Physical appearance comparison as viewing Instagram: effects in body image, self-esteem and eating disorders

Abstract

   This paper considers the potential effect of physical appearance comparison through Instagram on (a) body image in terms of body appreciation, (b) self-esteem, and (c) eating disorders. Based on the analysis of survey data from 348 people, we found that following appearance-focused accounts on Instagram is positively associated with physical appearance comparison and eating disorders. There are also significant differences between men and women as such patterns are more notable in the behavior of females. The results provide actionable insights and important implications for marketing practitioners and researchers in fashion and beauty industries.

Keywords: *Instagram, body image, eating disorders*

Track: *Consumer Behavior*

1. Introduction

Consumer behavior is extensively attached with the discipline of Psychology with respect to the study of decision making, perceptions, thoughts, and emotions (Rosenberg, 2015). By embracing theories from Psychology, consumer research has increasingly focused on gaining a deeper understanding of the thinking, desires, and experiences of individual consumers (Mariani, Perez-Vega, and Wirtz, 2022). Empirically determined insights into such subjects are essential for business approaches and success (Iyer, Blut, Xiao and Grewal, 2020). Our paper seeks to augment this research area by exploring relationships between important behavioral dimensions namely: (a) physical appearance comparison, (b) body appreciation, and (c) self-esteem. Additionally, we explore the impact of following specific Instagram (appearance-focused) accounts in these dimensions, and the association between these dimensions with eating disorders.

Physical appearance comparison is viewed with respect to body image: a multidimensional psychological experience of embodiment which includes behaviors, beliefs, evaluative thoughts and feelings linked to one's own physical appearance, compared to others (Casale, Gemelli, Calosi, Giangrasso, and Fioravanti, 2021). Body appreciation is viewed as accepting, holding favourable attitudes towards, and respecting the body (Linardon, McClure, Tylka, and Fuller-Tyszkiewicz, 2022). Self-esteem refers to an individual's positive or negative appraisal of the self, more precisely the extent to which the individual views the self as worthwhile and competent (Stapleton, Luiz, and Chatwin, 2017). Eating disorders are defined as the disruption in eating behavior with excessive concern about body weight that impairs physical health or psychosocial functioning (Balasundaram & Santhanam, 2023).

Recent research highlights an association between Instagram use and body image concerns, placing at the very heart of this relationship the social comparison process, especially for females (Scott, Pinkosova, Jardine, and Hand, 2023). Apparently, exposure through Instagram to a stream of images featuring sociocultural beauty ideals (i) may result on ongoing upward comparisons where a woman perceive herself as falling short of the beauty ideals presented in such images, (ii) may be harmful for women's perception regarding body image (Brown & Tiggemann, 2020), and (iii) has been linked with decreased self-esteem (Engeln, Loach, Imundo, and Zola, 2020). Additionally, these types of appearance comparisons are linked to disordered eating (Balasundaram & Santhanam, 2023). According to recent literature, emphasis should be placed also on the behavior of male users of social media and how their body perceptions are affected by digital platforms, since there is a stereotype that body image concerns affect mostly females (Chatzopoulou, Filieri, and Dogruyol, 2020).

The objective of this research is to further investigate the various associations amongst (a) following appearance-focused accounts on Instagram, (b) physical appearance comparison, (c) body appreciation, (d) self-esteem, and (e) eating disorders, controlling also for potential variances in these behaviors regarding gender.

2. Conceptual background

The research community has given particular attention on the influence of social media, mainly by image-focused platforms (such Instagram), on body image (see Scott et al., 2023). Social media has the potential to impact body image more than traditional media such as television and magazines; and additionally, social media users are more actively engaged by posting their own content, sharing and commenting on other's posts, and customizing the content they view and share (Nelson, Harriger, Miller-Perrin, and Rouse, 2022). In addition, viewing images of celebrities, fashion, and beauty may arise large chances for exposure to idealized images. Celebrities hold the most widely followed and influential Instagram accounts, setting unrealistic and idealized standards for how women's bodies should be represented, and as a result these standards may have an impact on body image concerns (Seekis, Bradley, and Duffy, 2020).

