




Social attitudes toward appearance, social physique anxiety and the use of social media before and after COVID-19 in young adults

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ABSTRACT

Body image and related issues are issues that have attracted research interest for many years before COVID-19 period. There are still many points that can be revealed. The purpose of the present study was to examine whether body image, social body anxiety, and social media use differed following the COVID-19 pandemic in young adults. In the present study participated 384 young adults with mean age 22.88 years (SD = 6.04). Before COVID-19 period participated 203 subjects (108 males and 95 females) after COVID-19 period participated 181 subjects (80 males and 101 females). They completed self-reported questionnaires examining sociocultural attitudes toward appearance (SATAQ-4), Social Physique Anxiety, the use of Social Media and personal demographic information. After COVID period internalization/ muscular and internalization/ thin decreased and men scored higher than women. On the other hand, pressure by media increased especially for women. There were no differences in pressure by others (family or peers). Before COVID period men and women had similar levels of pressure for thin body, as they scored higher in the pressure by media, but after COVID period men and women reported different levels of pressure to be thin. In Social physique Anxiety women had higher levels than men and higher levels after COVID period than before. The prediction of SPA revealed significant differences before and after COVID-19 period. Studies should be conducted after the COVID -19 period in young adults, as body image and social media usage have changed.

Keywords: Physical activity psychology, Social physique anxiety, Social attitudes toward appearance, Social media use.

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INTRODUCTION

Body image represents individuals' perceptions of their body and their physical appearance, which may be related either to the idea of individuals about their body - for example, size, dimensions and facial features - or the attitude they adopt towards it (Cash, 2012). Body image is conceptualized as a broad, multifaceted construct (Grogan, 2006) and is measured as such one, not as unidimensional as early researchers considered (Banfield & McCabe, 2002). According to the founder of social comparison theory, Festinger (1954), people tend to be compared to subjects whose level is not far from theirs, whether it is in terms of perspectives or skills. People generally choose to compare themselves with people who are superior to them in some way even in the presence of threat to self-esteem (Gerber, Wheeler, & Suls, 2018). This comparison with something "higher" can lead either to inspiration and the pursuit of the best possible (Collins, 1996), or to frustration with what they already have (Morse & Gergen, 1970), while comparison with something "inferior" can either boost self-esteem (Wills, 1981) or cause fear of the possible worst (Aspinwall, 1997).

Sociocultural models emphasize the role of cultural and intrapersonal influences in the development and maintenance of body image disturbance and disordered eating (Rodgers, Schaefer, Thompson, Girard, Bertarand, Chabrol, 2016). A theoretical approach is the tripartite influence model of body image and eating disturbance that includes a test of direct and mediational links, as factors potentially leading to body dissatisfaction and eating disturbance (Shroff & Thompson, 2006). The model postulates that dominant appearance ideals are transmitted and reinforced via three primary sociocultural sources: the media, parents, and peers (Thompson, Heinberg, Altabe, & Tantleff-Dun, 1999). It also proposes two psychological processes through which these sociocultural influences exert their influence on body image: internalization of appearance ideals and social comparisons regarding appearance. Internalization of the thin-ideal is a risk factor for eating disorders and an identified optimal cut score on the SATAQ-4 internalization: thin/low body fat subscale to distinguish those with clinically meaningful levels of internalization was 3.78 (Schaefer, Burke, & Thompson, 2019).

Western society has been criticized for pointed emphasis on a slim physique and negative stereotyping figures that are obese (Lake, Staiger, & Glowinski, 2000). As Daniel and Bridges (2010) pointed out, historically the literature addressing body image concerns has focused more on females than on males. So, Frederickson and Roberts (1997) proposed the objectification theory, in order to explain women's feelings and attitudes towards their bodies in a sociocultural context in which society continues to perceive the female body as means of pleasure and consumption. Self-objectification, specifically, represents the internalization of the third-person perspective as it were a first-person perspective. An object differs from a subject, as it can be controlled and manipulated. Thus, women often monitor their bodies in order to be socially accepted and appreciated by others (Cash, 2012). Despite the fact that objectification theory was developed to explain female body image concerns, as noted above, there is applicability to males' body image concerns too (Hebl, King, & Lin, 2004; Martins, Tiggemann, & Kirkbride, 2007). This is reasonable, as men are similarly exposed to body type ideals and sexually objectified images in the media (Daniel & Bridges, 2010). Why is it important to examine this theory? Self-objectification is proposed to lead directly to several psychological or experiential consequences (Calogero, 2012; Tiggemann & Williams, 2012). Such a problem could be Social Physique Anxiety.

