



RESEARCH PAPER**Gender-Based Analysis of Healthy Lifestyle Patterns and Healthy Habits of University Students**

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ABSTRACT

University students often find it difficult to keep a healthy balance between academic demands and personal well-being. Adopting a healthy way of life is significant for their physical and mental health. This research aimed to analyze and assess university students' healthy lifestyle patterns in the context of gender. Data was collected from 75 students of B.Ed (Hons) through a questionnaire based on indicators of life style patterns and habits. The study found that most students have regular mealtimes with breakfast, lunch and dinner. Students eat fruits and vegetables, but rarely eat fast food. Majority has less sleep hours, low water intake, and rarely engages in physical activity. There is difference among male and female students in use of screen entertainment and experience moderate stress levels, with infrequent use of stress management techniques. The study suggested that universities should implement programs to promote healthy lifestyles for all students.

KEYWORDS

Gender, Healthy Habits, Healthy Lifestyle Patterns, Physical Activity, Screen Time, Stress Management, Stress

Introduction

The ongoing progress of modern development due to technological and scientific development has remarkably assisted human life but also led to deficient lifestyles such as a lack of physical activities among people which increases mortality rate and various diseases (Li, et al., 2024). Daily routines, mannerisms and behavior gradually shape the lifestyle. Moreover, academic loads can be a cause of healthy and unhealthy habits among students. (Dacay et al., 2024). University students are developing unhealthy dietary patterns due to lifestyle changes and a lack of nutritional awareness. Certain roles, behaviors and norms are linked with a particular gender. This gender gap has become a significant reason for research studies on physical activity levels, macronutrient intake, eating habits, and nutritional status in the context of gender (Majeed, et al., 2024).

The health sciences field often confuses gender with biological sex such as male or female and dichotomous classification of masculinity or femininity. Whereas gender and sex concepts relate to each other though are still not equivalent. Previous research studies have shown an association between health and gender. However, there is a need to explore the association between the Mediterranean diet and gender typologies (González-Pascual, et al., 2024).

Research studies have extensively studied the association between healthy habits such as meal preferences, eating habits and food tastes in recent years. Yet, research studies

still need to be addressed in these areas based on gender differences (Feraco, et al., 2024). Therefore, the current research was conducted to analyze healthy habits and lifestyle patterns of university students based on gender.

Healthy living is essential for students because it influences their academic activities and wellness. Gender roles are pivotal in determining health outcomes throughout their lifetime. Gender and health relationships are multifaceted due to biological, cultural and social factors (Seikh, 2024). Gender may influence choices of a healthy lifestyle and recognizing its role can help in modifying interventions to meet the requirements of the diverse population of students. Gender approaches to wellness and health also play an important role. University students can lead to a better life by focusing on a healthy lifestyle which will improve their physical and mental health and academic achievement.

Human beings pass through various transition levels in life span from which the most important is entrance into higher education where students feel independent. Regular exercises, an organized sleeping pattern, and a healthy diet identify as a healthy lifestyle (Assaf, et al., 2019). Exercise self-efficacy and atmosphere worked as mediating roles in exercising adherence and commitment whereas this role occurs in female students instead of male students. Therefore, gender plays a significant role in this mediating effect (Li, et al., 2024). One of the causes of an unhealthy lifestyle is eating disorders. Eating disorder frequency is getting higher among university students resulting in severe psychological problems. Psychological and social factors are substantially connected with eating disorders. However, awareness strategies may be initiated to cope with eating disorders, negative emotions, and tense conditions among universities (Alchallah et al., 2024). A comparative study concluded that gender is an influencing factor in eating habits and nutritional status. Accordingly, both genders are required to have personalized plans for the improvement of their eating habits and nutritional status. (Majeed, et al., 2024).

Unhealthy patterns of life lead to obesity. Awareness is required to understand gender variations in the context of obesity. Men are suspected of obesity prevalence as compared to women, but the body fat content percentage is higher in women. Gender seems to play an important role in the manifestation of obesity (Muscogiuri, et al., 2024). According to the World Health Organization, gender inequality exists in terms of health and equity is a key to improving health among genders (WHO, 2008).

Students at university are vulnerable to challenges regarding mental health. Depression among students is associated with eating patterns and physical exercise. A healthy lifestyle includes a balanced diet, daily exercise and regulated exposure to screens may help in mitigating and preventing depression among students (Zheng et al., 2024). University students face psychosocial stressors that are associated with unhealthy lifestyles and academic work (Ruiz-Hernández et al., 2022). Exercising can lower depression and anxiety levels. In addition to regular exercise, basketball, running, tennis, and dance activities help alleviate mental health problems among students (Zheng et al., 2024).

