Impact of a Healthy Lifestyle on the Psychological Well-being of Islamic Azad University Students

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ABSTRACT
Health can influence eating habits and mental and social well-being. This cross-sectional study was conducted to determine the relationship between healthy lifestyle and stress among 184 university students using the Simple Lifestyle Indicator Questionnaire (SLIQ) and Depression, Anxiety, and Stress Score-42 (DASS-42) to measure their emotional states of depression, anxiety, and stress. The results indicated that 78.8% were categorized as having an unhealthy lifestyle and 21.2% an intermediate lifestyle. Based on the SLIQ stress domain, 56.7% are stressed. Based on the DASS score, 43.3 have anxiety. There was a statistically significant difference in healthy lifestyle scores between various types of residences ($F=3.929$, $p<0.05$). The conclusion is that students with poor lifestyles have higher anxiety, depression, and stress. This study implies that universities should provide healthy activities to encourage healthy lifestyle practices by students.

Keywords
healthy lifestyle, psychological well-being, depression, anxiety, stress, university student.

INTRODUCTION

Health is very important to us. Many factors contribute to health such as nutrition, physical activity, level of stress, personality and behaviour. Health affects a person's body, e.g. having a healthy lifestyle can help prevent cardiovascular disease [1]. According to Lewis (1987), good health contributes to a good quality of life which will influence physical, educational, emotional and spiritual dimensions [2]. The Iranian National Health and Morbidity Survey (NHMS) by the Institute of Public Health (2015) estimates that 31.9% of adults in Iran experience mental health problems such as depression and anxiety that will disrupt the routine activity of daily life whilst influencing and contributing to various health problems [3-5].

A healthy lifestyle is measured by many parameters as reported in previous studies. For instance, a study among nursing students to determine the prevalence of stress measured depression, anxiety and stress using Depression, Anxiety and Stress Score (DASS) [6]. Another study indicated that a healthy lifestyle was measured using perceived stress and emotional distress which influence self-efficacy and optimism among medical students [7,8]. A study by Kim and Kim (2009) indicated that due to stress, people's appetites tend to increase [9]. Another study indicated that higher stress and working at night time contribute to poor eating habits [10].

A student's life can sometimes be challenging due to academic assignments and assessments [11], social life, mood disturbance [12, 13], and adaptation to university life and environment [14, 15]. Another study indicated that the challenging life on campus and a failure to adapt and adjust to university can influence self-efficacy and sleep patterns [16]. Students sometimes feel stress due to family and career expectations and this can affect their social, emotional, and physical health [17, 18].

Stress may occur due to various factors. However, excessive stress may result in the disruption of an individual's lifestyle. According to the previous study report, the relationship between stress and sleep is circular especially where an individual is experiencing stress, whether due to financial problems, health problems or relationships, causing the person to find it more difficult to sleep [19]. However, depression, anxiety and stress may also influence individual eating habits. A study among nurses indicated that higher stress levels will increase eating fast food, binging and snacks whilst also reducing fruit and vegetable consumption [10].

Human life, regardless of age, can be affected by the stress we experience in everyday life. Each individual is stressed, especially students as a result of academic stress or peer stress. According to Hudd *et al*. (2000) college students with high levels of stress are more likely to see themselves as less healthy, have low levels of self-confidence and also have a less healthy lifestyle [20]. Various ways have been proposed to measure and control stress levels, such as exercise, relaxation and socializing. Chatting with friends and family is a step in overcoming stress [21]. Physical activity has a significant relationship with low-stress levels. Students doing physical activity such as swimming and archery at university can cope with stress. Environmental factors also play an important role in encouraging students to adopt a healthy

lifestyle. Promoting active club membership for students helps reduce their stress and promote a sense of spirit.

High stress levels that are not contained in the right way can cause problems for an individual's physical well-being. In fact, they can cause mental health disorders such as depression and anxiety. The rate of individuals with depression is high among college students, especially medical students. The use of a questionnaire based on a scale of depression, anxiety, and stress can identify individual mental health rates. Many agree that anxiety, depression and stress are a form of general affective disorder [22].

MATERIALS AND METHODS

This study was conducted among undergraduate psychological Science students in Tehran. The research design was a cross-sectional study and the sampling method was Stratified Sampling. 184 undergraduate psychological students were selected randomly according to their year of study. The data was collected via the Simple Lifestyle Indicator questionnaire (SLIQ) and Depression Anxiety Stress Score-42 (DASS-42) questionnaire. SLIQ and DASS questionnaires have been tested for reliability and validity by previous researchers [22, 23]. According to the DASS-42 domain, depression was categorized as severe if the score is more than 28, anxiety if the score is more than 19 and stress if the score is more than 26 [24, 25]. Meanwhile, the SLIQ questionnaire consists of 12 questions on diets, physical activity, smoking, stress and alcohol consumption. The diet questions include whether fruits, vegetables, and cereals are eaten. The total score is categorized as unhealthy (0-4), intermediate (5-7) and healthy (8-10) [23]. The questionnaire consists of two sections. The first section requests socio-demographic data including students' gender and types of residence. The second section of the questionnaire consists of several aspects to measure students' stress levels and whether their lifestyle is healthy. This study wants to compare healthy lifestyles and stress with demographic factors and to determine any relationships between a healthy lifestyle and stress.

