DOI 10.26773/jaspe.260405

Journal of Anthropology of Sport and Physical Education

ORIGINAL SCIENTIFIC PAPER

Impact of fitness related content on social media on body image and physical activity among university students

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Abstract

Introduction. In recent years, considerable attention has been devoted to the influence of social media (SM) on the mental and physical health of various age groups. Despite a growing body of research, the specific effects of fitness-related content on social media remain unclear. Problem and Aim. The study aimed to investigate the gender differences and relationship between social media, body image and the intensity of physical activity in university students. Methods. A questionnaire survey (Social media use questionnaire, Body appreciation scale – 2, The International Physical Activity Questionnaire) was used to conduct this research. The sample comprised 314 university students from Slovakia (115 males, 198 females). Results. 1.Male students who follow more fitness-related accounts on SM have a more positive body image. 2. Female students who follow more fitness-related accounts on SM have a higher level of PA. 3. Female students who claim that SM motivates them to exercise have a higher level of PA. Conclusion. Our study aspired to bring insight into university students' body image and exercise behaviour in relation to the use of SM and, in particular, fitness-related content. Despite statistically significant findings, the correlation between the variables was found to be weak, thus we assume that there are also other factors affecting these relationships which should be investigated in the future research.

Keywords: *fitspiration, body perception, physical activity level, social media*

Introduction

Social media (SM) influences numerous aspects of our lives, with significant social, economic, and political impacts on both society and individuals. In past years, much attention has been given to SM´s influence on the mental and physical health of different age groups. Often, the content is so influential that young people, in particular, are inspired to begin a new fitness lifestyle, while others may fall into a deep depression because of the unattainable beauty standards promoted on platforms like Instagram, TikTok, and similar sites.

Many academics have researched the influence of SM on body image since its rise to worldwide popularity over the past two decades. Sharp (2022) highlights gender differences and found that females have a more negative body image, are more likely to experience depression when exposed to fitness-related content and compare their bodies to those they view on social media more frequently than males. Nonetheless, the survey also revealed males who struggle with body image and feel pressured by social media to maintain a particular appearance. Viewing idealised images on social media had a negative impact on females' body image, regardless of the presence disclaimer comments (Fardouly & Holland, 2018). Saiphoo and Vahedi (2019) conducted a meta-analysis to clarify the relationship between social media use and body image. They analysed the results of sixty-three independent samples (N = 36,552) and found a small, positive, and significant relationship between social media use and body image disturbance. Notably Smith et al. (2024) recorded interesting results after testing the effects of a one-week break from social media (SM) on body image and self-esteem in young women. The findings show the short-term benefits of taking a break from SM for one week on self-esteem and body image especially noticeable in females with higher baseline levels of thin-ideal internalization. This

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is in line with the results of Saiphoo and Vahedi (2019), who on the contrary found that increased social media use was associated with higher body image dissatisfaction. Norton's (2017) survey showed that content on social media is influencing people's lifestyles and how they compare themselves to their peers.

In recent years, a concept of fitspiration has been introduced which seems to inspire people to achieve their fitness and body goals, but apparently, it also sets those goals itself (Norton,2017). Engaging in physical activity (PA) for fitness, health or other purposes based on viewing fitness-related content on social media is undoubtedly positive stimulation. Despite the growing body of research, the ways in which fitspiration might affect individuals remain unclear (Vandenbosch et al., 2022). In a study investigating the impact of athletic and muscular fitness-idealized images on exercise behaviour, participants were not motivated to exercise at higher intensities by fitness-idealized images, indicating that this kind of motivation for fitness may not actually spur exercise behaviour (Robinson et al., 2017). Another study looked at the characteristics of fitspiration on Instagram targeted at men. Males were frequently depicted participating in activities that accentuated their physical appearance but had little bearing on fitness or health (i.e., passive modelling). In line with research examining female-focused fitspiration, male-focused fitspiration reinforces a glamorized appearance while paying little attention to fitness and health (Angrish et al., 2024). In addition, the frequency of viewing fitspiration content in men is not directly linked to their reasons for exercise. Viewing more fitspiration content is associated with greater muscular-ideal internalization and a higher tendency for body comparison. Fitspiration seems to be linked to body image rather than health in females (Fatt et al., 2019). A systematic review by Nuss et al. (2023) focused on the content of social media fitspiration and its effect on physical activity-related behaviour and suggested that fitspiration may affect physical activity behaviour through modelling; however, the included studies showed little evidence that fitspiration has a positive relationship with physical activity. The influence of fitspiration may be restricted in its impact due to perceived unattainability of the idealized body types featured in the posts (Nuss et al., 2023).