Acquisition and promotion of healthy mind sets depend on academic training. Adherence to physical activity and Mediterranean diet awareness may be included in training to improve quality of life and lifestyle habits. Health interventions are needed in universities (García-Pérez et al., 2023). Lifestyle may be considered while curing depression among students. Changes in lifestyle such as social support, physical activity and sleep are useful (Roldán-Espínola et al., 2024).

Another reason for the change in lifestyles of university students is more responsibilities and multiple challenges which directly influence healthy lifestyle habits. The challenges influence nutrition, physical activity and resilience resulting in stress and academic burnout in students at university. Students faces overall changes as the academic years proceed and habits get worse with low physical activity, improper diet and high stress resulting in increasing burnout. A healthy life style is necessary during university life (Puente-Hidalgo et al., 2024, May).

University students have unhealthy lives, poor physical activity and unhealthy eating behaviors. Universities can implement programs for promoting health to encourage students to be responsible behavior for health, physical activities and healthy eating behaviors for their wellness (Almutairi, et at., 2018). Low motivation, food choices and time constrains are a barrier to home cooking and healthy eating. Young people also are deficient in the knowledge to prepare affordable nutritious and quick meals (Jurado-Gonzalez et al., 2024).

Additionally, Stress among students is a cause of emotional eating behavior. Healthy eating behavior interventions are useful for coping with stress and reducing obstacles to healthy eating patterns (Dalton, 2024). Quality of life and physical activity among students can be promoted by perceived competence, social support and self-determined motivation (Tao et al., 2019). Individual health can be determined by sleep efficiency, sedentary behavior, body mass index and sleep duration. Prolonged sedentary behavior such as smart-phone use, computer playing, and screen viewing are linked to less sleep among young adults. Increased body mass index (BMI) is also related to poor health outcomes. Physical activity and nutrition education can be promoted for lowering BMI and reducing sedentary behavior(Liu et al., 2021).

Over the past few years, healthy lifestyle maintenance has gained attention even among students. Lifestyle patterns and habits developed during university life impact students' academic performance and well-being. However, gender influence on healthy lifestyle adoption among students of higher education is relatively less researched. The present research study intends to contribute to the discourse of healthy habits and lifestyle patterns among students of higher education in the context of gender with aim of cultivating an inclusive and supportive environment that empowers students to lead healthy and fulfilling lives.

Literature Review

In recent times health habits and healthy lifestyle patterns among university students have gained attention. Prioritizing a healthy lifestyle and sustaining healthy habits in students become challenges due to the multiple pressures of academic perfection, personal development, academic & social engagements and extracurricular activities. This area has become an important area of research. This section of the literature review investigates the existing research studies on healthy habits and lifestyle patterns among university students in the context of gender which will help in identifying potential research areas for future trends and knowledge gaps. The present research provides an understanding of gender influences in adopting healthy lifestyle habits in higher education by reviewing existing literature and data analysis from student surveys.

There is a complex relationship of gender-based, biological and cultural considerations which shape eating behaviors and dietary preferences. Gender dynamics influence eating habits and food choices. Women are susceptible to eating healthier regular meals whereas, men's preferences are tasting specific meal-related behaviors. Gender

differences in dietary patterns are influenced by inherent factors such as genetics and hormonal responses in addition to cultural contexts and societal norms (Feraco et al., 2024). Female students who studied sports sciences and physical activity are facing more challenges of physical exercise than men in university despite that both had a natural interest in physical workouts. These barriers are linked to negative mental health (Martínez-Sánchez et al., 2024).

Daily exercise and a healthy diet are essential for a strong lifestyle. Time management is an essential component of specifying time for daily exercising. There is a need to promote an environment for students to join sports activities to encourage exercise among educational institutions. Healthy food in institution cafeterias may also be ensured for students (Assaf et al., 2019). Lack of knowledge about nutrition at the early life stages leads to poor eating habits and obesity. A research study found that Syrian university students had inadequate nutritional knowledge, high obesity dietary diversity and poor eating habits (Younes, 2024).

