

## A study on Health Promoting Lifestyle of University students

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### **Abstract: -**

**Background:** Health-Promoting Lifestyles of University students are strongly related to their current and subsequent status. Low rates of health-promoting lifestyles among University students are still reported in literature. However, this study was focused on the Health Promoting Lifestyle among the University students and to examine the relationship between the University student's characteristics and health promoting lifestyle

**Objectives:** The purpose of this study is to assess the Health Promoting Lifestyle among the University students and to examine the relationship between the University student's characteristics and health promoting lifestyle.

**Method:** A quantitative research study was conducted over three months using a non-experimental, descriptive research design on the University students at Manav Rachna International University in Delhi NCR. Hundred subjects were selected on a purposive basis from the University. The Health-Promotion Lifestyle Profile II (HPLP II) scale was given to the students as self-administered questionnaire. Data was analyzed by descriptive analysis.

**Results:** The study was done on 100 subjects which were selected on a purposive basis from the University and the questionnaires were given to them. The results from the descriptive statistics of the health-promoting lifestyles behaviors revealed that the total average score for the HPLP-II for all the participants was 2.6 (SD=0.2) and the range was 2.009 to 3.465. The highest mean score was for the Spiritual Growth 2.9 (SD= 0.5) and the lowest mean score was for Health Responsibility subscale 2.3 (SD= 0.4). The mean height and weight of the subjects was 161.7 cm and 58.5 kg respectively and the mean BMI was 22 kg/m<sup>2</sup>. Results revealed that there were no significant differences in the subscales of male and female scores.

**Conclusion:** As the total score for the overall HPLP- II was 2.6 that comes under the moderate level, so there is a need of improvement in all the subscales i.e., Health Responsibility, Physical Education, Nutrition, Spiritual Growth, Interpersonal Relationship and Stress Management. This can be done through awareness and knowledge among the University students. Thus, awareness can be spread by regular camps, organizing events, seminars and conferences, knowledge giving fun activities etc.

**Keywords:** *Health- promoting lifestyles, University students, diet, lifestyle, disorders and diseases*

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## 1. Introduction

Health is a complex process that continuously changes throughout the life of an individual and is considered more than freedom from disease and illness, though freedom from disease is important for optimal health. Optimal health includes overall well-being and high level of physical, mental, social, emotional and spiritual wellness within one's heredity and personal abilities [2] [14]. As the University students go through a change in their life from the higher schools to the University life, hence their health mainly depends on the way of life, their food habits and the physical activity. Whereas, the ill health is the result of the environmental factors and the unhealthy behavioral activities such as smoking, alcoholism, tobacco chewing, and intake of other psychoactive substances [6]. It is therefore important to investigate the health related behaviors of the individual at early stages as it influences the later risk for lifestyle-related disorders, also the University students represent a major segment of the adult population and their positive attitude towards the healthy lifestyle also have positive impact on academics and health as well. [8] [11] [3]. Chronic health risks such as Coronary Vascular Disease (CVD), Coronary Heart Disease (CHD), diabetes, obesity, mental trauma, depression and anxiety are significantly the result of following the unhealthy eating practices, nutrient-lack diets, decreased physical activity and leading a sedentary lifestyle and also ignorance to regular exercise. Such chronic diseases can be lessened by modifications in the diet and the physical activity behaviors and thus through weight management practice. Healthy diet and regular physical activity are the main elements of maintaining a healthy lifestyle status [16] [9] [15]. Due to transition of students from the adolescence to young adulthood, changes in the quality, behavior and timings of diet takes place especially those living away from their homes because they practice undesirable eating habits such as increased consumption of diets rich in fat, sugar and sodium, increased

consumption of junk foods, alcohol and practicing unhealthy eating habits such as frequent snacking, excess dieting and decreased consumption of fresh fruits and vegetables [4] [7] [12].

