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THE "LIKED" BODY. THE ROLE OF PHYSICAL ACTIVITY IN THE DUALISM BETWEEN THE REAL AND THE VIRTUAL BODY.

IL CORPO CHE "PIACE". IL RUOLO DELL'ATTIVITÀ FISICA NEL DUALISMO TRA CORPO REALE E CORPO VIRTUALE.

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Abstract

Social media use is increasing among pre-teens with effects on body image. Pre-teens using image-centred social media (Instagram, Tik Tok, etc.) may perceive their peers to be more attractive than them, with negative influence on self-esteem and body concerns and development of a virtual body, with a consequent onset of the dualism. Social media use is also linked lower levels of physical activity. This cross-sectional study aimed to investigate the relationship between active lifestyle, body satisfaction and the dualism among pre-teens. A sample of 2378 Italian pre-teen was recruited. Two anonymous and self-administered questionnaires were used to investigate: social media use; body satisfaction, and physical activity levels. Descriptive statistics were computed for all the investigated variables. A multiple linear regression was used to explore the association between body satisfaction (dependent variable) and physical activity levels and the dualism (independent variables).
Results showed that the exposure to images and videos promoting certain beauty standards are associated with body concerns and disaffection. However, the daily use of the body for walking, practicing sport, etc. helps individuals to establish a positive link between the self and the body, and to counteract the negative effects of the altered sociocultural models of the body, vehiculated through social media. Therefore, the engagement of pre-teens in offline activities might represent a valid strategy to promote healthy behaviours, increasing self-consciousness and their social skills and reduce the negative effect of social media engagement.

L'utilizzo dei social network è sempre più diffuso tra i preadolescenti con effetti sulla propria immagine corporea. I preadolescenti utilizzano principalmente piattaforme basate su immagini (Instagram, TikTok,etc.) e tendono a percepire i propri pari come più attraenti, con conseguenze negative su autostima e problemi legai al proprio corpo, oltre all'insorgenza di un dualismo tra il corpo reale e quello virtuale. L'utilizzo dei social network è anche correlato a bassi livelli di pratica sportiva. Il presente studio cross-sectional ha lo scopo di investigare la

relazione tra i livelli di pratica sportiva, soddisfazione corporea, e dualismo nei preadolescenti. Per lo studio sono stati intervistati 2378 preadolescenti italiani attraverso la somministrazione di due questionari anonimi autosomministrati riguardo l'utilizzo dei social network, soddisfazione corporea e abitudini di pratica sportiva. Analisi descrittive sono state elaborate per tutte le variabili investigate. Per analizzare la relazione tra soddisfazione corporea (variabile dipendente) e livelli di pratica sportiva e dualismo (variabili indipendenti) è stata utilizzata una regressione lineare multipla.
I risultati hanno dimostrato che l'esposizione a immagini e video che propongono determinati standard di bellezza è associata a problematiche del corpo. Tuttavia, l'utilizzo quotidiano del proprio corpo per camminare, fare sport, etc. favorisce l'instaurarsi di una connessione positiva tra l'essere e il corpo and può contrastare gli effetti negativi dei modelli socioculturali veicolati attraverso i social network.
Pertanto, la partecipazione in attività offline può rappresentare una strategia valida per la promozione di comportamenti salutari, incrementare la consapevolezza del sé, l'implementazione delle capacità relazionali e la riduzione degli effetti negativi indotti dall'utilizzo dei social network.

Keywords

Cross-sectional study; preadolescents; body image; physical activity; social networks.
Studio trasversale; preadolescenti; immagine corporea; attività fisica; social networks.

1. Introduction

The present study aimed to test a model of relationships between active lifestyle, body image satisfaction and the use of social media among pre-teens. It was hypothesized that an active lifestyle along with an attitude to be more physically active is positively associated with body satisfaction. It also represents a variable that could mediate the negative effect of the massive use of image-centred social media.

1.1 *Body image*

Body image can be described as a concurrent perception of the self and a sense of being in the world, taken as an active construction in which through each individual organises the senses' experience through the body (Merleau-Ponty, 2013; Sartre, 2014).

Effectively, body image, generally defined as a multidimensional construct encompassing the way one sees, thinks, feels, and behaves in relation to the appearance and function of one's body (Cash & Smolak, 2011), represents one of the most intricate human experiences of embodiment.

Recent research framed this complex concept through several dimensions (Cash, 2012; Smolak, L., Thompson, 2009). The subjective and affective dimensions are essentially related to satisfaction with one's body. In this light, body image is primarily concerned with the conscious appraisal of our own physical aspect (Byrne, 2012) and

with the satisfaction deriving from the perception of appearance. These two dimensions are interrelated with the cognitive dimension encompassing the thoughts, beliefs, and attitudes related to an individual's appearance and with the behavioural dimension describing a person's behaviours linked to body image as avoidance of mirrors or body-monitoring behaviours.