The feeling that people experience in response to other's evaluations of their physique is Social Physique Anxiety (SPA) (Hart, Leary, & Rejeski, 1989). Social Physique Anxiety may be increased with maturation and the relationship between SPA and physical activity is dependent on reasons for being active (Niven et al. 2009). SPA may reduce exercise motivation (Eklund & Crawford 1994; McAuley, Bane, & Mihalko, 1995),

has been associated with low exercise (Lantz, Hardy, & Ainsworth, 1997) and excessive exercise (Frederick & Morrison, 1996; Imm & Pruit 1991), is related negative to intrinsic motivation (Thøgersen-Ntoumani & Ntoumanis, 2007) and positive to eating attitudes (Haase & Prapavessis, 1998). It must be mentioned that SPA is higher in females than males (Brunet et al. 2010; Hagger et al. 2007; Maïano et al. 2010).

Internet and Social Media (SM) have changed the methods of communication, as users exchange through Social Network Sites information, messages, photos, revealing parts of their character (Chatzoglou, Chatzoudes, Ioakeimidou, & Tokoutsis, 2020). About 90% of U.S. youth uses SM on a daily basis (Perrin, 2015). Young adults utilize Internet as a significant source of media even during the previous decade (Bair, Kelly, Serdar, & Mazzeo, 2012). During the COVID-19 pandemic, the prevalence of Internet use increased in all age groups and also the prevalence of Internet-based addictive behaviours (Kovačić Petrović, Peraica, Kozarić-Kovačić, & Palavra, 2022). Use of social network sites is associated with reduced subjective well-being in studies (Chen, Fan, Liu, Zhou, & Xie, 2016), while face-to-face social interactions enhance well-being (Shakya & Christakis, 2017).

Being an ideal environment for social comparison (Jiotsa et al., 2021), the daily exposure of SM users to model images, enhances the internalization of socially constructed ideals regarding appearance (Fardouly, Willburge & Vartanian, 2018). The influence of SM on body image has been correlated with a variety of factors. As regard to gender (Hogue & Mills, 2019) young women who watched attractive models on the internet - according to social stereotypes - of the same age, compared themselves and showed an increased negative body image (Hogue & Mills, 2019). Fardouly investigated the differences between using Facebook and reading fashion websites, dissatisfaction with the body, the tendency for morphological changes (weight, shape) as well as changes in the face (Fardouly et al, 2015). Findings showed that the usage of Facebook could enhance the negative mood, while for women who showed a greater tendency to compare their appearance with other women of the same age, the desire for morphological changes, especially of the face, was greater. A study by Salomon and Brown (2019) examined the time and frequency of SM usage in relation to body image of young people and teenagers, called "*selfie generation*". The results showed a positive correlation between time and frequency of usage of SM and body observation, as well as body shaming, facts that lead to increased dissatisfaction with body image.

COVID-19 pandemic changed everyday life dramatically, confirming people to stay in their homes and transferring a wealth of activities to the digital world. In Greece, the first confirmed case occurred in February 2020, the first quarantine was imposed from March to May, while the second quarantine was announced in November 2020 and lasted until mid-2021. Globally, the distance and self-restraint, affected eating habits and physical activity (Robertson, et al, 2021), significantly affecting the motivation or non-participation in exercise (Di Renzo et al., 2020). A consequence of this situation was the increase of the frequency of use as well as the total time of dealing with SM (Cellini et al. 2020; Vall-Roqué, Andrés & Saldaña, 2021).

