 3.1

The means and standard deviations for the study variables in women and men are presented in Table 2. Paired t-tests using gender as a repeated measure indicated that women reported significantly more body dissatisfaction than men, t(224) = 6.19, p < .001. Women were also significantly more satisfied with their relationship than men, t(227) = 2.36, p = .019. The results indicated no significant differences between women and men for dissatisfaction with their partner's body, t(224) = -1.79, p = .075, and sexual satisfaction, t(226) = 1.75, p = .081. Moreover,

TABLE 2 Descriptive statistics for body dissatisfaction, dissatisfaction with partner's body and sexual and relationship satisfaction in women and men

	M (SD)	1	2	3	4	5	6	7
1. W's body dissatisfaction	1.56 (1.27)	_						
2. M's body dissatisfaction	1.00 (0.84)	.21**	_					
3. W's dissatisfaction with partner's body	0.62 (0.76)	.19**	.42***	_				
4. M's dissatisfaction with partner's body	0.74 (1.00)	.31***	.23***	.18**	_			
5. W's sexual satisfaction	7.69 (2.09)	26***	03	10	11	_		
6. M' sexual satisfaction	7.48 (1.76)	15 <sup>*</sup>	20**	10	16 <sup>*</sup>	.53***	_	
7. W's relationship satisfaction	115.25 (13.84)	30***	06	20**	14*	.46***	.28***	_
8. M's relationship satisfaction	113.36 (14.69)	20**	08	05	23***	.28***	.38***	.61***

Note: n ranged between 224 to 229 for women and 228 to 230 for men.

Abbreviations: M, men; W, women.

p < .05. p < .01. p < .01. p < .001.

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women's body dissatisfaction was significantly higher than men's dissatisfaction with their partner's body, t(224) = 8.94, p < .001. In the same way, men's body dissatisfaction was significantly higher than women's dissatisfaction with their partner's body, t(224) = 6.60, p < .001.

Women's and men's intra- and interpartner bivariate correlations between study variables are reported in Table 2. The nonindependence of the dyadic data was supported by significant correlations between men's and women's study variables. The correlational analyses revealed preliminary relationships in line with our hypothetical model. To examine the need to control for covariates outside those suggested by past studies (i.e., men's and women's BMI, presence of children, and relationship duration), we conducted correlational analyses between sociodemographic variables and the study's outcomes. Ethnicity, primary language, education level, and age were unrelated to the study's outcomes (all ps > .05), thus they were not added as control variables in the model.

#### 3.2 Actor-partner interdependence model

The omnibus chi-square test was significant,  $\chi^2(16) = 76.71$ , p < .001, indicating that treating women and men as indistinguishable did not fit the data well. Therefore, there is theoretical and empirical support for using analyses that treat women and men from the current sample as distinguishable.

Following this first step, a path analysis model was tested to examine the actor and partner associations between men's and women's body dissatisfaction, dissatisfaction with their partner's body, and relationship satisfaction mediated through sexual satisfaction. Women's and men's BMI, presence of children, and relationship duration were included as control variables. Covariances between women's and men's body dissatisfaction and women's and men's

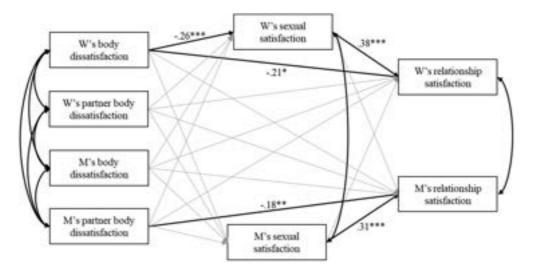


FIGURE 1 Actor-partner interdependence model of the associations between women and men's body dissatisfaction, dissatisfaction with partner's body, and sexual and relationship satisfaction. The effects of men and women's BMIs, presence of children, and relationship durations were included as covariates but are not shown for clarity. The regression coefficients are standardized scores. Gray lines represent tested nonsignificant paths. All path coefficients and p-values were presented in Table 3. N = 231 couples; \* p < .05; \*\* p < .01; \*\*\* p < .001. M, men; W, women