Physical activity among students is important for increasing cognitive, physical and mental health which will help to cope with stressors and enhance their academic potential. This will also set a strong base for a lifetime of healthy exercise habits. Understanding facilitators and barriers to an active lifestyle among students is important. It is important to develop physical activity interventions with focus on goals, social influences, resources, and environmental context (Brown et al., 2024). Regular physical activity engagement also maintains attentional processes, memory functions, coordination skills, reasoning, sensory perception, cognitive processes, problem-solving, logical thinking, decision-making, and concentration of university students that are essential for real-life and academic success (Caamaño-Navarrete et al., 2024, May).

Age also changes healthy lifestyles among adolescents. A healthy lifestyle is composed of physical activity, vegetable & fruit consumption, abstinence from alcohol & tobacco products and screen-based behaviors of less than two hours daily. Healthy life styles decrease with age adolescents. Adolescents have mostly unhealthy lifestyles (Marques, et al., 2020). The quality of life related to health in adolescents has a connection with several health indicators such as Socio-demographic factors and lifestyle habits. Academic performance and body satisfaction were also connected to life quality based on health. In addition, age, physical activity, diet, nightly sleeping hours, oxygen consumption and socioeconomic status are also related to quality of life (Jiménez Boraita et al., 2024).

Gender differences are present in food healthiness and food avoidance. Women perceive sugar, dairy products, gluten, red meat, alcohol, food additives and white flour as negative for the healthiness of Sweden residents. Women were avoiding white flour, gluten, food additives and red meat and felt more anxiety linked to health and food than men (Bärebring et al., 2020). In another study, depression among females was higher than among males among school students in China. Depression causes were long screen time, poor sleep quality, low physical activity and low family income. Improving sleep hours, increasing physical activity, and minimizing screen time help prevent depression (Zhao et al., 2024). Likewise, physical activity is related to a healthy lifestyle. Physical activity indicators are physical & mental health, body mass index and substance consumption. Females were found more involved in relaxing exercise while men were engaged in aerobic exercise and outdoor leisure. A high level of physical activity is linked with good health and less smoking. (Liutsko et al., 2024). Eating disorders affect both physical and mental health. A research study among undergraduates of a Syrian university about eating disorders showed that psychological factors and socio-demographics affect eating

behaviors (Alchallah et al., 2024). Stress, less physical exercise and an unhealthy diet among young adults cause problems in sustaining a healthy lifestyle resulting in weight gain. Students spend more time on their computers or cell phones using the internet (Assaf et al., 2019).

Students adopt negative lifestyle habits in university life. A study was conducted to explore gender-specific changes in diet quality and dietary intake and their association with body weight among students at university. Male students gained more weight, lean mass and BMI than females. Diet quality found to decrease in both genders (Beaudry et al., 2019). Emotional eating is a cause of stress and negative affective conditions resulting in extreme weight gain, eating disorders and poor dietary habits (Dalton, 2024). Students are moderately active as they exercise one to two days a week and are dissatisfied with their lifestyles. Their food choices are not healthy. Time is one of the reasons behind not exercising (Assaf et al., 2019).

Freshman students' weight gain is due to unhealthy eating patterns and lack of physical activity. Physical activities and eating patterns among students are because of motivation, self-regulation skills and social environment depending on gender differences (LaCaille et al., 2011). Even weight gain also differs in both genders. Males gain more weight than females by the end semester. Causes of weight gain are less participation in sports activities and internet use (Deforche et al., 2015). Factors that cause weight among students are unhealthy snacks, alcohol intake, fast food consumption, irregular sleeping time and unhealthy food with high sugar and fats (McSharry & Timmins, 2017). Another study results showed that some students also lose weight due to heavy study workloads and daily changes in work/class schedules (Al-Amari & Al-Khamees, 2015). Reasons for weight gain behaviors are associated with alcohol consumption, sugary drinks, eating unhealthy, low intake of vegetables & fruits, and lack of food regulation (Leon et al., 2024).

Social media may draw attention of people through knowledge sharing, interpersonal communication, and information exchange about fitness information and healthy lifestyle. In this regard, public health associations can disseminate reliable and useful information. More research studies are needed in this regard (Chu et al., 2024).

Another research study on students of the Bicocca community also highlighted the importance of a healthy diet and physical activities. Results showed that every third of students display sedentary behavior within effective nutritional habits. Thus, student engagement is important in food workshops, cooking, nutritional talks and physical activities which will transform educational institutions into health hubs. These healthy habits would be maintained for the rest of their life (Lonati et al., 2024).

