

How Self-Compassion Moderates the Relation between Body Surveillance and Body Shame
among Men and Women

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Abstract

Objectives: According to objectification theory, being treated as an object leads people, especially women, to perceive themselves as objects. This self-objectification increases body surveillance and feelings of body shame. While this relation is well-established in the literature, little is known about factors that can buffer against detrimental consequences of self-objectification. The current work used a multi-method approach to investigate the role of self-compassion on men and women's perceptions of their bodies.

Methods: Study 1 investigated relations between self-compassion, body surveillance, and body shame (N = 60 men, 104 women) using cross-sectional, self-report data. Study 2 (N = 64 men, 94 women) experimentally manipulated self-objectification and self-compassion, assessing resulting body surveillance and shame, whereas Study 3 (N = 69 men, 189 women) manipulated self-objectification among participants high and low in self-compassion.

Results: In Study 1, self-compassion was inversely related to body shame and body surveillance, with self-compassion moderating the link between surveillance and shame among men. In Study 2, self-compassion protected women in the high self-objectification condition from engaging in greater body surveillance. Yet, in Study 3, self-compassion failed to buffer the consequences of body surveillance on body shame. An integrative analysis (N = 193 men, 387 women) demonstrated that self-compassion was strongly negatively associated with body shame and body surveillance among men and women, protecting against detrimental consequences of body surveillance among men.

Conclusions: The current work contributes to a better understanding of links between constructs related to objectification theory and compassion for oneself in the light of gender differences.

Keywords: Self-Compassion; Body Surveillance; Body Shame; Self-Objectification; Gender.

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Our self-talk has the potential to fundamentally change our self-perceptions (Neff 2003b; Raes 2010). Negative self-talk about one's appearance is particularly common, with many men and women reporting poor body image (Daniel and Bridges 2010; McKinley and Hyde 1996). Moreover, self-perceptions can consume our thoughts (for a review, see Szymanski et al. 2011). A preoccupation with personal appearance demonstrates the concept of self-objectification – perceiving oneself as an object to be visually inspected and evaluated by others (Fredrickson and Roberts 1997). Engaging in self-objectification not only negatively impacts how we perceive ourselves, but also lays the groundwork for detrimental mental and physical health behaviors (e.g., body shame, anxiety, disordered eating behaviors, for a review, see Moradi and Huang 2008). Despite the well-known consequences of engaging in self-objectification, scholars report dissatisfaction with attempts to find variables that moderate the effect of self-objectification on negative health outcomes (Liss and Erchull 2015). Given the growing body of literature revealing self-compassion as a protective factor against poor body image and eating disorders (see Braun et al. 2016 for a systematic review), the current work attempted to examine the role self-compassion may play in minimizing the effect of self-objectification on feelings of body shame in men and women.

According to objectification theory, Western women live in a society that emphasizes beauty and appearance (Bernard and Wollast 2019; Bernard et al. 2020; Fredrickson and Roberts 1997). In line with this theory, a plethora of literature has revealed the treatment of women as sex objects in media (for a state of empirical research, see Ward 2016) and interpersonal interactions (Kozee et al. 2007). It was initially assumed that objectification was a purely Western phenomenon; however, recent analyses suggest that objectification occurs even within Eastern cultures (e.g., Japan, India, Pakistan, Thailand; Loughnan et al. 2015; Wollast et al. 2018; Wollast et al. 2020a). Although the original proposition of this work stemmed from feminist literature (Bartky 1990), focusing on the role objectification plays within women's lives, there is an increasing tendency to objectify men in various media (Johnson et al. 2007). For instance, the media representation of men's bodies has grown increasingly muscular over the past three decades, conveying stereotyped and idealized images (e.g., muscular ideal, see Leit et al. 2001) that convince men that they are small and underdeveloped (Luciano 2001). In this regard, the importance of muscularity in the physical self-concept of men—similar to thinness for women— suggests that men also suffer from the negative consequences of self-objectification.

It is this pervasive focus on bodies and sex appeal that sexual objectification theory suggests leads to self-objectification in which an individual sees him- or herself from a third person's perspective focusing on how others perceive their appearance and sex appeal rather than their thoughts, feelings, and actions (Fredrickson and Roberts 1997). When this perspective is adopted, it commonly manifests in increased body surveillance (Fredrickson et al. 1998; McKinley and Hyde 1996). In support of objectification theory, exposure to objectification through media and interpersonal interactions has been found to increase women's body surveillance (e.g., Harper and Tiggemann 2007). Similarly, recent work has also revealed that exposure to objectification increases men's body surveillance (e.g., Daniel and Bridges 2010; Daniel et al. 2014; Vandebosch and Eggermont 2012). Although self-objectification has also been theorized to include three distinct psychological processes beyond body surveillance, including experience of discrepancy from appearance standards, stereotype threat, and activation of schemas regarding sex objects, the current literature has primarily focused its efforts on assessing self-objectification as manifesting in body surveillance, most likely due to the ease of measurement associated with this psychological process (Kahalon et al. 2018).

When men and women engage in self-objectification and body surveillance, myriad negative physical and mental health outcomes ensue (see Moradi and Huang 2008; Szymanski et al., 2011). Through the process of self-objectification, individuals become their "own first surveyors," thinking of themselves as more of an object to be evaluated, which increases habitual body monitoring (Daniel et al. 2014; Fredrickson and Roberts 1997). Through such monitoring, self-objectification provides the individual with increased opportunity to present oneself in line with cultural beauty ideals (McKinley and Hyde 1996). Yet, given the (typically) unattainable nature of beauty ideals, greater attention to one's appearance increases feelings of body shame (McKinley and Hyde 1996; Noll and Frederickson 1998). Studies on self-objectification consistently replicate the effect of women's self-objectification on increased feelings of anxiety about physical appearance and body shame (e.g., Fredrickson and Harrison 2005; Gervais et al. 2011; Manago et al. 2015; Miner-Rubino et al. 2002). While women's body shame typically revolves around beauty ideals and sex appeal, research reveals that men commonly experience body shame regarding the muscularity of their physique (Arbour and Ginis 2006; Murnen et al. 2003; Strelan and Hargreaves 2005). Similar to the process of self-objectification that unfolds among women, men's engagement in body surveillance has been found to predict feelings of body shame (Manago et al. 2015). Moreover, feelings of body shame among men predict

reduced feelings of hope (Cole et al. 2013), suggesting that men experience similar mental health consequences to women as a result of experiencing body shame.

While a plethora of research has explored the relation between women's engagement in body surveillance and feelings of body shame, this relation has been left unexplored concerning men. For both men and women engaging in self-objectification, little is understood about potential moderators of the relation between engaging in body surveillance and experiencing body shame. Because self-objectification occurs when an individual adopts an outsider's perspective of their self-appearance, some work has begun to suggest additional self-perceptions could play a role in minimizing the adverse consequences of self-objectification. For example, female college athletes with high self-esteem reported less body dissatisfaction when put in a highly objectifying situation of wearing tight clothing relative to women with low self-esteem (Thøgersen-Ntoumani et al. 2011). Similar to high self-esteem, engaging in a greater level of self-compassion may provide individuals with a more positive self-perception in the face of self-objectification. The current work attempted to explore self-compassion as a positive factor that may alleviate body shame that results from body surveillance. Given differences in cultural expectations for men and women to abide by beauty ideals, the current work also explored whether the role self-compassion plays in this relation differs between men and women.

