

WHAT ROLE DOES SOCIAL MEDIA PLAY IN WEIGHT MANAGEMENT AMONG UNIVERSITY STUDENTS?

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Abstract

Background: One key factor influencing weight management in adolescents and young adults appears to be social media (SM). Understanding how social networks affect health behavior has gained attention in recent years. This study aimed to investigate the role that social media plays in weight management among university students in Slovakia. Methods: A questionnaire survey (Social media use questionnaire, Figure Rating Scale 2, and the International Physical Activity Questionnaire) was used to conduct this research. The sample comprised 313 university students from Slovakia (115 males, 198 females). Results: We found that students who want to change their body type do not engage in more physical activity. Similarly, fitness-related content on social media does not increase the frequency of physical activity. We found that women who want to change their body type tend to compare their bodies with their peers on SM at a significantly higher rate. Conclusion: Future research should focus on different SM platforms and the expertise of individual fitness influencers.

Keywords: *physical activity, social media channels, body type, fitness influencer*

THEORETICAL BACKGROUND

Overweight and obesity in children and adolescents have become a major concern among professionals in the field in the past two decades. Zhang et al. (2024) investigated the worldwide prevalence of overweight and obesity in children and adolescents from 2000 to 2023. They found a high prevalence with a pooled estimation of 8.5% and 14.8%, indicating that 1 of every 5 children or adolescents is obese or overweight. On the other hand, adolescent thinness can have serious consequences for both health and development, including students' growth, nutritional deficiencies, and reduced cognitive capability (WHITFIELD et al., 2023).

It is important to note that the transitional period from late adolescence to early adulthood is a particularly vulnerable period for weight gain, with a twofold increase in overweight/obesity during this life transition (NAPOLITANO et al., 2017). Similarly, being underweight among university students, in particular among female students, has become a critical health issue (YAO, 2015). One of the key factors influencing weight management in adolescents and young adults appears to be social media (SM). Understanding how social networks affect health behavior has gained attention in recent years, and this interest has been fuelled by the growing importance of complexity or



systems science in public health (RUTTER et al., 2017). Previous research has shown that media play an important role in body dissatisfaction, with cross-sectional studies revealing that greater media use is associated with higher body dissatisfaction and increased disordered eating behavior in women, and that dissatisfaction increases after viewing media images of thin-ideal bodies (LADWIG et al., 2024). The question remains whether individuals with low body satisfaction genuinely want to change their body type and, if so, how SM affects their weight management behavior.

The research in this field is not unequivocal. Shiyab et al. (2023) reviewed available data on how social media interventions affected healthy individuals' weight and physical activity levels. Social media interventions have great potential, but there is conflicting data on their effectiveness. Another systematic review aimed to assess how well social media-based therapies affect adults who are obese or overweight in terms of weight, body mass index, waist circumference, fat, energy consumption, and physical activity. Social media-based interventions showed small-to-medium significant effects on body fat mass, weight, BMI, waist circumference, and daily steps (LOH et al., 2023).

Research on the use of social media for health promotion indicates that it boosts participant engagement and could be an affordable way to offer social support to people enrolled in weight-management programs. Social media could be a helpful and affordable addition to multifactorial weight management programs if strict privacy regulations are followed (JANE et al., 2018). Ganson et al. (2023) sought to determine whether social media use and screen time were associated with weight-change behaviors in a global sample of adolescents. Attempts to gain or lose weight, as well as dieting to lose weight, were associated with higher weekly screen time. The use of specific social media platforms was associated with specific behaviors related to weight management (WM). For instance, attempts to gain weight, lose weight, and dieting to lose weight were most closely linked to Twitter use. Similar mechanisms underlie the connections between screen time, social media use, and attempts to change one's body, such as weight loss or weight gain. Men's and women's physical activity can be increased by social media fitness influencers who are viewed as reliable, knowledgeable, and beautiful. One important factor that predicts intentions to exercise is the influencer's perceived ability to motivate (DURAU et al., 2022). In this regard, it is important to note that users' ability to generate and/or share content may lead to the dissemination of incorrect information, as any intervention conducted without professional involvement can (JANE et al., 2018).