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	W' sexual sati	W' sexual satisfaction			M' sexual satisfaction			
	b (SE)	р	β	b (SE)	p	β		
W's BD	-0.42 (0.13)	.00	26	-0.13 (0.10)	.17	10		
M's BD	0.20 (0.20)	.30	.08	-0.31 (0.17)	.06	14		
W's DPB	-0.18 (0.24)	.45	07	0.02 (0.17)	.90	.01		
M's DPB	-0.04 (0.15)	.79	02	-0.20 (0.13)	.12	11		
W's BMI	0.00 (0.03)	.93	.01	-0.02 (0.03)	.42	.06		
M's BMI	-0.03 (0.04)	.38	06	0.02 (0.03)	.53	05		
Presence of children	-0.10 (0.38)	.78	02	-0.05 (0.33)	.89	01		
Relationship duration	-0.01 (0.02)	.77	03	-0.01 (0.02)	.70	03		
	W' relationship	W' relationship satisfaction			M' relationship satisfaction			
	b (SE)	р	β	b (SE)	р	β		
W's BD	-2.28 (0.96)	.01	21	-1.64 (1.05)	.11	14		
M's BD	0.66 (1.13)	.56	.04	0.46 (1.42)	.74	.03		
W's DPB	-2.33 (1.26)	.06	13	0.80 (1.70)	.63	.04		
M's DPB	-0.66 (0.97)	.49	05	-2.70 (1.04)	.01	18		
W's sexual satisfaction	2.49 (0.44)	.00	.38	0.49 (0.48)	.31	.07		
M's sexual satisfaction	0.30 (0.54)	.58	.04	2.56 (0.61)	.00	.31		
W's BMI	0.27 (0.19)	.15	.10	-0.37 (0.18)	.03	.13		
M's BMI	0.11 (0.22)	.60	.03	-0.22 (0.23)	.35	06		
Presence of children	-1.89 (2.20)	.38	06	-0.72 (2.58)	.78	02		
Relationship duration	-0.04 (0.09)	.62	03	0.08 (0.10)	.46	.04		
Indirect effect via:		W's s	exual satisfa	ion M's sexual satisfaction				
		b [95%	%CI]	— b [9	<i>b</i> [95%CI]			
W's BD→W's relationship satisfaction		-1.06	[-2.01, -0.39	9] -0.0	-0.04 [-0.38, 0.08]			
$M's \; BD \to W's \; relationship \; satisfaction$		0.51	[-0.41, 1.66]	-0.0	-0.09 [-0.70, 0.20]			
W's DPB $\rightarrow$ W's relationship satisfaction		-0.46	[-1.88, 0.58]	0.0	0.01 [-0.19, 0.30]			
M's DPB $\rightarrow$ W's relationship satisfaction		-0.10	[-0.86, 0.71]	-0.0	-0.06 [-0.49, 0.14]			
W's BD→M's relationship satisfaction		-0.21	[-0.82, 0.17]	-0.3	-0.34 [-1.03, 0.14]			
$M's \; BD \to M's \; relationship \; satisfaction$		0.10	[-0.09, 0.74]	-0.7	78 [-1.97, 0	.05]		

*Note*: Significant indirect effect is bold-faced. Covariances were estimated in the model as reported in Figure 1. Men and women's BMIs, presence of children, and relationship durations were included as covariates.

Abbreviations: BD, body dissatisfaction; DPB, dissatisfaction with the partner's body; M, men; W, women.