Prior research has shown that browsing Instagram may be associated with physical appearance comparison, which in turn may hurt body appreciation (Pedalino & Camerini, 2022). Additionally, it is found that higher level of body appreciation is positively associated with higher level of self-esteem (Khalaf, Al Hashmi and Al Omari, 2021). On the contrary, lower level of body appreciation may lead to disordered eating (Baceviciene & Jankauskiene, 2020). Also, social comparison with idealized body images can have a negative impact on individuals' self-esteem (Ameen, Cheah, and Kumar, 2022), and exposure to this type of pictures constitutes a variable risk factor for the development of eating disorders (Paraskeva, Lewis-Smith, and Diedrichs, 2017).

Furthermore, it seems that women compare more their physical appearance (Myers & Crowther, 2009) and have lower self-esteem (Pop, Iorga, and Iurcov, 2022) than men. Nevertheless, findings for body-appreciation as regards to gender are mixed (Quittkat, Hartmann, Düsing, Buhlmann, and Vocks, 2019).

Overall, associations may subsist among (a) following appearance-focused accounts on Instagram, (b) physical appearance comparison, (c) body appreciation, (d) self-esteem, and (e) disordered eating, while these constructs may differ between males and females.

3. Research methodology

A self-administrated structured questionnaire designed for the purpose of this research was used for collecting survey data from a convenience sample in a European country. The questionnaire was constructed to capture the variables of this research, namely (a) following appearance-focused accounts, (b) appearance comparison, (c) body appreciation, (d) self-esteem, (e) disordered eating, and (f) gender. Specifically:

(a) The scale of Seekis et al. (2020) was adopted and adapted to capture the level of following appearance-focused accounts. These items were measured on a 7-point Likert-type scale (1=strongly disagree / 7=strongly agree).

(b) The scale of Engeln et al. (2020) was adopted and adapted to capture appearance comparison. These items were measured as 7-point Likert type variables (1=strongly disagree / 7=strongly agree).

(c) The scale of Avalos, Tylka, and Wood – Barcalow (2005) was adopted and adapted to capture body appreciation. These items were measured as 7-point Likert type variables (1=strongly disagree / 7=strongly agree).

(d) The scale of Rosenberg (2015) was adopted and adapted to capture self-esteem. These items were measured as 7-point Likert type variables (1=strongly disagree / 7=strongly agree).

(e) The scale of SCOFF (Hill, Reid, Morgan, and Lacey, 2010) was adopted and adapted to capture disordered eating. These items were measured as 7-point Likert type variables (1=strongly disagree / 7=strongly agree).

(f) Finally, gender was measured as a nominal (male-female) variable.

The questionnaire was uploaded in a link using Google forms and distributed to consumers during April 2023. A cover letter was used to inform participants about our study and request participation, guaranteeing anonymity. This approach resulted to an effective sample of 348 consumers (40% males, 60% females), with an age range from 18 to 65.

4. Analysis and results

As shown in table 1, we applied principal component factor analysis in 19 items (the scaling in these items was reversed-scored, where necessary, so that higher levels of agreement would always represent higher levels of each construct) so as to identify the five constructs (see constructs (a)-(e) in methodology section) in question, following literature prescriptions (Engeln et al., 2020; Seekis et al., 2020). As shown in table 1, items loaded

significantly explaining 58.7% of the total variation. Then, a composite measure that averages the responses from the respondents was computed for each factor. Reliability was assessed by calculating Cronbach's alpha index. Respondents were characterized by high levels of self – esteem (mean value > 6 out of 7) and body appreciation (mean value >5 out of 7).

Table 1. Factor analysis					
Factors	Following Appearance– focused accounts	Physical appearance comparison	Body appreciation	Self – esteem	Disordered eating
Items	Do you follow fashion accounts on Instagram?	Do you think about your appearance while looking at people's photos on Instagram?	Overall, are you satisfied with your body?	Do you feel that you are a person of worth, at least on an equal plane with others?	Would you say that food dominates your life?
	Do you follow beauty accounts on Instagram?	Do you compare your physical appearance to the people you follow on Instagram?	Do you take a positive attitude towards your body?	Do you take a positive attitude toward yourself?	Do you believe yourself to be fat when others say you are thin?
	Do you follow accounts that provide healthy eating and wellness tips on Instagram?	Do you compare your body parts to the people you follow on Instagram?	Your feelings toward your body are positive, for the most part?	Do you feel that you have a number of good qualities?	Do you worry that you have lost control over how much you eat?
	Do you follow lifestyle accounts?		Despite its imperfections, do you still like your body?	Do you think that you are able to do things as well as most other people?	
			Despite its flaws, do you accept your body for what it is?		
X	3,92	4,16	5,02	6,04	3,83
SD	1,67	1,72	1,26	0,86	1,28
Cronbach's alpha	0,86	0,93	0,94	0,84	0,58
Notes: (1) X=mean value in a 1-7 scale, (2) SD=standard deviation, (3) N=348, (4) PC Factor analysis: varimax rotation / Total % of Variance Explained = 58,7 / KMO=.9 / Bartlett's Test of Sphericity =1015.8 / sig.<.01 / factor loading for each item >.45					

