Fear the Instagram: beauty stereotypes, body image and Instagram use in a sample of male and female adolescents

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Abstract

Recent literature has proposed the term "digitized dysmorphia" to define the gap between social media digitalized beauty standards and females body image, suggesting that apps such as Instagram, have contributed to the increase of dysmorphic disorders in young women. The present paper analyzes the relationship between the use of Instagram, the internalization of beauty standards, the social pressure to adhere to them, and anxiety towards body image, in a sample of high school students (N= 621, aged 13 to 21, 61% females) in Italy. Results suggest that adolescents who edit their pictures, and then upload them online, have more interiorized the stereotype of beauty proposed by Instagram and feel more anxious and uncomfortable with their body image and more pressure to uphold to social media standards. These results apply not only to female adolescents, as seen in previous studies, but also to males. Social and clinical issues are discussed.

Keywords: Instagram; Adolescence; Body Image; Stereotypes; Anxiety; Social Media

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1. Introduction

Coy-Dibley (2016) recently proposed a new term, "digitized dysmorphia", describing the discrepancy between the ideal feminine beauty standard imposed by social media and the "real" appearance of women. Digitized dysmorphia manifests through digital pictures, consisting of altering allegedly undesirable parts of the self by modifying and fixing the online appearance of an individual through various apps, such as Photoshop, and posting it on social media (Coy-Dibley, 2016). The divergence between a beauty model proposed by the media and the actual appearance of women is not a new concept; previously, advertising and television and now social media have always proposed new beauty standards influenced by culture, fashion, religion, politics, and the economy, thereby reflecting the various historical moments (Engeln-Maddox, 2004; Singh & Singh, 2011; Tiggemann & Polivy, 2010). This fact, along with emotional and relational vulnerability, has contributed to the increase in body dysmorphic disorders in Western and Eastern societies, especially among young women (Buhlmann et al., 2010); what is unique to *digitized dysmorphia* is the societal pressure to adhere to beauty standards that are unrealistic because there are digitally created.

Individuals are so immersed in the virtual world that there is a socially dysmorphic perception of the female body, and women feel the societal pressure to change the visual appearance of their uploaded pictures; the incongruity between online and real images generates anxiety and unsatisfaction and is related to behavioral and emotional regulation problems (Mills, Musto, Williams, & Tiggemann, 2018; Ridgway & Clayton, 2016; Tiggemann, 2005). These aspects lead to an unusual phenomena, where young girls are not able to recognize and distinguish real bodies from photoshopped ones, thinness and body proportions are unnatural, and flawless skin and faces appear to be the "normal standard" of online beauty (Meier, 2013; Tiggemann & Slater, 2013).

However, why do people feel the urge to share their pictures online? The answer comes from one of the latest trends in social media,

Instagram. Instagram is a social network where anyone can post pictures about anything, collect likes and followers and follow other people, follow brands, celebrities or even cats' pages, and become famous. The number of likes and followers determines who is famous and who is not; this is why is it possible to buy both followers and likes online (Phua, Jin, & Kim, 2017; Sheldon & Bryant, 2016; Stapleton, Luiz, & Chatwin, 2017). This race to popularity, which especially involves adolescents and young adults, has severe consequences for the general well-being of individuals; a higher use of Instagram is connected to narcissistic traits, loneliness, anxiety and depression (Jackson & Luchner, 2016; Pittman & Reich, 2016; Stapleton et al., 2017).

Additionally, the literature has shown that there is a strong relationship between sharing pictures and selfies on Instagram and body dissatisfaction (Brown & Tiggemann, 2016; Kleemans, Daalmans, Carbaat, & Anschütz, 2018). This effect is connected to the perceived social pressure to adhere to stereotypes and to higher levels of social comparison leading to the fear of judgment from others about their body image; however, this relation has been studied more frequently in female samples, with specific consequences on self-esteem, eating patterns and general well-being (McLean, Paxton, Wertheim, & Masters, 2015; Meier, 2013; Ridgway & Clayton, 2016; Sherlock & Wagstaff, 2018; Tiggemann & Slater, 2013). Moreover, currently, being popular on Instagram leads to economic profits; the more likes and followers people have, the more likely it is that a small or large business will contact them for advertising, despite their age or the products (De Veirman, Cauberghe, & Hudders, 2017; Djafarova & Rushworth, 2017).

