

UNDERGRADUATE STUDENTS' (UG) MOTIVATION TO FIT LOOKS AND ITS EFFECT ON ACADEMIC PERFORMANCE MEDIATED BY PHYSICAL EXERCISE, SLEEP PATTERN, AND MALADAPTIVE EATING

MOTIVAÇÃO DOS ALUNOS DE GRADUAÇÃO (UG) PARA ADEQUAR A APARÊNCIA E SEU EFEITO NO DESEMPENHO ACADÊMICO MEDIADO POR EXERCÍCIO FÍSICO, PADRÃO DE SONO E ALIMENTAÇÃO MAL ADAPTATIVA

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RESUMO

A Índia é um dos países com maior população jovem do mundo. Os avanços tecnológicos durante e após a COVID dotaram a maioria dos jovens com computadores pessoais/smartphones, além de conectividade à internet a um preço acessível. Assim, assistir compulsivamente às redes sociais tornou-se comum. Os jovens estão excessivamente interessados em construir uma aparência adequada para seu bem-estar psicossocial. No entanto, isso alterou negativamente a rotina de vida e o desempenho acadêmico. Assim, o presente estudo tentou medir a relação entre a motivação para a aparência física e o desempenho acadêmico na presença de variáveis mediadoras como padrão de exercício físico, padrão de sono e padrão alimentar. O estudo entrevistou 300 estudantes de graduação que frequentam aulas de ginástica ou exercícios físicos. O estudo empregou análise de mediação para encontrar a relação. Os resultados revelaram um efeito total e indireto entre a motivação para a aparência física e o desempenho acadêmico na presença de variáveis mediadoras, explicando o efeito total da mediação. O estudo recomenda que futuros pesquisadores explorem as razões dessas relações com uma abordagem qualitativa e identifiquem sugestões plausíveis para melhorar o bem-estar psicossocial dos jovens.

Palavras-chave: Imagem corporal, Vício em exercício, Academia, Hábitos alimentados inadequados, Padrão de sono.

ABSTRACT

India is one of the largest youth-populated countries in the world. Technological advancements during and post-COVID have gifted most youth with personal computers/smartphones and internet connectivity at an affordable price. Thus, binge-watching social media has become the order of the day. Youths are excessively interested in building fit-looks for their psychosocial well-being. However, it has adversely changed their life routine and academic performance. Thus, the present study attempted to measure the relationship between their motivation to fit looks and academic performance in the presence of mediating variables like physical exercise, sleeping, and eating patterns. The study surveyed 300 UG students attending physical exercise or gym classes. The study employed mediation analysis to find the relationship. Results revealed a total and indirect effect between motivation to fit looks and academic performance in the presence of mediating variables, explaining the full mediation effect. The study warrants future researchers to explore the reasons for these relationships with a qualitative approach and identify plausible suggestions to improve youths' psychosocial well-being.

Keywords: Body image, Exercise addiction, Gym, Maladaptive food habit, Sleep-pattern.

Introduction

It has been observed that regular exercise is related to physical and psychological well-being¹. According to Plonczynski² the 'Motivation to exercise' is a concept that should be considered significant because of the robust health benefits and complexity involved in this activity and there have been instances where the decline in the health of college students with a lack of physical exercise is a significant concern³. However, when motivation to students are by other extrinsic factors to achieve an idealistic 'fit-look,' it comes with a price. There are two types of motivation: Intrinsic and extrinsic; in intrinsic motivation, one tends to gain from involvement in the activity itself compared to extrinsic motivation, which depends on achieving goals that are external to the activity involved; for example, most bodybuilders are driven by extrinsic motivation⁴. There are also differences in motivation based on sex; males are usually oriented to exercise through intrinsic motivation factors, and females to extrinsic ones⁵. The ideal benchmark for a person to be beautiful lately for women depends on their weight and for

men on their muscles. Such preferences for beauty also create an exclusive environment in schools⁶. There exists preferences of body types; men's ideal desired body shape is the 'V' shape^{7, 8} and for women, a slim, toned body⁹. Some of these preferences are socialised from a young age¹⁰ and also the Hollywood films trend on the thin ideal and emphasising the need for an outward beauty for the inner beauty to manifest before others¹¹ have played a significant role.