Many studies that took place during COVID-19 pandemic analysed the impact of lockdown and social isolation on body image, revealing that negative thoughts and feelings, body image disturbances and concerns, as well as changes in eating habits and use of SM were more intense (Baceviciene & Jankauskiene, 2021). Lucibello and colleagues (Lucibello et al., 2021) sampled 668 posts on Instagram using the hashtag "*quarantine15*" and found that 88.8% were containing human figures who were perceived as lower-weight, 70.3% were white and 87% were women, promoting dieting and physical activity. It has been found that daily exposure of SM users to model images, enhances the internalization of socially constructed ideals regarding appearance (Fardouly, Willburge & Vartanian, 2018). Bacevicieno and Jankauskiene (2021) aimed to estimate the impact of social isolation period on the sociocultural attitudes towards appearance,

body image, eating and physical activity habits of young students. The results showed that there was no change on body image, as well as on eating habits. However, a significant increase in media pressure, internalization of thin/low body fat ideals and internet browsing time were observed, mainly for women, as well as a decrease in physical activity, mainly for men.

Few studies have been conducted to examine the relationship between body image, sociocultural attitudes and SM in Greek population, especially after the COVID-19 lockdowns and social isolations. Purpose of the present study was to examine the effect of social isolation by restrictions because of COVID-19 disease on body image of young people. We hypothesized that following the social exclusion and the increase in the use of social media, there would be an increase in dissatisfaction with body image, the internalization of ideal standards for both men and women, and a decrease in self-esteem. Additionally, because of the young age, we were expecting that the social comparison would be more intense.

MATERIAL AND METHODS

Participants

In the study participated 384 adults, 188 males (49%) and 197 females (51%). Participants were divided in two groups, as the study took place before COVID-19 and right after the end of the restrictive measures due COVID-19: in the group before COVID-19 participated 203 subjects (108 males and 95 females) and in the group after COVID-19 participated 181 subjects (80 males and 101 females). The mean age was 22.88 years (SD = 6.04). The mean age for the males was $M = 22.98$ (SD = 5.89) and for females $M = 22.78$ (SD = 6.19). The majority of participants (82.6%) declared “exercisers” but there was difference between the two measures ($\chi^2 = 15.09$, $p < .001$). Before COVID-19 10.2% did not exercise and after COVID-19 25.4% did not exercise. In Table 1 are presented the different ways of exercise during the period of the research. Former athletes, in competitive level or not, were 319 participants (83.1%).

Measures

Self-reported questionnaires were used in order to assess demographic characteristics, social attitudes toward appearance, Social Physique Anxiety and the use of social media. More specifically each participant should mention gender, age, whether he /she was a former athlete, if he/she exercised at the time the research took place and how, body weight (in kg.) and height (in meters,) in order to calculate BMI.

Socio-cultural Attitudes toward Appearance-4 (Schaefer et al, 2015) contains 5 subscales assessing internalization of the thin ideal and muscular ideal, perceived appearance pressures from family, peers, and media. Specifically, internalization: Thin/Low Body Fat subscale assesses the extent to which a respondent endorses a thin body with low body fat as an ideal body. Internalization: Muscular/Athletic subscale assesses to what extent a respondent endorses an athletic body with muscles as an ideal one. Pressure subscales assesses to what extent a respondent feels pressure to obtain a certain appearance by family, by peers and by media. All responses were recorded on a 5-point Likert scale (1 = Definitely Disagree; 5 = Definitely Agree).

Factor analysis revealed that the Kaiser-Meyer-Olkin measure of sampling adequacy was .81, above the commonly recommended value of .60, and Bartlett’s test of sphericity was significant, $\chi^2 (231) = 4270.798$, $p < .001$). Five factors loaded which explained 65.42% of the Variance (Internalization: Thin/Low Body Fat, Internalization: Muscular/Athletic, Pressures: Family, Pressures: Media, Pressures: Peers). Each factor had an acceptable Cronbach’s α (Internalization: Thin/Low Body Fat Cronbach’s $\alpha = .75$, Internalization: Muscular/Athletic Cronbach’s $\alpha = .86$, Pressures: Family Cronbach’s $\alpha = .81$, Pressures: Media Cronbach’s

$\alpha = .94$, Pressures: Peers Cronbach's $\alpha = .88$). Based on the average of the items of each dimension, five estimates were created.

Social Physique Anxiety (Hart, Leary, & Rejeski, 1989) measures the degree of anxiety that an individual experiences when she or he perceives that others may evaluate negatively her or his physique. The SPA scale is a 12-item inventory. Participants responded to a 5-point Likert type scale (1 = not at all; 5 = extremely). Higher scores indicated greater SPA. The questionnaire was adapted in Greek population by Psychountaki and her colleagues (Psychountaki, Stavrou, & Zervas, 2004). Factor analysis revealed that the Kaiser-Meyer-Olkin measure of sampling adequacy was .85 and Bartlett's test of sphericity was significant, $\chi^2(55) = 1281,699, p < .001$). Cronbach's α was .85. A single variable was conducted as the sum.

