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HEALTH-PROMOTING LIFESTYLE AND ITS DETERMINANTS AMONG UNIVERSITY STUDENTS IN MOGADISHU, SOMALIA

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ABSTRACT: *This study aimed to determine the healthy lifestyle behaviors of students at a university in Mogadishu, Somalia. A cross-sectional study was conducted among 347 university students >16 in Mogadishu, Somalia, from October to December 2020. The data were collected by using a self-administered questionnaire and the Health-Promoting Lifestyle Profile-II (HPLP-II) Scale throughout that period. Demographic characteristics and health- promoting lifestyle were evaluated. T-test, Anova, post hoc (Tukey, LSD) and multiple regression analysis were used for statistical analyses. The healthy lifestyle behavior point averages of the students were found to be at a medium level (125.8±24.60). A significant difference was found in the total mean HPLP-II scores by gender, age, diagnosis of health problems, and exercise habits ($p<0.05$). The data showed significant associations among some subscales of the HPLP-II, gender, age, education level of mother, income status and have a chronic health problem, while participating in sporting activities was found to be statistically significant with all subscales of the HPLP-II ($p < 0.05$). Students' lifestyle behaviors were found to be moderately healthy. Intervention studies are needed to support Somali students in making healthy lifestyle choices and improve their health promotion attitudes.*

KEYWORDS: Health Promotion Behaviors, University Students, Nursing, Somalia.

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INTRODUCTION

The World Health Organization (WHO) has acknowledged noncommunicable diseases (NCDs) as the main causes of death (Kara & İşcan, 2015). In 2016, 71% of global deaths were due to NCDs, and the four main NCDs were cardiovascular diseases, cancers, diabetes and chronic lung diseases. In 2016, NCDs were responsible for 31.5 million deaths in low- and middle-income countries, with approximately 46% of such deaths occurring before the age of 70 years (World Health Organization, 2016). Chronic diseases were also the predominant cause of death (624.7 per 100 000 population age-standardized) in Somalia in 2016 (World Health Organization, 2016). Somalia is a developing country with a current population of 16,131,929 and the young population (under 30 years old) accounts for 60% of the country's population (World population review, 2021). There are several studies examining healthy lifestyle behaviors and physical inactivity in African countries, and some recent reports show that excess weight is more common in adolescents (Baalwa et al., 2010; Senbanjo & Oshikoya, 2012). The WHO has indicated that NCDs are dependent on health behaviors and lifestyle factors (Alzahrani et al., 2019). Many studies have shown that practicing negative health behaviors increases an individual's susceptibility to adverse health outcomes, while the adoption of positive health behaviors decreases morbidity and mortality and increases an individual's well-being and self-fulfillment (Murdaugh et al., 2019). These positive health-enhancing behaviors usually occur during adolescence and youth in university life (Bakouei et al., 2018). The period from age 18 to 25 years is called "emerging adulthood", and this is characterized by a tendency to engage in unhealthy and risky health behaviors. These behavioral trends can also lead to an increased risk of disease in the young population (Abel et al., 2013). University students compose the vast majority of the young population (Wang et al., 2013).

Studies show that many students present risky behaviors, such as lack of physical activity, stress, and unhealthy nutrition (Bakouei et al., 2018; Abel et al., 2013; Almutairi et al.,2018). The main goal of improving health is to encourage people in general and students in particular to adopt a healthy lifestyle and behaviors that help prevent NCDs (Alzahrani et al., 2019). Health-promoting behaviors comprise six components: health responsibility, nutrition, stress management, interpersonal relations, spiritual growth and physical activity (Pender et al., 2011). In this study, Pender's Health Promotion Model was used as a theoretical framework (Pender, 1996).