This process has created a new appealing job category called the "influencer", i.e., not only celebrities but also normal people who have become so popular on the Instagram that they "influence" other Instagram users to use or buy a specific look or adopt a specific behavior (Ahadzadeh, Pahlevan Sharif, & Ong, 2017; Glucksman, 2017; Khamis, Ang, & Welling, 2017). In fact, for example, they can also "influence" other Instagram users to follow a specific diet program to look like the *super fit models* online and, as a consequence,

experiencing self-objectification, eating disorders and low self-esteem (Robinson et al., 2017; Santarossa, Coyne, Lisinski, & Woodruff, 2016; Tiggemann & Zaccardo, 2015). These studies suggest that Instagram has a strong influence on the well-being of young people, especially girls, and is related to body image and body self-esteem and awareness.

Nevertheless, very few papers have assessed the relationship between social pressure, body-related anxiety and Instagram use in both male and female samples, and most of these studies have used convenient college student samples. Moreover, the research in this field is quite new and further requires specific data, with the purpose of analyzing the possible risk factors for anxiety and eating disorders and testing the theory of digitized dysmorphia. Finally, to our knowledge, very few studies on this specific topic have been conducted in Italy.

1.1 Aim and Hypothesis

In light of these considerations, the present work aims to assess the relationship between body image, attitudes towards appearance, the use of Instagram and gender differences in a sample of Italian adolescent Instagram users. First, we analyzed the Instagram use habits of the target population, the types of pictures they uploaded, and if they altered the images, then we explored the feelings of anxiety connected to their body image and the amount of societal pressure to adhere to the stereotypes promoted by Instagram. Our hypotheses are as follows: a) females alter their pictures more frequently than their male peers; b) people who alter their images are more likely to experience body-related anxiety and feel more societal pressure to adhere to the beauty standard proposed by the media than are those who do not; and c) females who modify their pictures, as they are subjected to female beauty standards and objectification more often than are their male peers, experience more body-related anxiety and feel more pressure to adhere to stereotypes due to social comparison than males.

2. Methods

2.1 Participants and procedures

For the present research, 621 Instagram users aged 13 to 21 years old (M= 15.90, sd= 1.55, 61% female) were recruited from high schools in central and southern Italy. Parental written consent was obtained for all participants. The study was reviewed and approved by the Ethics Commission of the Department of Social, Human and Health Science of the University of Cassino and Southern Lazio. A set of questionnaires about Instagram use and body-related scales was administered in the classroom during a regular class period under the supervision of the researchers and the teachers who assisted the students when needed. Participants were instructed that the participation in the research was voluntary and that responses were anonymous and confidential. Inclusion criteria were: being at least 13 years old, owing an Instagram account, and the ability to speak and read Italian.

2.2 Measures

Instagram related measure
Following Dumas and colleagues' methodology (Dumas, Maxwell-Smith, Davis, & Giulietti, 2017), we created an ad hoc questionnaire assessing Instagram use. We asked participants to indicate how long they have owned an Instagram account, how much time they spend on it, if their Instagram account is private or public, and how frequently they perform certain "like-seeking" behaviors, rated on a scale from 0 (never) to 2 (frequently). We also asked whether or not they wanted more followers. Item descriptions and gender differences are reported in Table 1.

Attitudes towards body image
The *Sociocultural Attitudes Towards Appearance Questionnaire-3* (SATAQ3) (Stefanile, Matera, Nerini, & Pisani, 2011; Thompson, Van Den Berg, Roehrig, Guarda, & Heinberg, 2004) was used to assess the

societal pressure to adhere to the stereotypes proposed by Instagram. We asked participants to consider Instagram and social media instead of television and magazine (as in the original version of the questionnaire), as a source of influence and information. The questionnaire is a self-report scale, composed of 30 items rated on a 5-point Likert scale (from 1 = *Definitely Disagree* to 5= *Definitely Agree*), divided into four subscales: Internalization-General (S-IntGen), an example of which is "I compare my body to the bodies of people who are on *Instagram*"; Internalization-Athlete (S-IntAtl), an example item of which is "I do not wish to look as athletic as the people on *Instagram*"; Pressures to adhere to the stereotypes proposed by Instagram (S-Press), an example item of which is "I have felt pressure from Instagram to have a perfect body"; and Information (S-Info), an example item of which is "Instagram is an important source of information about fashion and "being attractive." The internal consistency for the present research ranges from .69 to .89.