Problem and aim

The study aimed to investigate the gender differences and relationship between social media, body image and the intensity of physical activity in university students.

Methods

Based on the aim of our study, we hypothesized:

1. Students who follow more fitness-related accounts on SM have a more positive body image.

2. Students who follow more fitness-related accounts on SM have a higher level of PA.

3. Students who often use SM to compare their bodies with their peers have a more positive body image.

4. Students who claim that SM motivates them to exercise have a higher level of PA.

Sample

Our sample comprised 314 university students from Slovakia (115 males, 198 females) who agreed to participate in the survey. Each participant voluntarily provided informed consent before participating. The students were randomly selected and were involved in the survey based on the requirement of being a university student and having an account on a social media platform with the possibility to share pictures or videos. Student who failed to answer all the questions in the questionnaire were excluded. The Ethics Committee of the Pavol Jozef Šafárik Univerzity in Košice (7/2025) approved this study in advance.

Procedures

A questionnaire survey was used to conduct this research. Three questionnaires were merged into a single Google Form to create the final version. Each participant was sent a link to complete the questionnaire. Data collection began in June 2025 and concluded in September 2025. Anticipating some attrition, we initially distributed 400 questionnaires to students, from which we selected 314 properly completed forms. The final questionnaire comprised the following:

Social media use questionnaire

The first non-standardised questionnaire was our own construct. However we were inspired by Norton´s questionnaire (2017) who conducted his research on a very similar topic. The first set of questions focused on social media consumption. The remaining questions aimed to measure the level of agreement using a 5-point Lickert scale (from strongly agree to strongly disagree) with a variety of statements. However, to test our hypotheses for this paper, we used only three items: the number of fitness-related accounts followed, "Social media motivates me to exercise," and "I tend to compare my body with others on social media."

Body appreciation scale – 2

The standardised 10-item Body Appreciation Scale-2 (BAS-2) gauges a person's acceptance, positive perceptions, and regard for their own body. This scale is an adaptation of the original 13-item Body Acceptance Scale (BAS) developed in 2005. The overall score is determined by calculating the mean of the ten items, with higher ratings indicating greater body appreciation (Tylka & Wood-Barcalow, 2015).

The International Physical Activity Questionnaire (IPAQ)

The standardised International Physical Activity Questionnaire is a well-researched and extensively used tool that can be used to obtain comparable estimates of physical activity obtaining similar estimates of physical activity across people and nations. If a respondent achieves a HIGH score in the IPAQ for physical activity, their level of physical activity corresponds to at least one hour of moderately intense activity every day. If a respondent scores a MODERATE in the IPAQ, they are probably engaging in physical activity most days that is at least equal to 30 minutes of moderate-intensity exercise. If respondents receive an IPAQ score of LOW, it indicates that they do not satisfy the requirements for either MODERATE or HIGH physical activity.

Statistical analysis

All statistical analyses were conducted using SPSS v.210 separately for males and females. Given the ordinal data type and non-normal distribution of the cardinal variables (tested by the Kolmogorovov-Smirnovov test), we decided to use nonparametric statistical measures, namely the Spearman correlation. The hypotheses were confirmed/rejected based on the p-value. Statistical significance was set at $\alpha = 0.05$. Effect size was determined according to the value of the correlation coefficient (r) according to:

- $r < 0{,}10$ – Negligible
- $0{,}10 \leq r < 0{,}30$ – Weak association
- $0{,}30 \leq d < 0{,}50$ – Medium
- $0{,}50 \leq d < 0{,}80$ – Strong
- $0{,}80 \leq d \leq 1{,}00$ – Very strong

Results

Regarding the first hypothesis, the statistical analysis showed that the relationship between the number of followed SM accounts with fitness-related content and positive body image was

statistically significant only in males. Based on the positive direction of the correlation, we can state that those males who follow more fitness-related accounts have a more positive body image. However, the effect size of this relationship was weak rs= 0,220. In females, we did not record a statistically significant relationship between the number of fitness-related accounts followed and positive body image. These findings supported our hypothesis in males. The results are shown in Table 1.