Use of Social Media: First of all, a single question about having social accounts was added (yes/no). A measure of use of SM based on Frison and Eggermont (2016) study was used, although they assessed only the Facebook use. Items assessed different types of social media use and was rated on a 7-point scale ranging from never (1) to several times per day (7). Two dimensions of use was measured, active and passive use, with three factors: active private use, active public use, and passive use. Active public social media use referred to interactions between the user and other friends in a public setting, consisted of three items (e.g. "How often do you post a message on your own timeline"). Active personal social media use referred to interactions between the user and other Facebook friends in a private setting, was measured with two items (e.g. "How often do you send someone a personal message on Social Media?"). Passive Social Media use was measured with two items (e.g. "How often do you visit a profile of a social friend?"). Based on the average of the items of each dimension, three estimates were created. Factor analysis revealed that the Kaiser-Meyer-Olkin measure of sampling adequacy was .72, above the commonly recommended value of .60, and Bartlett's test of sphericity was significant, $\chi^2(21) = 1443.427, p < .001$). Three factors loaded which explained 85.46% of the Variance. Active public social media had a Cronbach's $\alpha .90$. Active personal social media use had Cronbach's $\alpha .90$. Finally, Passive Social Media use was measured with two items (e.g. "How often do you visit a profile of a social friend?") with Cronbach's $\alpha .79$. Passive Social Media use had Cronbach's $\alpha .79$. Based on the average of the items of each dimension, three estimates were computed.

Procedures

The present research had a cross sectional design, not a test-retest design. The study was conducted in two separate times: first phase (1st measure) was conducted 6 months before the appearance of COVID-19. At that point there was no aspect of lockdowns and social isolations. The second measure was conducted in October 2021, after the first lockdown in Greece and during a period when people wanted to get back to their life routines. So, they were able to exercise but with limitations. During both measures all participants were informed for the purposes of the study and after giving their conception they could complete the questionnaire that was in a Google form. Participation was voluntary, participants were assured that participation was anonymously and that there were no wrong or right answers.

Analysis

Descriptive statistics were conducted to for the means and standard deviations. Differences in descriptives were conducted by independent t-tests or paired t-tests. Univariate tests were conducted to examine differences between body image (internalization: Muscular/Athletic body, internalization: Thin/Low Body Fat, pressure to be thin by family, by peers and by media), Social Physique Anxiety and SM usage between men and women, before and after COVID-19 period. General Linear Model was used to examine for males and females, before and after COVID, which social pressure was more powerful. Finally, after checking

assumptions, hierarchical regression analysis was conducted to predict SPA separately for before and after COVID-19 period.

RESULTS

Descriptive statistics

The mean weight for all participants before COVID was $M = 68.90$ kg ($SD = 11.64$) and after COVID period $M = 66.81$ ($SD = 13.58$). This difference was not significant ($p = .10$). But examining the differences separately for males and females, there were significant differences in both groups. Males had higher weight after COVID, $t(186) = -3.45$, $p < .001$, and females had lower weight after COVID, $t(194) = 4.62$, $p < .001$ (Table 1).

Table 1. Description of participants' physical activity.

		Total N (%)	Before COVID-19 N (%)	After COVID-19 N (%)
All participants	Exercisers	317 (82.6%)	181 (89.2%)	136 (75.1%)
	No exerciser	67 (17.4%)	22 (10.8%)	45 (24.9%)
Specific physical active	Sport	131 (34.1%)	99 (48.8%)	32 (17.7%)
	Gym	102 (26.6%)	57 (28.1%)	45 (24.9%)
	Free exercisers	84 (21.9%)	25 (12.3%)	59 (32.6%)

In BMI, differences were significant only when it was examined separately for males, $t(182) = -2.34$, $p < .05$ and females, $t(193) = 2.25$, $p < .05$, (Table 1). For females BMI decreased after COVID period but for males BMI increased after COVID period. Before COVID period, there were 25 participants with $BMI \geq 25$, meaning overweight. After COVID period, there were 27 participants with $BMI \geq 25$. This difference was not significant ($p = .46$). For males the difference was significant ($\chi^2 = 5.58$, $p < .05$), as overweight was 14 participants before COVID and 21 after COVID. As there were not significant differences for all participants, BMI was excluded from the regression analyses.