Self-compassion is defined as the ability to kindly accept oneself or show self-directed kindness while suffering (Neff 2003b; Raes 2011). Self-kindness, perceptions of personal experience as a common human experience, and mindfulness, are interconnected components that form our compassionate self-perceptions (Neff 2003a). Of particular importance, self-compassion plays a notable role in the way in which individuals perceive their own body, with higher levels of self-compassion protecting men and women against negative body image (Braun et al., 2016). Generally, self-compassion can be thought of as a buffer against negative affect. For instance, in a series of studies examining the impact of self-compassion on emotional processing, increased self-compassion allowed participants to acknowledge their role during a negative life event in a manner without being overwhelmed with negative emotions (Leary et al. 2007). Given that self-compassion can act as a buffer, a growing body of research suggests that it may alleviate the detrimental effect of self-objectification – manifesting as body surveillance, on feelings of body shame (e.g., Albertson et al. 2014). Research supports this notion; among women, increased self-compassion is related to decreased body surveillance and body shame – two primary manifestations of self-objectification (Braun et al. 2016; Daye et al. 2014; Liss and Erchull 2015; Mosewich et al. 2011). Additionally,

Wollast et al. (2019) demonstrated that self-compassion moderated the effect of body surveillance on depression and happiness (but not body shame) separately among women. For women low in self-compassion, body surveillance was negatively associated with happiness, which was explained by increased depression, but for women high in self-compassion, body surveillance was not associated with happiness or depression.

In sum, the current literature evidences the detrimental consequences of self-objectification as well as beneficial consequences of self-compassion. Although scholars have demonstrated that self-compassion plays a role in body image among women, little work has examined the possible moderating effect of self-compassion in the relations between manifestations of self-objectification – body surveillance, and its primary negative consequence – body shame. Furthermore, while the existing literature has focused on specific consequences of self-objectification for women, the literature on self-objectification among men is notably smaller (e.g., Cole et al. 2013; Manago et al. 2015; Michaels et al. 2013). Part of this narrow focus on women may have to do with the fact that women are at greater risk for increased body surveillance and body shame because of the objectifying culture that targets them in particular (Fredrickson and Roberts 1997). Yet, if self-compassion does indeed moderate the effect of body surveillance on feelings of body shame, it is also possible this discrepancy in the literature is due to gender differences in self-compassion. Because men report greater levels of self-compassion than women (see Yarnell et al. 2015), self-objectification may be less harmful to men relative to women.

Based on the proponents of objectification theory, who suggest that women are more at risk of witnessing and experiencing objectification, and as a result, engaging in self-objectification, we expected that they would report both greater body surveillance (Hypothesis 1a) and body shame (Hypothesis 1b) than men. Furthermore, we expected that men would report greater self-compassion than women (Hypothesis 1c). Given the links between engaging in habitual body monitoring and body perceptions, body surveillance was hypothesized to positively predict body shame (Hypothesis 2). Based on intervention findings in which self-compassion successfully diminished body shame, self-compassion was hypothesized to negatively predict body shame among men and women (Hypothesis 3). Finally, we hypothesized that self-compassion would moderate the relationship between body surveillance and body shame with increases in self-compassion lessening the negative impact of self-objectification (e.g., objectifying thoughts, body surveillance behavior) on body shame (Hypothesis 4). We tested these hypotheses with samples of men and women in a cross-sectional study (Study 1) and two experiments (Study 2 and 3).

Study 1

Method

Participants. In total, 164 Belgians (104 women and 60 men) participated in this study. Participants' age ranged from 18 to 70 years ($M = 24.09$; $SD = 8.54$) with the majority (more than 90%) identifying as students. There was little variation in reported sexual orientation (90% heterosexual, 6% bisexual, 4% homosexual) and marital status (54% single, 37% in a committed relationship but not married, 7% married, 1% divorced, 1% widowed). The mean calculated BMI score fell within the normal weight range ($M = 23.21$, $SD = 3.99$), reflecting the following classifications: 11% underweight, 67% normal weight, 19% over-weight, and 3% obese. The sample size was calculated using moderate interactive effects effect sizes found in similar studies measuring the effect of self-compassion on body image (e.g., Pisitsungkagarn et al. 2014; Kelly et al. 2014). To detect a moderate interaction effect ($f^2 = .15$) with a power of .95, our calculations suggested a sample size of 119 participants.

Procedure. Participants were primarily recruited at a French Speaking Belgian University and completed an online questionnaire either voluntarily or for course credit. Participants self-reported engagement in body surveillance, feelings of body shame, and self-compassion. The self-compassion scale had been previously translated and validated into French (Kotsou and Leys, 2016). We translated the body surveillance and body shame following guidelines by Brislin and colleagues (Brislin 1970; Wallace and Brislin 1973), which focuses on construct equivalence (e.g., construct meaning, natural-sounding phrases, common word usage) rather than verbatim or literal translation between the original and target language. A French professional translator, knowledgeable of the English-speaking culture, not previously involved in the study or informed of the objectives or specific context, translated the scales. They were instructed to approach the translations with an emphasis on conceptual rather than literal translations, as well as the need to use natural and acceptable language for the study. After this process, all questionnaires were reviewed by several experts. After completing the survey, participants provided socio-demographic information.

Measures

Body shame. We measured feelings of body shame using a French translation of the Body Shame subscale of the Objectified Body Consciousness Scale (OBCS; McKinley and Hyde 1996). Participants were asked to rate their agreement with 8 statements regarding the extent to which they feel ashamed of their physical appearance (e.g., *"I would be ashamed for people to know what I really weigh."*) using a 1 (*strongly disagree*) to 7 (*strongly agree*)

Likert-type scale. Item responses were reversed where necessary, and higher scores indicated greater body shame.

Similar to the original English version of the scale, internal consistency was good ($\alpha_{\text{total}} = .85$; $\alpha_{\text{men}} = .78$; $\alpha_{\text{women}} = .87$).

Body surveillance. We measured participants' engagement in habitual body monitoring using a French translation of the Body Surveillance subscale of the Objectified Body Consciousness Scale (OBCS; McKinley and Hyde 1996). Specifically, participants were asked to rate their agreement with 8 statements regarding the frequency of which they monitor their appearance (e.g., *"During the day, I think about how I look many times."*) using a 1 (*strongly disagree*) to 7 (*strongly agree*) Likert-type scale. Item responses were reversed where necessary, and higher scores indicated greater body surveillance. Similar to the original English version of the scale, internal consistency was good ($\alpha_{\text{total}} = .82$; $\alpha_{\text{men}} = .82$; $\alpha_{\text{women}} = .79$).