W's DPB→M's relationship satisfaction M's DPB→M's relationship satisfaction

dissatisfaction with their partner's body were all included, as well as those between women's and men's sexual satisfaction and between women's and men's relationship satisfaction. Covariances between control variables and independent variables were added based on modification

-0.09[-0.86, 0.10]

-0.02[-0.38, 0.14]

0.05[-0.86, 0.96]

-0.50 [-1.32, 0.12]

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indices. This mediational model, presented in Figure 1, fit the data well:  $\chi^2(13) = 16.501$ , p = .223; RMSEA = .03, 90% CI(.00 to .08); CFI = 0.99; SRMR = 0.05. All path coefficients and indirect effects are reported in Table 3.

The results showed that, in line with hypothesis 1a, women's body dissatisfaction was negatively associated with their own sexual satisfaction, which was in turn positively associated with their own relationship satisfaction. The association between women's body dissatisfaction and their own relationship satisfaction was significant before the inclusion of sexual satisfaction  $(b = -3.37, SE = 1.04, p = .001, \beta = -.31)$ , and it was still significant after the inclusion of the mediator (b = -2.28, SE = 0.96, p = .017,  $\beta = -.21$ ). Bootstrapping analyses indicated that the negative indirect effect of women's body dissatisfaction on their own relationship satisfaction through their own sexual satisfaction was significant (b = -1.06, 95% bootstrap CI -2.01 to -0.39). No association was found between women's dissatisfaction with the partner's body and their own sexual and relationship satisfaction, in accordance with hypothesis 1b. For men, no association was found between men's body dissatisfaction and their own sexual and relationship satisfaction, which confirms hypothesis 2a. Hypothesis 2b was partly supported; men's dissatisfaction with the partner's body negatively predicted their own relationship satisfaction, but was unrelated to their own sexual satisfaction. Men's sexual satisfaction was positively associated with relationship satisfaction. No indirect effect was found for men. Furthermore, for both men and women, one's dissatisfaction with one's own and partner's body were unrelated to their partner's sexual and relationship satisfaction, as all partner effects were nonsignificant, which refutes hypothesis 3. The model explained 28.1% of the variance in relationship satisfaction for women and 20.4% for men.

Given the diversity of couples included in this sample in terms of age, BMI, and relationship duration, we examined if the model was moderated by men's and women's age, men's and women's BMI, or relationship duration. For these analyses, all predictors were centered across men and women, and interaction terms between predictors and the potential mediators were added in the mediation model. Women's and men's BMI, presence of children, and relationship duration were still included as control variables. For men's and women's age, we added the interaction between one's dissatisfaction with one's own and partner's body and his/her own age, and none of these interactions were significant. For BMI and relationship duration, none of the interactions between men's and women's BMI or relationship duration and men's and women's dissatisfaction with their own and their partner's body were significant.

Finally, as some couples reported having children (n = 63/231; 27.3%), we investigated if the model was different between couples with children compared to those without children (0 = no children and 1 = at least one child). As this moderator was dichotomous, we used a multigroup comparison using the chi-square difference test adjusted with the Satorra-Bentler scaling correction. A model in which all actor and partner paths were constrained to be equal between couples with children and those without was compared with a model in which all actor and partner paths were estimated freely between groups. The chi-square difference test was nonsignificant,  $\Delta \chi^2(20) = 8.47$ , p = .988, indicating that these associations were the same for couples with and without children.

#### DISCUSSION 4

Using a dyadic design, the aim of the present study was to examine the mediational role of sexual satisfaction in the association between one's satisfaction with their own and their partner's body and relationship satisfaction among cohabiting heterosexual couples, while controlling for relationship duration, presence of children, and both partners' BMI. In accordance with our hypotheses, the results showed significant actor effects that differed between women and men. In women, sexual satisfaction was found to be a valid mediator of the association between body dissatisfaction and relationship satisfaction. That is, women's body dissatisfaction was associated with lower self-reported relationship satisfaction through poorer self-reported sexual satisfaction. In men, dissatisfaction with their partner's body was negatively associated with their own relationship satisfaction, and sexual satisfaction did not mediate this association. These results demonstrate that men who reported greater dissatisfaction with their partner's body reported less relationship satisfaction. Additionally, no partner effects were observed in the model; that is, men's and women's dissatisfaction with their own and their partner's body were unrelated to their partner's sexual and relationship satisfaction.