Differences between pre and post COVID period, between men and women

Social attitudes toward appearance

Internalization Muscular/Athletic body, significant differences were found between period (before/after COVID) $F(1,380) = 11.82$, $p < .001$, $\eta^2 = .03$, between gender $F(1,380) = 6.13$, $p < .05$, $\eta^2 = .02$, and the interaction period*gender $F(1,380) = 6.81$, $p < .01$, $\eta^2 = .02$. Scores were higher before COVID and males had higher means than females. Internalization thin/low body fat, significant differences were found between period (before/after COVID) $F(1,380) = 8.28$, $p < .005$, $\eta^2 = .02$, and interaction period*gender, $F(1,380) = 4.42$, $p < .05$, $\eta^2 = .01$. Scores were higher before COVID and males had higher means than females. There were no differences between genders ($p = .20$). Participants scored higher before COVID. In pressure to be thin the only significant differences were in pressure by media, between gender, $F(1,380) = 12.20$, $p < .001$, $\eta^2 = .03$ and in the interaction "period * gender", $F(1,380) = 9.49$, $p < .005$, $\eta^2 = .024$. Women after COVID-19 period had higher mean than men (Table 2).

General Linear Model was used to examine for males and females, before and after COVID, which social pressure was more powerful. For males before COVID period there were significant differences, $F(2,214) = 18.63$, $p < .001$ and after adjustment, pressure by media was significantly higher from pressure by family ($t_{107} = -4.71$, $p < .001$) and from pressure by peers ($t_{107} = -4.63$, $p < .001$). After COVID, there were also significant differences, $F(2,158) = 4.45$, $p < .05$ and after adjustment the only significant difference was between pressure by media and pressure by family, $t(79) = -2.67$, $p < .01$. For women before COVID period there were significant differences, $F(2,188) = 13.06$, $p < .001$, and pressure by media was significant different

from pressure by family ($t_{94} = -3.78, p < .001$) and pressure by peers, ($t_{94} = -4.28, p < .001$). For women after COVID period there were significant differences, $F(2,200) = 54.69, p < .001$, and there were significant differences in all pairs (pressure by family – pressure by peers $t(100) = 2.92, p < .005$, pressure by family – pressure by media $t(100) = -6.66, p < .001$, pressure by peers – pressure by media $t(100) = -9.58, p < .001$).

Table 2. Means (Standard Deviations) in measures before and after COVID-19 period for all participants, for males and females separately.

	Total before M (SD)	Total after M (SD)	Males before M (SD)	Males after M (SD)	Females before M (SD)	Females after M (SD)
Weight	68.90 (11.64)	66.80 (13.58)	71.61 (11.42)	77.05 (9.59)	65.83 (11.17)	58.69 (10.45)
BMI	22.44 (2.80)	22.31 (3.26)	22.90 (2.32)	23.74 (2.50)	22.15 (2.25)	21.22 (3.37)
Internalization Thin/Low Body Fat	2.85 (.85)	2.62 (.78)	2.88 (.84)	2.46 (.62)	2.81 (.86)	2.75 (.86)
Internalization Muscular/ Athletic	3.17 (.91)	2.82 (.94)	3.17 (.97)	3.09 (.94)	3.18 (.85)	2.61 (.88)
SATAQ Pressure Family	1.50 (.77)	1.61 (.83)	1.48 (.69)	1.52 (.66)	1.53 (.86)	1.69 (.95)
Pressure Media	2.00 (1.18)	2.28 (1.24)	1.98 (1.10)	1.83 (1.00)	2.03 (1.27)	2.63 (1.30)
Pressure Peers	1.47 (.73)	1.52 (.73)	1.49 (.75)	1.64 (.78)	1.44 (.70)	1.43 (.67)
SPA	27.92 (8.00)	29.29 (8.42)	27.45 (7.64)	25.21 (7.11)	28.45 (8.39)	32.51 (8.00)
USE of SM Active Personal Use	5.98 (1.31)	6.15 (1.41)	5.85 (1.40)	5.97 (1.44)	6.13 (1.21)	6.29 (1.37)
Active Public Use	2.84 (1.03)	3.03 (1.11)	2.81 (.99)	2.72 (1.05)	2.87 (1.08)	3.27 (1.10)
Passive use	3.86 (1.52)	3.91 (1.51)	3.83 (1.50)	3.90 (1.47)	3.90 (1.54)	3.92 (1.55)

