
photo: Samuel Sczyrzicki

Beatriz Feijoo, Arantxa Vizcaíno-Verdú

The Impact of Social References on Adolescents' Body Satisfaction: Healthy and Aesthetic Perspectives

DOI: https://doi.org/10.34135/mlar-25-01-06

ABSTRACT

Adolescents construct body perceptions through a dynamic interplay of familial expectations, peer reinforcement, and influencer-curated ideals. This study maps the shifting impact of these social references by surveying Spanish adolescents (ages 12–17) on their perceptions of what constitutes a healthy versus an aesthetic body. Statistical analyses reveal that parents primarily influence health-related ideals by modeling care and well-being, whereas influencers dictate aspirational aesthetics, amplifying digital beauty norms through hyper-visibility and algorithmic reinforcement. Gendered patterns emerge: girls engage more frequently in peer comparison and seek validation through influencer content, while boys tend to emphasize functional and performance-based attributes, often modeled by adult figures such as teachers and coaches. Notably, adolescents who focus on influencers when constructing their body ideals report lower body satisfaction, indicating the cyclical nature of aspirational distress in digital environments. These findings underscore the growing dissonance between health-oriented and appearance-based body ideals, illustrating how diverse social references contribute to body dissatisfaction through distinct but intersecting mechanisms of influence.

KEY WORDS

Body Image. Digital Identity. Family. Influencers. Mental Health. Peers. Social Media.

1 Introduction

Adolescents navigate body image construction through a complex web of social influences where family, peers, and digital media intersect to shape perceptions of health and aesthetics. Social media platforms amplify aesthetic ideals and position influencers as central figures in the dissemination of body norms (Lefebvre & Cowart, 2022). While traditional celebrities dictate historical beauty standards, current influencers curate aspirational body ideals, blurring the boundaries between relatability and unattainability (Feijoo & Vizcaíno-Verdú, 2024). In Spain, adolescents aged 11 to 17 years reported body dissatisfaction, highlighting the pervasiveness of these figures (Feijoo & Sádaba, 2025).

Body perception functions as a social and an algorithmic construct. Adolescents engage with their family and peers in offline settings while simultaneously internalizing algorithmically-driven body ideals through personalized social media feeds (Rousseau & Rodgers, 2025). These digital scenarios reinforce aesthetic norms through engagement metrics, virality, and trends, fostering a continuous loop of validation and self-surveillance (Putra & Afrilian, 2025). Although research highlights the significant influence of family in shaping health-oriented body perceptions and peers in reinforcing aesthetic ideals (Jones et al., 2004; Michael et al., 2014; Kenny et al., 2016), these studies rarely differentiate between different networked figures during adolescence.

This study examines how social references shape the perception of a healthy and aesthetic body among Spanish adolescents. The research focuses on three questions: (1) Who has the greatest influence in shaping these body perceptions? (2) How do these influences shift across gender and age groups? (3) How do social references relate to body satisfaction? The findings contribute to discussions on youth digital socialization and body image formation, offering an insight into how adolescents internalize health and aesthetic norms through their immediate social networks. This supports the development of targeted media literacy programs and intervention strategies designed to help adolescents critically engage with social and digital body image networks.

1.1 Influence of Social References on Body Perception During Adolescence

The development of body image during adolescence emerges as a complex psychosocial process shaped by dialectical interactions between socializing agents, cultural standards, and individual perceptions. This phenomenon is particularly significant in hyperconnected societies, where the dichotomy between the healthy body, defined by biomedical parameters (Grogan, 2006), and the aesthetic body, constructed through cultural consumption ideals (Featherstone, 2010), creates identity tensions that influence body satisfaction. Socialization theory (Bandura, 1969) provides a key explanatory framework for understanding how social referents shape physical self-perception through mechanisms of observation, reinforcement, and comparison.

The conceptualization of body image integrates three interrelated dimensions: perceptual (self-evaluation) (Bacchini & Magliulo, 2003), cognitive (beliefs about the body), and affective (emotions associated with appearance) (Senín-Calderón et al., 2017). Empirical studies have demonstrated that while 79% of Spanish adolescents associate a healthy body with functional parameters such as an adequate Body Mass Index (BMI) (Fernández Guerrero et al., 2019), European youth increasingly prioritize aesthetic attributes such as muscle toning or thinness, even when these contradict medical indicators, leading them to perceive themselves as "fatter" as they age (Gudelj Rakić et al., 2022). This dissonance intensifies due to constant exposure to digital content that promotes unattainable body ideals, normalizing risky behaviors, such as restrictive dieting or compulsive exercise (Sina et al., 2022).

Family serves as the primary socializing agent in shaping body self-perception (Stankovska & Ahmeti, 2025). Studies have shown that parental closeness increases the likelihood of higher body satisfaction during adolescence (Al Sabbah et al., 2009). However, this influence is mediated by the growing prominence of peers and digital figures, especially during adolescence, a stage in which group acceptance is directly linked to body image pressure (Datta et al., 2024).

Peer groups function as catalysts for implicit body norms through upward social comparison. Kenny et al. (2016) explained that adolescents may modify their eating behaviors to physically resemble those of their friends, leading them to avoid social activities when they perceive discrepancies between their body and group standards. This phenomenon acquires particular nuances in educational settings where gender stereotypes associated with body ideals are reinforced: thinness and softness as feminine ideals versus muscularity and height as desirable masculine attributes (Feijoo et al., 2024).

