Body perception and frequency of exposure to advertising on social networks among adolescents

Beatriz Feijoo; Belén Cambronero-Saiz; Begoña Miguel-San-Emeterio

Beatriz Feijoo ✉
https://orcid.org/0000-0001-5287-3813

Universidad Internacional de La Rioja
Facultad de Empresa y Comunicación
Avenida de La Paz, 137
26006 Logroño, Spain
beatriz.feijoo@unir.net

Belén Cambronero-Saiz
https://orcid.org/0000-0001-5273-9534

Universidad Internacional de La Rioja
Facultad de Empresa y Comunicación
Avenida de La Paz, 137
26006 Logroño, Spain
belen.cambronero@unir.net

Begoña Miguel-San-Emeterio
https://orcid.org/0000-0003-0272-7476

Universidad Internacional de La Rioja
Facultad de Empresa y Comunicación
Avenida de La Paz, 137
26006 Logroño, Spain
begona.miguel@unir.net

Abstract

The marketing actions of influencers promoting unhealthy targeted products can aggravate the problem of childhood obesity and thus generate self-esteem problems. The influence of exposure to this type of sponsored content can also have an effect on the emotional well-being of adolescents. This is the context of this study, which seeks to analyze the relationship between exposure to food or body care advertising on social networks (*YouTube*, *Instagram*, and *TikTok*) of adolescents and their perception of their physical appearance. Online surveys were distributed between April and June 2022 to 1,055 adolescents aged 11-17 years and residing in Spain. The main results show that 16- and 17-year-olds have a heavier figure as an ideal reference, but they are also the group that presents the thinnest evaluation of their current figure. Their level of satisfaction is the lowest compared with the rest of the age groups, and they attach greater importance to the social role of a good physical appearance. Thus, exposure to advertising by influencers on social networks is directly related to lower satisfaction with their bodies. This assessment is based not so much on individual reasons related to health or personal well-being, but rather on fundamentally social reasons, and considers that physical appearance is a determining factor for social success. Therefore, it is advisable to study in more detail the beliefs that directly affect adolescents' self-esteem to improve their critical competence in the face of this idealized content.

Keywords

Adolescents; Teenagers; Young people; Childhood; Social media; Social networks; *YouTube*; *Instagram*; *TikTok*; Perception; Personal satisfaction; Self-esteem; Well-being; Physical appearance; Body; Gender; Advertising; Influencers; Diet; Health.

1. Introduction

The increased time spent by adolescents in the digital environment, may involve a risk that has an impact on health, both directly and indirectly (*WHO*, 2022). Thus, on the one hand, the increased consumption of content through social networks such as *TikTok*, *YouTube*, and *Instagram*, means less time available for sports practice. On the other hand, the greater number of hours of use also means being impacted to a greater extent by advertising (**González-Díaz**, 2014; *WHO*, 2022). Food products with high levels of saturated fats, salt, and/or sugar are some of the most recurrent advertising categories (**Boyland** *et al.*, 2016; **Coates** *et al.*, 2019; **Feijoo**; **Sádaba**; **Bugueño**, 2020), which can lead to increased consumption of unhealthy foods by children (**Sadeghirad** *et al.*, 2016; **Murphy** *et al.*, 2020; **Reyes-Pedraza**; **García-González**; **Téllez-Castilla**, 2020).

The high levels of prevalence of both childhood obesity and being overweight have forced governments around the world to develop surveillance tools to assess and design corrective measures (*WHO*, 2021; *Gobierno de España*, 2022). Although this is an international problem, data indicate higher levels of obesity and being overweight in Mediterranean and Eastern European countries (*WHO*, 2021).

In Spain specifically, the prevalence of childhood obesity stands at 17.3%, while being overweight is at 23.3%; that is, 4 out of 10 children suffer from one of these disorders (*Aesan*, 2019). The causes that have led to the increase in the prevalence of childhood obesity are diverse and multifactorial (**González-Díaz**, 2014; **De-Jongh-González**; **Escalante-Izeta**; **Ojeda-García**, 2023) and cover very different areas, including health, education, or the economy (*WHO*, 2022).

Furthermore, there is also the influence of media exposure on the emotional well-being of children. A private research leak from the *Facebook* team has highlighted that simply consuming certain content on social networks influences the mood of younger people: more than 40% of *Instagram* users acknowledged that the feeling of being unattractive started while using the app (**Milmo**; **Skopeliti**, 2021).

A growing number of studies (**Coates** *et al.*, 2019; **Tiggemann**; **Anderberg**, 2020; **De-Jans** *et al.*, 2021; **Lowe-Calverley**; **Grieve**, 2021) have shown that publications on social networks and by influencers impact users' choices (**Zozaya**; **Feijoo**; **Sádaba**, 2023), both in the perception of their body image and in their dietary patterns. Experts insist on the need to control and regulate algorithms that choose and adapt the photos and videos a user sees according to their usage, potentially creating a spiral of harmful content; others reinforce the idea of educating young people on how to navigate a world dominated by social networks, equipping them with tools to make healthy choices for themselves (**Milmo**; **Skopeliti**, 2021).

Following *Unicef Spain*'s recommendations to address the concerns of children and adolescents and to promote the practice of healthy habits (*Unicef*, 2021), this study seeks to analyze the influence that exposure to food and body care advertising on social networks has on their perceptions of their physical appearance.

The novelty of this research lies in studying the effect that this type of advertising generates on the body perception of adolescents. The survey utilized, distributed to a sample of more than 1000 adolescents, enriches previous findings on children, adolescents, marketing, eating habits, and body image, and is especially focused on content analysis (**Fernández-Gómez**; **Díaz-del-Campo**, 2014; **González-Oñate**; **Martínez-Sánchez**, 2020; **Castelló-Martínez**; **Tur-Viñes**, 2021; **Tur-Viñes**; **Castelló-Martínez**, 2021; **Feijoo**; **Fernández-Gómez**, 2021).