Self-Compassion. We measured self-compassion using the French translation (Kotsou and Leys 2016) of the Self-Compassion Scale-Short Form (SCS-SF; Raes et al. 2011). This scale contains 12 statements that assess participants' levels of self-kindness (e.g., *"I try to be understanding and patient towards those aspects of my personality I don't like"*), self-judgment (e.g., *"I'm disapproving and judgmental about my own flaws and inadequacies"*), common humanity (e.g., *"I try to see my failings as part of the human condition"*), isolation (e.g., *"When I fail at something that's important to me, I tend to feel alone in my failure"*), mindfulness (e.g., *"When something painful happens I try to take a balanced view of the situation"*), and over-identification (e.g., *"When I fail at something important to me I become consumed by feelings of inadequacy"*). Participants are asked to rate the extent to which each statement applies to them using a 1 (*almost never*) to 5 (*almost always*) scale. These subscales jointly assess self-compassion; following recommendations made by Neff et al. (2017), we used the total SCS score as an overall measure of self-compassion. Item responses were reversed where necessary and averaged to create a single self-compassion score with higher scores reflecting greater ability to be kind to oneself, to recognize that one's experience is a part of the shared human condition, and to be able to not over-identify with strong negative emotions and self-evaluative thoughts ($\alpha_{\text{total}} = .78$; $\alpha_{\text{men}} = .79$; $\alpha_{\text{women}} = .75$).

Control variables. We included participant age and body mass index (BMI) as control variables. Both of these variables are related to self-objectification, body surveillance, and body shame (for a review, see Moradi and Huang 2008); controlling for them can thus increase power to detect main and interactive effects.

Data Analyses. To aid interpretation, we standardized body shame, body surveillance, and self-compassion to z scores (mean = 0, $SD = 1$). We centered BMI at 25 (the threshold for overweight). To test Hypotheses 1a–1c, we

computed d values between men and women. Following the recommendations of Delacre et al. (2017), we compared group means using Welch's t -test and Bonnet's (2008) formulation of d , which do not assume equal group variances. To test Hypotheses 2–3, we computed correlations between body shame, body surveillance, and self-compassion. To test Hypothesis 4, we fit a regression model predicting body shame using the full three-way interaction between body surveillance, self-compassion, and gender (with age and BMI as control variables). In this model, the coefficient for gender is the d value between groups (controlling for other predictors). The coefficients for body surveillance and self-compassion can be interpreted in the correlation metric. We interpreted results based on the empirical effect size benchmarks described by Gignac and Szodorai (2016; cf. Funder and Ozer 2019). Using the quartiles of the empirical distribution of effect sizes observed in psychological research, we interpreted d values $< .20$ ($r < .10$) as negligible, $d = .20-.39$ ($r = .10-.19$) as small, $d = .40-.59$ ($r = .20-.29$) as moderate, and $d \geq .60$ ($r \geq .30$) as large.

Results

Table 1 reports variable descriptive statistics and intercorrelations and Table 2 reports full regression model results. Raw data are available in the online supplement (<https://osf.io/s56h8/>). Supporting Hypotheses 1a and 1c, women reported much higher body surveillance ($d = .72$ [95% CI .39, 1.06]) and lower self-compassion than men ($d = -.59$ [-.93, -.26]). However, women reported only slightly higher body shame than men ($d = .21$ [-.10, .52]; Hypothesis 1b). Supporting Hypotheses 2–3, body shame was strongly positively correlated with body surveillance (men: $r = .53$ [.33, .69]; women: $r = .31$ [.13, .49]) and negatively correlated with self-compassion (men: $r = -.44$ [-.66, -.17]; women: $r = -.37$ [-.50, -.21]). Self-compassion and body surveillance were also moderately to strongly negatively correlated (men: $r = -.30$ [-.52, -.07]; women: $r = -.25$ [-.42, -.06]).

The multiple regression model showed a moderate gender \times body surveillance \times self-compassion interaction predicting body shame ($\beta = .30$ [.0084, .60]). The pattern of coefficients suggested that self-compassion may provide a protective buffering effect against body surveillance for men, but not for women. In particular, the influence of body surveillance on body shame was significantly diminished for men, but not women, high in self-compassion (see Figure 1). However, the confidence interval for this gender moderation was quite wide. To increase the precision of the interaction effect size estimate and aid interpretation, we meta-analytically combined data from all 3 of the present studies (see Integrative Analysis, below).

Study 2

Prior to conducting our experiment in Study 2, we ran a pilot study to test our manipulations of self-objectification and self-compassion. To experimentally induce self-compassion, we drew on the manipulation used by Leary et al. (2007, study 5). We tested four scenarios varying on two dimensions—self-objectification and self-compassion. Translations of the 4 scenarios are available in the online supplement (<https://osf.io/s56h8/>). Because self-objectification can be defined as a preoccupation with one's physical appearance (Fredrickson and Roberts 1997), we manipulated self-objectification by asking participants to attend to their body as an aspect of their personhood. In the high self-objectification conditions, participants were asked to think about three weaknesses of their body, whereas in the low self-objectification conditions, participants were asked to think about three weaknesses of their professional career or studies. The self-objectification conditions were crossed with the self-compassion conditions: Participants were asked to consider these weaknesses from either a high self-compassion or low self-compassion perspective. In the high self-compassion conditions, participants were asked to think with tenderness and kindness about one or more aspects that they are not satisfied with and to write at least 3 positive consequences that this weakness could have in their lives. In the low self-compassion conditions, participants were asked to think about one or more aspects that they are not satisfied with and to write at least 3 negative consequences that this weakness could have in their lives.

Forty people (28 women and 12 men) participated in this pilot study. All the participants were French-speaking and lived in Belgium. Participants' ages ranged from 18 to 38 years ($M = 26.1$; $SD = 4.82$), with more than 95% identifying as students. After being randomly assigned to one of four conditions, participants indicated how focused they were on their body and the extent to which they thought of themselves in a self-compassionate manner, each using 7-point Likert-scales (1 = *not at all*, 7 = *completely*). Supporting the validity of the manipulations, participants in the high self-objectification conditions reported more focus on their body ($M = 5.13$, $SD = 0.32$) than participants in the low self-objectification conditions ($M = 2.22$, $SD = 0.35$; $d = 8.68$ [5.69, 11.67]). Similarly, participants in the high self-compassion conditions reported thinking of themselves in a more self-compassionate manner ($M = 4.40$, $SD = 0.41$) than participants in the low self-compassion conditions ($M = 2.73$, $SD = 0.23$; $d = 5.02$ [2.96, 7.09]). In Study 2, self-objectification and self-compassion were manipulated using these pre-tested writing prompts, and resulting body shame was measured.

Participants

In total, 158 Belgians (94 women and 64 men) participated in this study. Participants' age ranged from 18 to 80 years ($M = 25.37$; $SD = 11.09$). The recruitment, selection criteria, and materials were the same used in Study 1. We calculated sample sizes for Studies 2 and 3 assuming that like previous work, we would find a moderate effect size with a power of .95, which translated into a sample size of 148 participants.

Procedure

First, the self-compassion scale was administered. Then, using the pre-tested scenarios described above, participants were randomly assigned to 1 of 4 conditions ($n_{hi\ s-o \& \ hi\ s-c} = 38$, $n_{hi\ s-o \& \ lo\ s-c} = 32$, $n_{lo\ s-o \& \ hi\ s-c} = 39$, $n_{lo\ s-o \& \ lo\ s-c} = 49$); as in the pre-test, examples for all scenarios were provided to ensure that participants correctly understood the task. Finally, participants rated their agreement with items on the body surveillance ($\alpha_{total} = .80$; $\alpha_{men} = .77$; $\alpha_{women} = .77$) and body shame ($\alpha_{total} = .80$; $\alpha_{men} = .71$; $\alpha_{women} = .81$) scales used in Study 1. As in Study 1, we converted these scales to z scores for interpretability.