The emergence of influencers and social media has radically reshaped body socialization processes. Analyses of high-engagement platforms among adolescents indicate that digital environments promote idealized bodies that generate perceptual distortions among younger audiences (Ruiz-Centeno et al., 2025), and that influencers significantly alter how young people perceive their own bodies (Feijoo & Vizcaíno-Verdú, 2024). Platforms such as TikTok and Instagram normalize aesthetic medicalization through viral challenges (#ProAna, #Thinspo) that prioritize appearance over health (Ging & Garvey, 2018; Pryde et al., 2024), introducing nutrition recommendations that lack scientific validity. This scenario creates a paradoxical cognitive conflict: digital referents exalt aesthetics as the highest form of identity value.

Consequently, the three primary vectors of social pressure (peers, family, and media) interact with individual factors (self-esteem and perfectionism) to shape the development of self-body image (Tort-Nasarre et al., 2021). Recent research has introduced a fourth vector, social media recommendation algorithms, which create filter bubbles that exponentially reinforce aesthetic ideals (Harriger et al., 2022). This framework explains why adolescents increasingly experience heightened body anxiety after engaging with digital content that promotes thin-ideal transformations (Schein et al., 2025). Thus, the construction of an adolescent body image constitutes a multidimensional phenomenon in which biology, society, and media converge.

1.2 Adolescence Body Satisfaction and Differences by Gender and Age

Body satisfaction during adolescence constitutes a dynamic psychosocial construct shaped by the previously mentioned social pressures. This process intensifies in digital environments, where constant exposure to idealized body representations amplifies the discrepancy between perceived self-image and aspirational ideals, potentially fostering body dissatisfaction (Fanjul-Peyró et al., 2019). In this context, the media highlights the extent to which adolescents remain permeable to sociocultural discourse on body image (Rousseau & Eggermont, 2018).

The Tripartite Influence model (Thompson et al., 1999) provides a deeper understanding of these mechanisms by proposing a causal structure centered on the effects of media, family, and peers. This theoretical framework suggests that the internalization of unrealistic aesthetic standards and tendency toward social comparison constitute key determinants of adolescents' physical self-perception. Specifically, normative ideals of thinness in girls and muscularity in boys emerge as structural axes in self-image construction, reinforcing social validation parameters (Duno & Acosta, 2019).

Gender differences in adolescent body perception introduce critical patterns into psychosocial development. Several studies indicate that girls exhibit a heightened tendency to adopt an externalized observer perspective on their own bodies, leading to increased self-surveillance, objectification, and body shame (Carlson Jones, 2004; Hargreaves & Tiggemann, 2004). By

contrast, boys generally experience pressures related to muscularity and body toning, although these pressures exert minimal influence on comparison-based self-assessments (McCabe & Ricciardelli, 2003).

From a developmental perspective, body satisfaction fluctuates significantly throughout adolescence contingent on neurocognitive and psychosocial growth. During early adolescence (ages 10-13), pubertal maturation and emergence of secondary sexual characteristics foster peer-based comparative processes (Tatangelo & Ricciardelli, 2015). In middle adolescence (ages 14-16), increased sophistication in abstract thinking facilitates the internalization of aesthetic ideals and increases vulnerability to body dissatisfaction (Matilainen et al., 2023).

Finally, during late adolescence (ages 17-19), identity consolidation contributes to greater resilience against sociocultural pressures, although gender disparities in self-perception persist (Prabhu & D'Cunha, 2019). By addressing these gender- and age-related differences, which reflect distinct contextual influences and cognitive-emotional mechanisms underlying ideal body internalization, this study contributes to the ongoing discourse on the impact of social referents in shaping the conceptions of an aesthetic and healthy body.

2 Methodology

This study examines the impact of social references on adolescents' perceptions of a healthy and aesthetically desirable body. The research addresses the following questions:
RQ1. Which social references shape the perception of a healthy body most significantly during adolescence? How do these references differ when aesthetic body ideals are considered?

RQ2. Do gender and age influence the extent to which social references shape adolescents' body perception?

RQ3. To what extent do social references affect adolescents' body satisfaction in both health-related and aesthetic terms?

To explore these questions, we employed a survey-based design involving 1,082 Spanish adolescents aged 12-17 years (M_age_ = 14.5, 49.6% male, 50.4% female). The sampling procedure followed a multi-stage stratified approach with proportional allocation, drawing from four aggregated geographic regions classified according to the Nomenclature of Territorial Units for Statistics (NUTS) framework used by the European Union. A second level of stratification considered the socioeconomic status of the participants' families, which were categorized into low-, middle-, and high-income groups.

The final sample adhered to cross-quota criteria for gender and age. The data collection phase took place between February and May 2024, with adolescents recruited through a panel service. The study received ethical approval from the Ethics Committee of the university that oversaw the research project (Feijoo et al., 2024), and informed consent was obtained from each participant's legal guardian.

2.1 Measures and Process

First, participants reported demographic information, including age and gender. They then completed responses for the key variables examined in this study.

Table 1 provides a detailed overview of the questions and items used in this research, drawing from established measures, adapted from Carlson Jones and Crawford (2005), Duno and Acosta (2019), and Fanjul Peyró et al. (2019).

Item	Question	Scale*
Healthy and aesthetic social reference	Who is your reference for a healthy body? Who is your reference for an aesthetic body? Father/Mother Brother/Sister Other family members (uncles/aunts, grandparents, cousins, etc.) Other adults they know (teachers, coaches, classmates, etc.) Friends Influencers or famous people	0 = No 1 = Yes
Body satisfaction	How satisfied are you with the following aspects of your body? My weight My endurance My ability to do sports My facial features My hair My skin tone My body shape The definition of my muscles My height My waist	1 = Not at all satisfied 2 = Slightly satisfied 3 = Moderately satisfied 4 = Quite satisfied 5 = Very satisfied

* D/K and N/A responses were assigned values of 90 and 97, respectively, and were treated as missing values in the statistical analysis.