1.1. Advertising in the digital environment

The decline in the effectiveness of online advertising in its most classic formats (banners, pop-ups, or skyscrapers) and the growing trend toward the use of tools to block it (ad blockers) prompted the emergence of so-called native advertising, which developed mainly on social networks and is characterized by respecting the editorial style of the platform on which it is added (**Wojdynski**; **Golan**, 2016; **Gómez-Nieto**, 2018; **Eyada**; **Milla**, 2020).

Therefore, the delimitation of advertising spaces and formats is not as clear as in advertising disseminated through traditional mass media, which requires that this content be accompanied by a legend mentioning their advertising nature to facilitate their identification as commercial messages (**Wojdynski**; **Golan**, 2016).

It is in this context that influencers appear, who, according to the definition developed by *Autocontrol*, are

> "people with a high level of influence on the public due to their high number of followers on social networks and/or in digital communications media and who interact through tweets, videos, and posts as well as through messages on blogs or other websites" (*Autocontrol*, 2021).

In addition, their main arena of action is social networks.

In the specific case of their advertising, the dividing line between advertising and content becomes even blurrier (*Autocontrol*, 2021; **Tur-Viñes**; **Núñez-Gómez**; **González-Río**, 2018; **Feijoo**; **Pavez**, 2019; **López-Villafranca**; **Olmedo-Salar**, 2019; **Van-Dam**; **Van-Reijmersdal**, 2019; **De-Jans**; **Hudders**, 2020). One of the most common advertising actions among influencers is the use of product

> The publications of the influencers in social networks affect the mood of the youngest, both in the perception of their body image and in the choice of their dietary guidelines

placement strategies, in which products are seemingly casually displayed within the content of a post or video (**Alruwaily** *et al.*, 2020; **Du**; **Rui**; **Yu**, 2023).

This implies that the audience may have greater difficulty in perceiving that it is content for commercial purposes (**Tur-Viñes**; **Núñez-Gómez**; **González-Río**, 2018; **Feijoo**; **Pavez**, 2019; **López-Villafranca**; **Olmedo-Salar**, 2019; **Van-Dam**; **Van-Reijmersdal**, 2019; **De-Jans**; **Hudders**, 2020; *Autocontrol*, 2021), with adolescents generally being the most vulnerable to advertising messages owing to their lower critical capacity for identifying marketing strategies and greater propensity to being influenced (*WHO*, 2016; **Coates** *et al.*, 2019; **Balaban**; **Mucundorfeanu**; **Muresan**, 2022).

Marketing by influencers also benefits from the parasocial relationships that are established between the sender and the receiver, which result in influencers' being perceived not as content creators with an economic objective but rather as "close and intimate friends" (**Lim** *et al.*, 2017; **Meyers** *et al.*, 2017; **Conde**; **Casais**, 2023). The stronger such parasocial interaction with influencers, the more likely it is that the audience will perceive authenticity in the messages they convey and interest in the recommendations they make (**Djafarova**; **Rushworth**, 2017; **Audrezet**; **De-Kerviler**; **Moulard**, 2020; **Silva** *et al.*, 2021).

In a context in which physical appearance is increasingly important and in which influencers consolidate ideal physical traits that then turn them into archetypes of beauty and influence the care of physical health (**Rosara**; **Luthfia**, 2020), more caution should be taken with these types of self-interested recommendations. Scientific evidence has shown, particularly in the case of adolescents, that they are influenced in terms of not only their eating patterns, but also their body image perception (**Coates** *et al.*, 2019; **Tiggemann**; **Anderberg**, 2020; **De-Jans** *et al.*, 2021; **Lowe-Calverley**; **Grieve**, 2021). This means that, by promoting unhealthy food products, influencers may be contributing to the aggravation of the childhood obesity problem, as well as related emotional and self-esteem problems (**De-Jans** *et al.*, 2021).

The aim of this research is to analyze the relationship between exposure to advertising on social networks of adolescents (*YouTube*, *Instagram*, and *TikTok*) and the perception they have regarding their body, as well as the impact on the level of satisfaction with their physical appearance and its social relevance. To this end, the following research questions are posed:

> RQ 1. Is there an association between the level of exposure that adolescents have with food or body care advertising on social networks and:
> - the perception they have of their bodies and
> - their level of satisfaction with their physical appearance and its social relevance?

> RQ 2. Do the age and gender of adolescents introduce significant differences around:
> - the perception they have of their bodies and
> - their level of satisfaction with their physical appearance and its social relevance?

2. Methodology

To collect information, a questionnaire was developed on the basis of previous work (**Lou**; **Yuan**, 2019; **Smit** *et al.*, 2020; **Cambronero-Saiz**; **Segarra-Saavedra**; **Cristófol-Rodríguez**, 2021; **De-Jans** *et al.*, 2021), and was given to adolescents between 11 and 17 years of age residing in Spain. A total of 1055 individuals participated, with a 95% confidence level and a ±3% margin of error.

The sampling procedure was multistage, stratified with proportional allocation. It used as first stratum four ad hoc aggregated geographical areas (following the classification of NUT areas used by the EU), and a second level of stratification according to the socioeconomic level of the families (low, medium, and high). The final selection of the individuals to be surveyed was made according to cross quotas of gender and age.

The distribution of the sample according to the adolescents' age is 28.3% aged 11-12 years; 44% aged 13-15 years, and 27.7% aged 16-17 years; while by gender, 53.6% are male, 46.3% female, and 0.1% other. In terms of socioeconomic level, 30.2% were low, 50.4% medium, and 19.3% high. The questionnaire was distributed online through the survio.com platform, which, with the support of a social studies company, enabled the participation of adolescents from all the autonomous communities of Spain. Field work was conducted between April and June 2022.

To safeguard the integrity of the study participants and the researchers, authorization for the collection of information was requested from the minor's guardian by means of a signed informed consent form, previously validated by the *Ethics Committee* of the university to which this research is attached (*Universidad Internacional de la Rioja*), which also reviewed and approved the methodological design of the project.

