Body shame and problematic social networking sites use: the mediating effect of perfectionistic self-presentation style and body image control in photos

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Abstract

Previous studies have shown that body shame and body image control in photos are associated with Problematic Social Networking Sites Use. The current study aims to build upon previous evidence by examining the role of perfectionistic self-presentation in the relationship between body shame, on the one hand, and body image control in photos and Problematic Social Networking Sites Use, on the other hand. The sample included 695 participants (%F = 61.29; M_{age} = 21.01 ± 5.05; age range = 14–30). The hypothesized serial mediation effect of perfectionistic self-presentation style and body image control in photos in the association between body shame and Problematic Social Networking Sites Use was significant (indirect effect = 0.05; 95% CI: [0.02, 0.07] for young women; indirect effect = 0.02; 95% CI: [0.002, 0.04] for young men). The present study contributes toward the understanding of the possible predictors of Problematic Social Networking Sites Use and leads novel findings in the field of self-objectification research. Regardless of gender, young people who feel ashamed of their body may develop a perfectionistic self-presentation (by promoting a perfect image and hiding imperfections) as compensatory strategy. However, the gratification of the need for self-presentation through body image control in Social Networks photos activities could in turn lead to Problematic Social Networking Sites Use.

Keywords Body shame · Body image · Perfectionistic self-presentation style · Problematic social networking Sites Use

Introduction

Adolescents and young adults are the populations who use Social Networking Sites the most (D'Arienzo et al., 2019; Kuss & Griffiths, 2017). Social networks are online platforms that allow individuals to create profiles, share and view content and interact with other users and their posts through "likes", comments and private messages (Tiggemann & Vellissaris, 2020). Compared to traditional face-to-face interactions, Social Networks let individuals control the information about themselves, thus enhancing the possibilities to manage self-presentation (Buffardi & Campbell, 2008). Self-presentation refers to "the process of controlling how one is perceived by other people" (Leary, 1995, p. 2), which is described as goal-driven behaviour (Leary & Kowalski, 1990). According to the uses and gratification framework (Katz et al., 1973), different media are chosen by users to fulfil specific needs, and the need for self-presentation is one of the main reasons for using Social Networks (for an overview see Nadkarni & Hoffman, 2012).

Given the high focus on visual self-presentation and appearance promoted by several photo-based Social Networks (i.e., Instagram), users might manage their self-presentations by hiding personal attributes that they consider unattractive, such as body size, or manage how they look by editing their pictures or selfies (Fox & Rooney, 2015). Unfortunately, levels of body shame and the extent to which individuals control their body images in pictures before posting them on Social Networks appears to be strongly related to

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Problematic Social Networking Sites Use (PSNSU) (Casale & Fioravanti, 2017; Gioia et al., 2020). Problematic Social Networking Sites Use can be defined as an excessive use of Social Networks characterized by being overly concerned about social networks and a strong motivation to use them which, in turn, impairs social lives, scholastic success, work lives and/or psychological health and well-being (Andreassen & Pallesen, 2014). A recent research has enlightened the core symptoms associated with Problematic Social Networking Sites Use which can help in distinguishing between problematic and non-problematic social networking site use: (i) difficulties in controlling the use, (ii) thinking obsessively about going online; (iii) and a preference for online interactions (Svicher et al., 2021). Meta-analyses showed that Problematic Social Networking Sites Use is associated with several issues, including depression (Cunningham et al., 2021), low self-esteem (Saiphoo et al., 2020), suicidal ideation (Nesi et al., 2021), lower well-being (Huang, 2020) and higher psychological distress (Shannon et al., 2022), and – as already mentioned – body shame.

Building upon previous evidence, the current study focuses the attention on the potential role of perfectionistic-self-presentation as a behavioral strategy that might explain how body shame leads to body image control in photos which, in turn, leads to Problematic Social Networking Sites Use.

Body shame and problematic social networking sites use

As cultural beauty standards are often unattainable, internalization of such standards has been found to be positively associated with body shame (e.g., Kim et al., 2013). In fact, body shame has been defined as a psychological phenomenon that arises when individuals feel ashamed of their bodies due to the perceived inability to satisfy cultural beauty standards (McKinley & Hyde, 1996). According to self-objectification theory (Fredrickson & Roberts, 1997), self-objectification occurs when women adopt a third-person perspective on the body, which leads them to look at their bodies as objects that they have to constantly monitor and judge, giving a high value to how they look to others instead of how they feel. The vigilant body surveillance activity (or body monitoring) leads individuals to have negative subjective experiences such as body shame. Although the majority of research has focused on investigating self-objectification in female populations (for a review see Daniels et al., 2020), some studies have also involved male samples, demonstrating that the theory's basic tenets can also be applied to men (e.g., Calogero, 2009; Morrison et al., 2003; Strelan & Hargreaves, 2005a). While women desire to achieve the standard of beauty of a thin body promoted by society, men with high