Eating disorders are a complex problem and a multidisciplinary approach is wanted to handle this. Universities may increase access to skill-based interventions, mental health educational campaigns with a focus on healthy eating practices, stress management techniques and positive body image. Mentorship programs and peer support groups can also foster a nurturing environment (Alchallah et al., 2024). Interventions based on healthy lifestyles among students are awareness of health promotion resources and evaluation of risks (Horaist & Watson, 2024).

Hypothesis

There is no significant gender difference in healthy lifestyle patterns and healthy habits of students at the university level.

Material and Methods

The current research framework is based on a quantitative approach with descriptive research methods to assess gender-based differences regarding healthy lifestyle patterns and healthy habits of university students. 75 students from the B.Ed (Hons) program participated. A convenience sampling technique was adopted to select the study participants. Research questionnaire was developed by researchers based on 10 indicators for assessing healthy lifestyle patterns and healthy habits of students at the university level. These indicators are mealtimes, healthy breakfast, servings of fruits & vegetables, fast-food consumption, daily hydration, physical activity, screen time for entertainment, average sleep at night, overall stress level and stress management. Data was analyzed through Percentage and independent sample t-test.

Results and Discussion

Table 1
Percentages of Responses indicating the Healthy Lifestyle Patterns and Healthy Habits of Students at University Level

S.No	Statement	Percentages of Responses				
	Breakfast time	5AM to just before 7AM. (19.3%)	8AM to just before 9AM. (35.1%)	9 AM to just before 11AM. (26.3%)	11AM to just before 1PM. (12.3%)	No specific time. (7%)
	Lunch time	11AM to just before 12PM. (3.5s%)	12PM to just before 1PM. (8.8 %)	1PM to just before 2PM. (33.3%)	2PM to just before 3PM. (29.8 %)	No specific time. (24.6 %)
	Dinner time	6PM to just before 7PM. (1.8%)	7PM to just before 8PM. (5.3 %)	8PM to just before 9PM. (19.3%)	9PM to just before 10PM. (56.1 %)	No specific time for dinner. (17.5 %)
	Healthy breakfast	Daily (42.1%)	4-6 times a week (10.5%)	2-3 times a week (19.3%)	Rarely (24.6%)	Never (3.5%)
	Servings of fruits & vegetables	Never (10.5%)	1 serving (68.4%)	2 servings (10.8%)	3 servings (5%)	4 servings (5.3%)
	Consumption of fast food	Daily (7%)	4-6 times a week (5.3%)	2-3 times a week (22.8%)	Rarely (52.6%)	Never (12.3%)
	Daily Hydration	Less than 1 glass (3.5%)	1-3 glasses (29.1%)	4-6 glasses (27.1%)	7-9 glasses (24.6%)	More than 9 glasses (15.8%)
	Physical activity	Daily (21.1%)	4-6 times a week (12.3%)	2-3 times a week (14%)	Once a week (21.1%)	Rarely/Never (31.6%)
	Screen time for entertainment	< 2 hours (19.3%)	2-4 hours (26.3%)	4-6 hours (8.8%)	6-8 hours (14%)	More than 8 hours (31.6%)
	Average sleep at night	< 4 hours (8.8%)	4-5 hours (14%)	6-7 hours (38.6%)	8-10 hours (33.3%)	More than 10 hours (5.3%)
	Overall stress level	Very low (5.3%)	Low (24.6%)	Moderate (38.6%)	High (26.3%)	Very high (5.3%)
	Stress management	Daily (19.3%)	4-6 times a week (19.3%)	2-3 times a week (12.3%)	Once a week (19.3%)	Rarely/Never (29.8%)

Table No. 1 indicates the percentage distribution regarding healthy lifestyle patterns and healthy habits of the students at the university level. Most responses (35.1%)

are recorded in the 7 AM to just before 9 AM category for breakfast time, 33.3% are noted towards 1 PM to just before 2 PM for lunchtime, and 56.1% are recorded towards 9 PM to just before 10 PM for dinner time. 42.1% of respondents showed that they are eating breakfast daily. 68.4% of respondents observed taking 1 serving of fruits and vegetables. Consumption of fast-food shows that 52.6% responded to the option of rarely. 1–3 glasses of water are drunk by 29.1% of the respondents. 31.6% of respondents opted for the option of rarely or never for physical activity. Screen time for entertainment is more than 8 hours, which was picked by 31.6% of respondents. 38.6% of respondents selected the option of 6–7 hours of average sleep at night. 38.6% of respondents showed a moderate level of stress, while 29.8% of respondents opted for the rarely or never option for stress management techniques.