2.1. Measurement

This study included the measurement of three groups of variables: perception of the adolescent's current and ideal figures; level of satisfaction with their physical appearance and its social relevance; and frequency of exposure to food or body care advertising on social networks (*YouTube*, *Instagram*, and *TikTok*).

1) For the variables relating to the adolescent's perception of their ideal (FIG_ID) and current (FIG_AC) figures, the **Thompson** and **Gray** (1995) Silhouette Test was used as a reference to establish the body image that they consider ideal and the body image they have of themselves. This scale is composed of nine drawings that identify physical shape, from value 1 as very thin to value 9 as very fat, for both men and women. The calculation of the means indicates that the adolescents surveyed tend to perceive their current figure as fatter than their ideal figure (FIG_ID M = 5.76; FIG_AC M = 5.82).

Figure 1. **Thompson** and **Gray** Silhouette Test (1995)

2) Level of satisfaction with their physical appearance and its social relevance: in this case, the aim was to assess the degree of acceptance adolescents have of their physical appearance and the influence they give to body and appearance in social relations. Thus, the following four questions were formulated, previously tested in similar studies (**Fanjul-Peyró**; **López-Font**; **González-Oñate**, 2019):

- "Do you feel satisfied with your body and physical appearance in general?" (ASP_FIS1);
- "Do you think that others' perception of you would improve if your physical appearance changed?" (ASP_FIS2);
- "Do you think that having a good physique helps you to be more successful (more friends, be liked more, be more accepted, etc.)?" (ASP_FIS3);
- "How important do you think your friends think your physical appearance is?" (ASP_FIS4),

We used a five-point Likert scale in which 1 = not at all and 5 = very much. The averages were as follows: ASP_FIS1 M = 3.68; ASP_FIS2 M = 2.76; ASP_FIS3 M = 3.32; and ASP_FIS4 M = 3.38, indicating that in general their degree of satisfaction with their body is higher than the impact that physical appearance can have in society.

3) Frequency of exposure to food or body care advertising on social networks (EXP): in this case, the frequency with which adolescents receive advertising about food or body care on *YouTube* (EXP_YT), *Instagram* (EXP_IG), and *TikTok* (EXP_TK) was assessed. The following question was asked: "How often do you receive food or body care advertising on the following platforms?" The frequency of exposure to advertising was measured using a six-point Likert scale, where 1 = never (because I do not use this platform); 2 = never; 3 = infrequent; 4 = somewhat frequent; 5 = frequent; and 6 = very frequent. The calculation of averages reflects that adolescents perceive more advertising on this topic on *YouTube*, followed by *TikTok*, and in third place, *Instagram* (EXP_YT M = 4.04; EXP_TK M = 3.51; EXP_IG M = 3.27).

Statistical analysis was performed using the *SPSS* software package version 25.0. To answer question 1, bivariate analyses were performed using Pearson's tests to analyze the relationship between exposure to advertising, perception of their bodies, and level of satisfaction with their bodies. regarding RQ2, the Anova test was applied to determine whether there is a relationship of dependence between the variables analyzed and the filter variables (gender and age).

3. Results

3.1. Relationship between exposure to social media advertising and body perception and satisfaction

3.1.1. Body perception and exposure to advertising on social networks

Bivariate analyses using the overall sample revealed no significant correlations between adolescents' perception of ideal/actual figure and their exposure to food and body care advertising on *YouTube*, *Instagram*, and *TikTok* ($p > 0.05$), as reported in Table 1.

However, what was observed is that there is a positive and relevant association between the respondents' ideal and real perceptions of their body ($p < 0.01$). Although exposure to advertising on social networks does not affect the perception of the ideal figure, the variables defined to measure the social relevance given to physical appearance do; thus, the ideal perception correlates negatively with the importance of physique in the perception of others ($p < 0.01$), with the perception that success goes hand in hand with a good physique ($p < 0.01$), and with the importance given to physical appearance by their friends ($p < 0.01$). However, the current perception variable correlates negatively with the level of satisfaction with their body ($p < 0.05$).
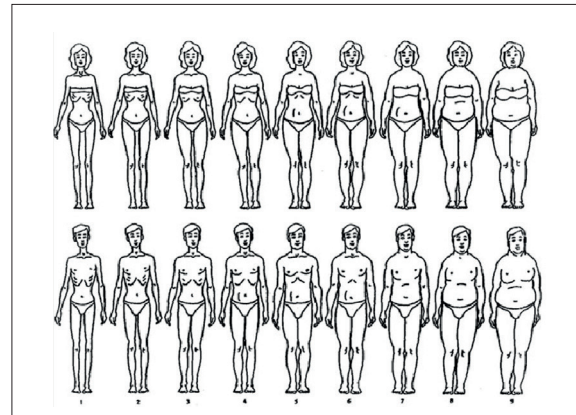
> Exposure to advertising on social networks influences the level of satisfaction that minors express with their own bodies, more pronouncedly among those between 16 and 17 years of age

Table 1. Association between body perception, level of satisfaction with physical appearance, social relevance, and exposure to advertising on social networks