levels of self-objectification report desiring more muscular bodies (Oehlhof et al., 2009). According to self-objectification theory, body shame is a central experience for those individuals who self-objectify their bodies, and research has documented negative outcomes related to body shame, such as eating disorders (e.g., Mustapic et al., 2015), depression (e.g., Grabe et al., 2007), body dysmorphic disorder (e.g., Weingarden et al., 2017) and psychological distress (e.g., Brownstone & Bardone-Cone, 2021). In regard to Problematic Social Networking Sites Use, it has been shown that shame experiences and Problematic Social Networking Sites Use are strongly associated, and this link is mediated by the perceived benefits of computer-mediated communication (i.e., escapism, control over self-presentation and approval/acceptance). In detail, social networking sites offer more control than face-to-face contact over self-presentation, which might be particularly appealing for individuals who see themselves as having negative and unattractive features (see Caplan, 2005, 2007). It is therefore plausible to assume that those who experience body shame might use social networking sites not only as a way to escape from real-life issues and manage negative emotions (Casale & Fioravanti, 2017; Tangney & Dearing, 2002) but also for the enhanced control over self-presentation.

The role of perfectionistic self-presentation and body image control in photos

According to the dual-factor model (Nadkarni & Hoffmann, 2012), the need for self-presentation can be considered a motivational factor that can lead individuals to excessively use Social Networking Sites. The self-presentation style of individuals experiencing high levels of body shame might be characterized by the need to hide one's own imperfections and shortcomings and the active promotion of a perfect image (i.e., perfectionistic self-presentation). This affirmation found empirical support in a previous study by Ferreira and colleagues (2017) who found that experience of shame lead to act self-presentation strategies as defensive responses. In other words, shame experiences may trigger striving to present a perfect body image. Accordingly, Nepon et al. (2016) found a strong positive correlation between self-image goals and perfectionistic self-presentation. Perfectionistic self-presentation style represents a state in which an individual presents him/herself to others in a way aimed at hiding imperfections (Hewitt et al., 2003). Individuals with a high need to present themselves as perfect might consider Social Networks a space in which they can have the opportunity to manage their self-presentation. In fact, a previous study showed that a self-presentation style characterized by the need to avoid showing or demonstrating any perceived shortcomings is associated with

Problematic Social Networking Sites Use (Casale et al., 2015).

In the present study, we go a step further by arguing that body image control in photos might be a behavioural strategy used by individuals who experience high levels of body shame to meet their needs to present an image to others that is less negatively impacted by their presumed body imperfections. This might also be consistent with the idealized virtual identity hypothesis (Back et al., 2010), which argues that some individuals display idealized attributes that do not depict their actual personalities on social networking sites. It is therefore plausible to assume that for individuals experiencing body shame, social networking sites provide the opportunity to hide their imperfections and promote their bodies by controlling/manipulating their photos before posting them. However, the opportunities provided by social networks to hide one's own imperfections might, in turn, put a person at risk of developing Problematic Social Networking Sites Use.

Previous observational studies showed an association between high levels of body-related concerns and the frequency of manipulation of photos for online posting, especially in young individuals (e.g., McLean et al., 2015; Meier & Grey, 2013; Zheng et al., 2019), and findings from experimental studies tend to support these results. Tiggemann and Zinoviev (2019) found that women who digitally manipulate their own photos report improvements in their body images after being exposed to enhancement-free images, which suggests an association between negative body image and photo manipulation behaviours. Similarly, Salomon and Brown (2020) demonstrate that the simple action of taking a selfie resulted in an increase in state self-objectification in those participants who were informed that the picture would have been posted on Facebook. In addition, a parallel line of research has shown a positive association between body appearance control in photos and the intensity of the use of Social Networks in adolescent samples (e.g., Manago et al., 2015; Tiggemann & Slater, 2017).

Very relevant to the current study, a recent study that combined these two lines of research showed a mediating role of body image control in photos in the association between body shame and Problematic Social Networking Sites Use in adolescents (Gioia et al., 2020). This study has shown that higher levels of body shame explain—at least in part— the strategies that an individual implements before and after having taken a picture prior to sharing it on Social Networks (i.e., control of the perspective, use of filters, digital correction, etc.), which in turn predicts Problematic Social Networking Sites Use levels.