A variety of studies have explored health-promoting behaviors among university students in different countries. In Jordan, Shaheen et al. (Shaheen et al., 2015) revealed that university students obtained low scores on the Health Promotion Lifestyle Profile (HPLP) subscales and differed significantly on the two subscales of physical activity and stress management. Kara and İşcan (2015) found that the score for physical activity in students was lower than the scores for other health behaviors. When the literature was examined, no study conducted with university students in Somalia was found. In this respect, it is thought that the study will contribute to the literature. The purpose of this study was to assess the healthy lifestyle behaviors and related factors of students studying at a university in Mogadishu, Somalia.

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METHODOLOGY

This descriptive cross-sectional study was conducted between October and December 2020 at the Faculty of Health Sciences and Vocational High School in Mogadishu, Somalia. This university has 360 students. No sample was chosen and attempts were made to reach the entire population. The study sample consisted of 347 students who were informed about the purpose of the study and consented to participating in the study. A total of 96% of the students were included. The inclusion criteria of the study were as follows: agreeing to participate in the study and being educated at the school where the study was conducted. The data were collected by the researchers using a face-to-face interview method. Filling out the questionnaires took approximately 15 minutes.

Ethical Approval and Consent to Participate

The research was approved by the Ethics Committees of Somalia Mogadishu Recep Tayyip Erdoğan Training and Research Hospital (Decision No: MSTH/4686-272). It was performed in accordance with the Somalia Mogadishu Recep Tayyip Erdoğan of the Faculty of Health Sciences, University of Health Sciences. For the selected students who agreed to take part, written information was provided to them with information on the research objectives, methodological procedures adopted, and possible risks for the participants, guaranteeing anonymity and confidentiality and contact with the researchers. Additionally, students practiced a face-to-face meeting with the research team in each of the classes before applying the questionnaires, when the information was again given, and doubts were clarified. Students were informed that participation was voluntary, and that they could express their refusal to participate through direct contact with the research team at the face-to-face meeting. Informed written consent was obtained from all participants. Since there were no students younger than 16 years of age in our study, written informed consent was not obtained from their families. If informed consent was waived, we followed the processes of the Ethics Committees of Somalia Mogadishu Recep Tayyip Erdoğan Training and Research Hospital. This procedure was approved by the ethics committee. Written informed consent was given to students and read in their presence, and only those who agreed to participate were included. In the questionnaire, the students were identified by a number to ensure anonymity. Data will be used for research purposes only.

Measurements

Personal Information Form

The form was prepared by the researchers with knowledge of the literature and consisted of 15 questions about the socio-demographic characteristics of the students. This form collected information on the students' age, parents' education levels, number of siblings, family type, mother’s and father’s working conditions, participation in social and sports activities and status of chronic diseases.

Health-Promoting Lifestyle Profile II (HPLP-II)

The HPLP-II scales, developed by Walker et al (Pender et al., 2011) in 1987, was revised in 1996. It measures an individual's health-promoting behaviors related to a healthy lifestyle. The Cronbach’s alpha value of the scale was 0.94 for the total scale, and the Cronbach’s alpha coefficient of the scale in this study was 0.91. In this study, the Cronbach’s alpha coefficient

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of the subscales varied between 0.88 and 0.92. The scale consists of 52 items and 6 subscales: health responsibility, physical activity, nutrition, spiritual development, interpersonal relationships, and stress management. The lowest total score for the whole scale is 52, and the highest total score is 208. Higher scores on the Healthy Lifestyle Behaviors Scale indicate more healthy lifestyle behaviors (Pender, 1996).

Data Analysis

The data as obtained in the research were evaluated through the SPSS 22.0 statistical program. Frequency and percentage analysis determined the descriptive characteristics of the students participating in the study. Mean and standard deviation statistics were used for the evaluation of the scale. Kurtosis and skewness values were examined to determine whether the research variables showed a normal distribution. It was determined that the research variables showed a normal distribution. Parametric methods were used in the analysis of the data. The relationships between the dimensions determining the scale levels of the students were examined through correlation and regression analyses. T-test, one-way analysis of variance (ANOVA) and post hoc (Tukey, LSD) analyzes were used to examine the differences in scale levels according to the descriptive characteristics of the students. Cohen (d) and Eta squared ($\eta 2$) coefficients were used to calculate the effect size.