1.2 *Sociocultural theories*

In order to understand the factors coming from the context in which individual lives and how those impact a persons' body image, the tripartite influence model is usually considered (J. K. Thompson et al., 1999).

According to this model, body image is directly influenced by three main variables: peers, relatives, and media. This model encompasses sociocultural, psychological, and biological factors affecting the way the individual, through the body, lives, interacts with others, and experiences the world.

For instance, the tripartite influence model has been previously implemented to investigate the mechanisms behind body dissatisfaction and eating disturbances among girls (Shroff & Thompson, 2006).

Sociocultural theorists suggest that media content based on the appearance can be linked with the process of internalizing of appearance (Schaefer et al., 2015). In fact, individuals might be concerned about their personal body image when comparing their appearance with another imagined or idealised person (J. Thompson, 1990).

More recently, Sæle et al. (Sæle et al., 2021) developed body and Body pressure, Omniopticon, Panopticon and Synopticon BOPS) model arguing that youth generations's body image is subjected to body pressure and many power strategies adopted by authorities, individuals, peers, family, celebrities, or social media. following the Foucaudian idea of panoptic power mechanism (Foucault, 1995, 2005).

1.3 *Dualism between real and virtual body*

The ubiquitous presence of social media makes difficult to differentiate the reality from the virtual, the artificial from the natural. The youth generations, in particular, experience the so-called *onlife* dimension in which the lived experience is characterized by an increasing omnipresence of information and communication technologies (Floridi, 2014).

This determines a sort of *omniopticon* in which the many see the many, influencing each other (Sæle et al., 2021) and in which the passive fruition of ideal images of the body is associated with the active manipulation and diffusion of idealized body models. The result is a relentless process of remixing and reshaping the body, with

potential negative consequences. These processes might lead to the development of dualism, referred to the coexistence of two identities: the real body, intended as the real being, and the virtual identity, representing the identity shown on social media by an individual (Digennaro, 2022).

2.Methods

2.1 *Study design*

The present cross-sectional study aimed at exploring whether the dualism deriving from the massive use of social media platforms negatively influences pre-teens body satisfaction. Moreover, it has been hypothesized that an active lifestyle might represent a positive mediator to counteract this negative relationship.

For the data collection, two anonymous and self-administered questionnaires were administered to 2378 Italian pre-teens to investigate: social media use (typology, intensity, image-based used), the representation of the bodies through the social media, the relationship between the natural and the virtual bodies, the body satisfaction, physical activity levels. Ethical approval was obtained from the Institutional Review Board of the Department of Human Sciences, Society and Health of the University of Cassino and Southern Lazio (Approval number: 3RA2.2022.06.15). Informed parent consent was also obtained along with the authorizations from all the schools involved in the survey.

2.2 *Instruments*

Four questions (e.g., have you ever wanted to be in real life as you appear with the filters used to edit your body on social media?) were proposed to participants to assess the level of dualism. For each item, three possible responses were presented: *yes, often (2); yes, sometimes (1); never (0).* The dualism score is then estimated by calculating the mean of the 4 items.

An adapted version of the Italian Body Image State Scale (BISS) (Carraro et al., 2010; Cash et al., 2002) was adopted to assess body satisfaction levels.

The questionnaire consists of 6 items with a 9-point answer format; body satisfaction score is obtained by the means of the 6 items. To provide a better representation of the respondents' opinion the answer format was reset to 4 points, showing a good internal consistency (a = 0.83), 2-week test-retest reliability, and structural validity among the preadolescents.

Furthermore, physical activity levels were assessed by means of the Italian version of the Physical Activity Questionnaire for Older Children (PAQ-C) (Gobbi et al., 2016). The PAQ-C score is then derived from nine items, each scored between 1 (low

level) and 5 (high level) with reference to the activities occurring the seven days before the administration of the questionnaire (Kowalski et al., 2004).

2.3 *Statistical analysis*

Due to the non-normal data distribution, non-parametric analyses were conducted for descriptive statistics. Generally, the extent of missing data was moderate, ranging from 0 to 10%. Descriptive statistics were computed for all the investigated variables. Generally, the extent of missing data across each outcome was moderate.

A multiple linear regression was used to explore the association between body satisfaction (dependent variable) and physical activity levels and the dualism (independent variables). Statistical analysis was performed using R Studio statistical software version 4.2.2 (R Foundation, Boston, MA, USA) and the level of significance was set at $p< 0.05$.

3. Results

In total 2378 pre-teens participated to the study. Among them, 2078 (87.5%) declared to be social media users and 99% use messaging apps such as WhatsApp or Telegram. The most used social media platforms are TikTok (74.4%), Instagram (57.2%), Snapchat (27.9%); whereas WhatsApp resulted to be the most used instant messaging app (99.9%).

Concerning physical activity levels, a 2.59 ± 0.68 PAQ-score was found.