Gender differences

Gender differences are a relevant issue in social media and body image research. For what concerns the current study, previous studies have evidenced that women report higher levels of body shame than men (e.g., Dakanalis et al., 2015, 2017; Gioia et al., 2020), as well as higher levels of appearance control beliefs and body image control in photos (Boursier et al., 2020). Moreover, young women tend to invest more time in taking selfies as a means of promoting their best self-presentation, expressing their identities, and controlling their body images, and they apply more privacy restrictions to their images. Young men, instead, tend to control their body images in photos to improve their sexual attractiveness (Boursier et al., 2020; Boursier & Manna, 2019). To date, only one study (Gioia et al., 2020) has investigated gender differences concerning the risk of developing Problematic Social Networking Sites Use in individuals experiencing body shame. It was found that body shame strongly predicted photo investment and control, leading to problematic social networking in both young men and women, but with higher effects among young women. These results might confirm the self-objectification framework's assumption that women compare their bodies with cultural body standards more than men, with consequent greater internalization and perception of these standards as a personal choice (Grabe et al., 2007; McKinley & Hyde, 1996).

Hypotheses

As previously reported, previous studies found that body shame is positively associated with body image control in photos, which, in turn, is associated with Problematic Social Networking Sites Use (Gioia et al., 2020). However, the psychological processes that might explain how body shame — an affective state —leads to body image control in photos (a behaviour) have been less investigated. The current study contributes to fill this gap by investigating the potential role of a motivational factor, that is the need for self-presentation, and in particular the need to appear perfect in the above mentioned links. Accordingly, a previous study showed that perfectionistic self-presentation is positively associated with Problematic Social Networking Sites Use (Casale et al., 2015). The goal of the present study was to provide an integration of these two research lines by testing a model that proposes that body shame generates the need to hide perceived imperfections (i.e., a perfectionistic self-presentation style), which leads to body image control in photos, which, in turn, leads to Problematic Social Networking Sites Use. In other words, we argue that for people reporting high levels of body shame, the use of Social Networks could represent a way of hiding imperfections/promoting a

perfect image, and this opportunity is created by the ability to control and manage one's own photos. However, these enhanced chances of controlling self-presentation might lead individuals to lose control over their use of Social Networks. The hypothesized model is displayed in Fig. 1.

Due to the above-mentioned gender differences, we will explore if men and women differ on the study variables (expecting to find women reporting high levels of body shame and body image control in photos) and examine the validity of the proposed model separately for women and men (expecting to find higher effects among women). Finally, since a large number of studies (e .g., Smolak, 2009; Cheng et al., 2021) found that young individuals are at more risk of experiencing body shame and also report higher levels of Problematic Social Networking Sites Use age will be included as covariate in the model. The results of the current study may contribute to the understanding of Problematic Social Networking Sites use by identifying a potential explaining pathway: People who experience body shame may satisfy their need to appear perfect on social network by posting photos in which they look attractive. The gratification of this need could act as a positive reinforcement leading the individuals to lose control over their social network sites use.

Materials and methods

Participants and procedure

A sample of 695 participants (%F = 61.29; M_{age} = 21.01 ± 5.05 years; age range = 14–30) agreed to participate in the study. Regarding educational qualifications, 39.9% of the sample reported having a middle school diploma, 28.5%, a high school diploma, 17.0%, a bachelor's degree, 12.1%, a master's degree, 2.3%, a higher degree (e.g., Ph.D.), and 0.3% had an elementary school diploma. In terms of occupation, the majority were students (63.9%), 19.9% were workers and 12.1% were working students. Concerning participants' marital status, 52.8% were single, 33.7% reported having a noncohabiting partner, 13.2% had a cohabiting partner, and 0.3% declared "other" without specification.

Participants were recruited using advertisements on Social Networks, and they were informed that participation was voluntary and anonymous and that confidentiality was guaranteed. A web link directed the participants to the study website, and if they consented to participate, they were asked to answer some demographic information, questions about their use of Social Networks and to complete self-report questionnaires. Since it was not possible to submit the form without filling in all the required fields, the results did not present missing data. Data were collected between September and November 2021, and no remuneration was given. Informed consent was obtained from all participants. According to Italian law, parental consent was not required for participants over 14 years old. The study procedures were carried out in accordance with the Declaration of Helsinki. The Institutional Review Board of the University of Florence approved the study.

Measures

Demographic information

Demographic information was collected, including respondents' age (in years), gender, marital and occupational status and level of education. Respondents were asked to indicate how many hours per day they use social networks and which Social Networks they use the most. Finally, participants were asked to indicate their weight and height to calculate their BMI.