Body image perception-related measures
The *Fear of Negative Appearance Evaluation Scale* (FNAES) (Lundgren, Anderson, & Thompson, 2004) is a 6-item measure that assesses apprehension about appearance. Participants were asked to rate, on a scale from 1= *Not at all* to 5= *Extremely,* sentences such as "I am concerned about what other people think of my appearance" or "I am afraid other people will notice my physical flaws", to assess how much they are concerned about their body and the judgment of others. The internal consistency for the present study is α= .81.

The *Physical Appearance State and Trait Anxiety Scale - State and Trait Versions* (Reed, Thompson, Brannick, & Sacco, 1991), are two brief questionnaires assessing the subjective components of body image anxiety. Participants were asked to rate *in general* (PTV) and during the compilation ("right now", PSV), on a scale from 1/0= *never/ not at all* to 4/5= *always/exceptionally so*, how much they feel anxious about specific parts of their body i.e., thighs, hips, stomach, or "The extent to which I look overweight". The Cronbach's alpha for the trait version (PVT) for the present research is .93 and is .91 for the state version (PSV).

2.3 Statistical analysis

Analysis of the data was performed using SPSS v23.0 (IBM, 2012). To assess the differences between participants who modified their pictures (Mod) and those who did not (Non-Mod), we divided the sample into two groups based on item no. 16 (Table 1). Differences between the two groups and gender differences were assessed using ANOVA and chi-square analysis. Bivariate correlations were performed to assess the relationships between variables. The internal consistency was measured using Cronbach's α. Hierarchical multiple regressions were conducted to test the influence and interactive effects of the study variable on the Fear of Negative Appearance Evaluation in participants.

3. Results

Females started their Instagram accounts earlier ($x^2= 21.01$, $p<.001$) and spent more time per day scrolling and posting pictures on Instagram than did their male peers ($x^2= 52.82$, $p<.001$). Even if most of the sample was under the age of 18 years old, more than half of the participants decided to make their Instagram account public rather than keep it private. Female participants share selfies more frequently than males ($x^2= 29.68$, $p<.001$), while males prefer to post memes ($x^2= 5.45$, $p<.05$) or pictures about food, landscapes or pets ($x^2= 17.28$, $p<.001$); however, we found no differences between males and females for posts regarding different outfit looks. The data reported in Table 1 also show gender differences in specific Instagram behaviors aiming to increase popularity, i.e., female participants are more likely than males to apply filters to their pictures ($F_{(1,620)}=48.43$, $p<.001$), to use apps to modify personal pictures ($F_{(1,620)}=4.95$, $p<.05$) and to spread their photos to other social networks ($F_{(1,620)}=5.23$, $p<.05$). Table 2 reports differences in the body image and social pressure variables between participants who modify their pictures using apps such as Photoshop (*Mod*) and those who do not (*Non-Mod*). The *Mod* group scores are higher than those of the *non-Mod* group in the

FNAES scale ($F_{(1,620)}$=13.42, p<.001), in the PASTAS trait version (PTV) ($F_{(1,620)}$=3.71, p<.05), and in the scale of Internalization of the stereotype proposed by Instagram (S-IntGen) ($F_{(1,620)}$=6.46, p<.01), and the *Mod* group feels more peer pressure to adhere to this stereotype than does the *Non-Mod* group (S-Press) ($F_{(1,620)}$=2.27, p<.05).