		FIG_ID	FIG_AC	ASP_FIS1	ASP_FIS2	ASP_FIS3	ASP_FIS4	EXP_YT	EXP_IG	EXP_TK
FIG_ID	Pearson's correlation	1	0.420**	0.004	−0.084**	−0.108**	−0.121**	−0.056	−0.044	−0.016
	Sig. (bilateral)		0.000	0.902	0.006	0.000	0.000	0.068	0.149	0.601
FIG_AC	Pearson's correlation	0.420**	1	−0.075*	0.036	−0.045	−0.017	−0.020	−0.047	−0.030
	Sig. (bilateral)	0.000		0.014	0.238	0.144	0.583	0.524	0.129	0.330
ASP_FIS1	Pearson's correlation	0.004	−0.075*	1	−0.335**	−0.201**	−0.111**	−0.086**	−0.100**	−0.139**
	Sig. (bilateral)	0.902	0.014		0.000	0.000	0.000	0.005	0.001	0.000
ASP_FIS2	Pearson's correlation	−0.084**	0.036	−0.335**	1	0.546**	0.427**	0.159**	0.209**	0.205**
	Sig. (bilateral)	0.006	0.238	0.000		0.000	0.000	0.000	0.000	0.000
ASP_FIS3	Pearson's correlation	−0.108**	−0.045	−0.201**	0.546**	1	0.529**	0.125**	0.206**	0.220**
	Sig. (bilateral)	0.000	0.144	0.000	0.000		0.000	0.000	0.000	0.000
ASP_FIS4	Pearson's correlation	−0.121**	−0.017	−0.111**	0.427**	0.529**	1	0.150**	0.182**	0.187**
	Sig. (bilateral)	0.000	0.583	0.000	0.000	0.000		0.000	0.000	0.000
EXP_YT	Pearson's correlation	−0.056	−0.020	−0.086**	0.159**	0.125**	0.150**	1	0.235**	0.357**
	Sig. (bilateral)	0.068	0.524	0.005	0.000	0.000	0.000		0.000	0.000
EXP_IG	Pearson's correlation	−0.044	−0.047	−0.100**	0.209**	0.206**	0.182**	0.235**	1	0.489**
	Sig. (bilateral)	0.149	0.129	0.001	0.000	0.000	0.000	0.000		0.000
EXP_TK	Pearson's correlation	−0.016	−0.030	−0.139**	0.205**	0.220**	0.187**	0.357**	0.489**	1
	Sig. (bilateral)	0.601	0.330	0.000	0.000	0.000	0.000	0.000	0.000	

* Correlation significant at the 0.05 level (bilateral).
** Correlation significant at the 0.01 level (bilateral).

3.1.2. Level of satisfaction with physical appearance, social relevance, and exposure to advertising on social networks

In this case, bivariate analyses show significant correlations between the level of satisfaction expressed by adolescents regarding their bodies and exposure to advertising on social networks (Table 1). A negative association was observed between the satisfaction variable and exposure to *YouTube* ($p < 0.01$), *Instagram* ($p < 0.01$), and *TikTok* ($p < 0.01$) variables, with the strongest association being with that which is seen on *TikTok*.

Likewise, all the variables designed to measure the social relevance that adolescents give to their bodies –the importance of physique in the perception of others (ASP_FIS2); the level of social success according to physique (ASP_FIS3); the relevance that friends give to a good physique (ASP_FIS4)– correlate positively ($p < 0.01$) with the variables of advertising exposure on *YouTube*, *Instagram*, and *TikTok*. Across all variables, the correlation is strongest on *Instagram* and *TikTok*.

Furthermore, it is also interesting to note that the level of satisfaction shows a negative association ($p < 0.01$) with the social relevance of the body variables (ASP_FIS2; ASP_FIS3; ASP_FIS4).

3.2. Differences by gender and age

If the gender-differentiated means are compared, it can be seen that girls tend to choose a fatter ideal figure as a reference than boys, something that is also registered in the choice of figure that represents their current state (FIG_AC), as presented in Table 2. Likewise, boys reported a higher level of satisfaction with their bodies than girls and also perceive to a greater extent than girls that physique influences the perception that others have of us and that the level of social success is commensurate with the physique we have. Girls, however, are more likely than boys to believe that body care is important to their friends.

Table 2. Body perception, level of satisfaction with physical appearance, and social relevance according to gender

	Male (N = 566)		Female (N = 488)		Total (N = 1,054)	
	Average	Deviation	Average	Deviation	Average	Deviation
FIG_ID	5.54	8.930	6.02	14.846	5.76	12.032
FIG_AC	5.52	9.020	6.16	14.224	5.82	11.719
ASP_FIS1	3.73	0.883	3.63	1.003	3.69	0.942
ASP_FIS2	2.78	1.083	2.73	1.217	2.76	1.147
ASP_FIS3	3.36	1.121	3.28	1.199	3.32	1.158
ASP_FIS4	3.33	1.113	3.44	1.076	3.38	1.097

However, the Anova test did not show significant differences according to gender, as presented in Table 3.

Table 3. Anova test to test the level of significance between gender and the variables of body perception, level of satisfaction with physical appearance, and social relevance

			Sum of squares	gl	Root mean square	F	Sig.
FIG_ID * Gender	Between groups	(Combined)	58.437	1	58.437	0.403	0.525
FIG_AC * Gender	Between groups	(Combined)	108.758	1	108.758	0.792	0.374
ASP_FIS1 * Gender	Between groups	(Combined)	3.053	1	3.053	3.452	0.063
ASP_FIS2 * Gender	Between groups	(Combined)	0.509	1	0.509	0.387	0.534
ASP_FIS3 * Gender	Between groups	(Combined)	1.531	1	1.531	1.143	0.285
ASP_FIS4 * Gender	Between groups	(Combined)	3.149	1	3.149	2.620	0.106

When the sample is differentiated by age, it can be observed that the oldest participants (16-17 years old) have a fatter figure as an ideal reference, however, this is also the group that presents a thinner evaluation of their current figure. In addition, their level of satisfaction is the lowest compared with the rest of the age groups. Along the same lines, the oldest group is the one that gives more importance to the social role of a good physical appearance, while the youngest group (11-12 years old) is the one that gives less value to these variables (Table 4).

Table 4. Body perception, level of satisfaction with physical appearance, and social relevance according to age

	11–12 years (N = 299)		13–15 years (N = 464)		16–17 years (N = 292)		Total (N = 1,055)	
	Average	Deviation	Average	Deviation	Average	Deviation	Average	Deviation
FIG_ID	5.86	12.266	5.47	10.814	6.12	13.546	5.76	12.027
FIG_AC	6.00	12.310	6.23	13.184	4.98	8.013	5.82	11.714
ASP_FIS1	3.77	0.978	3.66	0.948	3.63	0.901	3.68	0.945
ASP_FIS2	2.62	1.151	2.78	1.185	2.87	1.072	2.76	1.148
ASP_FIS3	3.04	1.198	3.34	1.169	3.58	1.034	3.32	1.158
ASP_FIS4	3.16	1.202	3.43	1.072	3.52	0.993	3.38	1.098

As a function of age, certain significant differences are observed in the variables defined to assess social relevance of the body (ASP_FIS2; ASP_FIS3; ASP_FIS4), as presented in Table 5.