According to a recent study, it is stated that the students who are more indulge in the physical activity are likely to score more grades in the academics as compared to those who are leading a sedentary lifestyle [18]. Participating in physical activities on a continuous basis is very important to maintain health and prevent musculoskeletal diseases, such as spinal pain, neck pain, and shoulder pain and helps build and maintain healthy bone and muscle and helps in preventing and decreasing the risk of coronary diseases and reduces feelings of depression and anxiety and promotes psychological well-being [10] [1] [5]. As the students enter a new phase of University life and become independent from the parental control, some get engaged in ill-habits such as alcohol consumption, tobacco chewing and smoking which is also related with the alleviation of stress, peer pressure, social acceptance, academics and the desire to attain high personality profile [13]. Such ill-behaviors result in various life-taking and chronic diseases such as lung cancer, chronic obstructive lung disease, atherosclerotic cardiovascular diseases, peptic ulcer disease, intrauterine growth retardation, spontaneous abortion, antepartum hemorrhage, female infertility, sexual dysfunction in men, and many other diseases [17]. Due to following an unhealthy lifestyle and facing complications such as stress, anxiety, depression, there is increased risk of developing certain serious diseases and disorders such as Coronary Heart Disease, Cardiovascular diseases, diabetes mellitus, hypertension, Polycystic Ovarian Disease (PCOD) among girls and various eating disorders such as Anorexia Nervosa and Bulimia Nervosa. Hence, the purpose of this study is: a) to assess the anthropometric measurements of selected subjects; b) to study the health promoting

lifestyles of the selected subjects and c) to examine the relationship between the

University student's characteristics and health-promoting lifestyles.

### 1.1 Research Question

What are the factors affecting health-promoting lifestyle, as measured by the Health Promoting Lifestyle Profile II (HPLP II), among University students?

## 2. Methods

### 2.1 Design, setting, sample and instrument

The study was carried on 100 University students of Manav Rachna International University located on Surajkund Road, Haryana. Data was collected from the HPLP II survey and the demographic forms; therefore, no experimental intervention was performed. The study described the population through the demographics (age, sex, race, occupation, marital status, education, family income, family type, number of family members). The health promoting barriers were addressed by using the HPLP II survey. The independent variable of the study was barriers and the dependent variable was health promoting lifestyle. The independent variable was not manipulated, because the researcher did not want to influence the results of the study. The Health-Promoting Lifestyle Profile II continues to measure health-promoting behavior, conceptualized as a multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self-actualization and fulfillment of the individual. The questionnaire of this study consists of three parts. The first part was the student's information about the demographics profile that covers the age, sex, marital status, religion, highest level of education, family type, number of family income and annual family income. The age of the students was divided into two categories 16-20 and 21-24 years and also the highest levels of education were divided into 4 categories i.e., post graduate, graduate, senior secondary and the secondary. Students were also categorized on the basis of the family type whether "Nuclear" or "Joint" and the number of family members and the categorization was: - up to 3, 4-5 and

more than 6. The second part of the questionnaire consists of the anthropometric ratio of the subject. The students were asked to write their height and weight in order to calculate their Body Mass Index (BMI). An obesity classification system World Health Organization, (2004) was used to categorize the subjects according to their BMI: underweight (<18.5 kg/ m<sup>2</sup>); normal weight (18.5-24.9 kg/ m<sup>2</sup>); overweight (25-29.9 kg/ m<sup>2</sup>) and obese (>30 kg/ m<sup>2</sup>). The third part of the questionnaire consists of the Health Promotion Lifestyle Profile-II (HPLP-II) questionnaire developed by Walker et al., measured health-promoting lifestyle behaviors (Walker et al. 1987) [90]. The questionnaire composed of 52 items and six subscales: health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations and stress management. This questionnaire asks the respondents to indicate how often they adopt specific health-promoting behaviors on a 4-point Likert scale, with the options of "Never" (1), "Sometimes" (2), "Often" (3), "Routinely" (4). The scores for each item are added for each subscale and divided by the numbers of items of the subscale to obtain the subscale scores. The total HPLP-II score is obtained by adding the scores for all the items and dividing by the total number of items. These scores. These scores are used as an index of health-promoting lifestyle, with a higher score indicating higher level.

### 2.2 Data analysis

The data was analyzed using the Statistical Packages for the Social Sciences (IBM SPSS 21) software using the descriptive statistics. The descriptive statistics was used to compute the mean, standard deviation and range for the participant's characteristics and the HPLP- II.

The independent sample t- test and one – way Anova test was used to examine the significant differences in the HPLP scores between the subgroups of the participants. The p value less than 0.05 ( $p < 0.05$ ) was considered as significant.