RESULTS

The characteristics of the 347 participants are shown in Table 1. According to the research findings, 76.4% of the participants were girls, 266.3% were in the 16–20 age range, and 229 66.0% were normal weight. 35.7% of the participants had a united family, 22.8% had 1–5 siblings, 16.1% mothers had primary school education, 34.3% had a father whose education level was university or higher. The mothers of 68.0% of the participants were not working, and the fathers of 65.7% were working. 17.3% of the participants stated that their income was bad, 57.9% of the participants stated that they participated in social activities, while 50.1% stated that they did not participate in sports activities. 83.3% of the participants did not have a chronic disease (Table 1).

Table 1: Distribution of Students by Descriptive Characteristics (n=347)

Groups	**Frequency(n)**	**Percent (%)**
Gender		
Female	265	76.4
Male	82	23.6
Age		
16-20	230	66.3
21-25	117	33.7
BMI		
Underweight	55	15.9
Normal	229	66.0
Obese and above	63	18.2

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Family Type		
Nuclear family	54	15.6
Extended Family	131	37.8
Single Parent Family	38	11.0
Joint Family	124	35.7
Number of Siblings		
1-5	79	22.8
6-10	190	54.8
11-15	59	17.0
16 and up	19	5.5
Education Level of Mother		
Uneducated	46	13.3
Primary School	56	16.1
Secondary School	62	17.9
High School	71	20.5
University	112	32.3
Education Level of Father		
Uneducated	40	11.5
Primary School	45	13.0
Secondary School	39	11.2
High School	104	30.0
University and above	119	34.3
Working Status of Mother		
Yes	111	32.0
No	236	68.0
Working Status of Father		
Yes	228	65.7
No	119	34.3
Family Income Status		
Low	60	17.3
Middle	212	61.1
High	75	21.6
State of Participating in Social Activities		
Yes	201	57.9
No	146	42.1
State of Participating in Sporting Activities		
Yes	173	49.9
No	174	50.1
Presence of Chronic Disease		
Yes	58	16.7
No	289	83.3

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The mean total HPLP-II score was 125.10±24.89 (Min=52; Max=197). Participants' health responsibility subscale score was 20.545±5.176 (Min=9; Max=36), physical activity 18.092±4.992 (Min=8; Max=32), nutrition 20.107±4.985 (Min=9; Max=36), spiritual development 24.513±5.902 (Min=9; Max=36), interpersonal relations 21.331±4.939 (Min=9; Max=33), "stress management" mean 20.513±4.821 (Min=8; Max=32), "healthy life" was found (Table 2).

Table 2: Distribution HPLP-II Scores of Participants (n=347)

HPLP-II totals and subscales	Items	Mean± SD	Range of scores obtained (min and max)	Range of obtainable scores (min and max)
Health Responsibility	9	20.54±5.17	9-36	9-36
Physical Activity	8	18.09±4.99	8-32	8-32
Nutrition	9	20.10±4.98	9-36	9-36
Spiritual Development	9	24.51±5.90	9-36	9-36
Interpersonal Relations	9	21.33±4.93	9-33	8-32
Stress Management	8	20.51±4.82	8-32	9-36
Healthy Lifestyle Behaviors Total	52	125.10±24.89	52-197	52-208