Table 5. ANOVE test to test the level of significance between age and the variables of body perception, level of satisfaction with their physical appearance, and its social relevance

			Sum of squares	gl	Root mean square	F	Sig.
FIG_ID * Age	Between groups	(Combined)	80.373	2	40.186	0.277	0.758
FIG_AC * Age	Between groups	(Combined)	293.889	2	146.945	1.071	0.343
ASP_FIS1 * Age	Between groups	(Combined)	3.296	2	1.648	1.849	0.158
ASP_FIS2 * Age	Between groups	(Combined)	10.110	2	5.055	3.854	0.021
ASP_FIS3 * Age	Between groups	(Combined)	42.694	2	21.347	16.376	0.000
ASP_FIS4 * Age	Between groups	(Combined)	21.204	2	10.602	8.929	0.000

4. Discussion

Although the body positive movement, which promotes the acceptance and normalization of body diversity (**Cohen**; **Newton-John**; **Slater**, 2021), is currently gaining more and more strength on social networks, there are still many representations on social networks that continue to be based on traditional models in which the archetype of the ideal body has attributes such as youth and thinness.

Furthermore, continuing to utilize these types of unattainable ideals has led to a high number of people reporting that they do not feel attractive after having started to use social networks (**Markey**; **Daniels**, 2022; **Fioravanti** et al., 2022).

In this sense, the results of our work have confirmed that there are significant correlations between the level of exposure of adolescents to food or body care advertising on social networks and the level of satisfaction with their physical appearance (RQ 1). Specifically, the data show that exposure to social networks increases the dissatisfaction that adolescents have with their own bodies, which, as previous studies have shown, can lead to the development of mental health problems such as depressive disorders (**Murray** et al., 2023), self-esteem problems due to feeling that they do not fit in with the canons of beauty established by society (**De-Jans** et al., 2021) and agreed upon by social networks, and eating disorders (**Cordero** et al., 2022; **Pink** et al., 2022; **Sanzari** et al., 2023).

> When comparing ideal and real figure, girls consider that they are above the ideal weight, while boys consider that they are below

In terms of level of exposure and social relevance, we also observed that, the greater the exposure to advertising on social networks such as *YouTube*, *Instagram*, and *TikTok*, the more important they believe physical appearance is to others, both to friends and to people with whom they have a more distant or no relationship.

> There is no association between exposure to advertising and perception of one's own body

In addition, they also consider that people who are closer to the established ideal of beauty will have a higher level of social success. Although this relationship was found in both genders, boys reported having this perception more frequently than girls.

In contrast to previous studies, no significant differences were found between the beauty ideals of boys and girls when analyzing the results by gender (RQ 2). However, in the case of girls, the ideal figure corresponds to one that is comparatively thinner than in the case of the figure chosen by boys. Furthermore, when it comes to comparing ideal and actual figures, girls consider themselves to be above the ideal weight, while boys consider themselves to be below.

This once again highlights the need to incorporate the gender perspective both in the analysis of health problems and in the proposal of interventions (**Álvarez-Díaz**, 2020), since gender is a key structural determinant (*WHO*, 2018) that seeks the identification and consideration of differences in the socialization of women and men. In addition, it is also considered a pillar on which the development of values, attitudes, and behaviors is based (**Borrell**; **Artazcoz**, 2008).

Significant differences in the level of satisfaction with physical appearance and its social relevance (RQ 2) are seen when it comes to age: it was found that the level of satisfaction is lower in the group between 16 and 17 years of age, and that in turn, this group is the one that attaches the greatest importance to the social role of having a good physical appearance. Therefore, although they have greater cognitive development to critically process advertising content, they are the most vulnerable audience to this type of advertising exposure on social networks.

5. Conclusions

The results of our study show that exposure to advertising by influencers on social networks such as *YouTube*, *Instagram*, and *TikTok* does not influence adolescents' perception of their own bodies, but it is directly related to lower body satisfaction.

This assessment is based not so much on individual reasons related to health or personal well-being, but mainly on social reasons, which increase in importance with age as the participants consider that physical appearance can affect the consideration that others have of them and be a determining factor for social success.

Among the main limitations of the study are that the methodological tool used does not allow us to delve into the impact that advertising by influencers on social networks has on the choice of products, nor does it evaluate the advertised products' nutritional quality or the usefulness of care, so it would be interesting to complement the results of this work with other qualitative methodologies or with a content analysis of the products advertised.

In addition, given these findings, we believe that it would be interesting for future lines of research to conduct a study that allows us to delve into the impact that the physical appearance of the influencer may have on adolescents' intention to purchase food and body care products, as well as to delve into the beliefs that condition their body satisfaction.

Finally, one of the main contributions of the study is the establishment of a tested and updated quantitative methodology that allows for its replication in the future in other countries and regions, with the aim of evaluating the effectiveness of possible actions to improve critical competencies in the face of idealized content and that which has a persuasive intentionality, as recommended in the *European regional report on obesity* (*WHO*, 2022).