Body shame

Body shame was measured using the Italian version of the shame subscale (Dakanalis et al., 2017) from the Objectified Body Consciousness Scale (OBCS; Mckinley & Hyde, 1996). This subscale is composed of eight items and measures shame over one's body that extends to the self as a result of a perceived failure to achieve cultural ideals and social standards of appearance. A simple item is "When I'm not the size I think I should be, I feel ashamed". Participants are asked to respond on a 7-point Likert scale from *1* (strongly disagree) to *7* (strongly agree). Higher scores

Fig. 1 The hypothesized mediation model, all the hypothesized relationships are positive
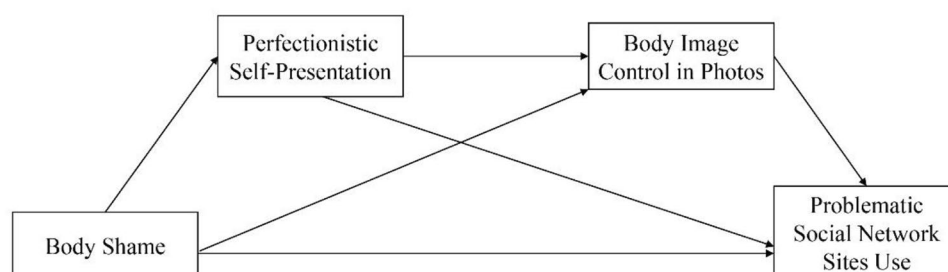
indicate higher levels of body shame. Cronbach's alpha in the current study was 0.85.

Perfectionistic self-presentation

The Italian version (Borroni et al., 2016) of the 27-item Perfectionistic Self-Presentation Scale (Hewitt et al., 2003) was used to assess perfectionistic self-presentation style. Answers are rated on a seven-point Likert scale, from *1* (strongly disagree) to *7* (strongly agree), and the scale comprises 3 subscales: *Perfectionistic Self-Promotion* (e.g., "I try always to present a picture of perfection") which contains 10 items that reflect the need to appear perfect to others; *Nondisplay of Imperfection* (e.g., "It would be awful if I made a fool of myself in front of others"), which includes 10 items that assess the need to avoid appearing imperfect to others. *Nondisclosure of imperfection* (e.g., "I should solve my own problems rather than admit them to others"), which comprises 7 items measuring the need to hide one's imperfections. A total score can be computed. Higher scores indicate higher levels of a perfectionistic self-presentation style. Cronbach's alpha in the current study for the total PSPS was 0.91.

Body image control in photos

In the present study, the revised Italian version (Boursier & Manna, 2019) of the 16-item Body Image Control in Photos – Revised (BICP-R) questionnaire (original version Pelosi et al., 2014) was used. Answers are rated on a five-point Likert scale, from *1* (never) to *5* (always), and the questionnaire assesses body image control in photos. The scale comprises five factors: *selfie-related* (e.g., "I prefer my image as it appears in self-portraits, because I know how to make it look better"), *privacy filter* (e.g., "I use privacy filters in order to show photos in which I appear more attractive only to certain people"), *positive body image* (e.g., "I post those photos which I hope will receive praise for my appearance"), *sexual attraction* (e.g., "I have posted provocative photos on Facebook in order to attract attention to myself"), and *negative body image* (e.g., "I feel awkward if I notice that someone has posted photos that show my body's defects"). A total score can be computed. Higher scores indicate higher levels of body image control in photos. Cronbach's alpha in the current study for the total BICP-R was 0.87.

Problematic social networking site use

Problematic Social Networking Site Use was measured using the Italian version (Monacis et al., 2017) of the 6-item Bergen Social Media Addiction Scale (BSMAS; Andreassen et al., 2016). The BSMAS consists of six items reflecting

core aspects of addictions (i.e., salience, mood modification, tolerance, withdrawal, conflict, and relapse). Each item addresses experiences within a time frame of 12 months and is answered on a 5-point Likert scale ranging from *1* (very rarely) to *5* (very often). A sample item is "How often during the last year have you felt an urge to use social media more and more?". Higher scores indicate greater Problematic Social Networking Sites Use. Cronbach's alpha in the current study was 0.78.

Statistical analyses

Descriptive statistics, zero-order correlations between the study variables, and a one-way ANOVA for examining gender differences were computed using IBM Statistical Package for the Social Sciences (SPSS), version 23.0 (IBM Corp., Armonk, NY, USA). We then tested the hypothesized conceptual model (serial mediation model) using the PROCESS macro for SPSS (Model 6) developed by Hayes (2013) separated for men and women, including age as a covariate. Bias-corrected bootstrap confidence intervals (CIs) derived from 5,000 bootstrap resamples are estimated to test for the significance of conditional direct and indirect effects. The effects are considered significant if the CI values do not include zero.