The participants' mean HPLP II scale total score averages (t=-3.817; p=0.001); a statistically significant difference was found between participants' gender. Health responsibility (t=-4.260; p=0.001), physical activity (t=-4.512; p=0.001), spiritual development (t=-3.009; p=0.003) and interpersonal relationships (t=-2.998; p=0.003) subscales scores; a statistically significant difference was found between gender. The mean HPLP II scale total score averages of the participants with age (t=-3.223; p=0.001); a statistically significant difference was found. Health responsibility (t=-4.683; p=0.001), spiritual development (t=-3.479; p=0.001), interpersonal relationships (t=-3.077; p=0.002) and stress management (t=-3.792; p=0.001); statistically significant difference was found between the subscale scores of participants 2 and age. Between the participants' mother education status and the HPLP II subscales of health responsibility (F=3.073; p=0.017) and physical activity scores (F=3.108; p=0.016); statistically significant difference was found. When the income status of the participants was compared with the HPLP II total score and subscale scores, a statistically significant difference was found only between the physical activity (F=3.247; p=0.04) subscale scores. A statistically significant difference was found between the participants' participation in sporting activities and HPLP II total score and all subscale scores ($p<0.05$). The participants' chronic disease status and HPLP II total score (t=-2.154; p=0.03), spiritual development (t=-2.101; p=0.03), interpersonal relationships (t=-2.532; p=0.01) and stress management (t=-2.488; p =0.013) subscale scores were statistically significant. There was no statistically significant difference between the participants in terms of BMI, family type, number of siblings, mother's employment status, father's employment status, and participation in social activities ($p<0.05$) (Table 3).

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Table 3: Health Promotion Behavior According to Some Participants' Characteristics (n=347)

Demographic Features	n	%	Health Responsibility	Physical Activity	Nutrition	Spiritual Development	İnterpersonal Relations	Stress Management	Healthy Lifestyle Behaviors Total
Gender			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
Female	265	76.4	19,90±5,11	17,44±4,93	19,85±5,11	23,99±5,99	20,89±4,83	20,24±4,86	122,32±24,80
Male	82	23.6	22,62±4,88	20,21±4,60	20,93±4,50	26,21±5,30	22,74±5,04	21,39±4,61	134,10±23,16
t=			-4,260	-4,512	-1,710	-3,009	-2,998	-1,893	-3,817
p=			**0,001**	**0,001**	0,088	**0,003**	**0,003**	0,059	**0,001**
Age			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
16-20	230	66.3	19,64±5,12	17,98±5,06	20,12±5,39	23,74±6,19	20,76±5,06	19,83±4,83	122,07±26,16
21-25	117	33.7	22,32±4,83	18,31±4,87	20,08±4,09	26,03±4,98	22,46±4,50	21,86±4,54	131,06±21,08
t=			-4,683	-0,573	0,079	-3,479	-3,077	-3,792	-3,223
p=			**0,001**	0,567	0,931	**0,001**	**0,002**	**0,001**	**0,001**
BMI			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
Underweight	55	15.9	19,78±5,09	18,24±5,10	20,18±5,02	24,33±5,89	21,02±5,46	20,00±4,26	123,55±25,02
Normal	229	66.0	20,89±5,09	18,32±5,10	20,25±5,04	24,62±6,01	21,40±4,89	20,88±5,01	126,35±25,08
Obese and above	63	18.2	19,97±5,51	17,13±4,42	19,52±4,77	24,30±5,58	21,37±4,70	19,62±4,48	121,90±24,13
F=			1,491	1,450	0,529	0,102	0,132	2,078	0,916
p=			0,226	0,236	0,590	0,903	0,877	0,127	0,401
Family Type			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
Nuclear Family	54	15.6	19,41±4,96	17,50±4,17	19,59±5,65	23,94±6,00	20,30±4,87	19,43±4,46	120,17±23,93
Extended Family	131	37.8	20,07±4,80	18,31±5,01	20,12±4,56	25,03±5,55	21,47±4,48	20,80±4,83	125,79±23,26
Single Parent Family	38	11.0	21,47±5,54	17,42±5,02	20,00±4,75	23,37±5,85	21,50±5,49	20,05±4,69	123,82±26,54