There have been consequences for such drivers; the impact of having such a 'fit look' has created body-conscious individuals who tend to deviate from social environments that would require them to reveal their bodies around people¹², creating an effect on their social life. Among other routes to stimulate this 'fit body' ideology, social media has played a significant role, higher exposure to social media also resulted in higher levels of body dissatisfaction and dieting habits among young adults causing a negative impact on perceived body image and choice of food¹³. As a result, many under the perception that an ideal body would result in social success¹⁴. Thus, led to the issues related to body image and other related disorders over the years¹⁵. Earlier studies revealed that, a positive body image reduce the chances of being depressed¹⁶. According to Ferreira¹⁷ a positive body image is addressed as 'perfectionism' a dire need to self-present as perfect and was seen associated with many clinical disorders, obsessive-compulsive disorder, panic disorder, eating disorders and even depression and anxiety^{18, 19, 20}. Negative body image creates body dissatisfaction, and higher levels of body dissatisfaction are again associated with lower levels of self-esteem, depression²¹ and quality of life²².

Some motives for exercise among colleges are competence and body dissatisfaction^{4, 23} and other factors like enjoyment and social recognition²⁴. Apart from this, less school work and more time also favoured the ones who exercise to prolong their exercise duration²⁵. When exercise is used to evade any mental hardship, it could have a negative impact²⁶, there are terms such as 'exercise dependence'²⁷ and exercise addiction that have been used to address such issues. Exercise addictions are behavioural addictions, where a person does not have control over their exercise; it is accompanied by sacrificing a significant amount of time, not catering to social activities and creating stress, and other negative physical and psychological symptoms²⁸. It's a craving for excess physical activity²⁹ and is triggered by factors like body shaming³⁰, which arises from the negative perception of one's body image³¹. Even Personality Traits such as perfectionism and narcissism are associated with exercise addiction³².

Maintaining a fit body also can urge these young adults to experiment with diet pills, laxatives, and exercising for more than 60 minutes³³. Such impacts can also be witnessed with athletes over-working their bodies, which causes rhabdomyolysis and kidney failure³⁴. Social media platforms also exploit the food choices of young adults by manipulating their content by using celebrities to advertise their products to sell an unrealistic ideology of fitness, health and success³⁵, which has negative impacts on body image^{36, 37}. The university would be apt to teach young adults ways to reduce their chronic health conditions and ensure they don't fall prey to any pathological eating behaviours^{38, 39, 40}.

Theoretical framework

The study adopts positivist theoretical paradigm to carry out the proposed research. Age-appropriate physical exercise, healthy food habit, and sleeping habits may give healthy-fit-body and may help in achieving good academic performance. However, overestimation or underestimation of the same can affect individuals' life. Thus, two prominent theories on body image guides the present study viz., Social comparison theory⁴¹ and Third-person effect theory⁴². From the perspective of social comparison theory, UG students in the present study may tend to compare their own social and personal worth with others and comparison happens on good-fit looks. They compare their body images even with the movie actors or

models/beauty pageants as displayed in social-medias. In addition, they begin to act and want to accomplish similar body image for themselves. Further as revealed by third-person effect theory, UG students may tend to perceive celebrity body images displayed on social media attract all others and creating such body image can bring similar effect on themselves. This over estimation may manifest in their motivation to achieve good-fit and might lead to variation in their regular physical-exercise, eating habits, and sleep patterns affecting their academic performance.