Results

Descriptive statistics and correlations

Regarding participants' use of Social Networks, the total sample ($n = 695$) reported spending 3.24 ± 2.32 hours a day using Social Networks. The Social Networks they declared to use the most were Instagram (63.5%), TikTok (15.4%), YouTube (14.7%) and Facebook (3.6%).

Descriptive statistics and correlations among the study variables are presented in Table 1. Body shame was positively correlated with perfectionistic self-presentation, body image control in photos and Problematic Social Networking Sites Use. Having a higher BMI was also associated with higher levels of body shame. Perfectionistic self-presentation was positively associated with both body image control in photos and Problematic Social Networking Sites Use. Finally, body image control in photos was positively associated with Problematic Social Networking Sites Use. Age was significantly and negatively associated with all the study variables.

Gender differences were computed using one-way ANOVA. As displayed in Table 2, women reported higher scores in body shame and body image control in photos than men, whereas no significant differences between women

Table 1 Descriptive statistics and Pearson's correlations among the study variables

	$M \pm SD$	(1)	(2)	(3)	(4)	(5)	(6)
(1) Body Shame	3.65 ± 1.39	-					
(2) Perfectionistic Self-Presentation	106.58 ± 26.10	0.53**	-				
(3) Body Image Control in Photos	36.62 ± 11.80	0.47**	0.40**	-			
(4) PSNSU	15.49 ± 5.28	0.31**	0.34**	0.46**	-		
(5) BMI	21.72 ± 3.54	0.24**	-0.03	-0.06	0.02	-	
(6) Age	21.01 ± 5.05	-0.13**	-0.19**	-0.22**	-0.19**	0.18**	-

Notes. BMI = Body Mass Index

** $p < 0.001$; * $p < 0.05$

Table 2 Gender differences among study variables

	Men	Women			
	$M \pm SD$	$M \pm SD$	F	p	η^2
Body Shame	3.30 ± 1.13	3.86 ± 1.48	27.88	**< 0.001**	0.04
Perfectionistic Self-Presentation	106.62 ± 22.85	106.51 ± 27.88	0.00	0.95	
Body Image Control in Photos	33.50 ± 11.27	38.54 ± 11.71	31.13	**< 0.001**	0.04
Problematic Social Network Site Use	15.09 ± 5.31	15.73 ± 5.24	2.46	0.12	

and men were found for perfectionistic self-presentation and Problematic Social Networking Sites Use.

Mediation analysis

Hayes's (2013) SPSS macro PROCESS (Model 6), with a 95% bias corrected confidence interval (CI) based on 5,000 bootstrap samples, was used to examine the indirect effects of body shame on Problematic Social Networking Sites Use through perfectionistic self-presentation and body image control in photos in men and women separately. Age was included as a covariate in the model. The indirect effect was considered statistically significant if the CI did not contain zero.

Among women, the results (see Fig. 2) showed that perfectionistic self-presentation style and body image control in photos completely mediated the relationship between body shame and Problematic Social Networking Sites Use

(total indirect effect = 0.26; 95% CI: [0.18, 0.33]; direct effect = −0.0008; 95% CI: [-0.38, 0.37]). Specifically, perfectionistic self-presentation style mediated the relation between body shame and Problematic Social Networking Sites Use (indirect effect = 0.11; 95% CI: [0.05, 0.18]) and body image control in photos mediated this relationship (indirect effect = 0.09; 95% CI: [0.06, 0.14]). The hypothesized serial mediation effect of perfectionistic self-presentation style and body image control in photos on the association between body shame and Problematic Social Networking Sites Use was significant (indirect effect = 0.05; 95% CI: [0.02, 0.07]). A significant negative effect of age was observed on perfectionistic self-presentation style ($\beta = -0.13$, $SE = 0.22$, $t = -3.27$, $p = 0.001$) and on body image control in photos ($\beta = -0.18$, $SE = 0.10$, t = -4.39, $p = 0.001$), while the effect of age on Problematic Social Networking Sites Use was not significant. The model explained 10% of the variance in Problematic Social Networking Sites Use.

Among men, the results (see Fig. 3) showed that perfectionistic self-presentation style and body image control in photos mediated the relationship between body shame and Problematic Social Networking Sites Use (total indirect effect = 0.17; 95% CI: [0.09, 0.26]; direct effect = 0.15; 95% CI: [0.16, 1.29]). There is therefore both a total indirect effect and a significant direct relationship between body shame and Problematic Social Networking Sites Use.