The present findings are important because they suggest that body image issues are associated with negative relationship outcomes through distinct pathways for men and women. In women, sexual satisfaction partly explains the relationship between body dissatisfaction and relationship satisfaction, which is in line with previous studies (Gagnon-Girouard et al., 2012; Meltzer & McNulty, 2010; van den Brink et al., 2018). Moreover, body dissatisfaction was significantly higher in women than in men among the present sample. It might be that body dissatisfaction develops early on for girls as a result of general sociocultural pressures and negative or ambiguous parental and peer attitudes and behaviors toward physical appearance that may then be internalized, and increase self-objectification (Esnaola, Rodríguez, & Goñi, 2010; Frederick, Forbes, Grigorian, & Jarcho, 2007; Lev-Ari, Baumgarten-Katz, & Zohar, 2014). Later, these negative experiences may increase women's sexual performance anxiety and sexual dissatisfaction (Pujols et al., 2010; Quinn-Nilas et al., 2016). Furthermore, women from the present study were all involved in a romantic relationship with a partner. Considering that body comments from romantic partners have already been shown to be associated with poorer confidence and sexual fulfillment (Goldsmith & Byers, 2016), we cannot exclude the hypothesis that women's sexual dissatisfaction might also be fueled by invalidating comments about their physical appearance from their partner. However, this hypothesis should be validated. In turn, sexual dissatisfaction is associated with overall relationship dissatisfaction in women. Whereas the specific hypothetical mechanisms underlying our findings for women will need to be tested in future longitudinal studies, this pattern of association between self-reported body dissatisfaction, sexual dissatisfaction, and relationship dissatisfaction is robust irrespective of BMI, presence of children, and relationship duration, which bolster our results.

For men, although their own body dissatisfaction significantly correlated with sexual dissatisfaction on a bivariate level, this association was not significant in the multivariate model. Instead, it was dissatisfaction with their partner's body that was associated with greater relationship dissatisfaction, and this association was not mediated by sexual dissatisfaction. This finding is consistent with prior research from Morrison et al. (2009), who found positive longitudinal associations between men's dissatisfaction with their partner's body and their relationship dissatisfaction. These results can be well explained by the interdependence theory (Thibaut & Kelley, 1959); men who are less satisfied with their partner's body might feel that the costs associated with their relationship are greater than the benefits they receive, and, thus, be less satisfied with their relationship. However, this association was not found among women in the present sample; that is, women's dissatisfaction with their partner's body was not associated with their relationship satisfaction above and beyond their own body dissatisfaction. This difference between men and women is congruent with past studies which showed that men tend to

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value physical attractiveness in a long-term mate more than women (Meltzer et al., 2014), whereas women tend to put more emphasis on other characteristics such as social status and resources than men (Fletcher, Tither, Loughlin, & Overall, 2004). The importance that men place on women's physical appearance may unfortunately put pressure on women to maintain an attractive body, or to become more physically attractive, in order to make their partner happy. Because men's evaluation of women's physical attractiveness is highly determined by women's low body weight in western societies (Tovée, Hancock, Mahmoodi, Singleton, & Cornelissen, 2002), this pressure may lead women to engage in unhealthy eating behaviors such as dieting to control their weight (Stice, 2002), which can be harmful to their physical and mental health (Kenardy, Brown, & Vogt, 2001).