TABLE 1: *Description of the survey questions*

Source: own processing, 2025

To analyze the relationship between social references and adolescents' body perception, various statistical tests were applied. The Likert scale was used to measure body satisfaction across different aspects, providing a quantitative framework for assessing individual differences. McNemar's test was employed to compare proportions in related samples, allowing us to identify shifts in the selection of references for a healthy versus an aesthetic body. Additionally, Chi-square tests were conducted to examine differences in the distribution of social references by gender and age. We opted for an analysis of variance (ANOVA) to identify significant differences in body satisfaction across age groups, offering a more detailed understanding of how body perception evolves throughout adolescence. Finally, we used The Mann-Whitney U test to compare differences in body satisfaction between independent groups, as it is suitable for data that do not follow a normal distribution.

3 Results

3.1 Social References for a Healthy and Aesthetic Body: Differences by Gender and Age (RQ1 and RQ2)

To determine whether significant differences existed in the impact of social references on the perception of a healthy body versus an aesthetic body, we applied McNemar's test (Table 2). This test compares proportions in related samples, allowing an assessment of whether adolescents who select a social reference for a healthy body also choose the same reference for an aesthetic body or if their choices shift.

The findings showed significant differences ($p < .05$) between the references associated with health and those linked to aesthetics. Parents emerged as the predominant reference for a healthy body (33.5%); however, their influence declined when adolescents considered aesthetic perceptions (24.5%). A similar trend appeared with other family members and adult figures, whose impact remained significantly stronger in shaping perceptions of a healthy body than of an aesthetic one.

Conversely, influencers exerted a significantly greater effect on aesthetic body perception (32.7%) than health-related body perception (24.1%), reinforcing their role as key figures in shaping idealized bodies online. Friends played a central role in both healthy and aesthetic body perceptions (28%), and no significant differences were observed between these categories. These data suggest that adolescents continue to associate a healthy body with family references, whereas aesthetic body perception is being increasingly influenced by peers and media figures.

Chi-square tests (Table 2) revealed notable gender-based differences in social references. Girls reported higher levels of influence from both friends and influencers, whereas boys relied more on adult figures such as teachers and coaches. Girls frequently cited friends as essential references for healthy body perception (38.6%), and even more so for aesthetic body ideals (40%). They also demonstrated a greater tendency to reference influencers in both contexts ($p < .05$). By contrast, boys relied more heavily on adults (37.2% for a healthy body and 32.7% for an aesthetic body), highlighting a gender-based divergence in the social models that shape their body perception.

Social reference	Healthy body						Aesthetic body					
	Gender		Age			Total	Gender		Age			Total
	Girl	Boy	12-13	14-15	16-17		Girl	Boy	12-13	14-15	16-17	
Father/Mother	34.7	32.3	46.6*	25.2	28.9	33.5**	23.9	25.1	32.9*	19.7	21.1	24.5
Brother/Sister	12.2	9.1	12.3	12.0	8.5	10.7	10.8	8.6	10.9	10.3	7.9	9.7
Other family members (uncles/aunts, grandparents, cousins…)	10.4	8.6	11.7	7.5	9.4	9.5**	8.3	6.4	8.2	7.5	6.4	7.4
Other adults they know (teachers, coaches, classmates, etc.)	30.5	37.2*	29.6	37.3	34.5	33.8**	23.6	32.7*	25.8	30.7	27.8	28.1
Friends	38.6*	30.5	29.6	30.4	43.8*	34.6	40.0	28.2	32.6	29.6	40.3*	34.1
Influencers or famous people	28.0*	20.2	21.1	27.6	23.1	24.1	38.6*	26.7	31.1	34.7	32.2	32.7**

*The Chi-square results show significant differences in segmentation by gender and age ($p < .05$).
**The McNemar test shows significant differences between the healthy and aesthetic results ($p < .05$).

TABLE 2: *Incidence percentage of social role models for a healthy and aesthetic body*

Source: own processing, 2025

3.2 Body Satisfaction and the Impact of Social References (RQ3)

Analysis of adolescent body satisfaction revealed significant differences across several dimensions, including weight, endurance, athletic ability, facial features, hair, skin tone, body composition, muscle shape, height, and waist size. Overall, boys reported significantly higher satisfaction levels than girls (Table 3), particularly in aspects related to body functionality such as physical endurance ($M = 3.76$, boys; $M = 3.36$, girls) and athletic ability ($M = 3.96$, boys; $M = 3.52$, girls).

Significant differences also emerged in satisfaction with body shape ($M = 3.79$, boys; $M = 3.65$, girls), skin tone ($M = 4.05$, boys; $M = 3.86$, girls), and height ($M = 3.81$, boys; $M = 3.55$, girls). However, in dimensions more closely linked to aesthetic appearance, such as facial features and hair, gender differences remained small, although boys still reported slightly higher

satisfaction levels. These mean differences suggest that body satisfaction is not uniform across adolescents, with boys tending to feel more satisfied with their bodies, particularly regarding the functional physical aspects.

Additionally, the findings indicated significant differences in body satisfaction across age groups. Younger adolescents (aged 12-13) reported higher satisfaction levels in functional aspects, such as athletic ability (M = 3.77) and physical endurance (M = 3.62), compared to older groups, in which these dimensions slightly declined (M = 3.72 and M = 3.53, respectively, at ages 14-15).

Moreover, satisfaction with aesthetically oriented aspects such as facial features and muscle appearance significantly increased with age. Adolescents aged 16-17 years had the highest satisfaction scores in these dimensions (M = 4.03, facial features; M = 3.51, muscle appearance), suggesting a shift in body satisfaction priorities toward aesthetics during late adolescence.