Data Analyses

This study focused on testing Hypothesis 4, the interactive relationship among self-objectification and self-compassion predicting body shame, as well as the gender moderation of this effect observed in Study 1. We tested this hypothesis by fitting a 2 (participant gender: male, female) \times 2 (self-objectification: high, low) \times 2 (self-compassion: high, low) between-participants ANOVA (regression) model predicting body shame, including age and BMI as covariates. We also fit a model predicting body surveillance using the same predictors.

Results

Table 3 reports variable descriptive statistics by gender and condition and Table 4 reports full regression model results. Raw data are available in the online supplement (<https://osf.io/s56h8/>). As observed in Study 1 and consistent with Hypotheses 1a–1c, women reported higher body shame ($d = .64$ [.32, .96]) and body surveillance ($d = .80$ [.47, 1.13]) than men. Gender differences on body shame were negligible ($d = -.0094$ [–.36, .34]). Contrary to Hypothesis 4, we observed no substantial effects for study condition predicting body shame, and all confidence intervals spanned wide ranges of positive and negative values. However, in the model predicting body surveillance, we observed a strong gender \times self-objectification \times self-compassion interaction ($\beta = -1.95$ [–3.13, –.77]). Examining the interaction effects within genders, compared to the low self-objectification, low self-compassion condition, women reported higher body surveillance in the high self-objectification, low self-compassion condition ($\beta = .75$ [.22, 1.27]) and, surprisingly, also in the high self-compassion, low self-objectification condition ($\beta = .62$

[.11, 1.12]). However, these effects canceled out in the high self-compassion, high self-objectification condition ($\beta_{\text{interaction}} = -1.37 [-2.10, -.65]$; $\beta_{\text{contrast}} = -.003$ compared to the low self-objectification, low self-compassion condition). Contrary to our expectations, men in the high self-objectification, low self-compassion condition reported somewhat *lower* body surveillance ($\beta = -.73 [-1.36, -.10]$), but no other substantial differences occurred across conditions. In sum, Study 2 did not support the hypothesis about the protective effect of self-compassion against body shame but did provide some support for a moderating and protecting effect of self-compassion against self-objectifying perceptions among women. However, the reversed direction of the self-compassion main effect makes this result somewhat difficult to interpret. We also did not observe the same interaction effects observed among men as observed in Study 1.

Study 3

In Study 3, we hypothesized a moderating and protecting effect of self-compassion in the relation between self-objectification state and its impact on reported body shame and body surveillance. This study differed from Study 2 by manipulating self-objectification with a sentence-scrambling task (cf. Srull and Wyer 1979). Because we wanted participants to differ in their level of focus on their body and appearance, but not in the way in which they were compassionate about their appearance, we used a sentence scramble manipulation of self-objectification and controlled for self-compassion scores.

Sentence scramble manipulations inducing different states of body objectification were first pre-tested. 44 French-speaking participants (age ranged 17–42, $M = 25.4$; $SD = 5.32$) were randomly assigned to complete the self-objectification scrambled sentences or the neutral scrambled sentences (see online supplementary material: <https://osf.io/s56h8/>). Participants were asked to construct 20 grammatically correct sentences from presented words that were either priming self-objectification (e.g., *sexiness*, *weight*, *body*) or neutral (e.g., *car*, *coffee*, *paper*; low self-objectification). Afterward, participants indicated the extent to which they focused on their body, using a 7-point scale (1 = *not at all*, 7 = *completely*). Supporting the validity of the manipulations, participants primed with the self-objectification sentences reported greater focus on their body ($M = 4.78$; $SD = 1.57$), than participants primed with neutral sentences ($M = 1.43$; $SD = 1.16$; $d = 2.43 [1.62, 3.24]$).

Participants

In total, 258 Belgians (189 women and 69 men) age 18 to 58 ($M = 20.75$; $SD = 4.47$) participated in this study. Recruitment, selection criteria, and measures were the same as those in Study 1 and 2.

Procedure

First, participants completed the self-compassion scale ($\alpha_{\text{total}}=.80$; $\alpha_{\text{men}}=.80$; $\alpha_{\text{women}}=.80$). Next, they were randomly assigned to one of two versions of the pre-tested scrambled sentence task. This task was presented as a test of language ability in which participants were asked to form a correct 4-word sentence from a scrambled list of five words. Participants in the experimental condition ($N = 124$) were exposed to 15 sentences priming self-objectification (e.g., *sexuality important and beauty is*) and 5 neutral sentences, whereas participants in the low self-objectification condition ($N = 134$) were exposed to 20 neutral scrambled sentences that did not prime self-objectification (e.g., *drive I find a car*). Finally, participants completed the measures of body surveillance ($\alpha_{\text{total}}=.80$; $\alpha_{\text{men}}=.85$; $\alpha_{\text{women}}=.77$) and body shame ($\alpha_{\text{total}}=.82$; $\alpha_{\text{men}}=.82$; $\alpha_{\text{women}}=.83$).

Data Analyses

This study also focused on testing Hypothesis 4, the interactive relationship among self-objectification and self-compassion predicting body shame, as well as the gender moderation of this effect observed in Study 1. We tested this hypothesis by fitting a regression model predicting body shame using the interaction between the self-objectification condition, self-compassion, and gender, including age and BMI as covariates. We also fit a model predicting body surveillance using the same predictors.

Results

Table 5 reports variable descriptive statistics by condition and Table 6 reports full regression model results. Raw data are available in the online supplement (<https://osf.io/s56h8/>). Consistent with Hypothesis 3 and the results of Study 1, self-compassion was strongly negatively related with body shame ($r = -.38 [-.47, -.27]$; $\beta = -.46 [-.76, -.15]$) and body surveillance ($r = -.41 [-.50, -.30]$; $\beta = -.18 [-.48, +.13]$). Consistent with Hypothesis 2 and Study 1, body shame and body surveillance were also strongly positively correlated ($r = .55 [.47, .62]$). However, contrary to our predictions, the main effects of the manipulation were negligible, with wide confidence intervals. In sum, Study 3 did not support our hypothesis regarding the buffering role of self-compassion in the relation between objectification and body shame.

Integrative Analysis

Even when a consistent true effect is present in the population, results of individual studies can yield variable results because of sampling error, measurement error, and other artifacts (Francis 2012; Schimmack 2012; Schmidt and Hunter 1977; Stanley and Spence 2014). A useful approach to avoid overinterpreting such artifactual

differences is to focus interpretations on effect size magnitude and consistency of results with meta-analyses combining close or exact replications of the same study design (Braver et al. 2014; Schmidt and Hunter 1977). This approach increases power and precision of effect size estimates and provides a clearer picture of mean effects and potential variability across studies. Accordingly, we meta-analytically combined the three samples to provide the best estimate from the current data of the potential interactions among gender, body surveillance, and self-compassion in relation to body shame.