6. References

Aesan (2019). *Estudio Aladino*.
https://www.aesan.gob.es/AECOSAN/web/nutricion/detalle/aladino_2019.htm

Alruwaily, Amaal; **Mangold, Chelsea**; **Greene, Tenay**; **Arshonsky, Josh**; **Cassidy, Omni**; **Pomeranz, Jennifer L.**; **Bragg, Marie** (2020). "Child social media influencers and unhealthy food product placement". *Pediatrics*, v. 146, n. 5, pp. 2-10.
https://doi.org/10.1542/peds.2019-4057

Álvarez-Díaz, Jorge A. (2020). "La necesaria perspectiva de género para el análisis de problemas de salud". *Cirugía y cirujanos*, v. 88, n. 3, pp. 383-388.
http://doi.org/10.24875/ciru.19000865

Audrezet, Alice; **De-Kerviler, Gwarlann**; **Moulard, Julie-Guidry** (2020). "Authenticity under threat: when social media influencers need to go beyond self-presentation". *Journal of business research*, v. 117, pp. 557-569.
http://doi.org/10.1016/j.jbusres.2018.07.008

Autocontrol (2021). *Código de conducta sobre el uso de influencers en la publicidad.*
https://www.autocontrol.es/wp-content/uploads/2020/10/codigo-de-conducta-publicidad-influencers.pdf

Balaban, Delia-Cristina; **Mucundorfeanu, Meda**; **Mureșan, Larisa-Ioana** (2022). "Adolescents' understanding of the model of sponsored content of social media influencer *Instagram* stories". *Media and communication*, v. 10, n. 1, pp. 305-316.
https://doi.org/10.17645/mac.v10i1.4652

Borrell, Carme; **Artazcoz, Lucía** (2008). "Las desigualdades de género en salud: retos para el futuro". *Revista española de salud pública*, v. 82, n. 3, pp. 241-249.
https://doi.org/10.1590/s1135-57272008000300001

Boyland, Emma J.; **Nolan, Sarah**; **Kelly, Bridget**; **Tudur-Smith, Catrin**; **Jones, Andrew**; **Halford, Jason C.**; **Robinson, Eric** (2016). "Advertising as a cue to consume: a systematic review and meta-analysis of the effects of acute exposure to unhealthy food and nonalcoholic beverage advertising on intake in children and adults". *The American journal of clinical nutrition*, v. 103, n. 2, pp. 519-533.
https://doi.org/10.3945/ajcn.115.120022

Cambronero-Saiz, Belén; **Segarra-Saavedra, Jesús**; **Cristófol-Rodríguez, Carmen** (2021). "Análisis desde la perspectiva de género del engagement de los principales youtubers de divulgación científica". *Cuestiones de género: de la igualdad y la diferencia*, n. 16, pp. 511-525.
https://doi.org/10.18002/cg.v0i16.6914

Castelló-Martínez, Araceli; **Tur-Viñes, Victoria** (2021). "Una combinación de alto riesgo: obesidad, marcas de alimentación, menores y retos en *YouTube*". *Gaceta sanitaria*, v. 35, n. 4, pp. 352-354.
https://doi.org/10.1016/j.gaceta.2020.06.018

Coates, Anna-Elizabeth; **Hardman, Charlotte-Alice**; **Grovenor-Halford, Jason-Christian**; **Christiansen, Paul**; **Boyland, Emma-Jane** (2019). "The effect of influencer marketing of food and a 'protective' advertising disclosure on children's food intake". *Pediatric obesity*, v. 14, n. 10, e12540.
https://doi.org/10.1111/ijpo.12540

Cohen, Rachel; **Newton-John, Toby**; **Slater, Amy** (2021). "The case for body positivity on social media: perspectives on current advances and future directions". *Journal of health psychology*, v. 26, n. 13, pp. 2365-2373.
http://doi.org/10.1177/1359105320912450

Conde, Rita; **Casais, Beatriz** (2023). "Micro, macro and mega-influencers on Instagram: the power of persuasion via the parasocial relationship". *Journal of business research*, v. 158, 113708.
https://doi.org/10.1016/j.jbusres.2023.113708

Cordero, Christina; **Pulgaron, Elizabeth**; **Marchante-Hoffman, Ashley**; **Llabre, María**; **Perreira, Krista, Sotres-Álvarez, Daniela**; **Isasi, Carmen**; **Elder, John**; **Delamater, Alan** (2022). "Body image and disordered eating behaviors in Hispanic/Latino youth: findings from the Hispanic community health study/study of Latino youth". *Appetite*, v. 175, 106079.
https://doi.org/10.1016/j.appet.2022.106079

De-Jans, Steffi; **Hudders, Liselot** (2020). "Disclosure of vlog advertising targeted to children". *Journal of interactive marketing*, v. 52.
https://doi.org/10.1016/j.intmar.2020.03.003

De-Jans, Steffi; **Spielvogel, Ines**; **Naderer, Brigitte**; **Hudders, Liselot** (2021). "Digital food marketing to children: How an influencer's lifestyle can stimulate healthy food choices among children". *Appetite*, v. 162, 105182.
https://doi.org/10.1016/j.appet.2021.105182

De-Jongh-González, Olivia; **Escalante-Izeta, Ericka-Ileana**; **Ojeda-García, Angélica** (2023). "Comprendiendo la obesidad infantil como una condición bio-psico-social". *Revista cubana de psicología*, v. 4, n. 6.
https://revistas.uh.cu/psicocuba/article/view/311

Djafarova, Elmira; **Rushworth, Chloe** (2017). "Exploring the credibility of online celebrities' *Instagram* profiles in influencing the purchase decisions of young female users". *Computers in human behavior*, v. 68.
https://doi.org/10.1016/j.chb.2016.11.009

Du, Yuetong; **Rui, J. Raymond**; **Yu, Nan** (2023). "How parasocial relationship and influencer-product congruence shape audience's attitude towards product placement in online videos: the mediation role of reactance". *Psychology research and behavior management*, v. 16, pp. 1315-1329.
https://doi.org/10.2147/PRBM.S406558

Eyada, Bassant; **Milla, Asli** (2020). "Native advertising: challenges and perspectives". *Journal of design sciences and applied arts*, v. 1, n. 1, pp. 67-77.
https://doi.org/10.21608/JDSAA.2020.70451

Fanjul-Peyró, Carlos; **López-Font, Lorena**; **González-Oñate, Cristina** (2019). "Adolescentes y culto al cuerpo: influencia de la publicidad y de internet en la búsqueda del cuerpo masculino idealizado". *Doxa comunicación*, v. 29, pp. 61-74.
https://doi.org/10.31921/doxacom.n29a3