We computed the correlations between the five factors by applying Pearson correlation as shown in Table 2. It can be seen that physical appearance comparison is positively associated with following appearance-focused accounts and eating disorders, while it is negatively associated with body appreciation and self-esteem.

Table 2. Correlations between following appearance – focused accounts on Instagram, body appreciation, physical appearance comparison, self – esteem and eating disorders						
		1	2	3	4	5
1	Following appearance-focused accounts	1				
2	Physical appearance comparison	,373**	1			
3	Body appreciation	-,064	-,244**	1		
4	Self -esteem	-,046	-,203**	,392**	1	
5	Eating disorders	,131*	,154**	-,482**	-,138*	1
Notes: **. Correlation is significant at the 0.01 level (2-tailed) / *. Correlation is significant at the 0.05 level (2-tailed) / N=348						

Finally, independent samples t-tests identified gender differences in following appearance – focused accounts, body appreciation, physical appearance comparison and self – esteem. More specifically, Table 3 reveals that females are more prone to follow appearance – focused accounts on Instagram and are also more likely to compare their physical appearance, have lower self – esteem, and lower body appreciation compared to males.

Table 3. Variations in factors regarding gender

	male (40%)	female (60%)	sig.
Following appearance-focused accounts	3,13	4,46	**p < .01**
Physical appearance comparison	3,64	4,52	**p < .01**
Body appreciation	5,21	4,89	**p < .05**
Self -esteem	6,15	5,97	**p < .05**
Eating disorders			**ns**

Notes: (1) N=348 / (2) the table shows the means values on a scale of 1-7 (1: strongly disagree,7: strongly agree) / (3) sig: level of significance / (4) ns: no significant difference

5. Findings and Discussion

In the context of the foregoing, following appearance-focused accounts on Instagram is associated with physical appearance comparison, which may lead to lower level of body appreciation and self-esteem, resulting in turn eating disorders.

Body appreciation and self-esteem do not appear to have a significant relationship with following appearance-focused accounts. This can be partially attributed to the fact that body appreciation is only one dimension of body image, so other aspects of this dimension may have a significant correlation with following appearance-focused accounts, while respondents were characterized by high levels of self-esteem which may potentially explain the lack of this correlation (Cohen, Newton-John and Slater, 2017).

Gender may moderate these relationships in the sense that females are more likely to follow appearance-focused accounts on Instagram, appreciate less their body, compare more their physical appearance and have lower self-esteem than males.

Our findings shed more light on the association between following appearance-focused accounts on Instagram, physical appearance comparison, body appreciation, self-esteem and disordered eating. Specifically, our findings may help companies operating in sectors such as fashion and beauty to design advertising campaigns with people of different body shapes. This could lead to the creation of a positive brand image and result in enhanced sales and loyalty. According to the relevant literature there are cases of companies which have adopted these approaches having as a result positive impact on important performance metrics such sales and advanced brand perception (see Rodgers, Kruger, Lowy, Long and Richard, 2019; Syaharani, 2021).

Also, companies in the fashion sector can redesign their products creating clothes in larger sizes, thereby reaching a wider consumer audience, and reflecting the era's general trend for inclusion and diversity, practices which are noted in the literature (see Yu & Jung, 2018).

Finally, our findings may help marketers to design informed marketing plans, improve the strategic positioning of their products and better align their communications (especially through Instagram) with the consumer buying process and behavior.

Important limitation of this study, which may be explored in future research, is the potential mediators or moderators as regards to the relationships between the examined constructs (see Pedalino & Camerini, 2022); for example, the construct of self-esteem may moderate the relationship between physical appearance comparison and body appreciation. Additionally, it may be interesting and helpful, especially for the fashion industry, to explore differences between the examined constructs not only regarding gender but also regarding sexual orientation.

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