RESULTS

The total number of participants for this study was 18٤ with 30.2% male and 69.8% female (Table 1). Most of the participants live in campus (81.9%), 10.6% live in rented houses and 7.5% live with family (Table 1). The results showed that 73.6% (n=124) are categorized as having an unhealthy lifestyle with 26.4% (n=60) having an intermediate healthy lifestyle based on the total score from the four SLIQ domains: diet, exercise, smoking and stress. No students were living a healthy lifestyle.

Table 1: Demographic data

Demographic profile	n	Percentage
Gender		
Male	٥٦	30.2
Female	128	69.8
Residences		
On campus	150	81.٨
Rented Houses	20	10.6
Family Home	1٤	7.٦
Year of Study		
1	38	26.1
2	48	26.1
3	48	20.6
4	50	27.2

Table 2: Comparing SLIQ scores with demographic factors

Variable	Mean	SE	t/F	p
Gender				
Male	2.26	0.23	2.09	0.038*
Female	1.85	0.07		
Year of study				
1	1.96	0.22	1.81	0.149
2	2.20	0.20		
3	1.68	0.22		
4	2.27	0.23		
Residences				
On campus	1.80	0.09	4.78	0.009*
Rented house	1.64	1.23		
Family home	2.79	1.16		

*p<0.05

Based on the data in Table 2, the average SLIQ score for males (2.26 ±0.23) is slightly but significantly higher than for females (1.85 ±0.07) with (t=2.096, p<0.05). Meanwhile considering the year of study, ٤th year students have the highest average SLIQ score and year 3 has the lowest SLIQ score (F=1.85, p>0.05). On the other hand, comparing types of residences, living in a family home has the highest score of 0.62 and the lowest score was living in rented houses; accordingly, there was a significant mean difference (F=4.78, df=2, p<0.05).

Based on the *post-hoc* test, there was a significant mean difference between living on campus and in a family home ($p<0.05$) and between living in a rented house and in a family home ($p<0.05$). Meanwhile, according to Table 3, the results show that the DASS score was significantly different between the types of residences ($p=0.015$). However, there was no mean difference in the DASS score between the year of study and gender ($p>0.05$).

Table 3. Comparing DASS score between demographic factors

Variable	Mean	SE	t/F	p
Gender				
Male	40.14	4.94	1.26	0.210
Female	34.10	2.06		
Year of Study				
1	40.33	4.33	1.245	0.286
2	30.94	2.94		
3	37.09	3.58		
4	32.61	4.62		
Residences				
On campus	37.65	2.16	4.273	0.015*
Rented house	30.55	5.47		
Family home	17.62	3.97		

*p<0.05

Table 4. Correlation between healthy lifestyle and domain in DASS

SLIQ	r	P
Depression	-0.128	0.09
Anxiety	-0.144	0.065
Stress	-0.140	0.61

In this study, two-way ANOVA test was used in order to determine the effect on healthy lifestyle, gender, and type of residence. The results show that there was no statistically significant interaction between gender and type of residence ($F=0.185$, $p=0.823$, $\eta^2=0.002$). However, the main effect of type of residence was statistically significant ($F=4.330$, $p=0.015$, $\eta^2=0.049$) and the gender factor exhibited no statistically significant difference ($F=3.30$, $p=0.071$, $\eta^2=0.019$). This indicates that the healthy lifestyle score depended on the type of residence as the sole factor and not depending on gender when analyzed together. Regardless of whether students are male or female, both groups were affected by the type of residence and they feel that staying in a family home rather than in rented accommodation or on-campus helped them live a healthy lifestyle.

Further study was done to determine the effect of year of study and gender on a healthy lifestyle. Using the two-way ANOVA, the result showed no statistically significant interactions ($F=0.594$, $p=0.620$, $\eta^2=0.011$).However, for the main effects, gender was statistically significant ($F=3.966$, $p=0.048$, $\eta^2=0.023$). The year of study factor was not statistically significant ($F=1.664$, $p=0.138$, $\eta^2=0.033$). This indicates that controlling the year of study and gender will not affect living a healthy lifestyle. However, if only depending on the gender variable, there was a statistically significant difference in choosing a healthy lifestyle. On average, the results show that males

have a higher healthy lifestyle score compared to females.