Level of satisfaction with...	Gender		Age		
	Girl	Boy	12-13	14-15	16-17
My weight	3.65	3.74	3.65	3.74	3.69
My endurance	3.36	3.76*	3.62	3.53	3.52
My ability to do sports	3.52	3.96*	3.77	3.72	3.74
My facial features	3.84	4.05*	3.95	3.85	4.03*
My hair	3.94	4.02	3.94	3.96	4.04
My skin tone	3.86	4.05*	4.02	3.95	3.89
My body build	3.65	3.79*	3.70	3.72	3.74
My muscle shape	3.40	3.49	3.36	3.45	3.51*
My height	3.55	3.81*	3.62	3.72	3.70
My waist	3.73	3.73	3.67	3.75	3.76

*Significant differences using ANOVA ($p < .05$).

TABLE 3: *Significant differences in body satisfaction levels by gender and age*

Source: own processing, 2025

To further explore the relationship between body satisfaction and the influence of social references, we used the Mann-Whitney U test, which allows comparisons between two independent groups without assuming normal data distribution. We must note that a negative Z value in this test does not indicate a negative impact but rather signifies the direction of the differences between the compared groups. In this case, a negative Z value means that adolescents who do not consider a specific social reference (e.g., parents) as relevant report higher levels of body satisfaction than those who do.

Among the social references for a healthy body, parents displayed the largest negative Z values, indicating that adolescents who identified their parents as a health reference reported lower satisfaction levels across multiple dimensions. For instance, satisfaction with weight (Z = -5.026, $p < .001$), waist size (Z = -5.383, p = .001), body composition (Z = -5.307, $p < .001$), and muscle shape (Z = -6.183, $p < .001$) where significantly lower among those who considered their parents as key reference than among those who did not.

When considering friends, significant differences emerged in the functional body dimensions. Adolescents who did not identify friends as influential references had higher satisfaction levels in terms of athletic ability (Z = -3.623, $p < .001$) and muscle shape (Z = -3.533, $p < .001$).

Finally, influencers stand out as a reference predominantly associated with aesthetic body dimensions. Adolescents who considered influencers key references reported lower satisfaction levels with skin tone (Z = -4.814, p = .001), physical endurance (Z = -4.619, p = .001), and height (Z = -4.143, p = .001).

Healthy social reference		Level of satisfaction with…									
		My weight	My endurance	My ability to do sports	My facial features	My hair	My skin tone	My body build	My muscle shape	My height	My waist
Father/Mother	Z	-5.026	-3.170	-3.284	-4.970	-2.995	-4.320	-5.307	-6.183	-3.205	-5.383
	Asymp. Sig. (2-tailed)	.001*	.002*	.001*	.001*	.003*	.001*	.001*	.001*	.001*	.001*
Brother/Sister	Z	-1.611	-1.040	-.345	-2.215	-1.971	-2.629	-2.925	-1.585	-.039	-.806
	Asymp. Sig. (2-tailed)	.107	.298	.730	.027*	.049*	.009*	.003*	.113	.969	.420
Other family members (uncles/aunts, grandparents, cousins)	Z	-.930	-1.473	-.815	-.853	-.576	-.740	-1.453	-.397	-.477	-.893
	Asymp. Sig. (2-tailed)	.353	.141	.415	.394	.564	.459	.146	.692	.633	.372
Other adults they know (teachers, coaches, classmates)	Z	-.955	-1.144	-1.101	-1.346	-1.346	-.997	-.113	-.651	-.171	-1.186
	Asymp. Sig. (2-tailed)	.340	.252	.271	.178	.178	.319	.910	.515	.864	.235
Friends	Z	-2.142	-2.320	-3.623	-1.840	-1.082	-1.128	-3.071	-3.533	-1.392	-2.489
	Asymp. Sig. (2-tailed)	.032*	.020*	.001*	.066*	.279	.259	.002*	.001*	.164	.013*
Influencers or famous people	Z	-2.972	-4.619	-3.220	-3.254	-2.501	-4.814	-3.416	-3.590	-4.143	-2.723
	Asymp. Sig. (2-tailed)	.003*	.001*	.001*	.001*	.012*	.001*	.001*	.001*	.001*	.006*

*Mann-Whitney U test ($p < .05$).

TABLE 4: *Significant differences between body satisfaction level and social role model for a healthy body*

Source: own processing, 2025

Similar to their influence on healthy body perception, parents show the largest negative *Z* values in aesthetic body dimensions (Table 5), suggesting a significant impact across multiple aspects. Adolescents who identify their parents as a key aesthetic reference report lower satisfaction levels with their muscle shape ($Z = -7.352$, $p = .001$), overall body shape ($Z = -5.956$, $p = .001$), and waist size ($Z = -5.168$, $p = .001$).

Regarding friends, the findings indicate that this reference group exerts a stronger influence on a combination of both functional and aesthetic aspects. Adolescents who do not consider friends a key reference report higher satisfaction levels with their facial features ($Z = -2.858$, $p = .004$), weight ($Z = -2.583$, $p = .01$), and muscle shape ($Z = -3.556$, $p < .001$).

Finally, influencers once again emerge as central figures in shaping visual and aesthetic body perceptions. Adolescents who consider influencers a primary aesthetic reference report lower satisfaction levels with their skin tone ($Z = -4.586$, $p = .001$), body composition ($Z = -4.115$, $p = .001$), and muscle shape ($Z = -5.497$, $p < .001$).