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Joint Family	124	35.7	21,26±5,44	18,33±5,30	20,35±5,21	24,56±6,23	21,59±5,25	20,82±4,98	126,91±26,43
F=			2,462	0,654	0,292	0,982	0,950	1,362	0,993
p=			0,062	0,581	0,831	0,401	0,417	0,254	0,396
Number of Siblings			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
1-5	79	22.8	21,39±5,74	19,15±5,37	21,33±4,89	24,71±5,33	21,46±5,22	21,14±4,53	129,18±25,18
6-10	190	54.8	20,32±5,12	17,70±4,85	19,72±4,95	24,61±6,22	21,46±5,05	20,62±4,85	124,43±25,39
11-15	59	17.0	20,14±5,09	18,20±4,76	19,93±5,26	23,66±6,10	20,49±4,37	19,44±5,29	121,86±25,08
16 and up	19	5.5	20,58±2,99	17,26±5,15	19,42±4,30	25,37±4,09	22,11±4,32	20,21±3,97	124,95±16,13
F=			0,953	1,774	2,127	0,587	0,785	1,477	1,086
p=			0,415	0,152	0,097	0,624	0,503	0,221	0,355
Education Level of Mother			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
Uneducated	46	13.3	20,22±5,36	17,28±4,50	19,59±3,96	24,80±4,43	21,41±4,11	19,74±4,10	123,04±19,13
Primary School	56	16.1	18,55±4,74	16,29±4,31	19,29±5,35	23,36±6,92	20,13±5,00	20,00±5,18	117,61±25,14
Secondary School	62	17.9	20,71±4,99	18,39±4,96	20,31±5,48	24,68±6,40	21,39±4,94	21,18±4,91	126,65±25,48
High School	71	20.5	20,77±5,66	18,54±5,34	20,24±5,14	23,77±6,36	20,87±5,53	19,77±5,06	123,97±28,48
University and above	112	32.3	21,44±4,89	18,88±5,10	20,54±4,81	25,35±5,20	22,16±4,75	21,19±4,64	129,55±23,46
F=			3,073	3,108	0,747	1,423	1,799	1,728	2,376
p=			**0,017**	**0,016**	0,560	0,226	0,129	0,143	0,052
PostHoc=			3>2, 4>2, 5>2 (p<0.05)	3>2, 4>2, 5>2 (p<0.05)					

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Education Level of Father			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
Uneducated	40	11.5	20,93±5,35	18,25±4,76	21,15±4,15	26,10±4,56	21,90±3,45	20,98±3,96	129,30±17,58
Primary School	45	16.1	19,82±4,72	18,16±5,13	20,93±5,32	23,93±6,60	21,31±5,49	19,73±4,30	123,89±25,05
Secondary School	39	17.9	20,03±4,77	17,59±4,48	19,13±4,09	23,18±5,18	21,05±4,32	20,79±4,45	121,77±20,38
High School	104	20.5	20,57±5,15	18,24±5,14	19,72±5,38	24,07±6,28	20,99±5,39	20,65±5,36	124,24±28,01
University and above	119	32.3	20,84±5,47	18,05±5,11	20,10±4,98	25,03±5,82	21,54±4,97	20,44±4,93	125,99±25,52
F=			0,466	0,134	1,283	1,716	0,337	0,446	0,552
p=			0,7,61	0,970	0,276	0,146	0,853	0,775	0,698
Working Status of Mother			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
Yes	111	32.0	20,95±5,52	18,72±5,04	20,64±4,86	25,10±5,60	22,05±5,04	20,71±4,63	128,16±24,36
No	236	68.0	20,36±5,00	17,80±4,95	19,86±5,03	24,24±6,03	21,00±4,86	20,42±4,92	123,66±25,07
t=			0,990	1,612	1,368	1,270	1,853	0,526	1,574
p=			0,323	0,108	0,172	0,205	0,065	0,599	0,116
Working Status of Father			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
Yes	228	65.7	20,48±5,00	17,97±4,98	20,11±4,99	24,73±5,79	21,34±4,89	20,53±4,79	125,16±24,51
No	119	34.3	20,67±5,52	18,33±5,02	20,09±5,00	24,09±6,11	21,31±5,06	20,49±4,89	124,98±25,73
t=			-0,331	-0,634	0,038	0,959	0,056	0,071	0,064
p=			0,741	0,526	0,970	0,338	0,956	0,943	0,949