Social physique anxiety

There were differences between gender $F(1,370) = 26.15, p < .001, \eta^2 = .07$ and the interaction “*period * gender*” $F(1,370) = 14.99, p < .001, \eta^2 = .04$. Women reported higher SPA than men ($M_{men} = 26.33, SE = .58, M_{women} = 30.48, SE = .57$) and significant higher SPA after COVID period (Table 2). The difference for the owned social accounts before and after COVID was examined by χ^2 , and there were no differences as 191 participants before COVID and 174 after had at least one account.

Hierarchical regression

After checking assumptions (Ntoumanis, 2001; Tabachnick and Fidell, 1996), regression analysis was conducted to predict SPA separately for before and after COVID-19 period. Social Physique Anxiety was predicted by Internalization (Thin/Low Body Fat, Muscular/Athletic), pressure by family, media, peers, use of social media Active Personal Use, Active Public Use, Passive use), age and gender. The enter method was used.

Prediction of social physique anxiety

Before COVID-19: The linear combination of measures significantly predicted SPA (Table 2) and 34% of the variance could be accounted ($R = .59, R^2 = .35, F(10,174) = 9.23, p < .001$). To the prediction contributed internalization: muscular/athletic, internalization: thin/low body fat, Pressure by family, Pressure by Media, and age (Table 3).

After COVID-19: The linear combination of measures significantly predicted SPA (Table 2) and 34% of the variance could be accounted ($R = .68, R^2 = .47, F(10,170) = 14.83, p < .001$). To the prediction contributed internalization: thin/low body fat, Pressure by Media, active personal use of social media, public personal use of social media, and gender (Table 3).

Table 3. Summary of hierarchical regression analysis for variables predicting SPA before and after COVID-19 period.

Participants	Variable	β	t	Sig	
Before COVID-19		R = .59, R ² = .35, F(10,174) = 9.23, p < .001			
SATAQ-4	Internalization: Thin/Low Body Fat	-1.55	-2.49	.014	
	Internalization: Muscular/Athletic	2.27	3.30	.001	
	Pressure: Family	1.82	2.40	.017	
	Pressure: Media	.83	1.030	ns	
	Pressure: Peers	2.05	4.13	.000	
	Use of SM	Active Personal Use	-.12	-.29	ns
		Active Public Use	-.25	-.48	ns
		Passive use	.36	.94	ns
	Age	-.42	-2.39	.018	
	Gender	1.12	1.12	ns	
After COVID-19		R = .68, R ² = .47, F(10,170) = 14.83, p < .001			
SATAQ-4	Internalization: Thin/Low Body Fat	-1.02	-1.67	ns	
	Internalization: Muscular/Athletic	2.45	3.30	.001	
	Pressure: Family	1.03	1.62	ns	
	Pressure: Media	.81	1.08	ns	
	Pressure: Peers	2.21	4.92	.000	
Use of SM	Active Personal Use	-1.00	-2.33	.02	
	Active Public Use	-1.24	-2.57	.01	
	Passive use	.22	.58	ns	
Age	-.06	-.78	ns		
Gender	5.30	4.52	.000		

Note. ns: not significant.

DISCUSSION

The present study examined the effect of the social isolation caused by restrictions for COVID-19 disease, on body image of young people. We hypothesized that following social isolation due to lockdowns and social media usage, there would be an increase of body image dissatisfaction, more specific an increase of the internalization of ideal standards for both men and women, an increase of the pressure about thin body by family, friends and media, and also an increase of Social Physique Anxiety. These hypotheses partially confirmed, as after COVID period only pressure by media increased and internalization/ muscular and internalization/ thin decreased. There were no differences in pressure by others, whether they were family or peers. For females more significant differences were found. The prediction of SPA revealed significant differences before and after COVID period.