Table 1. Relationship between the number of the followed SM accounts with fitness related content and the positive body image

Spearman correlation	Sample			
Variables	Males (N =115)		Females (N = 198)	
	r_s	p(1)	rS	p(1)
Number of the followed SM accounts with fitness related content Positive body image	0,220	0,009*	-0,009	0,452

Key: r_s - Spearman correlation coefficient, p(1) – statistical significance, *significant at 0.05

Regarding the relationship between the number of followed accounts featuring fitness-related content and the level of physical activity among students, the results of the analysis showed that it is statistically significant only in the group of females. Considering the positive direction of the relationship, it can be concluded that the more accounts with fitness-related content or content about a healthy lifestyle females watch, the higher their level of physical activity. From the view of effect size, the described relationship can be considered weak rs = 0.262. In males, the relationship between the number of followed accounts with fitness-related content and the level of physical activity was not recorded. These findings thus supported our research hypothesis, but only in the group of females. The results are summarized in Table 2.

We tested the hypothesis that students who agree or strongly agree that they use SM to compare their bodies with others have a more positive body image. The data analysis showed that this association is statistically significant only in females. However, the negative direction of correlation suggests that the more females agree that they often compare their bodies on SM with others, the lower their body satisfaction. The finding did not confirm our hypothesis in males or females. Although the statistical significance relation between the variables was recorded in females, the correlation appeared to be in the opposite direction as we hypothesized. However, we found a statistical significance between the tendency to compare appearance on SM and negative body image in females. The results are summarized in Table 3.

Table 2. Relationship between the number of the followed SM accounts with fitness related content and the level of PA

Spearman correlation	Sample			
Variables	Males (N =115)		Females (N = 198)	
	r^S	p(1)	rS	p(1)
Number of the followed SM accounts with fitness related content Level of physical activity	0,138	0,071	0,262	<0,001*

Key: r_s - Spearman correlation coefficient, p(1) – statistical significance, *significant at 0.05

Table 3. Relationship between the tendency to compare body on SM and the body image

Spearman correlation	Sample			
Variables	Males (N =115)		Females (N = 198)	
	r_s	p(1)	rS	p(1)
Comparing body with others on SM Positive body image	-0,064	0,249	-0,314	<0,001*
Comparing body with others on SM Negative body image	-0,114	0,113	0,241	<0,001*

Key: r_s - Spearman correlation coefficient, p(1) – statistical significance, *significant at 0.05

Finally, we hypothesized that students who claim (agree or strongly agree) that fitness related content on SM motivates them to exercise perform a physical activity more frequently. The association was confirmed only in females. Given the positive direction of the correlation, we state that the more females that agree that SM motivates them to exercise, the more frequent their phys-

Table 4. Relationship between the motivation to perform PA based on SM fitness content and the level of physical activity

Spearman correlation	Sample			
Variables	Males (N =115)		Females (N = 198)	
	r_s	p(1)	rS	p(1)
Motivation to perform PA based on fitness- related content on SM Level of physical activity	-0,072	0,224	0,246	<0,001*

Key: r_s - Spearman correlation coeficient, p(1) – statistical significance, *significant at 0.05

ical activity. The effect size suggests that this relationship is weak rs = 0.246. A statistical relationship was not recorded in males. The finding confirmed our hypothesis; however, it was only in females. The results are summarized in Table 4.