Feijoo, Beatriz; **Fernández-Gómez, Erika** (2021). "Niños y niñas influyentes en *YouTube* e *Instagram*: contenidos y presencia de marcas durante el confinamiento". *Cuadernos.info*, n. 49, pp. 302-330.
https://doi.org/10.7764/cdi.49.27309

Feijoo, Beatriz; **Pavez, Isabel** (2019). "Audiovisual content with advertising intention in children's videos on *YouTube*: the case of the *Soy Luna* series". *Communication & society*, v. 32, n. 1, pp. 313-331.
https://doi.org/10.15581/003.32.1.313-331

Feijoo, Beatriz; **Sádaba, Charo**; **Bugueño, Simón** (2020). "Anuncios entre vídeos, juegos y fotos. Impacto publicitario que recibe el menor a través del teléfono móvil". *Profesional de la información*, v. 29, n. 6, e290630.
https://doi.org/10.3145/epi.2020.nov.30

Fernández-Gómez, Erika; **Díaz-Campo, Jesús** (2014). "La publicidad de alimentos en la televisión infantil en España: promoción de hábitos de vida saludables". *Observatorio*, v. 8, n. 4, pp. 133-150.
https://www.doi.org/10.15847/obsOBS842014802

Fioravanti, Giulia; **Bocci-Benucci, Sara**; **Ceragioli, Giulia**; **Casale, Silvia** (2022). "How the exposure to beauty ideals on social networking sites influences body image: A systematic review of experimental studies". *Adolescent research review*, v. 7, n. 3, pp. 419-458.
https://doi.org/10.1007/s40894-022-00179-4

Gobierno de España (2022). *Plan Estratégico Nacional para la reducción de la obesidad infantil (2022-2030). En Plan bien. Resumen ejecutivo.*
https://www.lamoncloa.gob.es/presidente/actividades/Documents/2022/100622-plan-estrategico-nacional-reduccion-obesidad-infantil_en-plan-bien.pdf

Gómez-Nieto, Begoña (2018). "El influencer: herramienta clave en el contexto digital de la publicidad engañosa". *Methaodos revista de ciencias sociales*, v. 6, n. 1.
https://doi.org/10.17502/m.rcs.v6i1.212

González-Díaz, Cristina (2014). "La publicidad dirigida a niños en el sector de la alimentación: un estudio atendiendo al tipo de producto". *Historia y comunicación social*, v. 18, pp. 175-187.
https://doi.org/10.5209/rev_hics.2013.v18.44235

González-Oñate, Cristina; **Martínez-Sánchez, Adela** (2020). "Estrategia y comunicación en redes sociales: Un estudio sobre la influencia del movimiento *RealFooding*". *Ámbitos. Revista internacional de comunicación*, n. 48, pp. 79-101.
https://doi.org/10.12795/Ambitos.2020.i48.05

Lim, Xin-Jean; **Radzol, Aifa-Rozaini**; **Cheah, Jun-Hwa**; **Wong, Mun-Wai** (2017). "The impact of social media influencers on purchase intention and the mediation effect of customer attitude". *Asian journal of business research*, v. 7, n. 2, pp. 19-36.
https://doi.org/10.14707/ajbr.170035

López-Villafranca, Paloma; **Olmedo-Salar, Silvia** (2019). "Menores en *YouTube*, ¿ocio o negocio? Análisis de casos en España y EUA". *Profesional de la información*, v. 28, n. 5, e280520.
https://doi.org/10.3145/epi.2019.sep.20

Lou, Chen; **Yuan, Shupei** (2019). "Influencer marketing: how message value and credibility affect consumer trust of branded content on social media". *Journal of interactive advertising*, v. 19, n. 1, pp. 58-73.
http://doi.org/10.1080/15252019.2018.1533501

Lowe-Calverley, Emily; **Grieve, Rachel** (2021). "Do the metrics matter? An experimental investigation of *Instagram* influencer effects on mood and body dissatisfaction". *Body image*, v. 36.
https://doi.org/10.1016/j.bodyim.2020.10.003

Markey, Charlotte H.; **Daniels, Elizabeth A.** (2022). "An examination of preadolescent girls' social media use and body image: Type of engagement may matter most". *Body image*, v. 42, pp. 145-149.
https://doi.org/10.1016/j.bodyim.2022.05.005

Meyers, Cynthia B. (2017). "Social media influencers: a lesson plan for teaching digital advertising media literacy". *Advertising & society quarterly*, v. 18, n. 2, pp.
https://doi.org/10.1353/asr.2017.0018

Milmo, Dan; **Skopeliti, Clea** (2021). "Teenage girls, body image and *Instagram*'s 'perfect storm'". *The Guardian*, 18 September.
https://www.theguardian.com/technology/2021/sep/18/teenage-girls-body-image-and-instagrams-perfect-storm

Murphy, Gráinne; **Corcoran, Ciara**; **Tatlow-Golden, Mimi**; **Boyland, Emma**; **Rooney, Brendan** (2020). "See, like, share, remember: adolescents' responses to unhealthy-, healthy- and non-food advertising in social media". *International journal of environmental research and public health*, v. 17, n. 7, pp. 21-81.
https://doi.org/10.3390/ijerph17072181

Murray, Marisa A.; **Obeid, Nicole**; **Gunnell, Katie E.**; **Buchholz, Annick, Flament**; **Martine F.**; **Goldfield, Gary S.** (2023). "Appearance satisfaction mediates the relationship between recreational screen time and depressive symptoms in adolescents". *Child and adolescent mental health*, v. 28, n. 1, pp. 12-21.
https://doi.org/10.1111/camh.12576

OMS (2018). *Género y salud*. Organización Mundial de la Salud.
https://www.who.int/es/news-room/fact-sheets/detail/gender