Context of the study

The idea of present study evolves from positivist and critical observations in the contemporary world. Technological advancements and the social-medias have influenced today's youth in various ways. Though society encourages youths in their young adulthood to focus on their studies, the present day competition to be successful and be-fitting to socio-cultural requirements compels them to do multi-tasking. The craving for social and psychological recognitions seem high in the post-pandemic context. Students in their late adolescent or young adulthood are excessively indulged in developing their ideal body shape as influenced by the display of ideal body images on social-medias. Thus, UG students are utilizing their autonomy to create space in their daily routine to attend physical-exercise or gym classes. The urge to fit-look made students to indulge in mal-adaptive eating and sleeping habits, which are detrimental to their health and even to their studies. Access to UG education or higher education in developing and developed counties is not uniformly distributed. We find more higher education institutions in cities than in rural parts of the countries. This necessitated a large number of youths reside in hostels, paying-guest accommodations, independent flats, shared-rooms, etc., away from parents' home for their studies. This provides them freedom to live as they desire especially it is the age appropriate feature. Many a times, they lack life skills to handle the situation and easily carried away by the strong influence of social media and peer group. They have easy access to social media in post-pandemic context as they have personal commuters or smartphone devices and internet has become cheap these days. Unlike traditional studentship practices, student now a days after college hours spend their leisure time in attending gym, hanging with peer-groups, eating fast-food, and internet-gaming or browsing various social media platforms. This could immensely affect their academic performance leading to low-performance, failure or even dropout. This certainly affect their parents' economy, and in turn affect the productivity and economy of the country. Thus, present study plans to understand the UG students' motivation to fit-looks (MFL) moderated by magnitude of their physical-exercise activity (PEP), maladaptive eating- pattern (MEP), and sleeping-pattern (SP) affecting their academic performance (AP).

Research Objectives

- To explore the relationship between UG students motivation to fit-looks and their academic performance
- To explore if the relationship between UG students' motivation to fit-looks and their academic performance mediates through their physical exercise-pattern, sleeping-pattern, and maladaptive eating-pattern.

Mediation hypotheses

- Physical-exercise-pattern of UG students' mediates the relationship between motivation to fit-looks and academic performance.
- Sleeping-pattern of UG students' mediates the relationship between motivation to fit-looks and academic performance.

- Maladaptive eating-pattern of UG students' mediates the relationship between motivation to fit-looks and academic performance.

Methods

The present study adopted a descriptive survey research design to explore the research questions raised in the present study. Researchers employed mediation analysis to explore the total, direct, and indirect effect of motivation to fit looks (MFL) on academic performance (AP) mediated by physical exercise pattern (PEP), eating pattern (EP), and sleeping pattern (SP) of UG students.

Sample

The study employed a purposive sampling technique and included UG students who are attending physical exercise or gym classes while pursuing their bachelor's degree at the University. Researchers sent around 400 questionnaires to UG students who regularly attend physical exercise or gym classes in universities. The questionnaires were prepared in both physical form and online Google form. The researcher employed a word-of-mouth approach to access the student sample. The researcher obtained 300 filled-in questionnaires, forming the study's data. Participants' ages ranged from 19 to 22 years, and most stayed in hostels and other residential facilities around their colleges. Researchers exported the collected data to the statistical tool SPSS-AMOS version number 21 for data analysis.

Validity and reliability of the tools used

The present study used the following tools to measure the variables selected for the study. They are the Physical activity and leisure motivation scale (PALMS) by Molanorouzi⁴³, the Physical activity questionnaire for older children (PAQ) by Kowalski⁴⁴, the Adult eating behaviour questionnaire (AEBQ) by Hunot⁴⁵, and the Basic Nordic sleep questionnaire (BNSQ) by Partinen and Gislason⁴⁶. The researcher created a booklet comprising the above tools, consent, and demographic details required for the study. The researcher subjected each tool for content and face validity with a panel of experts. The study also established Cronbach alpha reliability for the tools with the help of a small sample (N = 50), and reliability coefficients are 0.946 (PALMS), 0.77 (PAQ), 0.832 (AEBQ), and 0.813 (BSNQ) respectively. Thus, indicating all tools are reliable⁴⁷.