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Family Income Status			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
Low	60	17.3	20,90±5,43	19,27±5,08	20,90±4,90	24,10±5,92	21,63±4,86	20,00±4,90	126,80±25,11
Middle	212	61.1	20,22±5,02	17,58±4,82	19,60±4,75	24,34±5,85	20,86±4,85	20,38±4,67	122,98±24,20
High	75	21.6	21,19±5,40	18,61±5,24	20,89±5,56	25,32±6,04	22,43±5,12	21,31±5,14	129,75±26,25
F=			1,144	3,247	2,802	0,934	2,962	1,443	2,233
p=			0,320	**0,040**	0,062	0,394	0,053	0,238	0,109
PostHoc=				1>2 (p<0.05)					
State of Participating in Social Activities			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
Yes	201	57.9	20,62±5,28	18,18±4,90	19,99±5,03	24,74±6,18	21,60±5,05	20,68±4,97	125,81±25,42
No	146	42.1	20,44±5,04	17,97±5,12	20,27±4,94	24,20±5,50	20,97±4,77	20,29±4,61	124,13±24,22
t=			0,326	0,402	-0,532	0,845	1,176	0,741	0,618
p=			0,745	0,688	0,595	0,399	0,240	0,459	0,537
State of Participating in Sportive Activities			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
Yes	173	49.9	21,95±5,20	19,90±4,96	21,19±5,25	25,62±5,84	22,30±5,24	21,62±4,90	132,58±25,92
No	174	50.1	19,14±4,77	16,29±4,34	19,03±4,47	23,41±5,78	20,37±4,43	19,41±4,49	117,67±21,45
t=			5,247	7,213	4,109	3,537	3,712	4,369	5,839
p=			**0,001**	**0,001**	**0,001**	**0,001**	**0,001**	**0,001**	**0,001**

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Presence of Chronic Disease			Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS	Ort ± SS
Yes	58	16.7	19,62±5,33	17,31±5,14	19,81±5,08	23,03±6,28	19,84±5,06	19,09±4,89	118,71±25,76
No	289	83.3	20,73±5,13	18,25±4,96	20,17±4,97	24,81±5,79	21,63±4,87	20,80±4,76	126,38±24,57
t=			-1,492	-1,308	-0,495	-2,101	-2,532	-2,488	-2,154
p=			0,137	0,192	0,621	**0,03**	**0,01**	**0,01**	**0,03**

Multiple regression analysis of HPLP II scale total and subscales of the participants are given in Table 4. The regression analysis performed to determine the cause-effect relationship between gender, age, education level of mother, participation in sports activities and health responsibility subscale was found to be significant (F=15.132; p=0.001). The regression analysis performed to determine the cause-effect relationship between gender, education level of mother, family income, participation in sports activities and physical activity subscale was found to be significant (F=18.747; p=0.001). The regression analysis performed to determine the cause-and-effect relationship between participation in sporting activities and nutrition subscale was found to be significant (F=16.887; p=0.001). The regression analysis performed to determine the cause-effect relationship between age, participation in sporting activities, and spiritual development subscale was found to be significant (F=7.317; p=0.001). The regression analysis performed to determine the cause-effect relationship between age, participation in sporting activities, presence of chronic disease and interpersonal relationships subscale was found to be significant (F=7.480; p=0.001). Regression analysis performed to determine the cause-effect relationship between age, participation in sporting activities, presence of chronic disease and stress management was found to be significant (F=12.912; p=0.001). The regression analysis performed to determine the cause-effect relationship between age, participation in sporting activities, and healthy lifestyle behaviors was found to be significant (F=12.896; p=0.001).