Aesthetic social reference		Level of satisfaction with…									
		My weight	My endurance	My ability to do sports	My facial features	My hair	My skin tone	My body build	My muscle shape	My height	My waist
Father/Mother	Z	-4.979	-4.844	-5.136	-4.562	-3.425	-4.218	-5.956	-7.352	-3.984	-5.168
	Asymp. Sig. (2-tailed)	.001*	.001*	.001*	.001*	.001*	.001*	.001*	.001*	.001*	.001*
Brother/Sister	Z	-.930	-1.564	-.837	-2.414	-1.591	-1.545	-2.894	-1.998	-.654	-.089
	Asymp. Sig. (2-tailed)	.352	.118	.402	.016*	.112	.122	.004*	.046*	.513	.929
Other family members (uncles/aunts, grandparents, cousins)	Z	-.757	-.169	-.367	-.117	-.730	-.015	-.362	-1.718	-1.185	-1.336
	Asymp. Sig. (2-tailed)	.449	.865	.714	.907	.466	.988	.717	.086	.236	.182
Other adults they know (teachers, coaches, classmates)	Z	-.299	-.529	-1.429	-1.389	-1.058	-.450	-.031	-.787	-.262	-1.429
	Asymp. Sig. (2-tailed)	.765	.597	.153	.165	.290	.653	.975	.432	.793	.153
Friends	Z	-2.583	-1.791	-2.666	-2.858	-1.571	-1.786	-2.335	-3.556	-1.539	-3.062
	Asymp. Sig. (2-tailed)	.010*	.073*	.008*	.004*	.116	.074	.020*	.001*	.124	.002*
Influencers or famous people	Z	-3.390	-5.444	-3.610	-3.616	-3.822	-4.586	-4.115	-5.497	-3.819	-1.584
	Asymp. Sig. (2-tailed)	.001*	.001*	.001*	.001*	.001*	.001*	.001*	.001*	.001*	.113

*Mann-Whitney U test ($p < .05$).

TABLE 5: *Significant differences between body satisfaction level and social role model for an aesthetic body*

Source: own processing, 2025

The analyzed social references – primarily parents, friends, and influencers – exerted distinct influences on adolescent body satisfaction, depending on whether the perception centers on a healthy or aesthetic body. Parents emerged as the reference group with the largest negative *Z* values in both categories, indicating a significant relationship between their influence and lower body satisfaction in key dimensions, such as weight, physical endurance, and muscle shape. This pattern suggests that high standards associated with parental influence may heighten adolescents' self-demands, both in functional and aesthetic terms.

Friends played a more prominent role in the functional aspects of a healthy body, particularly in shaping perceptions of athletic abilities. However, they also intensified comparisons of aesthetic dimensions, affecting how adolescents perceive their weight and muscle definition. In contrast, influencers maintained a consistent and significant influence on aesthetic body dimensions. Their impact correlates with lower satisfaction levels in visual aspects, such as hair, body, and muscle shape, reinforcing their role in shaping contemporary beauty and body ideals among adolescents.

4 Discussion

The findings reinforce the notion that adolescents' body perception is shaped by multiple social references, but reveal key distinctions between the influences of family, peers, and influencers. Regarding RQ1, the results confirm that parents have a predominant influence on adolescents' understanding of a healthy body, supporting prior research emphasizing the role of the family in shaping health-related body ideals (Jones et al., 2004; Kenny et al., 2016). However, their influence diminishes with regard to aesthetic body ideals, which are predominantly shaped by influencers and social media agents. This aligns with Feijoo and Vizcaíno-Verdú (2024), who argued that influencers curate unattainable beauty standards that adolescents internalize. In other words, the distinction between health and aesthetic references suggests that while parents remain central to health-oriented body perception, digital figures play an increasing role in shaping aspirational aesthetics, strengthening the concerns raised by Ging and Garvey (2018) regarding the normalization of extreme body modifications as a result of algorithm-platformed realms.

Addressing RQ2, gender and age differences in body perception further support existing theoretical perspectives on adolescent self-image construction. We found that girls rely more on friends and influencers, whereas boys are more influenced by adults, such as teachers and coaches. This confirms that girls experience greater peer-related pressure on appearance, while boys focus more on body functionality (McCabe & Ricciardelli, 2010). Moreover, the progressive shift from family influence in early adolescence to peer and influencer pressure in later years aligns with the developmental trajectory described by Tatangelo and Ricciardelli (2015) in which external validation plays an increasing role in self-concept formation. However, this study nuances these patterns by demonstrating that, while adolescents increasingly turn to influencers for aesthetic validation, these references contribute significantly to lower body satisfaction, particularly in dimensions related to weight and muscle shape, contributing to the conclusions of Schein et al. (2025), who identified digital exposure as a primary factor in heightened body anxiety.

In response to RQ3, the data indicated that the impact of social references on body satisfaction varied depending on whether the reference was related to health or aesthetics. Despite their strong influence on health-related body perception, parents were associated with lower body satisfaction, suggesting that high parental expectations may inadvertently contribute to adolescents' body dissatisfaction. This is consistent with Stankovska and Ahmeti's (2025) findings regarding parental pressure and self-perception. Friends, on the other hand, influence both functional and aesthetic body dimensions, with their impact leading to both reinforcement of body norms and increased body-related comparisons. Finally, influencers had the strongest negative correlation with body satisfaction, particularly regarding aesthetic attributes. Adolescents who relied on influencers as key references reported significantly lower satisfaction with weight, muscle shape, and skin tone. This finding supports concerns about the detrimental effects of idealized online portrayals on youth body image (Ruiz-Centeno et al., 2025).