Ethical consideration

The study sought permission from the institutional review board to carry out the present research. The study obtained informed consent from each participant and collected data only from those willing to participate in the research. The researcher also gave the privilege to participants to withdraw from the study at any point in time if they were not comfortable expressing their viewpoints. The study ensured the anonymity of the participants by concealing their identity in any manner and ensuring the confidentiality of the data procured. Researchers stored the data in an Excel file encrypted with password protection. The data is accessible only to the researchers and utilised only for the present research.

Results

In the present study, researchers conducted mediation analysis to measure direct, indirect, and total effects of the independent variable (UG students' motivation to fit-looks) and mediating variables (physical-exercise-pattern, sleeping-pattern, and maladaptive eating-

pattern) on the dependent variable (academic performance). Figure 1 below presents the result of the mediation analysis.

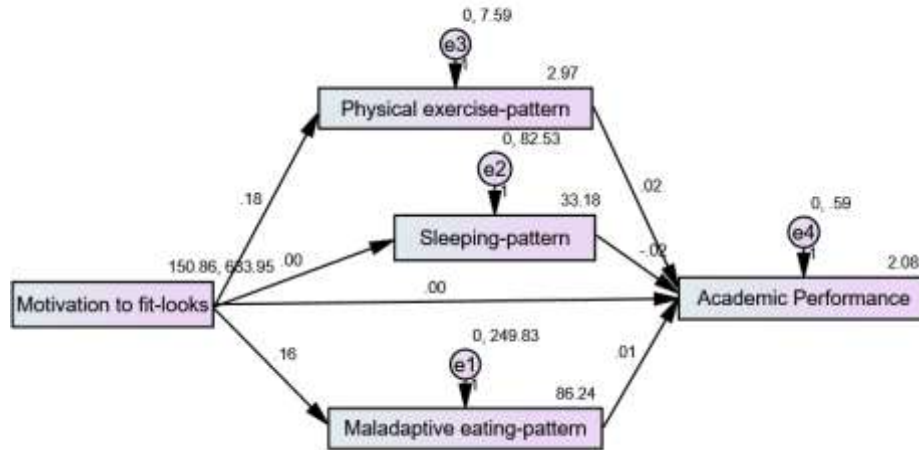


Figure 1. Mediation analysis model
Source: Authors

Here direct effect is the impact of UG students’ motivation to fit-looks on academic performance in the absence of mediating variables such as physical-exercise-pattern, sleeping-pattern, and maladaptive eating-pattern. Indirect effect is the impact of UG students’ motivation to fit-looks on academic performance through mediating variables such as physical-exercise-pattern, sleeping-pattern, and maladaptive eating-pattern. Total effect is the impact of UG students’ motivation to fit-looks on academic performance in the presence and in the absence of mediating variables such as physical-exercise-pattern, sleeping-pattern, and maladaptive eating-pattern. Study found a full mediation relationship model. That is, the UG students’ motivation to fit-looks exerts its total influence on academic performance through mediating variables such as physical-exercise-pattern, sleeping-pattern, and maladaptive eating-pattern. Following paragraphs presents the results of mediation analysis in detail.

Hypothesis 1: Physical-exercise-pattern of UG students’ mediates the relationship between motivation to fit-looks and academic performance.

Table 1. Result of mediation analysis for Physical-exercise-pattern (PEP) as mediator variable

Total effect (MFL->AP)			Indirect effect (MFL->PEP->AP)			Total effect (MFL->PEP->AP)						
Coefficient	t	p	Coefficient	t	p	Coefficient	SE	t	p	Percentile bootstrap 95% CI		
											Lower	Upper
0.006	2.0	0.001	0.001	0.33	0.046	0.024	0.016	1.5	0.09	-0.004	0.059	
											1	3
											5	

Note: MFL-motivation to fit-looks, PEP-physical exercise pattern, AP-academic performance, CI-Confidence interval