Specifically, body image control in photos mediated the relationship between body shame and Problematic Social Networking Sites Use (indirect effect = 0.11; 95% CI: [0.06, 0.18]) whereas perfectionistic self-presentation did not mediate this relationship (indirect effect = 0.04; 95% CI:

Fig. 2 Serial mediation model of perfectionistic self-presentation style and body image control in photos in the relationship between body shame and PSNSU in the female subsample. Values shown are standardized coefficients. C' = direct effect; C = total effect. *$p < 0.05$, **$p < 0.001$
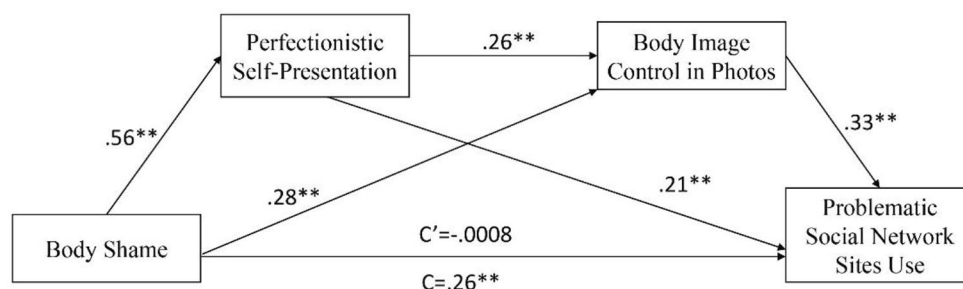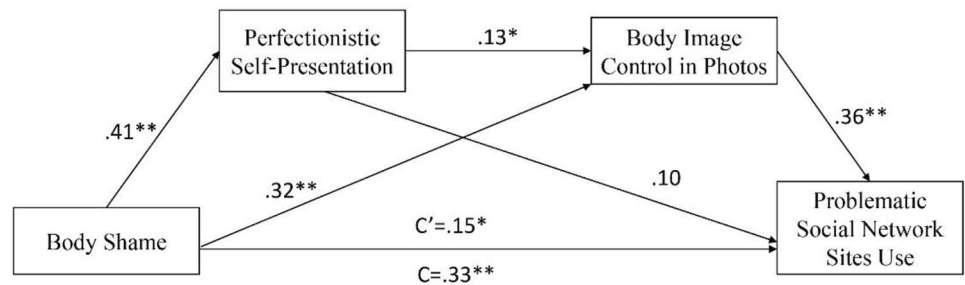
Fig. 3 Serial mediation model of perfectionistic self-presentation style and body image control in photos in the relationship between body shame and PSNSU in the male subsample. Values shown are standardized coefficients. C' = direct effect; C = total effect. *p < 0.05, **p < 0.001

[-0.009, 0.09]). The hypothesized serial mediation effect of perfectionistic self-presentation style and body image control in photos on the association between body shame and Problematic Social Networking Sites Use was significant (indirect effect = 0.02; 95% CI: [0.002, 0.04]). However, a significant direct effect of body shame on Problematic Social Networking Sites Use was also found. A significant negative effect of age on body image control in photos was found ($\beta = -0.13$, SE = 0.12, $t = -2.36$, $p = 0.019$), while the effect of age on perfectionistic self-presentation style and Problematic Social Networking Sites Use was not significant. The model explains 15% of the variance in Problematic Social Networking Sites Use.

Discussion

The current study explores for the first time the role of perfectionistic self-presentation in the relationship between body shame and Problematic Social Networking Sites Use in adolescents and young adults, contributing to the existing debate about predictors of Problematic Social Networking Sites Use. Specifically, the study tested a serial mediation model to explore the role of perfectionistic self-presentation style and body image control in photos as mediators in the relationship between body shame and Problematic Social Networking Sites Use. Since previous studies have indicated that women report higher levels of body shame, appearance control beliefs and body image control in photos than men (e.g., Dakanalis et al., 2015, 2017; Gioia et al., 2020; Boursier et al., 2020), we first explored gender differences among the study variables. The results were in line with previous research (Dakanalis et al., 2015, 2017; Gioia et al., 2020; Manago et al., 2015), with women reporting higher levels of body shame and body image control in photos than men. This is consistent with self-objectification theory (Fredrickson & Roberts, 1997), which postulates that women are at higher risk of internalizing a third-person perspective and experiencing their bodies as objects that lead them to feel ashamed when they do not meet (unrealistic) cultural beauty standards (McKinley, 1998). Women's high awareness of cultural beauty standards may cause them to