Pink, Aimee E.; **Lim, Phoebe X. H.**; **Sim, Aaron Y.**; **Cheon, Bobby K.** (2022). "The effects of acute social media exposure on body dissatisfaction and eating behavior of male and female students". *Journal of social and clinical psychology*, v. 41, n. 4, pp. 365-397.
https://doi.org/10.1521/jscp.2022.41.4.365

Reyes-Pedraza, María-Eugenia; **García-González, Janet**; **Téllez-Castilla, María-Delia** (2018). "Impacto de la publicidad en los hábitos alimenticios en los niños". *Revista española de comunicación en salud*, v. 9, n. 2, pp. 116-126.
https://doi.org/10.20318/recs.2018.4490

Rosara, Nadia-Annisa; **Luthfia, Amia** (2020). "Factors influencing consumer's purchase intention on beauty products in *YouTube*". *Journal of distribution science*, v. 18, n. 6, pp. 37-46.
https://doi.org/10.15722/jds.18.6.202006.37

Sadeghirad, Behnam; **Duhaney, Tara**; **Motaghipisheh, Shahrzad**; **Campbell, Norm R. C.**; **Johnston, Bradley C.** (2016). "Influence of unhealthy food and beverage marketing on children's dietary intake and preference: a systematic review and meta-analysis of randomized trials". *Obesity reviews*, v. 17, n. 10, pp. 945-959.
https://doi.org/10.1111/obr.12445

Sanzari, Christina M.; **Gorrell, Sasha**; **Anderson, Lisa M.**; **Reilly, Erin E.**; **Niemiec, Martha A.**; **Orloff, Natalia C.**; **Anderson, Drew A.**; **Hormes, Julia M.** (2023). "The impact of social media use on body image and disordered eating behaviors: Content matters more than duration of exposure". *Eating behaviors*, 101722.
https://doi.org/10.1016/j.eatbeh.2023.101722

Silva, Marianny-Jessica-De Brito; **De-Farias, Salomão-Alencar**; **Grigg, Michelle-Helena-Kovacs**; **Barbosa, María-de-Lourdes-de-Azevedo** (2021). "The body as a brand in social media: analyzing digital fitness influencers as product endorsers". *Athenea digital*, v. 21, n. 1.
https://doi.org/10.5565/rev/athenea.2614

Smit, Crystal R.; **Buijs, Laura**; **Van-Woudenberg, Thabo J.**; **Bevelander, Kirsten E.**; **Buijzen, Moniek** (2019). "The impact of social media influencers on children's dietary behaviors". *Frontiers in psychology*, v. 10, 2975.
https://doi.org/10.3389/fpsyg.2019.02975

Thompson, Marjorie A.; **Gray, James J.** (1995). "Development and validation of a new body-image assessment scale". *Journal of personality assessment*, v. 64, n. 2, pp. 258-269.
https://doi.org/10.1207/s15327752jpa6402_6

Tiggemann, Marika; **Anderberg, Isabella** (2020). "Muscles and bare chests on *Instagram*: the effect of influencers' fashion and fitspiration images on men's body image". *Body image*, v. 35, pp. 237-244.
https://doi.org/10.1016/j.bodyim.2020.10.001

Tur-Viñes, Victoria; **Castelló-Martínez, Araceli** (2021). "Food brands, *YouTube* and children: media practices in the context of the PAOS selfregulation code". *Communication & society*, v. 34, n. 2, pp. 87-105.
https://doi.org/10.15581/003.34.2.87-105

Tur-Viñes, Victoria; **Núñez-Gómez, Patricia**; **González-Río, María-José** (2018). "Menores influyentes en *YouTube*. Un espacio para la responsabilidad". *Revista latina de comunicación social*, n. 73, pp. 1211-1230.
https://doi.org/10.4185/RLCS-2018-1303

Unicef (2021). *¿Qué opinan los niños, niñas y adolescentes? Resultados de la segunda edición del Barómetro de opinión de infancia y adolescencia 2020-2021.*
https://www.unicef.es/sites/unicef.es/files/comunicacion/Barometro%20infancia%202021.pdf

Van-Dam, Sophia; **Van-Reijmersdal, Eva** (2019). "Insights in adolescents' advertising literacy, perceptions and responses regarding sponsored influencer videos and disclosures". *Cyberpsychology: journal of psychosocial research on cyberspace*, v. 13, n. 2, article 2.
http://doi.org/10.5817/CP2019-2-2

WHO (2016). *Tackling food marketing to children in a digital world: trans-disciplinary perspectives: children's rights, evidence of impact, methodological challenges, regulatory options and policy implications for the WHO European Region.* World Health Organization. Regional Office for Europe.
https://apps.who.int/iris/handle/10665/344003

WHO (2021). *European childhood obesity surveillance initiative (COSI). Report on the fourth round of data collection, 2015-2017.* World Health Organization. Regional Office for Europe. ISBN: 978 92 890 5773 8
https://apps.who.int/iris/bitstream/handle/10665/341189/WHO-EURO-2021-2495-42251-58349-eng.pdf

WHO (2022). *European regional obesity report.* World Health Organization. Regional Office for Europe.
https://apps.who.int/iris/bitstream/handle/10665/353747/9789289057738-eng.pdf

Wojdynski, Bartosz W.; **Golan, Guy J.** (2016). "Native advertising and the future of mass communication". *American behavioral scientist*, v. 60, n. 12, pp. 1403-1407.
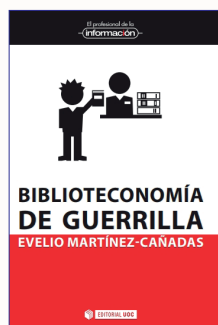*http://doi.org/10.1177/0002764216660134*

Zozaya, Luisa; **Feijoo, Beatriz**; **Sádaba, Charo** (2023). "El papel de los influencers en las decisiones de consumo de los menores españoles". *Doxa comunicación*, n. 36, pp. 401-413.
https://doi.org/10.31921/doxacom.n36a1685