Source: Authors

Researchers conducted mediation analysis to find the mediating role of physical-exercise-pattern in the relationship between motivation to fit-looks and academic performance of UG students’. Table 1 above presents the result for mediating role of physical-exercise-pattern. From table 1 it is clear that, there is no significant total-effect of physical-exercise-pattern in the relationship between motivation to fit-looks and academic performance ($b =$

0.024, $t = 1.5$, $p = 0.095$). Though the total effect of motivation to fit-looks on academic performance was significant ($b = 0.006$, $t = 2.0$, $p = 0.001$), the mediating effect in the presence of physical-exercise-pattern is also significant ($b = 0.001$, $t = 0.33$, $p = 0.046$). This indicates a full mediating role of physical-exercise-pattern in the relationship between motivation to fit-looks and academic performance of UG students.

Hypothesis 2: Sleeping-pattern of UG students' mediates the relationship between motivation to fit-looks and academic performance.

Table 2. Result of mediation analysis for sleeping-pattern as mediator variable

Total effect (MFL->AP)			Indirect effect (MFL->SP->AP)			Total effect (MFL->SP->AP)					
Coefficient	<i>t</i>	<i>p</i>	Coefficient	<i>t</i>	<i>p</i>	Coefficient	SE	<i>t</i>	<i>p</i>	Percentile bootstrap 95% CI	
										Lower	Upper
0.006	0.333	0.001	0.001	0.333	0.0	-0.019	0.00	-	0.00	-0.034	-0.005
						46	7	2.71	7		

Note: MFL-motivation to fit-looks, SP-sleeping pattern, AP-academic performance, CI-Confidence interval

Source: Authors

Researchers conducted mediation analysis to find the mediating role of sleeping-pattern in the relationship between motivation to fit-looks and academic performance of UG students'. Table II above presents the result for mediating role of sleeping-pattern. From table 2 it is clear that, there is a significant total-effect of sleeping-pattern in the relationship between motivation to fit-looks and academic performance ($b = -0.019$, $t = -2.71$, $p = 0.007$). Though the total effect of motivation to fit-looks on academic performance was significant ($b = 0.006$, $t = 0.33$, $p = 0.001$), the mediating effect in the presence of sleeping-pattern is also significant ($b = 0.001$, $t = 0.33$, $p = 0.046$). This indicates a full mediating role of Sleeping-pattern in the relationship between motivation to fit-looks and academic performance of UG students.

Hypothesis 3: Maladaptive eating-pattern of UG students' mediates the relationship between motivation to fit-looks and academic performance.

Table 3. Result of mediation analysis for maladaptive eating-pattern as mediator variable

Total effect (MFL->AP)			Indirect effect (MFL->MEP->AP)			Total effect (MFL->MEP->AP)					
Coefficient	<i>t</i>	<i>p</i>	Coefficient	<i>t</i>	<i>p</i>	Coefficient	SE	<i>t</i>	<i>p</i>	Percentile bootstrap 95% CI	
										Lower	Upper
0.006	0.33	0.00	0.001	0.33	0.04	0.007	0.00	1.4	0.08	-0.001	0.017
						3	5	2			

Note: MFL-motivation to fit-looks, MEP-maladaptive eating-pattern, AP-academic performance, CI-Confidence interval

Source: Authors

Researchers conducted mediation analysis to find the mediating role of maladaptive eating-pattern in the relationship between motivation to fit-looks and academic performance of UG students'. Table 3 above presents the result for mediating role of maladaptive eating-pattern. From table III it is clear that, there is no significant total-effect of maladaptive eating-pattern in the relationship between motivation to fit-looks and academic performance ($b = 0.007$, $t = 1.4$, $p = 0.082$). Though the total effect of motivation to fit-looks on academic performance was significant ($b = 0.006$, $t = 0.33$, $p = 0.001$), the mediating effect in the presence of maladaptive eating-pattern is also significant ($b = 0.001$, $t = 0.33$, $p = 0.046$). This

indicates a full mediating role of maladaptive eating-pattern in the relationship between motivation to fit-looks and academic performance of UG students.