use strategies to control their body images in photos, such as engaging in photo manipulation activities, photo sharing and selfie-related behaviours. However, it is important to note that the difference in body shame scores between women and men, despite the significativity, was not so high in effect size, indicating that men might also be at risk of developing self-objectification processes (Gioia et al., 2020; Vandenbosch & Eggermont, 2013). Next, the the validity of the hypothesized mediation model was tested separately for men and women. The first path confirms—regardless of gender—what was previously reported on the mediating role of body image control in photos in the relationship between body shame and Problematic Social Networking Sites Use (Boursier & Manna, 2019; Gioia et al., 2020). Individuals who experienced body shame tended to adopt image-centred coping strategies (Cash et al., 2005; Choma et al., 2009), such as body image control in photos on Social Networks, to improve their appearance and social acceptance (Fox & Vandemia, 2016). However, the gratification obtained may lead them to spend more time on Social Networks and related activities (i.e., spending much time editing their photos to post them on Social Networks) and developing Problematic Social Networking Sites Use. These results are not surprising in that this path was already highlighted in a recent study (Gioia et al., 2020). Our study adds to previous literature by also highlighting a second path— among women—which showed for the first time the mediating role of perfectionistic self-presentation in the relationship between body shame and Problematic Social Networking Sites Use. According to Hewitt et al. (2003), the perfectionistic self-presentation style may act as a compensatory strategy that individuals engage in to deal with feelings of shame and inadequacy for obtaining acceptance, and this was supported by empirical research that showed the role of perfectionistic self-presentation as a mediator between internal and external shame and the drive for thinness (Ferreira et al., 2015). The current study highlights for the first time that the experience of body shame is associated with perfectionistic self-presentation, which, in turn, leads to Problematic Social Networking Sites Use. When individuals engage in a perfectionistic self-presentation style on Social Networks, they might satisfy the need to appear perfect online without

showing imperfections and flaws (Hewitt et al., 2003), and Social Networks represent an ideal environment in which individuals can hide their true self (e.g., Michikyan et al., 2015). Most importantly, the serial mediating role of perfectionistic self-presentation style and body image control in photos in the association between body shame and Problematic Social Networking Sites Use emerged, and this path was confirmed among both young men and women. As expected, individuals who experience feelings of body shame could develop Problematic Social Networking Sites Use since Social Networks may represent an ideal environment to control one's own self-presentation by promoting a perfect image and hiding imperfections through self-presentation tactics, such as body image control in photos. In line with the Uses and Gratification Theory (Katz et al., 1973), adolescents and young adults may choose to use Social Networks to decrease their body shame and to satisfy their needs to self-present in a perfectionistic way to reach—at least online— gratification by displaying an ideal body by posting edited photos of themselves. This gratification may allow them to experience a decrease in body shame and may act as a rewarding experience in the increase of Problematic Social Networking Sites Use.

The model tested showed some gender-related differences. While the link between body shame and Problematic Social Networking Sites Use was totally mediated among women, this study also highlights the direct effect of the former on the latter among men. Men are usually less exposed than women to body-ideal images, and they are less culturally socialized to alter their appearances to meet cultural beauty standards (Fox & Vandemia, 2016; McKinley, 2011). Consequently, it is possible that for men with high levels of body shame, social networking sites are used for reasons that are not necessarily related to self-presentation. For instance, Social Networks might be used an attempt to escape from or minimize negative moods and/or try to alleviate distressing feelings arising from body shame. This might be in line with the abundance of research showing a positive link between emotion dysregulation and Problematic Social Networking Sites Use (e.g., Hussain et al., 2021).

Regarding the influence of age in the tested models, age was negatively associated with body image control in photos among both men and women, suggesting that younger people are more frequently engaged in photo-editing activities on Social Networks, as previously reported (Boursier & Manna, 2019; Gioia et al., 2020). The effect of age on perfectionistic self-presentation was significant only among women. These results could be explained by the fact that younger women feel more pressure to meet societal beauty standards (e.g., Daniels et al., 2020), and consequently, perfectionistic self-presentation may result from attempts to perfectly satisfy perceived prevailing expectations and

norms (Hewitt et al., 2011). Finally, age did not predict Problematic Social Networking Sites Use among either male or female participants. This result was not surprising given that the sample was entirely composed of young people and younger generations are at a greater risk of developing Problematic Social Networking Sites Use (e.g., Kuss & Griffiths, 2017).

Limitations and future directions

Although this is the first study to investigate the role of perfectionistic self-presentation style in the association between body shame and Problematic Social Networking Sites Use, some limitations should be addressed.