Table 4: Multiple Regression of HPLP II Scale (n=347)

Dependent Variable	**Independent Variable**	**ß**	**t**	**p**	**F**	**Model (p)**	**R^2**
Health Responsibility	**Constant**	18,132	11,803	**0,001**	15,132	0,000	0,140
	Gender	1,370	2,088	0,038			
	Age	2,159	3,775	**0,001**			
	Education Level of Mother	0,395	2,153	**0,032**			
	State of Participating in Sporting Activity	-2,345	-4,379	**0,001**			

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Physical Activity	**Constant**	20,656	12,226	**0,001**	18,747	0,000	0,170
	Gender	1,905	3,210	**0,001**			
	Education Level of Mother	0,458	2,641	0,009			
	Family income Status	-0,782	-1,960	**0,050**			
	State of Participating in Sporting Activity	-3,256	-6,327	**0,001**			
Nutrition	**Constant**	23,335	28,178	**0,001**	16,887	0,000	0,044
	State of Participating in Sporting Activity	-2,150	-4,109	**0,001**			
Spiritual Development	**Constant**	21,219	9,969	0,001	7,317	0,000	0,068
	Gender	0,923	1,185	0,237			
	Age	1,888	2,783	**0,006**			
	State of Participating in Sporting Activity	-1,923	-3,045	**0,003**			
	Presence of Chronic Disease	1,373	1,662	0,097			
İnterpersonal Relations	**Constant**	18,416	10,349	0,001	7,480	0,000	0,070
	Gender	0,792	1,216	0,225			
	Age	1,333	2,351	**0,019**			
	State of Participating in Sporting Activity	-1,694	-3,207	**0,001**			
	Presence of Chronic Disease	1,471	2,130	**0,034**			
Stress Management	**Constant**	18,606	11,758	0,001	12,912	0,000	0,094
	Age	1,863	3,558	**0,001**			
	State of Participating in Sporting Activity	-2,116	-4,290	**0,001**			
	Presence of Chronic Disease	1,415	2,133	**0,034**			
Healthy Lifestyle Behaviors Total	**Constant**	119,410	13,692	0,001	12,896	0,000	0,121
	Gender	5,153	1,614	0,107			
	Age	6,761	2,432	**0,016**			
	State of Participating in Sporting Activity	-13,500	-5,216	**0,001**			
	Presence of Chronic Disease	5,755	1,701	0,090			

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DISCUSSION

Health-promoting lifestyle behaviors among adolescents are drawing great attention worldwide (Almutairi et al., 2018). There are many studies in the literature assessing the health-promoting behaviors of university students in the United States (USA), Europe and Asian countries (Kara & İşcan, 2015; Borle et al., 2008; Mašina et al., 2016; Yahia et al., 2016). However, no study has been conducted on lifestyle behaviors that improve health among university students in Somalia. This study contributes to the literature and offers a new perspective on determining the health-enhancing lifestyle of university students in Somalia.

In this study, in which the healthy living behaviors of students studying at a university in Mogadishu, Somalia, were evaluated by using the HPLP-II scale, the average total HPLP-II scores of the students were at a moderate (125.3±24.60) level. While Hui (2016) found mean scores among Hong Kong students that were lower than those in our study (116), in a study by Kirağ and Güver (Kirağ & Güver, 2020) of Portuguese nursing students (138.50±18.76) and a study by Polat et al. (2016) conducted in Turkey (133.68±19.97), better lifestyle behaviors and addiction and depression levels were found. However, many studies have shown similar mean HPLP-II scores as our study (Alzahrani et al., 2019; Bakouei, et al., 2018; Mak et al., Nassar & Shaheen, 2014). These results indicate that the university education of students positively affects healthy life behaviors, and health promotion courses at the university may be useful. In this study, when the mean scores of the HPLP-II subdimensions of the students were evaluated, they had the highest scores for spiritual development and the lowest scores for physical activity. Polat et al. (2016) and Bakouei et al. (2018) obtained similar results in their studies with university students in Turkey and Iran, respectively. In addition, many studies conducted with university students have shown that the HPLP-II exercise sub dimension has the lowest mean score (Kara & İşcan, 2016; Alzahrani et al., 2019; Shaheen et al., 2015). However, Mašina et al. (2016), who found moderate scores in the exercise sub dimension, stated that the average score obtained by the students for the health responsibility sub dimension was the lowest.