Table 1. Differences between males and females in the Instagram habits questionnaire

	Males (N=243)	Females (N=378)		
	N(%)	N(%)	χ^2/F	p
1. From how long do you own an Instagram account?			21.01	< 0.001
1 Months	14(5)	4(1)		
3 Months	16(6)	9(2)		
6 Months	13(5)	18(4)		
1 Year	42(15)	52(13)		
More than 1 year	189(69)	335(80)		
2. Howmuch time do you spend on Instagram daily?			52.82	< 0.001
5-10 min	49(18)	32(8)		
10-30 min	91(33)	90(21)		
30-60 min	81(30)	117(88)		
More than 1 hour	51(19)	179(43)		
3. Your profile is				NS
Public	139(51)	221(53)		
Private	132(49)	199(47)		
4. Which type of contents do you share?				
Selfies	137(53)	306(73)	29.68	<.001
Meme[a]	175(43)	55(34)	5.42	<.05
Pets/landscapes/food	43(17)	27(8)	17.28	<.001
Looks/outfits	62(24)	126(31)	2.98	NS
Group pictures with friends/relatives	182(69)	308(74)	2.39	NS

5. Do you wish to have more followers?			0.005	NS
Yes	96(35)	140(36)		
No/don't care	174(65)	267(64)		
	M(sd)	M(sd)		
6. How frequently do you...				
Use #	.74(.71)	.78(.71)	0.41	NS
Apply filters to your pics	.77(.68)	1.13(.64)	48.43	<.001
Modify personal pics with apps like Photoshop	.22(.53)	.32(.61)	4.95	<.05
Buy followers	.06(.30)	.04(.23)	0.78	NS
Buy likes	.06(.29)	.06(.28)	0.05	NS
Share the same image also to other Social Networks	.90(.74)	1.04(.75)	5.23	<.05
Do the "likes for likes"	.27(.49)	.19(.46)	1.81	NS

Note:
[a] An activity, concept, catchphrase, or piece of media that spreads, often as parody or for humorous purposes, from person to person via the Internet.

Table 2. Means, Standard Deviation and ANOVA Differences in body related measures and appearance between participants who do not modifying their pictures with Photoshop or other apps (*Non-Mod*) and those who do (*Mod*)

	Non-Mod(N=473)	Mod(N=148)		
	M(sd)	M(sd)	*F*	*p*
FNAES[a]	14.63(5.70)	16.58(5.81)	13.42	.001
PTV[b]	29.60(12.33)	31.74(12.06)	3.71	.05
PSV[b]	13.02(12.97)	15.13(12.81)	3.16	NS
S-IntGen[c]	21.52(7.69)	23.33(7.70)	6.46	.01
S-IntAtl[c]	12.17(3.82)	12.54(3.87)	1.08	NS
S-Press[c]	14.59(5.83)	15.79(5.92)	4.82	.03
S-Info[c]	28.09(6.35)	28.99(6.49)	2.27	NS

Note:
[a] Fear of Negative Appearance Evaluation Scale.
[b] Physical Appearance State and Trait Anxiety Scale.
[c] SATAQ3 subscales.

Differences between body appearance and social digitized pressure between males and females in the *Mod* group are reported in Table 2. Female and male participants differ only on what concern the anxiety trait has towards their body (PTV) ($F_{(1,148)}$=6.31, p<.01) and how much they have internalized the beauty standards proposed by Instagram (S-IntGen) ($F_{(1,620)}$=5.41, p<.05).

Table 3. Means, Standard Deviation and ANOVA Differences in body related measures and appearance between male and female participants in the Mod sample

	Males(N=45)	Females(N=103)		
	M(sd)	M(sd)	*F*	*p*
FNAES[a]	15.29(5.72)	17.15(6.01)	3.1	NS
PTV[b]	28.23(10.22)	33.27(11.65)	6.31	.01
PSV[b]	12.43(10.65)	16.31(12.59)	3.26	NS
S-IntGen[c]	21.17(6.78)	24.28(7.78)	5.41	.02
S-IntAtl[c]	13.31(3.61)	12.21(4.23)	2.26	NS
S-Press[c]	15.08(5.45)	16.10(6.45)	0.87	NS
S-Info[c]	28.50(5.62)	29.21(7.45)	0.31	NS

Note:
[a] Fear of Negative Appearance Evaluation Scale.
[b] Physical Appearance State and Trait Anxiety Scale.
[c] SATAQ3 subscales.