This study aimed to investigate the role of social media in weight management among university students in Slovakia.



METHODS

Based on the aim of our study, we hypothesized:

1. Students who want to change their body type perform physical activity more often.
2. Students who want to change their body type follow more fitness- and healthy-lifestyle-related accounts on SM.
3. Students who want to change their body type agree that SM motivates them to perform physical activity.
4. Students who want to change their body type tend to compare their bodies more often with those of their peers on SM.

SAMPLE

Our sample comprised 313 university students from Slovakia (115 males, 198 females) who agreed to participate in the survey. The students were randomly selected and included in the survey based on the requirement of being a university student and having an account on a social media platform that allows sharing pictures or videos. Students who failed to answer all the questionnaire questions were excluded. Students indicated their consent to participate in the study in the questionnaire. Without their consent, they could not proceed with filling out the questionnaire. The study adhered to the Declaration of Helsinki for Human Studies.

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 February 2024 and concluded in May 2024. 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

This questionnaire was our own construct; however, Norton (2017), who researched a similar topic, inspired us. The first set of questions focused on social media consumption. The remaining questions aimed to measure agreement using a 5-point Likert scale (from strongly agree to strongly disagree) across 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."

THE FIGURE RATING SCALE (FRS)

The Figure Rating Scale was developed by Stunkard et al. (1983) and consists of 9 schematic silhouettes ranging from extremely thin to extremely fat. Participants are asked to self-select the silhouette that most accurately represents their current body size and their ideal body size (IBS). The difference between current body size and ideal body size



is the description index, which reflects the level of dissatisfaction with the body. Provided that this index is positive, the individual desires to lose weight. If the index appears negative, the individual desires to gain weight. If the index equals zero, the individual does not want to change their body type (CHUDOBOVÁ, 2002).

THE INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE (IPAQ)

The International Physical Activity Questionnaire is a well-researched and widely used tool for obtaining comparable estimates of physical activity across people and nations. If a respondent achieves a HIGH score on the IPAQ for physical activity, their level of physical activity corresponds to at least 1 hour of moderately intense activity per day. If a respondent scores MODERATE on the IPAQ, they are probably engaging in physical activity most days, which is at least 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 in SPSS v. 21 separately for males and females. Given the ordinal data type and the non-normal distribution of the cardinal variables (as assessed by the Kolmogorov-Smirnov test), we decided to use nonparametric statistical tests, namely the Mann-Whitney U tests. Statistical significance was set at $\alpha = 0.05$. Effect size was determined according to the Cohen d (d) as follows:

- $d < 0.20$ – Negligible
- $0.20 \leq d < 0.50$ – Weak
- $0.50 \leq d < 0.80$ – Relatively strong
- $0.80 \leq d < 1.00$ – Strong
- $d \leq 1.00$ – Very strong

RESULTS

In the first hypothesis, we investigated whether students who sought to change their body type engaged in more frequent physical activity. We found a statistically significant difference in men ($U = 815.0$, $p < 0.001$), with men who want to change their body type having a significantly lower level of PA than those who do not. A statistical difference in the level of physical activity among women was not significant ($U = 4213.0$; $p = 0.187$). These findings did not confirm our hypothesis in either men or women. Although we found statistical significance in men, the difference was in the opposite direction from what we assumed. The results are summarised in Table 1.

Table 1. The level of physical activity in students depends on whether students want to change their body type

	Desire to change body type	Level of physical activity				Mann-Whitney U test		
		N	AM	Med	SD	U	p(1)	d
Men	No	35	2.71	3.00	0.710	815.0	<0.001	0.70
	Yes	80	2.08	2.00	0.854			
Women	No	72	2.01	2.00	0.896	4213.0	0.187	0.12
	Yes	126	1.90	2.00	0.847			

Key: N – sample size, AM – group average in IPAQ (1-low frequency; 2-moderate frequency; 3-high frequency), Med – median, SD – standard deviation, U – Mann-Whitney U test, p(1) – statistical significance, d – Cohen's d (effect size)

We hypothesized that students who want to change their body type follow more fitness-related or healthy lifestyle accounts on SM. Here, we also find a statistically significant difference in men ($U = 1094.5$, $p = 0.023$). Students who want to change their body type follow fewer fitness- and healthy-lifestyle-related accounts on SM than those who do not. In women, no statistical difference was observed; therefore, we did not confirm this hypothesis. Despite finding statistical significance in men, the difference was in the opposite direction from what we expected. The results are summarised in Table 2.