Although the Tripartite Influence model (Thompson et al., 1999) remains a relevant framework for understanding the interaction between media, family, and peers, this study highlights the evolving role of digital algorithms as an additional factor in shaping body ideals. The data suggest that social media does not merely reflect societal beauty standards, but actively constructs and reinforces them through engagement-driven content circulation (Harriger et al., 2022). This further complicates adolescents' ability to critically assess body norms, as they internalize highly curated and often unrealistic portrayals of ideal bodies. The paradox observed, wherein adolescents seek digital validation while experiencing declining body satisfaction, suggests a cycle of aspirational comparisons that warrants further exploration.

5 Conclusion

This study demonstrates that social references configure adolescents' perceptions of both healthy and aesthetic bodies. These findings confirm that parents play a central role in shaping health-oriented perceptions of the body. However, their influence often translates into heightened self-expectations, and in some cases, lower satisfaction with aspects such as weight and physical endurance. By contrast, friends reinforce both functional body perceptions and social comparison, while influencers exert a dominant influence on aesthetic ideals, correlating with higher dissatisfaction in areas such as body composition and hair.

Gender and age differences further enhance these dynamics. Boys reported greater satisfaction with functional attributes, whereas girls exhibited a stronger influence from friends and influencers in shaping their body image. The results also highlight a progressive shift during adolescence, when social media increasingly mediates body image construction, replacing family-based influences with peer and influencer references. This transition underscores the growing power of digital platforms to shape perceived beauty norms and body standards.

However, adolescent body image formation no longer operates solely within interpersonal and social domains. Algorithmic infrastructures dictate visibility, desirability, and normativity, embedding body image perceptions within automated systems that intensify aesthetic pressures. Beyond the well-documented influence of family, peers, and influencers, digital platforms employ advanced data-processing mechanisms – including algorithmic recommendation systems, deep learning-powered filters, and real-time body augmentation tools – that actively reshape self-perception.

AI-driven image processing technologies, particularly social media filters and beauty enhancement tools, systematically redefine how adolescents perceive themselves and others. Unlike traditional photo editing, which requires deliberate modification, contemporary AI-powered filters adjust facial symmetry, skin texture, and body proportions in real-time, offering seamless transformations that blur the boundary between the offline and online selves. These filters function within a broader ecosystem of algorithmic reinforcement; social media platforms prioritize filtered images in engagement-driven ranking systems, elevating digitally enhanced beauty to a dominant standard. This convergence of automation and social validation fosters a cycle in which adolescents internalize hyper-curated aesthetics while experiencing increasing dissonance between their real and digital bodies – a phenomenon that research linked to rising levels of body dissatisfaction and digital dysmorphia.

Moreover, predictive analytics deepens these effects by curating hyper-personalized content loops that reinforce unattainable aesthetic ideals. Advanced machine learning models analyze user behavior – including likes, shares, watch time, and micro-interactions such as pauses on specific images or videos – to refine content exposure. Adolescents engaging with beauty-related content are rapidly funneled into algorithmic echo chambers that disproportionately showcase idealized body representations. This automated selection reinforces the illusion that aesthetic norms are both universal and achievable, intensifying social comparison and fostering increased dissatisfaction with personal appearance.

Given these shifts, research must move beyond traditional social influence theories and critically examine the role of algorithmic infrastructure constructing adolescent body image. Future studies should explore the longitudinal impact of AI-enhanced filters, algorithmic amplification, and predictive content modeling on body satisfaction, particularly regarding how these systems interact with pre-existing sociocultural pressures. Computational social science, psychology, and media studies must converge to unpack the compounding effects of digital body modification technologies on adolescents' self-perception.

Although this study provides valuable insights into how social references and digital platforms shape adolescent body perception and satisfaction, several limitations must be considered. First, the statistical tests used (e.g., Mann-Whitney U test and ANOVA) identified significant

associations between variables but did not establish causality. Therefore, although the results suggest meaningful correlations, they do not confirm whether specific social or algorithmic influences directly cause changes in body satisfaction. Future research should incorporate experimental or longitudinal designs to more rigorously examine these casual pathways.

Second, the study relied on self-reported survey data, which may have introduced biases related to social desirability or subjective misperceptions of body image influences. Integrating qualitative methodologies, such as in-depth interviews or digital ethnography, could provide richer, more contextualized insights into how adolescents negotiate these influences in their daily lives.

Third, the study focused exclusively on Spanish adolescents, which limits the generalizability of the findings to other cultural contexts. Given that body image perceptions and digital engagement patterns vary across sociocultural landscapes, future research should replicate this analysis using international samples. Cross-cultural comparisons could reveal whether algorithmic influences and social references operate differently, depending on cultural beauty norms, digital literacy levels, and platform-specific affordances.

From a practical perspective, these findings reinforce the urgency of equipping adolescents with critical digital literacy skills that enable them to consciously deconstruct body-related messages. Promoting body diversity and mitigating the influence of unrealistic beauty standards can help disrupt harmful comparison cycles and foster a healthier and more resilient approach to body image in the digital era.

Acknowledgement: The project is funded by the Institute of Research, Transfer, and Innovation (ITel) of the Vice-rectorate of Transfer at the International University of La Rioja (UNIR), under reference number BE23-008.

Bibliography

Al Sabbah, H., Vereecken, C. A., Elgar, F. J., Nansel, T., Aasvee, K., Abdeen, Z., Ojala, K., Ahluwalia, N., & Maes, L. (2009). Body weight dissatisfaction and communication with parents among adolescents in 24 countries: International cross-sectional survey. *BMC Publich Health*, *9*(52). https://doi.org/10.1186/1471-2458-9-52

Bacchini, D., & Magliulo, F. (2003). Self-image and perceived self-efficacy during adolescence. *Journal of Youth and Adolescence*, *32*(5), 337-349. https://doi.org/10.1023/A:1024969914672

Bandura, A. (1969). Social-learning theory of identificatory processes. In D. A. Goslin (Ed.), *Handbook of socialization: Theory and research* (pp. 213-262). Rand McNally.