Method

To estimate gender mean differences in the combined sample, we estimated a linear mixed-effects model predicting self-compassion, body surveillance, and body shame, in which we specified both the intercept and gender slope as random effects with study as a grouping variable. We standardized self-compassion, body surveillance, and body shame using the combined total sample within-gender standard deviations.

For the regression model, we meta-analyzed the data from the three studies using a two-stage multivariate individual participant data meta-analysis (Kalaian and Raudenbush 1996; Riley et al. 2010). In each sample, we centered BMI at 25 and standardized the measures of body shame, body surveillance, and self-compassion using the combined total sample standard deviations. We then estimated the regression model used in Study 1 separately in each of the 3 samples. Finally, we meta-analyzed the regression model estimates for the three samples using a restricted maximum likelihood random-effects multivariate meta-analysis with an unstructured correlation matrix among regression model parameters. This approach models each regression coefficient as a random variable, accounting for potential differences in predictor relationships induced by the experimental manipulations in Studies 2 or 3, or other factors. As only three samples were included, we pre-specified reasonable values for the meta-analytic random-effects standard deviation (τ), rather than estimating them (Steel et al. 2015; Wiernik et al. 2017). Kenny and Judd (2019) observed that random-effects standard deviation estimates in multi-site replication studies are typically about 25% of the value of the mean effect size. In a review of meta-analyses, Paterson et al. (2016) observed that demographic variables had a mean effect size of $r = .12$ ($d = .24$) and that individual difference variables had a mean effect size of $r = .19$. Based on these values and noting that interaction effects tend to be about half the size of main effects (cf. Perugini et al., 2018), we fixed τ for the regression coefficients to be: $\tau = .25 \times (.12/SD_{\text{age}} [\text{age}], .20/SD_{\text{BMI}} [\text{BMI}], .25 [\text{gender}], .20 [\text{body surveillance, self-compassion, gender} \times \text{body surveillance, gender} \times \text{self-compassion}], .10 [\text{body surveillance} \times \text{self-compassion, gender} \times \text{body surveillance} \times \text{self-compassion}])$. For the

current analyses, the choice of τ primarily influences the width of confidence intervals. Importantly, it has to be noted that the interaction we predicted is an ordinal interaction (i.e., the effect of body surveillance on body shame is expected to be stronger for people with low self-compassion but not to disappear or to be reversed), the effect size of the interaction term is necessarily smaller than a corresponding “main effect”, which explains why they are often difficult to detect (McClelland and Judd 1993; Perugini et al. 2018). We estimated gender mean differences mixed effects models using the *lme4* R package (Bates et al. 2015). We meta-analyzed regression coefficients using the *metafor* R package (Viechtbauer 2010) and multiple *R* values from the regression models using the *psychmeta* R package (Dahlke and Wiernik 2019). Data and analysis scripts for these analyses are available in the online supplemental material (<https://osf.io/s56h8/>).

Results

In the pooled sample, women reported moderately higher body surveillance ($d = .55$ [95% CI .21, .89]) and lower self-compassion than men ($d = -.48$ [-.77, -.19]); these differences were somewhat smaller than in Study 1 alone. Women also reported somewhat higher body shame than men ($d = .35$ [.12, .58]); this difference was somewhat larger than in Study 1 alone.

Results of the regression model meta-analyses are shown in Table 7. Consistent with the findings in Study 1 alone, in both men and women, self-compassion showed a strong negative relationship with body shame (men: $\beta = -.34$ [-.48, -.20]; women: $\beta = -.29$ [-.42, -.16]), and body surveillance showed a strong positive relationship with body shame (men: $\beta = .36$ [.22, .50]; women: $\beta = .35$ [.22, .47]). Also consistent with the results from Study 1, body surveillance and self-compassion showed an attenuating interaction effect in men ($\beta = -.16$ [-.26, -.057]), but not in women ($\beta = .020$ [-.084, .12]). These interaction effects are illustrated in Figure 2. Men high in self-compassion reported low levels of body shame regardless of their body surveillance behavior. Conversely, among men low in self-compassion, detrimental relationships of body surveillance behavior with body shame were stronger relative to men high in self-compassion. Among women, the interaction was weak ($\beta = .10$ [-.093, .30]), suggesting that body surveillance and self-compassion have a largely additive, non-interactive, relation with body shame. Based on these results, we conclude that the current studies suggest a moderate interaction between self-compassion and body surveillance in their relationship with body shame among men, but not among women. We encourage future studies to attempt to replicate this finding.

Discussion

The present study extends our understanding of self-objectification by examining the moderating role of self-compassion on the relation between engaging in body surveillance and feeling body shame. Moreover, the current work aimed to investigate whether self-compassion moderates relations between body surveillance and body shame differently for men and women. It is well established that both men and women self-objectify (e.g., Daniel et al. 2014; Strelan and Hargreaves 2005), but most self-objectification research has focused exclusively on women. Hence, we expanded upon the literature by demonstrating that self-compassion can attenuate the harmful consequences of body surveillance with differing effects among men and women.

In line with our hypotheses, we replicated well-established findings. First, our work replicated findings in the literature on self-objectification of women (e.g., McKinley and Hyde 1996; Muehlenkamp and Saris-Baglama 2002; Peat and Muehlenkamp 2011) and men (e.g., Daniel and Bridges 2010; Daniel et al. 2014). Specifically, we found that body surveillance was positively related to body shame for both men and women. Most importantly, the integrative analysis including participants from all three studies demonstrated that women reported engaging in significantly more body surveillance and body shame than men. Second, the results of this study reinforce previous findings that self-compassion has positive effects on mental health (e.g., Gilbert and Procter 2006; Liss and Erchull 2015; Neff et al. 2007). Consistent with previous work, we found gender differences on self-compassion, with men reporting greater self-compassion than women (for a meta-analytic review, see Yarnell et al. 2015). Additionally, we observed that self-compassion was negatively related to body surveillance and body shame among both men and women.

The moderating role of self-compassion has been highlighted largely in the field of psychological distress (e.g., Samaie and Farahani 2011; Wong and Mak 2013) but rarely in the field of objectification (cf. Wollast et al. 2019; Wollast et al. 2020b). Based on previous findings (e.g., Liss and Erchull 2015; Wollast et al. 2019), the central goal of this paper was to investigate the moderating role of self-compassion between body surveillance and body shame among men and women. The results of this work showed that self-compassion moderated the relationship between body surveillance and body shame only among men, and not among women. This may be explained by the focus on women's appearance and expectations for unattainable beauty ideals that society imposes. An appearance focus is also promoted among men, but to a lesser extent than women, causing men to experience fewer consequences. In addition, the socialization of women from a young age combined with the omnipresence of idealized beauty images leads them to have strong anchored beliefs about their body and resulting feelings of body

shame that may be impermeable despite levels of self-compassion. Even if women high in self-compassion experience less body surveillance and body shame, the relation between these two variables is as connected as the relation found for women with low self-compassion. In other words, being kind to oneself helps men more than women to reduce the feeling of shame generated by body surveillance. These findings are somewhat contradictory to Liss and Erchull's (2015) findings, revealing a beneficial effect of self-compassion on the relation between body surveillance and body shame among women. Importantly, recent work suggests that acknowledging individual differences, such as cultural orientations (Wollast et al. 2020b) among women, may help add clarity to the relation between feeling self-compassionate and experiencing body shame as a result of engaging in body surveillance (i.e., self-compassion moderated the effect for American but not on Belgian, Thai, or Russian women). While self-compassion may be beneficial for women, because women live in a culture in which gender norms promote body surveillance and body shame (Fredrickson and Roberts 1997, see also De Wilde et al. 2019) that simultaneously inhibit the development of self-compassion (Yarnell et al. 2015), women may struggle to successfully enact a level of self-compassion capable of combatting the perpetual body surveillance and shame they are taught to engage in.