Table 2. Number of followed accounts on SM and desire to change body type

	Desire to change body type	Number of followed accounts on SM				Mann-Whitney U test		
		N	AM	Med	SD	U	p	d
Men	No	35	1.63	1.00	1.165	1094.5	0.023	0.35
	Yes	80	1.15	1.00	0.929			
Women	No	72	1.35	1.00	0.875	4206.0	0.159	0.12
	Yes	126	1.21	1.00	0.719			

Key: N – sample size, AM – group average (0=0 followed accounts; 1=1-5 followed accounts; 2= 6-10 followed accounts, 3= more than 10 followed accounts), Med – median, SD – standard deviation, U – Mann-Whitney U test, p – statistical significance, d – Cohen's d (effect size)

Furthermore, we hypothesized that students who want to change their body type would agree that SM motivates them to engage in physical activity. We did not observe any statistical differences in this item, either in men ($U = 1259.0$, $p = 0.182$) or in women ($U = 4312.5$, $p = 0.262$). In addition, the effect size of the difference is negligible. We did not confirm this hypothesis in either men or women.

Table 3. Motivation to perform PA based on SM content and desire to change body type

	Desire to change body type	Motivation to perform PA based on SM content				Mann-Whitney U test		
		N	AM	Med	SD	U	p	d
Men	No	35	3.43	4.00	1.065	1259.0	0.182	0.16
	Yes	80	3.30	3.00	0.818			
Women	No	72	3.69	4.00	0.799	4312.5	0.262	0.08
	Yes	126	3.67	4.00	0.790			

Key: N – sample size, AM – group average (1-strongly disagree; 2 – disagree; 3- neither agree nor disagree; 4 – agree; 5 – strongly agree), Med – median, SD – standard deviation, U – Mann-Whitney U test, p – statistical significance, d – Cohen's d (effect size)

In the last hypothesis, we assumed that students who want to change their body type tend to compare their body type with their peers on SM more often. The results showed statistically significant differences in women, $U = 3462.5$, $p = 0.002$. In particular, we found that women who want to change their body type tend to compare themselves with their peers on SM at a significantly higher level than women who do not want to change their body type. We did not record such a finding in men. $U = 1243.0$, $p = 0.163$ as shown in Table 4. We confirmed our hypothesis only in women.

Table 4. Level of comparing body type with peers on SM and desire to change body type

	Desire to change body type	Level of comparing body type with peers on SM				Mann-Whitney U test		
		N	AM	Med	SD	U	p	d
Men	No	35	3.29	4.00	1.274	1243.0	0.163	0.18
	Yes	80	3.09	3.00	1.138			
Women	No	72	3.28	3.00	1.178	3462.5	0.002	0.40
	Yes	126	3.77	4.00	0.989			

Key: N – sample size, AM – group average (1-strongly disagree; 2 – disagree; 3- neither agree nor disagree; 4 – agree; 5 – strongly agree), Med – median, SD – standard deviation, U – Mann-Whitney U test, p – statistical significance, d – Cohen's d (effect size)

DISCUSSION

The first hypothesis investigated whether those students who want to change their body type engage in physical activity more frequently. This hypothesis was not confirmed in either men or women. We even found that men with no intention of changing their body type have significantly higher levels of physical activity than those in the opposite subgroup. People who engage in regular physical activity are satisfied with their body type. However, the fact that students who want to change their body type have a low frequency of PA is alarming. According to WHO guidelines, adults aged 18 and older should engage in at least 150–300 minutes of moderate-intensity physical activity or 75–

150 minutes of vigorous-intensity physical activity per week, or an equivalent combination of the two (BULL et al., 2020). Sogari et al. (2018) stated that physical inactivity and unhealthy dietary habits are among the most common behaviors that can negatively affect young adults' weight and health. Decision-makers in education, health, and policy, as well as teenagers themselves, have diverse motivations for enacting change. The change can be effected at several levels of a complex system by understanding the numerous benefits of physical activity and focusing communications on the results most important to the target audience (VAN SLUIJS et al., 2021).