### 3. Results:

#### 3.1 Characteristics of participants:

A total of 100 subjects were selected on a purposive basis from the University and prior distribution to the questionnaire a consent was taken from the subjects. After that questionnaires were given to them. The students were divided into two categories, i.e.,16-20 and 21-24 years and the average age was 20.3 years (SD= 1.2, Range= 16-24 years). From the selected subjects (N=100), 65% (N= 65) were females and 35% (N=35) were males. The total subjects were (N=100), only 1% (N=1) was married and the rest 99% (N=99) were unmarried. The mean of the BMI is 22 kg/m<sup>2</sup> (SD= 3.3). The BMI results for the subjects participated revealed that 69% fall in the normal range, 14% were underweight and 15% were overweight. Whereas, about 2% of the subjects were reported as obese. General characteristics of the subjects have been described in the Table 1.

**Table 1: Distribution of demographic profile of subjects**

<b>PARTICULARS</b>	<b>N =</b>	<b>MEAN</b>
	<b>100</b>	<b>± SD</b>
<b>Age</b>		20.3±1.2
16-20	58	19.5±0.7
21-24	42	21.5±0.7
<b>Sex</b>		
Male	35	
Female	65	
<b>Marital Status</b>		
Married	1	
Unmarried	99	
<b>Religion</b>		
Hindu	93	
Sikh	3	
Muslim	4	
<b>Highest Level of Edu.</b>		
Post Graduate	10	16±0.6
Graduate	53	4.3±0.6
Higher Secondary	37	5.5±0.6
<b>Family Type</b>		
Nuclear	69	
Joint	31	
<b>No. of family members</b>		
Up to 3	10	
4 to 5	68	
More than 6	22	
<b>Annual Income</b>		
1 lakh-10 lakh	80	1.54±0.5
11 lakh-20 lakh	17	6.3±0.5
21 lakh-30 lakh	3	19.0±0.5

### 3.2 Anthropometric Measurements of the subjects:

For the anthropometric measurements, height, weight and body mass index (BMI) were computed. The maximum and minimum height computed from all the subjects was 182.7 cm and 140 cm respectively whereas for that of weight, the maximum value computed was 95 kg and minimum value was 39 kg. The mean of the BMI is 22 kg/ m<sup>2</sup> (SD= 3.3). The BMI results for the subjects participated revealed that 69% fall in the normal range, 14% were underweight and 15% were overweight. Whereas, about 2% of the subjects were reported as obese. The **Table 2** represents the anthropometric measurements of the subjects.

**Table 2:** Represents the anthropometric measurements of the subjects

Variables	N=100		
	Minimum	Maximum	Mean± SD
Height (cm)	140	182.7	161.7±9.04
Weight (kg)	39	95	58.5±11.7
BMI (kg/m <sup>2</sup> )	15.9	34.8	22±3.3

### 3.3 Health promoting lifestyles of the subjects:

Results from the descriptive statistics of the health-promoting lifestyles behaviors revealed that the total average score for the HPLP-II for all the participants was 2.6 (SD=0.2). The highest mean scores were for the Spiritual Growth (M= 2.9, SD= 0.5) and the lowest mean score was for Health Responsibility subscale (M= 2.3, SD= 0.4). The mean scores for the subscales were considered high, moderate and low. The scores over 3 were considered as high, scores between 2.2 – 3 were considered moderate and the scores less than 2.5 were considered low. The mean scores for all the subscales are presented in **Table 3**.

**Table 3:** Descriptive Statistics for the HPLP-II Subscales (N=100)

Subscale	Mean (SD)	Range
Health Responsibility	2.3±0.4 <sup>b</sup>	1 – 4
Physical Activity	2.5±0.6	1 – 4
Nutrition	2.6±0.4	1 – 4
Spiritual Growth	2.9±0.5 <sup>a</sup>	1 – 4
Interpersonal Relations	2.8±0.5	1 – 4
Stress Management	2.6±0.4	1 – 4
<b>Total HPLP-II</b>	<b>2.6±0.2</b>	<b>1- 3.46</b>

a. The highest item

b. The lowest item

**Table 4** shows the Mean and Standard Deviations of the Overall HPLP-II and Subscales for the Sample shows the difference in the total HPLP-II scores and the subscales score between the subgroups of the subject's characteristics. The independent sample T-test and the one-way Anova test has been used to compute the data. All the dependent and independent variables have gone through a multivariate analysis from where the overall significance on the independent variables (sex, marital status, religion, highest level of education, family type, number of family members and annual family income) has been computed.