Limitations and Future Research

The findings of the present study should be interpreted in light of some limitations. First, the studies included mostly undergraduate students (90%) which limits the generalizability of the results (Henrich et al. 2010). Second, although self-compassion demonstrated its promising influence on body image and mental health, its effect is limited because it operates only at the individual level. Indeed, several collective and social constraints can considerably reduce the impact of self-compassion. For example, many interventions would be insufficient to reinforce a woman's level of self-compassion so that she can more easily cope with street harassment instances of leering or objectifying comments. In other words, self-compassion is a very personal strategy that ultimately does not help to challenge the inequalities between men and women and other forms of discrimination (e.g., the omnipresence of idealized bodies in the mass media). Nevertheless, it could be argued that self-compassion could overcome this individual process and become a social norm (e.g., culture of acceptance). Certainly, initiatives aimed at transforming social norms, especially those regarding body image, have proven effective (Yager and O'Dea 2008). Third, in the current work, we examined self-objectification as it manifests in body surveillance; while important, current conceptualization suggests that self-objectification also psychologically occurs through experiences of discrepancy from appearance standards, stereotype threat, and activation of sex object schemas (Kahalon et al. 2018).

In this context, while self-compassion may be important in shaping body surveillance and perhaps feelings of appearance discrepancy from cultural standards, we encourage scholars to test whether self-compassion has a similar effect on cognitive processes that underlie stereotype threat and schema activation. In line with this approach, future research would benefit from exploring the role self-compassion may play in these other mechanisms of self-objectification. Fourth, although we observed generally consistent correlations across studies among body shame, body surveillance, self-compassion for men and women, the experimental manipulations intended to influence state levels of self-objectification and self-compassion in Studies 2 and 3 yielded negligible effects (for a review of experimental research on state self-objectification, see Kahalon et al. 2018). This may be because the manipulations themselves were quite small; stronger manipulations or manipulations repeated over a longer duration (e.g., a therapeutic intervention) might provide clearer indications of causal relationships among self-compassion, body surveillance, and body shame.

Research examining self-objectification from a self-compassionate perspective is flourishing and the associations found in the present study enrich the current literature and suggest specific implications for research and practice. The current self-objectification literature relies heavily on exploring consequences of engaging in self-objectification; however, little is known about what can moderate or mitigate these detrimental consequences (see Moradi and Huang 2008, for a review). This study expands the current focus within the self-objectification literature by focusing on a positive factor that has promise for mitigating harmful consequences of constructs related to self-objectification. In this context, we encourage researchers to step outside the typical analyses made by the current literature and start considering the phenomenon of sexual objectification in the lens of self-compassion. In this same vein, the current work revealed differential effects of self-compassion on the relation between engaging in body surveillance and feeling body shame between genders, suggesting that future research should continue to explore when and how objectification shapes the lives of men. These results suggest that self-compassion may attenuate the negative effects of body surveillance (for example through self-judgment, a sub-dimension of the Self-Compassion Scales; body image flexibility, Sandoz et al. 2013; resilience, Leys et al. 2020). In this vein and in line with previous findings (e.g., Albertson et al. 2014; Cox and McMahon 2019; Cox et al. 2016; Cox et al. 2017; Moffitt et al. 2018), future research should continue to explore whether self-compassion-based interventions and mindfulness-based interventions (e.g., yoga, meditation training, learning skills of self-compassion) that encourage kindness, compassion, acceptance, and affection toward the self, may have a positive impact on subjective perceptions of

appearance and wellbeing. Importantly, our results may provide insight into the way in which these interventions are implemented. Future work should expand upon these findings by exploring ways in which self-compassion interventions could increase involvement and engagement to help women overcome the extreme societal expectations regarding often unattainable beauty ideals, with the aim to ensure the effects of such interventions are not fleeting once women leave the intervention environment and are reacquainted with the objectifying culture they live in. Moreover, the current work suggests that although men are commonly more self-compassionate than women, these interventions may be especially beneficial for men due to the strength of the ability for self-compassion to buffer the effect of body surveillance on feelings of body shame. As a result, more work should explore methods to successfully target interventions relating to body image of men in particular.

Ethical Standards

All studies have been approved of by the appropriate ethics committee at the Université libre de Bruxelles and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments. Informed consent was obtained from all individual participants included in the study. The authors declare that they have no conflict of interest.

Author Contributions

All authors contributed to the study conception and design. RW and ES prepared materials and collected data. RW performed regression analyses. BMW performed meta-analyses. RW and ARR wrote the first draft of the manuscript, and all authors critically commented and revised the manuscript.

Supplemental Material

Online supplemental material is available at <https://osf.io/s56h8/>

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Table 1. Study 1: Variable means, standard deviations, and intercorrelations for men and women.

	Women Mean (SD)	Men Mean (SD)	Body surveillance	Body shame	Self-compassion	BMI	Age
Body surveillance	4.74 (1.07)	3.90 (1.26)	—	0.31 [.12, .47]	−0.25 [−.42, −.06]	−0.01 [−.20, .18]	−0.26 [−.43, −.07]
Body shame	2.97 (1.45)	2.70 (1.45)	0.53 [.32, .69]	—	−0.37 [−.53, −.19]	0.34 [.16, .50]	−0.02 [−.21, .17]
Self-compassion	2.70 (0.60)	3.08 (0.67)	−0.30 [−.51, −.05]	−0.44 [−.62, −.21]	—	−0.13 [−.31, .06]	0.07 [−.12, .26]
BMI	22.53 (4.26)	24.39 (3.16)	−0.06 [−.31, .20]	−0.14 [−.38, .12]	0.01 [−.24, .26]	—	0.11 [−.08, .30]
Age	23.69 (8.46)	24.78 (8.71)	−0.12 [−.36, .14]	−0.08 [−.33, .18]	0.03 [−.23, .28]	0.42 [.19, .61]	—

Note. Correlations for women above the diagonal; correlations for men below the diagonal. Values in brackets are 95% confidence intervals.