Table 2
Difference between Male and Female University Students on Healthy Lifestyle Patterns and Healthy Habits (N=75)

Variables	Males	Females	t	df	p
	(N=15)	(N=60)			
	M	M	.038	73	.044
Healthy Lifestyle Patterns and Healthy Habits	3.14	2.32			

M= Mean; Level of Significance: 0.05

Table 2 shows the t-value of healthy lifestyle patterns and healthy habits is statistically significant at a 0.05 level of significance. Thus, significant difference is found in the mean score of males (3.14) and females (2.32) on healthy lifestyle patterns and healthy habits of students at university level. Therefore, the hypothesis "There is no significant gender difference in healthy lifestyle patterns and healthy habits of students at the university level" is rejected.

Discussion

Gender-based analysis was conducted to analyze the healthy lifestyle patterns and healthy habits of university students. 75 students of B.Ed (Hons) participated in the present research. Results of percentages showed that most students' breakfast time is from 7 AM to just before 9 AM, lunchtime from 1 PM to just before 2 PM, and dinner time from 9 PM to just before 10 PM. Moreover, 42.1% of students eat breakfast daily. Most students are taking 1 serving of fruits and vegetables and do not often consume fast food. Most students take 6–7 hours of average sleep at night. A study about secondary school students' breakfast Patterns in Colombo discovered that half of the students often missed breakfast and time constraints are the biggest obstacle to omitting breakfast in the morning (Weliwita, 2024). There is a need to pay attention to the development of interventions to adhere to breakfast among students (Alshdifat et al., 2024).

However, students drank 1–3 water glasses in a day. Most students also rarely or never for physical activity. In addition to this, they have more than 8 hours of screen time for entertainment. They also face a moderate level of stress and rarely or never opt for stress management techniques. Results of a research study by Chouraqi (2023) also showed that optimal hydration is important for cognitive and physiological functioning. Most children are not taking adequate water intake. Li et al. (2024) revealed that exercise and eating habits are causes of obesity among middle school boys. Physical activities help in the growth, mental fitness, physical fitness, academic performance, health and personal development of children (Ngangbam, 2024). Students face higher stress levels in almost every domain of life. Academic and psychological difficulties are causes of major stress among students in college (Amanvermez et al., 2024). Stress can cause life changes and be

harmful when not addressed. It badly impacts not only their educational performance but also their well-being. The excess study tension is converted to stress. Students face stress due to high demands, challenges, peer pressures, and personal & social lives (Garg & Bhardwaj, 2024).

Furthermore, the results of the current study found a significant difference in males and females' healthy lifestyle patterns and healthy habits of students at the university level. Male students scored better than females on healthy lifestyle patterns and healthy habits. Majeed et al. (2024) conducted a research study on male and female university boarding students showing that both genders need personalized plans for improvement of their nutritional status and eating behavior. Women students of sports sciences are facing more hindrances to physical exercise as compared to men in university students (Martínez-Sánchez et al., 2024). Another study conducted by Liutsko et al. (2024) also showed gender differences in terms of physical activity. They found that women frequently engage themselves in relaxing exercises while men are likely to engage themselves in outdoor leisure and aerobic exercise.

Conclusion

Current research was conducted on healthy lifestyle patterns and healthy habits of university students based on gender. Findings showed that most students' breakfast time is from 7 AM to just before 9 AM, lunchtime from 1 PM to just before 2 PM, and dinner time from 9 PM to just before 10 PM. Moreover, most students eat breakfast daily with one serving of fruits and vegetables and do not often consume fast food. In addition, most students take 6-7 hours of average sleep at night. However, water intake is 1-3 glasses which is low fluid intake. Most students also rarely or never do physical activity. In addition to this, they have more than 8 hours of screen time for entertainment. They also face a moderate level of stress and rarely or never opt for stress management techniques. Findings also showed a significant difference in males and females' healthy lifestyle patterns and healthy habits of students at the university level.

Recommendations

- Physical activities may be improved among students by encouraging students to participate in sports at university.
- Stress management interventions may be introduced at the university level to cope with the stress among students.
- Workshops based on knowledge about healthy lifestyles may be introduced at the university level to improve healthy habits among students.
- Screen time of students may be reduced among students by encouraging them to take part in co-curricular activities.
- Universities may focus on gender inclusivity while designing healthy lifestyle training to encourage healthy habits among both male and female students.

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