Discussion

Our first hypothesis assumed that students who follow more fitness-related accounts on SM have a more positive body image. This was confirmed only in males. Even though we cannot determine if there is a relationship between the number of SM accounts females follow and their body perception, there is a body of research suggesting that females are prone to be more vulnerable regarding their body image (Fioravanti et al., 2021; Rodgers & Nowicki, 2024; Papageorgiou et al., 2022). We also hypothesized that the students who agree or strongly agree that they use SM to compare their bodies with others have a more positive body image. We did not confirm this hypothesis in either males or females. However, our findings showed that the more females agree that they compare their bodies on SM with others, the lower their body satisfaction. This corresponds with previous studies (Sherlock & Wagstaff, 2019; Salomon & Brown, 2019) which found a relationship between fitness - related content posted on SM and body perception. Body image appears to be a major concern among adolescent women (Papageorgiou et al., 2022). Comparisons of appearances seem to exacerbate teenage females' anxieties about their looks and influence adolescent girls' efforts to change their appearance and seek validation on social media. These concerns may easily carry over to young women as well since we found a positive association between our students comparing appearance on SM and body image. However, Pedalino and Camerini (2022) argue that being an adolescent female compared to a young woman was associated with worse body appreciation. Despite the lack of evidence that SM can influence negative body image in males Sharp (2022) identified males who struggle with body image and experience social media pressure to maintain a particular appearance. Nevertheless, in terms of gender differences, the above studies support the fact that SM negatively influences mainly females' body image.

Furthermore, we investigated how social media use influences university students' physical activity. We found that the more fitness-related accounts females follow, the higher their physical activity; however, we did not record this in males. Moreover, we did not record a relationship between the tendency to compare one's body with peers on SM and a higher level of physical activity in both groups. This is not in line with the results of Kim (2022) who found that engaging in upward social comparison through fitness postings inspires fitness app users to feel confident about PA and motivated to engage in PA. In turn, they participate more in PA. Our results showed that females with a higher tendency to compare their appearance on SM tend to have lower body satisfaction. Simultaneously, the females with a higher tendency to compare their appearance are not engaged in a higher level of physical activity. This finding implies that for the females in our sample, there might be a whole set of barriers that prevent them from performing PA even though they are not satisfied with their appearance. We can assume that these barriers have deeper psychological, sociological, and physiological characteristics and this ought to be further investigated in future research.

Fitness related content on SM is a highly profitable business which attracts many influencers with a questionable fitness background. The research on how SM affects physical activity of individuals mostly indicate a negative relationship. However, we found that females, unlike males, who claim that fitness-related content on SM media motivates them to exercise, have indeed a higher level of physical activity. Our results thus do not correspond with Nuss et al. (2024), who carried out a systematic review to look at how fitspirational content affected behaviours linked to physical activity and suggest that there is insufficient evidence that fitspiration influences physical activity. Fitspiration may be restricted in its influence because of the perceived unattainability of the idealized body types featured in the posts. Because the idealized body types represented in the posts are viewed as unachievable, the influence of fitspiration may be restricted. In addition, Bowles et al. (2021) suggest that fitspiration is not related to exercise and is related to poorer body image perceptions among college students. Furthermore, Cataldo et al. (2021) even point at numerous factors related to psychopathological risks that have been associated with the exposure to fitspiration contents, such as exercise addiction, body dissatisfaction; appearance-related anxiety and depressive symptoms, self-esteem; excessive control of eating habits; use of enhancing drugs; and quality of life.

Conclusion

Our study aspired to bring insight into university students' body image and exercise behaviour in relation to the use of SM and, in particular, fitness-related content. We found: (1) Male students who follow more fitness-related accounts on SM have a more positive body image; (2) Female students who follow more fitness-related accounts on SM have a higher level of PA; (3) Female students who claim that SM motivates them to exercise have a higher level of PA. Since the correlation between the variables was found to be weak we have to conclude that there also other factors affecting these relationships.

Currently, SM and online space play a vital role in self-educating and influencing young people in particular. Thus, besides conducting further research on different behavioural patterns of the young on SM, we should also focus on searching for online tools and strategies to motivate to perform physical activity and stimulate positive body image. One of the solutions may be developing SM channels by universities and their departments of sports, which would bring attractive yet evidence-based fitness and healthy lifestyle content or at least recommend suitable fitness channels to their students.

Received: 20 January 2026; **Accepted:** 10 April 2026; **Published:** 15 April 2026.

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