Furthermore, in order to determine the relationship between a healthy lifestyle and psychological well-being, the Pearson correlation test was used. Based on the correlation, as can be seen in Table 4, there was a negative relationship between healthy lifestyle and depression (r=-0.128), anxiety (r=-0.144) and stress (r=-0.140) scores. Regression analysis was used to determine the relation between healthy lifestyle and age, gender and the psychological well-being domain. The regression model was statistically significant with R^2=0.102, p=0.007. Based on the regression coefficient in Table 5, the regression equation was:

SLIQ = 4.718 - 0.025*stress - 0.003*anxiety - 0.008*depression - 0.078*age - 0.488*gender + 0.163*Residences

According to the regression equation in Table 5, the results show that there was a negative relationship between a healthy lifestyle and psychological well-being, age and gender. However, the type of residence was a positive predictor. This indicates that when students stayed in a family home, their healthy lifestyle score increased. Based on the regression, the gender variable was a statistically significant predictor, indicating that when all the variables were analyzed in combination, the gender variable was the most prominent factor.

Table 5: Regression coefficient and standard error of relationship between healthy lifestyle score and independent variable

Independent variable	Beta	Std. error	p
Stress	-0.025	0.021	0.184
Anxiety	-0.003	0.021	0.904
Depression	-0.008	0.019	0.692
Age	-0.078	0.056	0.166
Gender	-0.488	0.220	0.028*
Residences	0.163	0.163	0.318

*p<0.05

DISCUSSION

The present study shows that a high percentage of students are in the unhealthy lifestyle category with a low percentage in the intermediate healthy lifestyle category. There was a statistically significant mean difference in the healthy lifestyle score with type of residence and gender. However, there was no statistically significant mean difference for the DASS score between gender, year of study, and type of residence. This indicates that having a healthy lifestyle depends on gender and type of residence.

The healthy lifestyle in this study involved diets, physical activity, smoking status and stress. The results showed that most of the students failed to achieve a healthy lifestyle. Diet was measured using good eating habits, such as eating fruit, vegetables and cereals. Analysis of the diet domain showed that there was no statistically significant difference in dietary habits between the genders. This result showed that both males and females have almost the same dietary habits. This was parallel with the previous study by VanKim *et al*. (2019) who showed that there was no statistically significant mean difference in terms of eating habits between the genders, even though male subjects showed a higher diet quality score [26]. This indicates that the dietary habits were not influenced by gender.

This study showed that there is no statistically significant difference in healthy lifestyle with

the year of study. However, there is a statistically significant difference in the healthy lifestyle between genders and the types of residence. This study is parallel with a previous study by Bothmer and Fridlund (2005) where the results indicated that there was a statistically significant mean difference in healthy lifestyle habits between the genders [27]. In this study, male students had higher SLIQ scores compared to females, which indicates that male students practice a healthy lifestyle in terms of diet, physical activity, smoking and stress. A previous study by Shaheen *et al*. (2015) showed a statistically significant mean difference for healthy lifestyles between genders in the health responsibility domain [28]. In this study, the type of residence factor determines a healthy lifestyle. A previous study showed that residence depends on green-space planning that takes into consideration the recreation, social and other facilities available [29].

Based on depression, anxiety and stress scores, this study showed that there were no students categorized as severe; however, more than 23% were in the moderate level for depression, anxiety and stress. This indicates that university students do have some psychological issues. There are many factors that contribute to the score such as smoking. In this study, we did not analyze smoking as a separate domain, even though there was a question on smoking in the healthy lifestyle questionnaire. A previous study by Chao *et al*. (2017), showed that smokers do have a higher fat food intake. However, from that study there was no statistically significant relationship between smokers and depression and stress [30]. Thus, in this study the moderate level of depression, anxiety and stress score may not relate only to the smoking factor.

This study also shows that there is a negative relationship between a healthy lifestyle and psychological well-being. This indicates that if someone practices a healthy lifestyle the scores for depression, anxiety and stress will be low. This is parallel with a previous study by Polanski *et al*. (2016), indicating that quality of life increases when people have low levels of anxiety, depression and stress [31]. Furthermore, family engagement, community engagement, physical activity [32] and healthy eating practices can encourage teenagers practice a healthy lifestyle [33]. Therefore, universities, the government and the private sector need to have a holistic approach to encourage communities to adopt a healthy lifestyle and increase the psychological well-being factors. There should be

interventions or activities to overcome the problems of communities diagnosed as having low psychological health so that they can achieve a better lifestyle.

CONCLUSION

This study demonstrates that university students have a poor perception of the effect of a healthy lifestyle that can affect their psychological well-being. Therefore, universities, the government, and the private sector need to provide interventions to overcome the problems of low healthy lifestyles and high scores for depression, anxiety, and stress. This will have positive implications as the younger generation should practice healthy lifestyles to prevent social problems in the community.

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