First, the cross-sectional design prevents to establish a cause-effect relationship and to clarify the direction of the relationship between body image issues and Problematic Social Networking Sites Use. In fact, according to the hypothesis of the bidirectional nature of the social networking-self-objectification relationship (Strelan & Harhreaves, 2005b), adolescents and young adults who experience body shame might develop Problematic Social Networking Sites Use due to the positive or negative reinforcement obtained on Social Networks, but they could also experience increases in their body image concerns due to the prolonged exposure to idealized body images on Social Networks (Fioravanti et al., 2022). As previously suggested (e.g., Boursier et al., 2020; Gioia et al., 2020), self-objectification and Problematic Social Networking Sites Use could mutually reinforce each other. The online environment allows users with appearance-related concerns to manage how their body image appears by editing pictures prior to posting them, and at the same time, these behaviours may lead individuals to overestimate the importance of their appearance, reinforcing self-objectification processes (Fox & Rooney, 2015; Gioia et al., 2020; McLean et al., 2015). Indeed, experimental designs have shown that exposure to appearance-focused Instagram profiles leads to greater body dissatisfaction among women and also increases the extent to which they define themselves and their self-worth by their physical appearance (Casale et al., 2019). The issue of reverse causation concerning the association between social networking sites use and negative consequences on psychological well-being was already pointed out (e.g., Hartanto et al., 2021). Future longitudinal and experimental studies are needed to ascertain directionality. However, the current study contributes to the existing debate about the psychological correlates of Problematic Social Networking Sites Use, by (i) confirming the association between body shame, body image control in photos and problematic social networking and (ii) evidencing for the first time the role of perfectionistic self-presentation style as a motivational factor

involved in the relationship between body shame and Problematic Social Networking Sites Use.

Second, this study used self-report measures that do not give us the possibility to exclude some response bias (e.g., social desirability) or misunderstanding of measures' purposes (Rosenman et al., 2011). Specifically, it is not possible to rule out that those participants with high perfectionistic self-presentation might have underestimated their levels of body shame or Problematic Social Networking Sites Use since previous research have discussed that perfectionistic self-presentation style might lead individuals which are experiencing psychologically related issues to keep their distress hidden due to their tendency to present themselves perfectly (Flett & Hewitt, 2013).

Third, the opportunistic sample of adolescents and young adults restricts the generalizability of the results. Our sample was primarily composed of women and individuals with a mean body mass index of 21.72 (which is classified as normal weight). Future research may include people across the whole spectrum of BMI to better understand whether these results are also generalized to underweight and overweight individuals. For example individuals with higher BMI could report higher scores in body shame as well as in Problematic Social Networking Sites Use, since previous studies have showed that these individuals are more dissatisfied with their body image and feel more avoidant in social situations (e.g., Annis et al., 2004). Therefore they could tend to compensate these negative feelings with heavy and problematic use of Social Networks.

In addition, we did not investigate the participants' ethnicity or race, although researchers (e.g., Opara & Santos, 2019; Watson et al., 2019) suggested the importance to consider the issue of intersectionality (i.e., how an individual's multiple identities interact and intersect to shape personal experiences). Relevant to the current study, it is plausible to assume that individuals who live in one country but come from a different culture (for example African americans individuals) might face with a double internalization of cultural beauty standards, those from their original culture, and those of the dominant culture in which they live. Therefore, the sociocultural pressures associated with cultural beauty standards could be more stronger, leading to more severe body image-related concerns. In the future, it will be important to collect data on a wider range of sociocultural demographic variables (such as race/ethnicity, gender, sexual orientation, socioeconomic status/class, and education level) in order to examine how they influence each other in social media and body image research.

Conclusion

The present study contributes to the understanding of the possible predictors of Problematic Social Networking Sites Use and demonstrates novel findings in the field of self-objectification research. Specifically, the previously unexplored role of perfectionistic self-presentation style in the association between self-objectification dimensions (i.e., body shame and body monitoring) and Problematic Social Networking Sites Use was confirmed in the current study. Young people who feel ashamed of their bodies may develop perfectionistic self-presentation as a compensatory strategy (by promoting a perfect image and hiding imperfections). The gratification of the need for self-presentation through body image control in social networking sites photo activities could in turn lead to Problematic Social Networking Sites Use. This pathway was found to be relevant to both young women and young men, suggesting that self-objectification experiences are not limited to young women, at least in the context of Social Networks.

Data Availability The data that support the findings of this study are available from the corresponding author upon request.

Declarations

Competing interests The authors have no competing interests to declare that are relevant to the content of this article.

Ethics approval The study procedures were carried out in accordance with the Declaration of Helsinki. The Institutional Review Board of the University of the authors approved the study.

Informed consent Informed consent was obtained from all individual participants included in the study.

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