Exercise is a key element in protecting people from chronic diseases and the problems that may develop as a result of these diseases and in reducing the harmful effects of chronic diseases such as heart disease, stroke, cancer and diabetes. It will be beneficial to ensure that university students participate in sporting activities as well as education. When the gender of the students and average HPLP-II total scores and sub dimension scores were evaluated, a significant difference was found in all scores except the stress management score; the scores of the boys were higher than those of the girls. Alzahrani et al. (2019) and Nassar and Shaheen (2014) found that, similar to our study results, male university students' mean HPLP-II total score and sub dimension scores were higher than those of girls. In contrast to the results of this study, Bakouei et al. (2018) found in their study that men received high scores in the physical activity sub dimension, and there was a significant difference. The results of the study show that culture, region of residence and gender impact healthy lifestyle behaviors.

According to the results of this study, a significant difference was found between age, the average HPLP-II total score, and the health responsibility, spiritual development, interpersonal relationships and stress management subdimensions; the older students had higher scores on these subdimensions. Shaheen et al. (2015) showed that students' age was positively correlated with interpersonal relationships and the subscales of spiritual development and stress management. A different study showed that as students age, they have significantly better overall health promotion lifestyle habits, particularly those reflected by the stress management,

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self-actualization, health responsibility, and nutrition subscales (Hong et al., 2007). However, other studies utilizing the HPLP-II found that with the age of the participants, only the average score in the health responsibility domain increased (Can et al., 2008; Hacıhasanoğlu et al., 2011). Older students are dealing with stressors effectively, which may be an indicator of an increased tolerance for college life and the challenging nature of life. According to the results of the study, there was a significant difference between the students' participation in sporting activities and positive increases in the HPLP-II total scale and subscale scores. Ertop et al. (2012) found that the mean HPLP-II scale scores of students who do sports are much higher than those of students who do not participate in sports activities. The results of this study are similar to the results of Özkan and Yılmaz (2008) and Cihangiroğlu and Deveci (2011). Many studies have demonstrated the effects of regular sports and exercise on health. These study findings support previous studies.

In our study, a significant relationship was found between having a chronic disease and HPLP-II scale total score and interpersonal relationships and stress management subscale scores, while in the study by Şimşek et al. (2012), no significant relationship was found.

In Tuğut's study, it was found that those with chronic diseases had higher healthy lifestyle behavior scores (Tuğut & Bekar, 2008). In the study by Polat et al. (2016), a significant difference was found between the average total scale score and the health responsibility, spiritual development and interpersonal relations subscale scores of the students, with and without a long-term health problem. More studies are needed to explain the relationship between being diagnosed with chronic diseases and long-term health problems and healthy lifestyle behaviors.

CONCLUSION

The fact that this is the first study conducted to determine the healthy lifestyle behaviors of university students in Somalia can be considered a strength of our study. The mean scale scores of the students participating in the study were found to be moderate. According to the results obtained, the students received the highest scores for the spiritual development subscale and the lowest scores for the exercise, nutrition and stress management and health responsibility subscales. The results of this study emphasize the importance of culturally appropriate interventions, taking into account the factors that contribute to the health behaviors of university students. Implementing such interventions to develop and improve positive health behaviors among university students can ultimately contribute to the development of healthier individuals. Due to the large population of young people in Somalia, more research is required to discover the factors affecting health behaviors in this population. In addition, health-enhancing intervention studies are needed in this population. This study was conducted with university students in Mogadishu, Somalia, which limits the generalizability of the results.

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RECOMMENDATIONS

1. Experimental research on healthy lifestyle behaviors can be planned.

2. Students should be given training on healthy living at regular intervals to develop healthy living behaviors.

3. More research should be done on students' health behaviors (exercise, nutrition, stress management, interpersonal support) and the results should be emphasized and included in the relevant parts of the students' education curriculum.

4. Carrying out studies that will support health-promoting behaviors in the campus and improving existing ones (increasing sports fields, free exercise programs, finding healthy options in cafeterias and canteens, etc.).

5. Conducting research involving larger samples on health behaviors and factors affecting health behavior.

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