In order to explore body satisfaction in pre-teens, the Body Image State Scale was administered, with a total of 1308 respondents. On average the body satisfaction score was 2.5 ± 0.9.

The last part of the present study aimed at investigating the dualism between the virtual and the real self. The composite mean for the dualism score was 1.2 ± 0.8.

Results from the multivariable linear regression analysis showed that body satisfaction is significantly ($F=54.69$; degrees of freedom= 884; $R^2 = 0.11$; $p<0.001$) influenced by the dualism (slope -0.42; SE:0.06; t-value: -6.787; $p<0.001$) and the level of physical activity (slope= 0.24; SE= 0.03; t-value= 7.59; $p<0.001$). The estimated intercept for the model is 2.67 (SE= 0.14; t-value= 19.55; $p<0.001$).

4. Conclusions

Childhood and adolescence represent two critical phases for the development of body image, since growth comes with significant changes in body, self-concept, mood, and social interactions (Cash & Smolak, 2011). Low levels of self-esteem may enhance risk of body concerns by affecting assessments of one's personal attributes, including physical appearance (Rodgers et al., 2020).

Additionally, with the spreading of social media use pre-teens are at risks for being exposed to inappropriate contents, bullying, grooming, sexual abuse, or body shaming (Fardouly et al., 2018). In fact, sociocultural theories suggest that the appearance-focused media content may be associated with the internalisation of appearance (Schaefer et al., 2015); consequently, social media users might be worried regarding their personal body image when the perceived appearance is compared with another imagined or idealised model (J. Thompson, 1990).

A growing body of research demonstrated that an excessive attention to the body may contribute to the development of unhealthy behaviours and bodily concerns such as dieting, social anxiety, inactive lifestyles, and related behaviours considered risk factors for chronic body image problems (Holland & Tiggemann, 2016).

Furthermore, in line with the social comparison theory (Festinger, 1954), the need for self-assessment results in people comparing themselves with others who are similar. Such comparison might be two-directional: downward, when the comparison is made with profiles considered worse; or upward, when the comparison is made with profiles considered better (Vani et al., 2021).

Nowadays, physical appearance denotes a relevant construct for our society as it is an significant element in the way individuals feel about them (Tiggemann & Barbato, 2018), and the number of likes representing a parameter used for the social comparison process, especially among teenage girls (Chua & Chang, 2016). This "like" mechanism might induce a decline in perceived self-worth and body satisfaction, when a post receives a lower number of likes than expected; at the opposite, when a post receives a higher number of likes than expected, body satisfaction and self-esteem are preserved (Tiggemann & Polivy, 2010).

At the brain level, it has been demonstrated that when an individual receives a "like", the brain structure activated by things that make an individual happy (nucleus accumbens) is more active (Meshi et al., 2013). This process could lead to the enhancement of the need of posting modified pictures, responding to the beauty standards proposed on social networks with the purpose of receiving more "likes" (Eshiet, 2020). In case the picture shared on social networks does not obtain the expected number of likes, then it is often removed (Jang et al., 2015). This happens because "likes" are considered as an index of appreciation by peers concerning physical beauty, with the ever increasing trend to share selfies merely to get "likes" and followers (Chua & Chang, 2016). Nevertheless, the exposure to manipulated photos might lead to a lower body satisfaction (Kleemans et al., 2018) and social comparisons are interrelated with negative mental health disorders among preadolescents (Fardouly et al., 2020).

As a matter of fact, higher social media use has been found to be linked with greater decrease in body satisfaction and physical activity among for children highly influence by peers, underlying the fact that peer conformity amplifies the risks of social media use (Leggett-James & Laursen, 2022).

A possible hypothesized strategy is the promotion of active lifestyle as physical activity represents a valid tool to face stressful situations (Digennaro & Iannaccone, 2023; Iannaccone, 2022) and the participation in physical activities is related to more positive body image (Sabiston et al., 2019).

Therefore, the present study aimed at investigated the relationship between and body satisfaction and if active lifestyles might be considered as a positive mediator toward the detrimental effects of beauty standards promoted on image-centered social media platform since an individual's body image perception might be positively influenced by sport or a physical activity session (Carraro et al., 2010). Results of the current study confirmed this hypothesis with regression analysis showing a positive impact on body satisfaction, contrarily to the influence of the dualism between real and virtual body.

In conclusion, it can be stated that, through social media platforms preadolescents are facing rapid changes in the way social interactions and relationships are cultivated, as well as the proposed beauty models. In fact, through social media it is possible to share the best version of individuals by applying beauty filters and creating a virtual identity, seeking for peers' appreciation. This phenomenon is negatively impacting the development of pre-teens' body image and a sense of unsatisfaction regarding body in spreading among them. For this, parents, educators and all the actors involved in the developmental process of individual should be aware and design goal-oriented interventions to counteract these detrimental effects.

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