The correlation analysis reported in Table 4 shows that lower age is connected with higher scores in the PTV scale (r.= -.092, p<.05) and in the S-IntGen subscale (r.= -.092, p<.05). The time spent on Instagram positively correlates with all the study variables, such as FNAES (r.= .129, p<.01), PTV (r.= -.413, p<.01), and all the SATAQ3 subscales, such as S-Press (r.= .153, p<.01). FNAES, PTV and PSV and SATAQ3 positively correlate, showing that higher levels of anxiety towards body appearances are related to higher scores for the internalization of Instagram beauty stereotypes and the pressure to adhere to it.

Table 4. Pearson correlations between the studied variables

	1	2	3	4	5	6	7	8	9
1. Age	1	.089*	.002	−.032	−.092*	−.088*	.019	−.068	−.069
2. Time spent on Instagram		1	.129**	.115**	.077*	.169**	.082*	.153**	.161**
3. Fnaes[a]			1	.474**	.413**	.420**	.223**	.419**	.176**
4. PTV[b]				1	.812**	.417**	.186**	.424**	.120**
5. PSV[b]					1	.372**	.145**	.389**	.083*
6.S-IntGen[c]						1	.455**	.719**	.400**
7.S-IntAtl[c]							1	.475**	.295**
8. S-Press[c]								1	.379**
9. S-Info[c]									1

Note:
* p<.05.
** p<.01.
[a] Fear of Negative Appearance Evaluation Scale.
[b] Physical Appearance State and Trait Anxiety Scale.
[c] SATAQ3 subscales.

A *hierarchical* regression analysis was performed to understand the role of Instagram and the anxiety between appearance on the fear of negative evaluation on body image by others, which is connected to body dissatisfaction and altering personal pictures online. In the first step, gender, age and the time spent on Instagram were not significant (Table 5). In the second step, we added PTV and PTS, and PTV was significant (t=1.95, p<.05). In the third step, we added the SATAQ3 variables, and the S-IntGen subscale demonstrated a significant regression coefficient (t=2.76, p=.01). In the last step, we added the interaction between the variables, and the interaction of gender and time spent on Instagram was significant in predicting the FNAES (t= −2.01, p<.05), as being female and spending less than 10 minutes on Instagram has a negative impact on the development of fear of negative evaluation on appearance by others. The S-IntGen subscale and the interaction effects between gender and time spent on Instagram explain 32% of the variance.

Table 5. Hierarchical regression analysis for variables predicting Fear of negative appearance evaluation scale (FNAES)-

	B	SE B	β	R	R^2	ΔR
Step 1				0.17	0.03	0.03
Gender	5.57	2.89	0.43			
Age	–0.12	0.28	–0.03			
Time spent on Instagram	0.03	0.45	0.00			
Step 2				0.42	0.18	0.15**
PTV	0.10	0.07	0.19			
PSV	0.03	0.06	0.07			
Step 3				0.55	0.30	0.13**
S-IntGen	0.24	0.08	0.30**			
S-AtlGen	–0.17	0.13	–0.12			
S-Press	0.16	0.10	0.17			
S-Info	0.08	0.07	0.09			
Step 4				0.57	0.32	0.02*
GenderxTime on Instagram	–0.92	0.46	–0.45*			

Note: The table values for Beta reflects Bs after step 4.
* p<.05.
** p<.01

4. Discussion

The main goal of the present study was to investigate the relationship between the use of Instagram, body perception and digitized social pressure in male and female adolescents. Several researchers have shown the relationship between self-objectification, distorted body image and exposure to Instagram, but most of these studies focused only on female samples (Ahadzadeh et al., 2017; Brown & Tiggemann, 2016; Chae, 2017; Fardouly, Willburger, & Vartanian, 2017; Hen-