The second hypothesis tested whether students who want to change their body type follow more fitness or healthy-lifestyle accounts on SM. We did not confirm the hypothesis in men or women. Data on the role of SM in weight management (WM) and PA frequency is mixed. The frequency of viewing fitspiration content in men is not directly linked to their reasons for exercise. Additionally, in females, it seems to be linked to body image rather than health (FATT et al., 2019), according to Sabbagh et al. (2020). WM-related blogs created by UK social media influencers may not be credible sources of information.

Additionally, policy interventions might be necessary to curb the spread of online misinformation that could jeopardize efforts to maintain a healthy diet and body weight. Conversely, Durau et al. (2022) suggest that men's and women's physical activity can be increased through social media fitness influencers who are perceived as reliable, knowledgeable, and beautiful. One important factor that predicts intentions to exercise is the influencer's perceived ability to motivate. Male and female users' motivations to exercise are impacted differently by user health-related factors.

In the third hypothesis, we tested whether students who want to change their body type agree that SM motivates them to engage in physical activity. The hypothesis was not confirmed in either gender. Posting and following "fitspiration" content—a blend of fitness and inspiration—on social media has been popular in recent years to encourage users to develop a positive body image through exercise and a balanced diet (DUMAS - DESROCHES, 2019). However, in contrast to the general assumption, fitspiration may be limited in its impact because of the inability to attain the flawless body types featured in the posts (NUSS et al., 2023). Findings show that fitspiration was not related to exercise and was associated with worse body image perceptions among college students (BOWLES et al., 2021).

Furthermore, we hypothesized that students who want to change their body type tend to compare their body type with their peers on SM more often. This was confirmed in women. The findings of Robinson (2017) suggest that while exposure to muscular ideal photos did not raise body dissatisfaction, acute exposure to athletic and slim ideal images did. Fitness-idealized photos did not encourage individuals to exercise at higher levels than slim-ideal images, indicating that this type of fitness inspiration may not encourage actual exercise behavior. Kim (2022) showed that whereas upward fitness comparison on



SM (comparing with the better) seemed to increase PA, downward fitness comparison (comparing with the worse) seemed to hinder it. People who compared themselves to elite achievers were therefore more motivated and active in PA. However, regarding body satisfaction, browsing on Instagram was associated with lower levels of body appreciation in young female adults, fully mediated by upward social comparison with social media influencers (PEDALINO - CAMERINI, 2022).

STRENGTHS AND LIMITATIONS

This study has several limitations. First, self-reported data may introduce response bias, such as overreporting PA or underreporting the figure rating scale. Second, the focus on Slovak university students limits generalizability, as cultural differences in SM use or body image perceptions may exist. Third, the study did not examine specific SM platforms (e.g., Instagram, Twitter/X), which may vary in their influence. Finally, the Social Media Use Questionnaire, while inspired by prior work, requires further validation to ensure reliability.

CONCLUSION

In conclusion, our findings suggest that social media does not have a significant impact on weight management behavior in our sample. Although students often use SM and fitness-related channels, SM does not motivate young adults to change their weight management behavior. However, since we found that body-type comparisons with peers increased physical activity, we assume that fitness-related content (created by knowledgeable and experienced influencers) could be a suitable means to persuade various age groups to engage in PA more often. Future research should focus on different SM platforms and the expertise of individual fitness influencers. Similarly, it is important to know what content motivates particular social or age groups regarding PA. This information could help institutions, such as universities and their sports departments, create their own SM platforms with comprehensive, health-beneficial recommendations.

DECLARATION OF CONFLICTING INTERESTS

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ETHICS APPROVAL

Ethics Committee of the Pavol Jozef Šafárik University in Košice (7/2025) approved this study in advance.

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