The present findings are also important because even when we used a dyadic design that included partner effects, one's self-reported body dissatisfaction and dissatisfaction with the partner's body were not associated with partner sexual or relationship dissatisfaction in the APIM. These results are in line with van den Brink et al.' (2018) results, who found no partner effects among body dissatisfaction and relationship outcomes. However, they contrast with those of two past studies in which women's (but not men's) body dissatisfaction was associated with poorer sexual and relationship functioning in both spouses (Gagnon-Girouard et al., 2012; Meltzer & McNulty, 2010). It is important to note that these past studies did not include one's dissatisfaction with the partner's body in their model as we did. The inclusion of this variable revealed that, although on a bivariate level women's body dissatisfaction was negatively related to men's relationship satisfaction, this association was no longer significant when we entered the effect of men's dissatisfaction with their partner's body in the model. Furthermore, we found no association between men's dissatisfaction with their partner's body and women's sexual and relationship satisfaction. It seems that for women, it is more their own body dissatisfaction rather than their partner's appreciation of their body that explains their relationship outcomes. In support of this result, women were nearly two times more dissatisfied with their body than their partners reported being dissatisfied with their female partner's body, which is consistent with previous reports (Markey, Markey, & Birch, 2004). It could be hypothesized that for women, it may be more their perception of what their partner thinks about their body rather than what their partner actually thinks that is related to their relationship satisfaction (Weaver & Byers, 2013). This hypothesis will need to be tested in future work.

There are several limitations of the current study worth noting. First, our findings are based on a cross-sectional design that precludes causal interpretations. The associations between body dissatisfaction, sexual satisfaction, and relationship satisfaction may be bidirectional, and alternative models could be examined. For example, as relationship satisfaction has been bidirectionally associated with sexual satisfaction in a previous longitudinal report (McNulty, Wenner, & Fisher, 2016), it could be interesting for future studies to test an alternative model in which relationship satisfaction would precede sexual satisfaction. Even though the present study did not allow for temporal sequencing of variables, the directionality of associations was theoretically driven, and in line with past studies. Nonetheless, future studies should use a longitudinal design to replicate our findings and examine the directionality of associations. Furthermore, the measure used to assess body image variables, the CDRS (Thompson & Gray, 1995), does not take into account men's muscularity. Because we know that men's body dissatisfaction in western societies is often based on poor muscularity (Murray & Touyz, 2012), this measure may not adequately capture body dissatisfaction among men. It would be of great interest to replicate our results using a measure specifically adapted to men's body dissatisfaction issues. The representativeness of our sample and generalizability of our results may be limited by our convenience sample of heterosexual couples recruited through email lists, where self-selection biases may occur. The applicability of our findings to same-sex couples awaits additional examination.

Despite these limitations, the present study represents an important addition to the existing literature by distinguishing the associations between one's own body dissatisfaction and dissatisfaction with the partner's body on relationship outcomes for both men and women. From a clinical standpoint, our results stress the relevance of addressing appreciation of one's own and partner's body when facing couples struggling with sexual and relationship dissatisfaction. They further emphasize the importance of taking into account both spouses' perceptions when addressing body image issues among romantic partners. Clinicians can help couples to open dialogue about their own body perception and their beliefs about their partner's body preferences. For example, as women's perception of their bodies appears to be more severe than their partner's perception, it might be comforting to discuss these aspects within the couple. Helping couples to become more accepting of their own and partner's body may help to improve their comfort and satisfaction with their current relationship (Ramirez, Perez, & Taylor, 2012). Moreover, the present findings suggest that women may benefit from working on their own body dissatisfaction. Men may benefit from working on a revaluation of the importance they attach to their female partner's physical appearance, to place more emphasis on other characteristics that they value in their partner when assessing the quality of their relationship. For future investigations, it would be of great interest to expand our comprehension of the interplay of body image and relationship issues by adding the partner's pressure to be thin/muscular (e.g., by assessing weight and appearance comments and criticism) as a precursor of body dissatisfaction in a prospective model of relationship satisfaction.

In conclusion, the current study deepens our understanding of body image issues within romantic relationships according to gender, and contributes to the small number of available studies that have used APIMs to examine these issues.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request. The data can be obtained by emailing Marilou Côté: marilou. cote@psy.ulaval.ca.

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#### **ENDNOTE**

<sup>1</sup> Underweight = BMI < 18.5; Normal weight = BMI 18.5–24.9; Overweight = BMI 25–29.9; Obesity = BMI ≥30.

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