Table 2. Study 1: Regression analysis predicting body shame

	β	SE	95% conf. int.	
Intercept	.13	.24	-.34	.61
Age	.00076	.0083	-.016	.017
BMI (ref: 25)	.051	.018	.016	.086
Body surveillance	.46	.12	.21	.70
Self-compassion	-.39	.14	-.66	-.12
Body surveillance \times Self-compassion	-.20	.11	-.42	.019
Women (ref: Men)	-.076	.16	-.39	.23
Women \times Body surveillance	-.17	.16	-.48	.14
Women \times Self-compassion	.020	.17	-.32	.36
Women \times Body surveillance \times Self-compassion	.30	.15	.0084	.60
$F(9, 154) = 7.276$				
$R = .55, R_{adj} = .51$ [95% CI = .38, .62]				
<i>Gender simple effects: Men</i>				
Intercept	.13	.24	-.34	.61
Age	.00076	.0083	-.016	.017
BMI (ref: 25)	.051	.018	.016	.086
Body surveillance	.46	.12	.21	.70
Self-compassion	-.39	.14	-.66	-.12
Body surveillance \times Self-compassion	-.20	.11	-.42	.019
<i>Gender simple effects: Women</i>				
Intercept	.058	.23	-.40	.52
Age	.00076	.0083	-.016	.017
BMI (ref: 25)	.051	.018	.016	.086
Body surveillance	.29	.10	.089	.49
Self-compassion	-.37	.11	-.58	-.16
Body surveillance \times Self-compassion	.10	.10	-.093	.30

Note. BMI = body mass index (centered at 25); body shame, body surveillance, and self-compassion standardized using the sample standard deviations; bold values indicate standardized effects with absolute value $\geq .10$ (continuous variables) or $\geq .20$ (gender) and for which confidence intervals excluded zero.

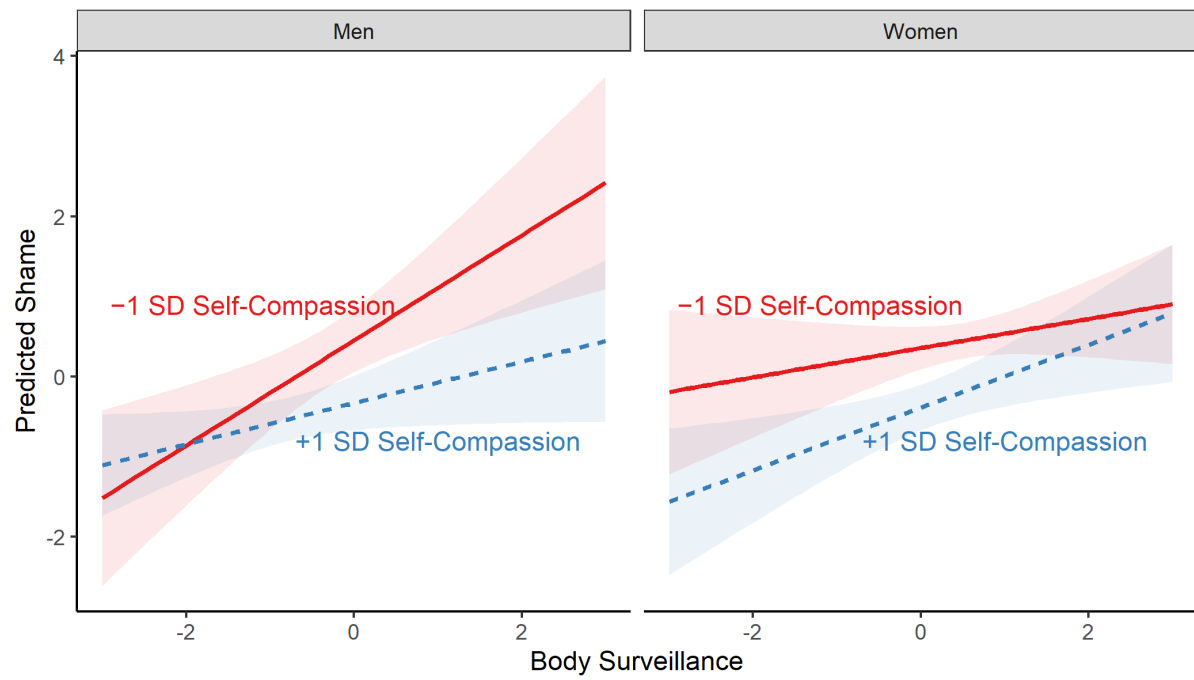


Figure 1. Study 1: Predicted body shame (z scores) by body surveillance (z scores) for men (left) and women (right) with low ($z = -1$; red solid lines) and high ($z = +1$; blue dashed lines) self-compassion. Error bands are 95% confidence regions.

Table 3. Study 2: Mean ratings (standard deviations) for dependent variables for men and women in each condition

Gender	Men				Women			
	High SO		Low SO		High SO		Low SO	
	High SC	Low SC	High SC	Low SC	High SC	Low SC	High SC	Low SC
Self-objectification								
Self-compassion								
Body surveillance	3.71 ^a (0.80)	3.21 ^a (1.19)	3.87 ^a (1.16)	4.07 ^{a, b} (1.09)	4.26 ^{b, c} (1.18)	5.21 ^d (0.83)	5.01 ^{c, d} (0.95)	4.31 ^{b, c} (1.02)
Body shame	2.48 ^{a, b} (0.75)	2.79 ^b (0.87)	2.63 ^{a, b} (1.33)	2.10 ^a (0.82)	3.31 ^b (1.60)	3.51 ^b (1.29)	2.80 ^b (1.05)	3.10 ^b (1.08)
Frequencies	12	12	16	24	26	20	23	25

Note. Means in each row with the same superscript have differences whose 95% confidence intervals include zero.

Table 4. Study 2: Regression analyses predicting body shame and body surveillance

	β	SE	95% conf. int.	
Body shame				
Intercept	-.731	.26	-1.24	-.22
Age	.0028	.0071	-.011	.017
BMI (ref: 25)	.0000038	.0000039	-.0000039	.000012
High self-objectification condition	.59	.34	-.083	1.27
High self-compassion condition	.45	.31	-.17	1.07
High self-objectification \times High self-compassion	-.71	.50	-1.69	.28
Women (ref: Men)	.85	.28	.30	1.39
Women \times High self-objectification condition	-.24	.45	-1.13	.64
Women \times High self-compassion condition	-.69	.42	-1.52	.13
Women \times High self-objectification \times High self-compassion	.77	.64	-.50	2.03
$F(9, 148) = 2.689$				
$R = .37, R_{adj} = .30$ [95% CI = .12, .45]				
Body surveillance				
Intercept	.034	.24	-.44	.51
Age	-.0092	.0066	-.022	.0038
BMI (ref: 25)	-.0000026	.0000037	-.0000099	.0000046
High self-objectification condition	-.73	.32	-1.36	-.10
High self-compassion condition	-.14	.29	-.72	.44
High self-objectification \times High self-compassion	.58	.47	-.34	1.50
Women (ref: Men)	.19	.26	-.32	.70
Women \times High self-objectification condition	1.48	.42	.65	2.30
Women \times High self-compassion condition	.76	.39	-.0087	1.53
Women \times High self-objectification \times High self-compassion	-1.95	.60	-3.13	-.77
$F(9, 148) = 5.578$				
$R = .50, R_{adj} = .46$ [95% CI = .32, .58]				

Note. BMI = body mass index (centered at 25); body shame and body surveillance using the sample standard deviations; bold values indicate standardized effects with absolute value $\geq .10$ (continuous variables) or $\geq .20$ (gender, experimental conditions) and for which confidence intervals excluded zero.