The study was done on a total population of 100 subjects. Out of the total population, 65 were the female subjects and the rest 35 were the male subjects. The overall HPLP scores of male population was  $(2.7 \pm 0.1)$  whereas the scores computed for female population were  $(2.6 \pm 0.1)$  which represented that the male population scored higher than the female subjects in the overall Health Promoting Lifestyle Profile. Both male and the female populations scored highest and equal mean scores in Spiritual Growth  $(2.9 \pm 0.1)$ . The higher mean scores for both male and female was in the Interpersonal Relationship subscales  $(2.8 \pm 0.5)$  and  $(2.9 \pm 0.4)$  respectively. The mean scores for the subscale of Stress Management were also equal for both male and female subjects  $(2.6 \pm 0.4)$ . The female scores were higher than male subjects in the subscale of Interpersonal Relationship. Both male  $(2.3 \pm 0.4)$  and female  $(2.2 \pm 0.4)$  subjects have their lowest mean scores in the Health Responsibility subscale. The overall mean scores computed for the sex of the subjects were: Male  $(2.7 \pm 0.1)$  and Female  $(2.6 \pm 0.1)$  and the overall P value computed was 0.481. So, as the P value is more than 0.05 ( $P > 0.05$ ), that signifies there was no significant differences in the gender variable of the subjects. The mean scores computed for the marital status of the subjects i.e., Married and Unmarried were  $(2.3 \pm 0.1)$  and  $(2.6 \pm 0.1)$  respectively. The overall P value was 0.034

which is  $P < 0.05$ , which signifies the presence of the statistically significant differences in the marital status of the subjects. The variable of religion (Hindu, Sikh and Muslim) had the mean scores  $(2.6 \pm 0.1)$ ;  $(2.9 \pm 0.2)$ ;  $(2.7 \pm 0.2)$  respectively. The overall P value computed for the variable of Religion was 0.926 that signifies there is no significant differences as the P value is more than 0.05 ( $P > 0.05$ ). In the variable of the Highest Level of Education, the mean scores calculated were: Post Graduate  $(2.8 \pm 0.1)$ , Graduate  $(2.0 \pm 0.1)$  and High School  $(2.6 \pm 0.1)$ . And hence, no significant difference was present. But, in the subscale of the Physical Activity, there was the presence of the statistically significant differences where the P value is 0.026 which is less than 0.05 ( $P < 0.05$ ). Findings also showed the presence of statistically significant differences between students living in nuclear and joint families in the subscales of Nutrition ( $M = 2.6$  vs.  $M = 2.4$ ,  $P = 0.007$ ), Spiritual Growth ( $M = 2.8$  vs.  $M = 3.0$ ,  $P = 0.047$ ), Interpersonal Relationships ( $M = 2.8$  vs.  $M = 2.9$ ,  $P = 0.016$ ) and Stress Management ( $M = 2.6$  vs.  $M = 2.6$ ,  $P = 0.028$ ). The variable of number of family members had a statistically significant difference present in the subscale of Stress Management ( $P = 0.001$ ). the overall P value computed for the number of family members was 0.979 ( $P = 0.979$ ) that does not signify the presence of any significant difference in this variable. The mean scores for the overall family income for the different categories i.e., Income from 1 Lac to 10 lacs  $(2.6 \pm 0.1)$ , 11 Lacs to 20 lacs  $(2.5 \pm 0.1)$  and 21 Lacs to 30 lacs  $(3.0 \pm 0.1)$  and the overall P value was 0.385, which do not show any significant difference in this variable. But the subscale of Health Responsibility and Spiritual Growth had significant differences as they have the P values 0.017 and 0.042 respectively which is less than 0.05 ( $P < 0.05$ ) and hence shows the significance.

Findings indicated the presence of significant differences between the overall marital status (Married and Unmarried) of the subjects ( $M = 2.3$  vs.  $M = 2.6$ ,  $P = 0.034$ ). Also, the data analysis indicated that there were no

significant differences found in the students analysis from where the overall significance