Discussion

Researchers bootstrapped the sample size to 5000 at 95% confidence interval and table 4 below presents the summary of mediation analysis, which includes direct effect, indirect effect, and total effect of motivation to fit-looks of UG students on their academic performance through mediating variables physical exercise-pattern, sleeping-pattern, and maladaptive eating-pattern.

Table 4. Summary of mediation analysis

<i>H: MFL->PEP->SP->MEP->AP</i>	95% Confidence interval		<i>p</i> -value	2 tailed sig.	Conclusion
	Lower	Upper			
<i>Total effect</i>	0.003	0.010	0.001	Significant	
<i>Direct effect</i>	-0.005	0.005	0.902	Not significant	
<i>Indirect effect</i>	0.000	0.012	0.046	Significant	Full mediation

Note: H-hypothesis, MFL- motivation to fit-looks, PEP- physical exercise-pattern, SP- Sleeping-pattern, MEP- maladaptive eating-pattern, AP- academic performance

Source: Authors

From the results of mediation analysis, it is clear that, UG students aged from 19 to 22 years in India are motivated to fit-looks and it further mediates through their physical exercise-pattern, sleeping-pattern, and maladaptive eating-pattern affecting their academic performance. Study observed a significant indirect effect and total effect between UG students’ motivation to fit-looks and their academic performance. However, direct effect remained insignificant explaining full mediation effect. Researchers’ contextual observation regarding motivation to fit-looks come from their social circle, peer-group influence, and social media influence. Students seem to follow movie celebrities’ body image on various social media platforms like Instagram, YouTube-reels, etc., and imitate to get such ideal body shape especially in young adulthood stage. Similar observation made by Cataldo⁴⁸, Kim⁴⁹, and Rounsefell¹³. This has led to spending excessive time in physical exercise (workout) at the gym or playground. They seem to believe that the more workouts they do at the gym, the faster they will get their ideal body shape. Therefore, they regularly spend more hours at the gym or playground. Consequently, their sleep pattern has been erotic, and they have developed maladaptive eating habits. These are evident from the current study data. Similar observations have been made by Akbari⁵⁰, Kun⁵¹, and Syed⁵² recently. Sleeping at odd hours, eating fast food, and, at times, fasting have been their habit. Furthermore, it affected their health, leading to giddiness, nausea, and fatigue. A study by Hautala⁵³ reported a relationship between problematic academic functioning with eating behaviour, body image, and appearance. The effect of which is leading to variation in their academic performance as revealed by the relationship-model with full mediation by mediating variables in the present study. Thus, the study recommends the need for life skill classes with a special focus on the appropriate level of physical exercise needed for a healthy human body, healthy sleeping habits, nutritional food habits, and taking control of their emotions etc. to late adolescents or young adults pursuing their bachelor’s degree programme.

Conclusion

Present study found the relationship model exist between UG students to motivation to fit-looks and academic performance. Further the mediating variables; physical exercise-pattern, sleeping-pattern, and maladaptive eating-pattern showed a full mediation effect on academic

performance of the UG students and established a unique relationship model. From the model, it is clear that, there is a need for channelizing youth's energy into positive routine student-life leading to successful academic performance. However, few of the limitations of the study are, study collected quantitative data from a purposive sampling technique and carried out mediation analysis only. Study included students who are attending physical exercise classes who are pursuing UG programme only. Study recommends future researchers to explore the motives behind ideal body image building through qualitative study involving personal interviews and focus group discussions. There is a need for survey studies to understand the prevalence of body dissatisfaction disorders and ideal body image among Indian youths, as India has the largest youth population at the moment. Qualitative studies on youngsters' modern daily routines, especially with the advent of social media platforms and artificial intelligence, are needed. Qualitative research could track a more in-depth understanding of good-fit looks, social media influence, and academics and has the potential to develop solutions to these issues.

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