



RESEARCH PAPER

Impact of Instagram Fitness Influencers on Exercise and Dietary Habits of Female University Students: A Case Study of Instagram

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ABSTRACT

This quantitative study explores the influence of Instagram fitness influencers on exercise and nutrition behaviours among female university students, with Uses and Gratifications Theory as the theoretical framework. Simple random sampling technique was used, and a survey was administered to 392 students at two women-only universities in Lahore, Pakistan. Results indicate that Instagram fitness influencers significantly influenced students' knowledge of fitness and nutrition, motivation to change their workout, and use of dietary tips. Social interactions, such as peer testimonials, provided additional motivation. Collectively, the results seemed to suggest that social media is considered a credible source for health advice and support, however, there are some concerns regarding body image for young women.

Keywords: Instagram, Fitness Influencers, Exercise Habits, Nutrition Practices, Female University Students, Social Media, Uses and Gratifications Theory

Introduction

In recent years, maintaining a healthier lifestyle has become very popular among students. A healthy lifestyle offers promising physical and mental benefits. It aids in nurturing a controlled diet and disciplined exercise routine (Hailu, Gebru & Belay, 2021). The population uses different methods to perform physical activity for better health. Although health experts advise frequent exercise, most people resort to contemporary devices like fitness trackers, mobile apps, and social media for health assistance (Kjær, Højgaard & Gyrd-Hansen, 2019) for this particular purpose.

Digital platforms have the potential to be a motivational tool to help users choose healthier lifestyle options (Müller et al., 2018). Being habitual users of websites such as Instagram and YouTube, students are especially affected by the views expressed by online influencers. Equivalently, students make significant decisions regarding their dietary preferences (Ahmad & Bruno, 2021).

Instagram is a platform distinguished by its visuals, offering various options for sharing photos and videos (Pilar et al., 2019). The female population was responsible for 35.9% of the platform's ad reach in Pakistan as of early 2024 (Kemp, 2024). The health attitudes of females are deeply influenced (Kuss & Griffiths, 2020). This is a testament to how increasingly influential Instagram has become in informing young women about body image, identity, and overall health. Here, users can readily obtain exercise methods from popular culture (sometimes under the hashtag "fitspiration") that are shared by fitness influencers or celebrities (Camacho-Miñano, MacIsaac, & Rich, 2019).

Those who concentrate on posting fitness and health-related content on social websites are commonly known as fitness influencers (Pilgrim & Bohnet-Joschko, 2019). They have a tremendous amount of ability to shape trends, beliefs, and behaviors due to their millions of followers (Iqbal & Yasmin, 2020).

Young people commonly follow fitness celebrities and share their training routines on social media platforms like Instagram (Baig, Elahib, & Hashmi, 2023). Most of the photos that are shared on Instagram are under the weight loss featuring pre-weight loss and post-weight loss journeys (Sobel & Dube, 2024). Women's exposure to Instagram content has been correlated with more frequent cases of digital body image distortion, also commonly called digital dysmorphia. The increasing popularity of Instagram fitness influencers raises an essential question: do the influencers promote healthier practices among young adults, or do they feed unrealistic expectations and self-doubt? Or does following health influencers fail to translate into healthier habits, and even possibly contribute to poorer mental health through upward comparison and unattainable body ideals (Verduyn, Gugushvili, Massar, Täht, & Kross, 2020).

Literature Review

Fitness influencers are part of the health education process, but misinformation and the reliability about that information is a major issue. The authors stressed that consumers must become more media literate to assess fitness recommendations from influencers. They argued that although influencers could serve a valuable function for health-related behaviours, their posts should be truthful and accountable. The research indicated that educational programs could help consumers sift through the mass amounts of internet fitness information (Moreno, Quintana, & Riaño, 2023).

The authors analyzed the distribution of information on healthy diets in twitter. The authors managed to demonstrate that one of the problems of health-related information is the division of fact and misinformation offered by so-called experts. The research and findings suggested that users might struggle to find reliable dietary advice, which might lose credibility in terms of informing people and create unhealthy decisions (Lynn et al., 2020).

The utilization of hashtags such as the fitness influencers of the fitness and health hashtag of #fitspiration and the spread of this information was explored. Results revealed that a number of these pages are often replicating unrealistic body images, which may eventually lead to body discontent and bad practices among their fans. The implications are recommendations so as to make people critically assess these narratives, it might be more content moderation and inculcating criticality in reference to media consumption.