drickse, Arpan, Clayton, & Ridgway, 2017; Kleemans et al., 2018; McLean et al., 2015; Mills et al., 2018). Our findings first suggest that more than half of the participants spend more than 30 minutes on Instagram daily, posting mostly selfies and group pictures (Table 1). Females not only spend more time on Instagram than males, but as suggested by the previous literature, they post mostly selfies, group pictures and outfit looks (Chae, 2017; McLean et al., 2015; Moon, Lee, Lee, Choi, & Sung, 2016). A consistent number of participants, nonetheless, are prone to edit their picture with apps such as Photoshop; we found that females edit their pictures more frequently than males, and the data confirm our hypothesis. In fact, by analyzing the differences in the study variables between those who edit their pictures and those who do not, we found that participants in the first group show a higher level of fear of negative evaluation of their appearance by others, have trait anxiety regarding their body, have internalized the model of beauty proposed by Instagram more than other Instagram users and feel more pressure to adhere to stereotypes than do the participants in the other group (Table 2). These aspects suggest that people who post their edited pictures are more subjected to digitized social comparisons and show more anxiety and dissatisfaction towards their body appearance than those who do not; these data confirm our second hypothesis and are in line with the recent studies on the topic, suggesting the relation between the exposure to Instagram beauty standard and a negative body image (Ahadzadeh et al., 2017; Brown & Tiggemann, 2016; Chae, 2017; Fardouly et al., 2017; Hendrickse et al., 2017; Kleemans et al., 2018; McLean et al., 2015; Mills et al., 2018; Tiggemann & Zaccardo, 2015). However, conversely to our hypothesis, our data revealed that no gender differences exist in the fear of negative judgment about their bodies or in the pressure to adhere to the unrealistic beauty standards proposed by Instagram (Table 3) in males and females who edit their pictures. Females show a higher level of anxiety towards their body than boys and have internalized the stereotype of beauty more than their male peers, which is in line with the previous literature (Frost & McKelvie, 2004); however, male adolescents experience the same level of concern about others opinions about their appearance and feel the same pressure to uphold the Instagram beauty standard as

females. These data suggest that the models of beauty proposed by Instagram negatively impact not only female adolescents but also males who, at the present time, were mostly excluded from previous studies on the topic; thus, males could be at risk for develop eating disorders, digitized and body dysmorphia and anxiety just as their female peers. Similar but controversial results were obtained by previous studies on the influence of magazines and advertising on self-objectification and body dissatisfaction in adult male samples; however, these aspects were mediated by personal and psychological characteristics (Aubrey, 2006; Hargreaves & Tiggemann, 2009; Morry & Staska, 2001). Additionally, our data suggest that the concern of others' evaluation of physical features is not connected to anxiety towards the body image, but rather, it is mostly connected to the internalization of the Instagram standards and stereotypes and, for girls, spending more time scrolling, watching and posting images on it.

4.1 Limitations and future directions

There are some limitations to acknowledge. First, we used cross-sectional data, and thus we were unable to test more causal links among the variables. Longitudinal studies should be carried out to reveal possible causal effects between the study variables. Additionally, even if our sample size was adequate for statistical analysis, a larger sample including a greater number of males should be used in the future to test the study hypothesis. In this study, moreover, we focused on the relationship between Instagram, body image and the social/digitized pressure to uphold social media stereotypes; however, further studies should also account for personal, psychological and emotional variables, such as depression, self-concept and loneliness, in relation to the ones assessed in the present work.

5. Conclusions

From our findings, it can be argued that an extensive use of Instagram is associated with poor body image, anxiety and higher levels of so-

cial/digitized pressure to uphold to a specific, unrealistic type of beauty in both male and female adolescents, who decide to edit and change their online appearance to attain these standards and achieve online popularity. Adolescence is considered a period at high risk for the development of patterns of eating, anxiety and dysmorphic disorders, and the new social medias' have been shown to have an influence on the development of these disorders and a negative impact on general well-being, especially in young girls. Nevertheless, our results suggest that young boys are also subjected to the influence of Instagram and unrealistic stereotypes, with consequences for their body image and body satisfaction. A more conscious use of Instagram and the development of school programs informing and raising awareness about all the risks connected to social media should be implemented starting in middle school. Moreover, all national and international organizations of developmental professionals should join and endorse the campaign promoting natural and realistic bodies in advertising on social media to influence future generations to be inspired by healthy and positive body images instead of edited and unrealistic ones.

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