Table 5. Study 3: Mean ratings (standard deviations) for dependent variables for men and women in each condition

Gender	Men		Women	
Self-objectification	High SO	Low SO	High SO	Low SO
Body surveillance	4.08 ^a (1.36)	4.19 ^a (1.34)	4.45 ^a (1.11)	4.37 ^a (1.19)
Body shame	2.81 ^a (1.27)	2.87 ^a (1.24)	3.26 ^a (1.27)	2.97 ^a (1.32)
Frequencies	29	40	95	94

Note. Means in each row with the same superscript have differences whose 95% confidence intervals include zero.

Table 6. Study 3: Regression analyses predicting body shame and body surveillance

	β	SE	95% conf. int.	
Body shame				
Intercept	.62	.34	−.059	1.30
Age	−.025	.014	−.052	.0018
BMI (ref: 25)	.056	.017	.023	.089
High self-objectification condition	−.12	.22	−.57	.32
Self-compassion	−.46	.16	−.76	−.15
High self-objectification × Self-compassion	.31	.22	−.12	.74
Women (ref: Men)	−.047	.18	−.39	.30
Women × High self-objectification condition	.39	.26	−.12	.90
Women × Self-compassion	.054	.18	−.30	.41
Women × High self-objectification × Self-compassion	−.27	.25	−.77	.23
$F(9, 248) = 7.410$				
$R = .46, R_{adj} = .43$ [95% CI = .32, .53]				
Body surveillance				
Intercept	.36	.35	−.32	1.05
Age	−.017	.014	−.045	.010
BMI (ref: 25)	.04	.017	.0027	.069
High self-objectification condition	−.071	.23	−.52	.37
Self-compassion	−.18	.16	−.48	.13
High self-objectification × Self-compassion	−.32	.22	−.75	.11
Women (ref: Men)	.064	.18	−.29	.41
Women × High self-objectification condition	.19	.26	−.33	.71
Women × Self-compassion	−.30	.18	−.66	.06
Women × High self-objectification × Self-compassion	.46	.26	−.05	.96
$F(9, 248) = 6.885$				
$R = .45, R_{adj} = .41$ [95% CI = .30, .52]				

Note: BMI = body mass index (centered at 25); body shame and body surveillance using the sample standard deviations; bold values indicate standardized effects with absolute value $\geq .10$ (continuous variables) or $\geq .20$ (gender, experimental conditions) and for which confidence intervals excluded zero.

Table 7. Meta-analysis of regression models predicting body shame

	β	<i>SE</i>	95% conf. int.	
Intercept	-.011	.14	-.30	.27
Age	-.00013	.0049	-.010	.0095
BMI (ref: 25)	.047	.012	.023	.071
Body surveillance	.36	.071	.22	.50
Self-compassion	-.34	.072	-.48	-.20
Body surveillance \times Self-compassion	-.16	.053	-.26	-.057
Women (ref: Men)	.15	.088	-.019	.33
Women \times Surveillance	-.018	.086	-.19	.15
Women \times Self-compassion	.050	.087	-.12	.22
Women \times Body surveillance \times Self-compassion	.18	.070	.044	.32
\bar{R}_{adj}	.56	.023	.52	.61
<i>Gender simple effects: Men</i>				
Intercept	-.011	.14	-.30	.27
Age	-.00013	.0049	-.010	.0095
BMI (ref: 25)	.047	.012	.023	.071
Body surveillance	.36	.071	.22	.50
Self-compassion	-.34	.072	-.48	-.20
Body surveillance \times Self-compassion	-.16	.053	-.26	-.057
<i>Gender simple effects: Women</i>				
Intercept	.14	.13	-.12	.40
Age	-.00013	.0049	-.0098	.0095
BMI (ref: 25)	.047	.012	.023	.071
Surveillance	.35	.063	.22	.47
Self-compassion	-.29	.067	-.42	-.16
Body surveillance \times Self-compassion	.020	.053	-.084	.12

Note: BMI = body mass index (centered at 25); body shame, body surveillance, and self-compassion standardized using the full-sample standard deviations; meta-analysis models estimated using multivariate two-stage individual participant data meta-analysis with pre-specified τ values (see text); bold values indicate standardized effects with absolute value $\geq .10$ (continuous variables) or $\geq .20$ (gender) and for which confidence intervals excluded zero.

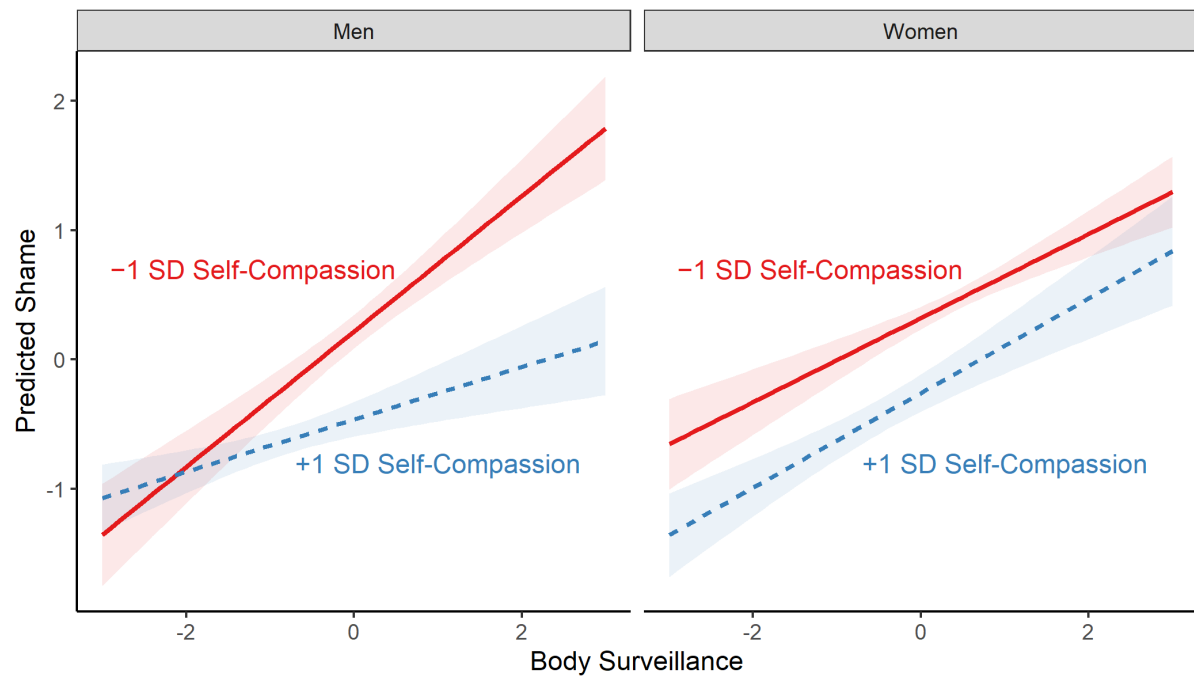


Figure 2. Predicted body shame (z scores) by body surveillance (z scores) for men (left) and women (right) with low ($z = -1$; red solid lines) and high ($z = +1$; blue dashed lines) self-compassion. Values based on the meta-analysis of regression models from the three samples with age (22.95 years) and BMI (22.64) set to the total-sample mean values. Error bands are 95% confidence regions.