Carlson Jones, D. (2004). Body image among adolescent girls and boys: A longitudinal study. *Developmental Psychology*, *40*(5), 823-835. https://doi.org/10.1037/0012-1649.40.5.823

Carlson Jones, D., & Crawford, J. K. (2005). Adolescent boys and body image: Weight and muscularity concerns as dual pathways to body dissatisfaction. *Journal of Youth and Adolescence*, *34*(6), 629-636. https://doi.org/10.1007/s10964-005-8951-3

Datta, S., Guria, P., Mondal, K., & Mitra, N. (2024). Psycho-social effects of social media & peer-pressure on body image. *International Journal of Psychology Research*, *6*(1), 17-21. https://doi.org/10.33545/26648903.2024.v6.i1a.45

Duno, M., & Acosta, E. (2019). Percepción de la imagen corporal en adolescentes universitarios. *Revista Chilena de Nutrición*, *46*(5), 545-553. https://doi.org/10.4067/S0717-75182019000500545

Fanjul Peyró, C., López Font, L., & González Oñate, C. (2019). Adolescentes y culto al cuerpo: Influencia de la publicidad y de Internet en la búsqueda del cuerpo masculino idealizado. *Doxa Comunicación. Revista Interdisciplinar de Estudios de Comunicación y Ciencias Sociales*, *29*, 61-74. https://doi.org/10.31921/doxacom.n29a3

Featherstone, M. (2010). Body, image and affect in consumer culture. *Body & Society*, *16*(1), 193-221. https://doi.org/10.1177/1357034X09354357

Feijoo, B., & Vizcaíno-Verdú, A. (2024). To be fit, or not to be: How influencer-driven advertising reinforces idealized beauty standards in adolescents. *Journal of Marketing Communications*. https://doi.org/10.1080/13527266.2024.2406511

Feijoo, B., Vizcaíno-Verdú, A., & Sádaba, Ch. (2024). *Between healthiness and the cult of physique: Incidence of content published by fitfluencers on the body care of adolescents*. *Teen on Fit Results Report.* Universidad Internacional de la Rioja. https://doi.org/10.5281/zenodo.12755822

Feijoo, B., & Sádaba, Ch. (2025). Adolescents' advertising literacy and body self-perception in the face of influencer marketing. *Cuadernos.Info*, (60), 93-120. https://doi.org/10.7764/cdi.60.82134

Fernández Guerrero, M., Feu Molina, S., Suárez Ramírez, M., & Suárez Muñoz, A. (2019). Satisfacción e índice de masa corporal y su influencia en el autoconcepto físico. *Revista Española de Salud Pública*, *93*, e201908058. https://ojs.sanidad.gob.es/index.php/resp/article/view/1195

Ging, D., & Garvey, S. (2018). 'Written in these scars are the stories I can't explain': A content analysis of pro-ana and thinspiration image sharing on Instagram. *New Media & Society*, *20*(3), 1181-1200. https://doi.org/10.1177/1461444816687288

Grogan, S. (2006). Body imagen and health: Contemporary perspectives. *Journal of Health Psychology*, *11*(4), 523-530. https://doi.org/10.1177/1359105306065013

Gudelj Rakić, J., Hamrik, Z., Dzielska, A., Felder-Puig, R., Oja, L., Bakalár, P., Nardone, P., Ciardullo, S., Abdrakhmanova, S., Adayeva, A., Kelly, C., Fismen, A.-S., Wilson, M., Brown, J., Inchley, J., & Ng, K. (2022). *A focus on adolescent physical activity, eating behaviours, weight status and body image in Europe, central Asian and Canada: Health behaviour in school-aged children international report from the 2021/2022 survey*. World Health Organization. Regional Office for Europe. https://www.who.int/europe/publications/i/item/9789289061056

Hargreaves, D. A., & Tiggemann, M. (2004). Idealized media images and adolescent body image: "Comparing" boys and girls. *Body Image*, *1*(4), 351-361. https://doi.org/10.1016/j.bodyim.2004.10.002

Harriger, J. A., Evans, J. A., Thompson, J. K., & Tylka, T. L. (2022). The dangers of the rabbit hole: Reflections on social media as a portal into distorted world of edited bodies and eating disorder risk and the role of algorithms. *Body Image*, *41*, 292-297. https://doi.org/10.1016/j.bodyim.2022.03.007

Jones, D. C., Vigfusdottir, T. H., & Lee, Y. (2004). Body image and the appearance culture among adolescent girls and boys: An examination of friend conversations, peer criticism, appearance magazines, and the internalization of appearance ideals. *Journal of Adolescent Research*, *19*(3), 323-339. https://doi.org/10.1177/0743558403258847

Kenny, U., O'Malley-Keighran, M.-P., Molcho, M., & Kelly, C. (2016). Peer influences on adolescent body image: Friends or foes? *Journal of Adolescent Research*, *32*(6), 768-799. https://doi.org/10.1177/0743558416665478

Lefebvre, S., & Cowart, K. (2022). An investigation of influencer body enhancement and brand endorsement. *Journal of Services Marketing*, *36*(1), 59-72. https://doi.org/10.1108/JSM-12-2020-0509

Matilainen, N., Blomberg, H., Sollerhed, A.-Ch., Einberg, E.-L., & Garmy, P. (2023). Longitudinal study on correlations between body image, physical activity, and the subjective well-being among adolescents aged 14-16. *The Journal of School Nursing*. https://doi.org/10.1177/10598405231191281