Sharing of false information concerning health and social media also increased how hard it was to evaluate reliable advice by the users. Associated Press article made readers aware of the impracticality of evaluating the health claims of influencers and underscored that people have to think critically and verify the sources when interpreting health-related information online (Associated Press, 2025).

The study also confirmed that body image dissatisfaction was also a result of social media as it promoted unrealistic body shapes. Some of the respondents did admit that there was much inaccurate information around and that the misinformation may be detrimental. The consequences of social media on health may be either positive or negative as the results suggest (Muzaffar, et. al., 2019; Salam, et. al., 2024). The main results of the research were the very complicated and multi-layered relationships between body image, health-related behaviours, and social media (McClanahan, 2024).

Although some of them reported having found motivation and inspiration, many people reported adverse effects on their mental and physical state due to repeated exposure to idealized body images. Some of the participants adjusted their use of Instagram to reduce the negative impact of the social platform on their mental and physical health (Muzaffar, et. al., 2020). This study shows the complex nature of Instagram role in the perception of body image and the need of media literacy in young women (Hill and Oz, 2024).

Instagram fitness-based and/or beauty-based content viewing, liking and/or participation was negatively correlated to body satisfaction and positively correlated to practicing so much more extreme amount of weight control behaviours. Besides this, gender and marital status were moderating variables. The category of Instagram motivations that was of significance was body image and limiting behaviours (Joorabchi and Jafari, 2024).

This research aimed to address the gap by specifically assessing the effect of fitness influencers on Instagram on university students' exercise and eating habits, in particular female students. The study assessed the positive effects (such as motivation and being informed about healthy lifestyles) and adverse effects (such as body dissatisfaction and unhealthy eating behaviours) and provide an overall understanding of the impactful aspects. In this way, the research served to expand a more comprehensive body of knowledge to aid in the planning of media literacy interventions and health initiatives for young adults in educational settings.

Material and Methods

A probability-based quantitative approach was utilized in this research, using simple random sampling to promote objectivity when selecting participants. The target population consisted of female undergraduate and postgraduate students between the ages of 18 and 27. A self-constructed, formal questionnaire was developed as the major instrument to gather data from respondents. According to the available information, around 5000 students were studying in Kinnaird College whereas Lahore College Women University had an approximate strength of 15000 students. For this purpose, an adequate sample size of 392 students was drawn from both the studies. The pilot study was carried out with 30 female university students, with a Cronbach's Alpha value of 0.70 or higher, which is generally accepted as a benchmark of high internal consistency for scale-based instruments.

Results and Discussion

Table 1
Correlation between Simple Quick Meal Ideas and Meal Planning

		Simple QuickMeal Ideas	Meal Planning
Simple Quick Meal Ideas	Pearson Correlation	1	.537**
	Sig. (2-tailed)		.000
	N	392	392
Meal Planning	Pearson Correlation	.537**	1
	Sig. (2-tailed)	.000	
	N	392	392

** . Correlation is significant at the 0.01 level (2-tailed).

A moderate positive correlation ($r = 0.537$) was also found between preferences for quick meal choices and planned meal planning, suggesting a strong relationship. This indicates a **moderate positive correlation**, which is statistically significant at the 0.01 level. The sample size for both variables is **392**. This means that individuals who favor or rely on simple and quick meal ideas are moderately more likely to engage in meal planning

Table 2
Correlation between Science Backed Guidance and Calorie Tracking

		Science Backed Guidance	Calorie Tracking
Science Backed Guidance	Pearson Correlation	1	.619**
	Sig. (2-tailed)		.000
	N	392	392
Calorie Tracking	Pearson Correlation	.619**	1
	Sig. (2-tailed)	.000	
	N	392	392

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation coefficient between Science-Backed Guidance and Calorie Tracking is 0.619, with a significance level of $p = .000$. This indicates a moderately strong positive correlation that is statistically significant. With a sample size of 392, the results suggest that individuals who value sciencebacked nutritional guidance are more likely to engage in calorie tracking.