Early adulthood (defined here as 19–25 years) is a critical period for establishing lifestyle behaviours and is thus gaining recognition as an important time to implement health promotion strategies (Nelson, Story, Larson, Neumark-Sztainer, D., & Lytle, 2008). In body image, significant differences were found in internalization both muscular and thin, after COVID-19 social isolations. Internalization/muscular and internalization/thin decreased for both males and females. After lockdowns and social isolations body internalization, muscular and thin diminished, for both genders. In studies before COVID-19 period for males, internalization of the muscular ideal had emerged as an important risk factor for the development of eating disorders and body image concerns (Flament, Hill, Buchholz, Henderson, Tasca, & Goldfield, 2012). Lockdowns and restrictions diminished face -to-face meetings, and probable this was a reason to minimize body image significance for everybody. So, internalization/muscular and internalization/thin were lower in the post COVID-19 period for both men and women. During lockdowns, the only reasons to get out of home were for working reasons, or to buy necessary supplies, or to exercise outdoor, so young adults, as everybody else, could have increased their daily physical activity. On the other hand, no interaction with others probably

had placed the point of view on other issues than body image. If exercise or physical activity habits were established, there would be a positive consequence of COVID-19 period. But this must be examined. Women from US reported considerably higher peer pressures than women from other countries (Italy, England, Australia) (Schaefer, et al., 2019). Greeks have a collectivistic culture with strong relations between family members and friends. These relations were struggled in COVID-19 period. The importance of different life aspects revealed within these relations.

Studies over the years examine which variables can be SPA predictors in order to plan appropriate and effective interventions toward certain target groups. As Social Physique Anxiety is the emotional aspect of body image (Bane & McAuley, 1998) the results of the present study revealed that before and after COVID-19 social isolations, women reported higher SPA, as was mentioned above. An interesting finding of the present study was the prediction of SPA by the active use of SM, public and personal. So far, studies predicted SPA by personal characteristics (e.g. gender, age, weight status), type of physical activity, characteristics of physical activity environment, environmental triggers (e.g. mirrors, same versus mixed sex), social triggers (e.g. peer group influences, the presence of others) and self-perceptions (e.g. body dissatisfaction negative body image indicators) (for a review Sabiston, Pila, Pinsonnault-Bilodeau, & Cox, 2014). It is well-known that SM may have three functions in the stages of the stress-coping process, as stressors, resources, or coping tools (Wolfers & Utz, 2022). Problematic SM usage is commonly defined in terms of high frequency and/or passive use and is associated with problems as socially anxious and lonely (O' Day, & Heimberg, 2021). Body image and SPA were examined in the present study.

During COVID-19 period, many changes took place in young adults' daily lives. In a study participating university students, as most of the participants of the present study were, almost half of them decreased physical activity, increased body weight and SM exposure, and mentioned an increase in negative body image perceptions (Larkin, 2021). In the present study there was no difference in the frequency of SM use and the number of social accounts before and after lockdowns and social isolations due COVID-19. Probably the amount of time spent in SM had increased during lockdowns due COVID-19 and not the frequency of use, but there are no yet published research studies, and this was not measured in the present study. Millennials (Generation Y), even before COVID-19 period, showed high intensity of social media use (Bolton, et al., 2013) and it was mentioned that the frequency of SM usage decreases with age (Hysa, Karasek, & Zdonek, 2021).

About SM usage, an interesting finding of the present study was in the way, as females mentioned higher active public use of SM after COVID-19 period. Probably females wanted to interact more with others, beyond family and friends. On the other hand, females declared more SPA than males after COVID-19 period. The increase of SPA could also be a result of this usage. The use of SM was popular in the health and the beauty industry, a tactic that was popular even before COVID-19, and this exposure has been associated with various factors related to psychopathological risks (Cataldo, et al., 2021). A further examination in SM usage in young Greeks must be conducted, in order to have accurate data for this population, as in youngsters also. Scales examining not only whether SM are used, must be included, as probably there is not an increase of the amount of time spent in SM but the way of usage.

CONCLUSIONS

Social isolation caused by restrictions for COVID-19 disease changed many aspects of people's lives all over the world. More studies must be conducted in order to identify these changes, enhance the positive ones and minimize the negatives, for young adults and not only.

AUTHOR CONTRIBUTIONS

Research design, data, analysis of data, interpretation of results, and composition of the manuscript were undertaken by both authors. Both authors, also, contributed to the writing of the manuscript and have approved the final submitted version.

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