McCabe, M. P., & Ricciardelli, L. A. (2003). Sociocultural influences on body image and body changes among adolescent boys and girls. *The Journal of Social Psychology*, *143*(1), 5-26. https://doi.org/10.1080/00224540309598428

Michael, S. L., Wentzel, K., Elliott, M. N., Dittus, P. J., Kanouse, D. E., Wallander, J. L., Pasch, K. E., Franzini, L., Taylor, W. C., Qureshi, T., Franklin, F. A., & Schuster, M. A. (2014). Parental and peer factors associated with body image discrepancy among fifth-grade boys and girls. *Journal of Youth and Adolescence*, *43*(1), 15-29. https://doi.org/10.1007/s10964-012-9899-8

Putra, F. E., & Afrilian, P. (2025). Visual culture in social media: A study of the influence of Instagram on aesthetics and youth culture trends. *Asian Journal of Media and Culture*, *1*(1), 40-56.

Prabhu, S., & D'Cunha, D. (2019). Comparison of body image perception and the actual BMI and correlation with self-esteem and mental health: A cross-sectional study among adolescents. *International Journal of Health & Allied Sciences*, *7*(3), 145-149.

Pryde, S., Kemps, E., & Prichard, I. (2024). "You started working out to get a flat stomach and a fat a$$": A content analysis of fitspiration videos on TikTok. *Body Image*, *51*, 101769. https://doi.org/10.1016/j.bodyim.2024.101769

Rousseau, A., & Eggermont, S. (2018). Media ideals and early adolescents' body image: Selective avoidance or selective exposure? *Body Image*, *26*, 50-59. https://doi.org/10.1016/j.bodyim.2018.06.001

Rousseau, A., & Rodgers, R. F. (2025). Social media incidental appearance exposure and young people's body image: A conceptual review. *Body Image*, *52*, 101838. https://doi.org/10.1016/j.bodyim.2024.101838

Ruiz-Centeno, C., Cueto-Galán, R., Pena-Andreu, J. M., & Fontalba-Navas, A. (2025). Problematic Internet use and its relationship with eating disorders. *Frontiers in Public Health*, *13*. https://doi.org/10.3389/fpubh.2025.1464172

Schein, A., Tódor, I., Varga, A., Koronczai, B., Álmos Szőcs, L., Nagy, B., Stankovics, A., Ágoston, C., & Buvár, Á. (2025). *Body positive social media posts: Who likes them anyway? The role of internalization and body dissatisfaction in the implicit and explicit bias towards thin-ideal social media posts* [Preprint]. Research Square. https://doi.org/10.21203/rs.3.rs-3964504/v2

Senín-Calderón, C., Rodríguez-Testal, J. F., Perona-Garcelán, S., & Perpiñá, C. (2017). Body imagen and adolescence: A behavioral impairment model. *Psychiatry Research*, *248*, 121-126. https://doi.org/10.1016/j.psychres.2016.12.003

Sina, E., Boakye, D., Christianson, L., Ahrens, W., & Hebestreit, A. (2022). Social media and children's and adolescents' diets: A systematic review of the underlying social and physiological mechanisms. *Advances in Nutrition*, *13*(3), 913-937. https://doi.org/10.1093/advances/nmac018

Stankovska, G., & Ahmeti, A. (2025). Relationship between parental behavior, depression, anxiety, body satisfaction and eating disorder in the period of adolescence. *Medical Research Archives, 13*(1). https://doi.org/10.18103/mra.v13i1.6215

Tatangelo, G. L., & Ricciardelli, L. A. (2015). Children's body image and social comparisons with peers and the media. *Journal of Health Psychology*, *22*(6), 776-787. https://doi.org/10.1177/1359105315615409

Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. American Psychological Association. https://doi.org/10.1037/10312-000

Tort-Nasarre, G., Pollina Pocallet, M., & Artigues-Barberà, E. (2021). The meaning and factors that influence the concept of body image: Systematic review and meta-ethnography from the perspectives of adolescents. *International Journal of Environmental Research and Public Health*, *18*(3), 1140. https://doi.org/10.3390/ijerph18031140

Authors

Beatriz Feijoo, PhD.
Universidad Villanueva
Faculty of Communication
Calle de la Costa Brava, 2
Madrid, 28034, Spain
beatriz.feijoo@villanueva.edu
ORCID ID: 0000-0001-5287-3813

Ph.D. in Communication and graduate in Advertising and Public Relations and Audiovisual Communication from the Universidade de Vigo (Spain). Associate professor at the Universidad Villanueva (Spain), she previously worked at the Universidad de los Andes (Chile), the Universidad Internacional de la Rioja (Spain), and the Universidade de Vigo. She is the author of more than one hundred publications and scientific articles, editor of books on communication and minors, and lead investigator of funded research projects on this topic.

Arantxa Vizcaíno-Verdú, PhD.
Universidad Internacional de la Rioja
Faculty of Economics and Business
Avenida de la Paz, 137
Logroño, 26006, Spain
arantxa.vizcaino@unir.net
ORCID ID: 0000-0001-9399-2077

PhD in Communication and Associate Professor at the Universidad Internacional de la Rioja. Her work and academic experience combine communication, advertising, and plastic arts. She is a Key Regional Leader of the TikTok Cultures Research Network, and Section Editor & Social Media Manager for the *Revista Mediterránea de Comunicación*. She is also a member of the COYSODI research group (UNIR), external research collaborator of the COMPUBES group (UA), and alumnus of the IERLab. Her research focuses on the analysis of transmedia storytelling, fandom communities, advertising literacy, and popular culture on social media and the Internet.