Table 3
Correlation between Dietitian Comparison and Portion Control

		Compared To Dietitian	Portion Control
Compared to Dietitian	Pearson Correlation	1	.529**
	Sig. (2-tailed)		.000
	N	392	392
Portion Control	Pearson Correlation	.529**	1
	Sig. (2-tailed)	.000	
	N	392	392

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation coefficient between Science-Backed Guidance and Calorie Tracking is 0.619, with a significance level of $p = .000$. This indicates a moderately strong positive correlation that is statistically significant. With a sample size of 392, the results suggest that individuals who value science-backed nutritional guidance are more likely to engage in calorie tracking.

Table 4
Correlation between Personal Research and Weight Loss Diet

		Compared to Personal Research	Weight Loss Diet
Compared to Personal Research	Pearson Correlation	1	.411**
	Sig. (2-tailed)		.000
	N	392	392
Weight Loss Diet	Pearson Correlation	.411**	1
	Sig. (2-tailed)	.000	
	N	392	392

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation coefficient between Compared to Personal Research and Weight Loss Diet is 0.411, with a p-value of .000, indicating a moderate positive and statistically significant relationship. This suggests that individuals who compare health or

nutrition information with their own personal research are more likely to follow a weight loss diet.

Table 5
Correlation between Specific Diets and Nutrition Advice

		Encourage Specific Diets	Nutrition Advice
Encourage trying Specific Diets	Pearson Correlation	1	.532**
	Sig. (2-tailed)		.000
	N	392	392
Nutrition Advice	Pearson Correlation	.532**	1
	Sig. (2-tailed)	.000	
	N	392	392

** . The significance of correlation at the 0.01 level (2-tailed) is significant.

The correlation coefficient between the Pearson of Follow Unrealistic Diet and Helped Avoid Extreme Diets is 0.475 with the p-value being .000 and the relationship is moderate and significant. This implies that even those individuals who have undergone unrealistic diets can also note that they have been assisted to prevent drastic dieting habits, which could be as a result of more awareness or due to corrective guidance.

Table 6
Correlation between Following Unrealistic Diets and Avoidance of Diets

		Follow Unrealistic Diet	Helped Avoid Extreme Diets
Follow Unrealistic Diet	Pearson Correlation	1	.475**
	Sig. (2-tailed)		.000
	N	392	391
Helped Avoid Extreme Diets	Pearson Correlation	.475**	1
	Sig. (2-tailed)	.000	
	N	392	392

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation coefficient between Follow Unrealistic Diet and Helped Avoid Extreme Diets is 0.475, with a p-value of .000, indicating a moderate positive and statistically significant relationship. This suggests that individuals who have followed unrealistic diets may also report being helped to avoid extreme dieting behaviors, possibly due to increased awareness or corrective guidance.

Table 7
Correlation between Encouraging Workout and Increased Workout Frequency

		Encourage To Follow Workout	Increased Workout Frequency
Encourage To Follow Workout	Pearson Correlation	1	.571**
	Sig. (2-tailed)		.000
	N	392	392
Increased Workout Frequency	Pearson Correlation	.571**	1
	Sig. (2-tailed)	.000	
	N	392	392

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation coefficient between Encourage to Follow Workout and Increased Workout Frequency is 0.571, with a p-value of .000. This indicates a moderate to strong positive correlation, which is statistically significant. It suggests that individuals who are encouraged to follow a workout routine tend to report increased workout frequency.

Table 8
Correlation Between No Significant Impact on Diet and Avoid Unnecessary Food

		No Significant Impact on Diet	Food unnecessary Avoid
No Significant Impact on Diet	Pearson Correlation	1	.424**
	Sig. (2-tailed)		.000
	N	391	391
Avoid Food Unnecessarily	Pearson Correlation	.424**	1
	Sig. (2-tailed)	.000	
	N	392	392

**. Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation coefficient between No Significant Impact on Diet and Avoid Food Unnecessarily is 0.424, with a p-value of .000, indicating a moderate positive and statistically significant relationship. This suggests that participants who felt that diet-related content had no significant impact on their diet are somewhat more likely to report avoiding foods unnecessarily—perhaps due to confusion or misinformation.

Discussion

The results indicated that Instagram fitness influencers significantly influence the information and knowledge college students learn about nutrition and exercise. As online role models, several influencers work in a non-official capacity as sources of health information, delivering information that appeals to younger readers. It was common for participants to follow fitness influencers daily to gain practical advice on nutrition, exercise, and daily lives. This indicates that social media sites are becoming primary substitute sources of informal health education. Influencers tend to post routines, overhauls, and daily meal content, which is an informal but powerful source of learning for students who are investigating health and nutrition.

However, the influencer's trustworthiness has a substantial impact on the quality and veracity of this knowledge. While some influencers are certified, others promote evidence-based trends on the exercise fads they endorse or diet, which can lead to confusion for the audience they reach. There may be some, just like in fad diets, who endorse unverified fads, diets, or programs offering strenuous exercise, which can lead to unsafe habits or misperceptions from the audience. The issue is important due to the fact that although influencers too can present a positive side of motivation or enlightenment, they can merely pour misinformation in persuading the health behaviours or thinking capacities within their audience, especially when these are just selling products or gaining fame.

Equally relevant was a finding that students who are not necessarily seeking formal health information seemed to have gaps in their knowledge filled by the constant exposure to influencers.

Students generally shared that the influencers were also introducing them to topics related to wellness that they rarely discussed in formal education or peer engagements, for example, healthy eating practices or introducing scheduled exercise practices and balanced nutrition.

In conclusion, Instagram fitness influencers seem to have a powerful influence in determining how college students comprehend and conceptualize health. Although this influence is potentially positive, it highlights the need for students to be critical and purchase digital literacy. To help students identify able and misleading information, educators and institutions of higher education may want to incorporate discussions about social media influencers into their health education programming.

Evident from the data collected for this goal, Instagram, a social media site known for its high degree of visual engagement, heavily influences university students' physical activity patterns and eating habits. Instagram serves as a source of information, enculturation, and social comparison and it appears that the influences of Instagram can be both indirect and direct.

It was reported by a number of participants that fitness influencers were valuable motivators to engage in healthier behaviours or continue on a healthy path (e.g., progress photos, workout plans, meal prep advice). By being continuously exposed to posts that appeared on their respective feeds, students would incorporate new fitness or nutrition patterns through these interactions, which generally acted as a form of passive learning.

The post-affordances of Instagram, likes, comments, shares, and DMs, made posts about health more effective. A lot of the students have noted that there were positive changes in their accountability and their inspiration, particularly when they received feedbacks of their classmates or followers. These students were satisfied when they were given positive social reinforcement such as a good job in the efforts they have made despite the fact that their health journey might have failed to make them fit or more co-ordinated. This form of positive social reinforcement can be a means of encouraging one to persist. Nonetheless, along with it, there were certain subtle outcomes. One or two students said that they had been negatively impacted by either the too constructed health discourse or the impossible ideal of the body to which they had been exposed only to snap shots (literal snapshots!).

Others were enthusiastic about the posts in Instagram. Other such individuals felt inadequate, or perhaps pressured, which was at times a demerit or demerit to their process towards healthy behaviours. The other major concern was credibility of information. Being not scientific in most cases, as most of the images people put on Instagram in relation to food and physical activity, students were unsure of the legitimacy of the advice. Nevertheless, this did not mean that the emotive element and aesthetics of posts did not encourage students to ignore questions of factuality.

Conclusion

This study confirms that fitness influencers on Instagram considerably affect the knowledge, eating behavior, and training programs of female university students. These influencers take the role of unofficial health educators, filling in gaps of knowledge that one would not usually attain in school or other institutional processes. Visual and interaction elements of Instagram provide more opportunities to spread knowledge in the form that is more attractive to young adults so that students can apply nutritional and fitness principles to their daily routine (Vaterlaus et al., 2021).

Active learning of influencer contents by the students is what motivates the behavioural changes in students. These online interactions also create community and social responsibility in addition to the aforementioned urge to move more and explore food. The second crucial aspect of the research is that the strength of social media can be two-fold in that it can be both liberating and pressurizing and disorienting an individual due to the

opposing suggestions or unrealistic demands. The digital literacy required is that of a critical nature so that students can check on the influencer content in a critical manner.

Recommendations

Colleges and universities can collaborate with professional nutritionists and fitness celebrities, who also use Instagram. By bringing these professionals who are verified to conduct discussions during seminars, campaigns or as ambassadors, the schools will be able to shift the minds of students to more viable sources without necessarily leaving them with the social media ambiance with which they have been used to.

Establish a certification or health influencer registry, which will aid in checking the expertise of the individuals when they share some information in the social media like Instagram.

Encouragement to incorporate evidence-based materials and health messages on the posts advertising fitness or diet-related materials.

Be on the lookout of influencer material regarding extreme eating or unauthorized supplements that may endanger the well-being of the youth.

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