**Table 4:** Means and Standard Deviations of Overall HPLP-II and Subscales for the Sample

Particulars	N=100	Overall	Health Responsibility	Physical Activity	Nutrition	Spiritual Growth	Interpersonal Relationships	Stress Management
<b>SEX</b>								
Male	35	2.7±0.1	2.3±0.4	2.5±0.6	2.6±0.4	2.9±0.5	2.8±0.5	2.6±0.4
Female	65	2.6±0.1	2.2±0.4	2.3±0.5	2.5±0.4	2.9±0.5	2.9±0.4	2.6±0.4
p- value*		0.481	0.806	0.309	0.950	0.406	0.679	0.790
<b>Marital Status</b>								
Married	1	2.3±1.0	1.3±0	1.0±0	2.0±0	3.0±0	3.0±0	3.3±0
Unmarried	99	2.6±0.1	2.3±0.4	2.4±0.5	2.5±0.4	2.9±0.5	2.8±0.4	2.6±0.4
p- value*		0.034*	0.077	0.315	0.407	0.551	0.864	0.122
<b>Religion</b>								
Hindu	93	2.6±0.1	2.3±0.4	2.4±0.5	2.5±0.4	2.9±0.5	2.8±0.5	2.6±0.4
Sikh	3	2.9±0.2	2.3±0.2	2.8±0.5	2.6±0.4	3.3±0.5	3.1±0.6	2.9±0.4
Muslim	4	2.7±0.2	2.4±0.3	2.5±0.6	2.7±0.6	3.1±0.4	2.9±0.2	2.4±0.7
p- value*		0.926	0.529	0.313	0.327	0.678	0.147	0.340
<b>Highest Level of Education</b>								
Post Graduate	10	2.8±0.1	2.4±0.3	2.6±0.4	2.9±0.4	3.2±0.5	2.9±0.3	2.9±0.5
Graduate	53	2.0±0.1	2.3±0.4	2.4±0.6	2.5±0.4	2.8±0.5	2.8±0.5	2.6±0.4
Higher Secondary	37	2.6±0.1	2.2±0.4	2.3±0.5	2.5±0.4	2.9±0.5	2.8±0.5	2.6±0.4
p- value*		0.565	0.486	0.026*	0.291	0.359	0.089	0.084
<b>Family Type</b>								
Nuclear	69	2.6±0.1	2.3±0.4	2.4±0.5	2.6±0.4	2.8±0.5	2.8±0.4	2.6±0.4
Joint	31	2.6±0.1	2.1±0.4	2.3±0.6	2.4±0.4	3.0±0.5	2.9±0.4	2.6±0.5
p- value*		0.741	0.458	0.128	0.007*	0.047*	0.016*	0.028*
<b>No. of family members</b>								
Up to 3	10	2.6±0.1	2.2±0.4	2.5±0.6	2.5±0.4	2.8±0.7	2.7±0.5	2.5±0.5
4 to 5	68	2.6±0.1	2.3±0.4	2.4±0.5	2.5±0.4	2.9±0.4	2.8±0.4	2.6±0.4
More than 6	22	2.6±0.1	2.1±0.4	2.3±0.6	2.4±0.4	3.0±0.5	2.9±0.4	2.7±0.5
p- value*		0.979	0.838	0.194	0.982	0.702	0.499	1.000*
<b>Annual Family Income</b>								
1-10 Lakhs	80	2.6±0.1	2.3±0.4	2.4±0.5	2.5±0.4	2.9±0.5	2.8±0.4	2.6±0.4
11-20 Lakhs	17	2.5±0.1	2.2±0.3	2.1±0.5	2.4±0.4	2.8±0.5	2.7±0.5	2.4±0.5
21-30 Lakhs	3	3.0±0.1	2.6±0.3	3.1±0.6	3.0±0.2	3.2±0.6	3.3±0.4	2.5±0.4
p- value*		0.385	0.017*	0.272	0.307	0.042*	0.486	0.090

total HPLP scores and the subscales scores of HPLP-II with respect to Sex and Religion of the subjects. All the dependent and independent variables have gone through a multivariate

on the independent variables (sex, marital status, religion, highest level of education, family type, number of family members and annual family income) has been computed.

Overall, Overall HPLP-II score, Health Responsibility, Physical Education, Nutrition, Spiritual Growth, Interpersonal Relationships and Stress Management

\* Significant at  $\alpha < 0.05$  (2-tailed) using Independent Samples T-test and One-way Anova test

#### 4. CONCLUSION AND RECOMMENDATIONS

**Socio- Demographic Status:** A sample size of 100 subjects were selected on a purposive basis from the University for the study. Most of the subjects fall into the age group of 16-20 years. And based on the data of the gender, the subjects who took part in the study were mostly females (N = 65). Religion-wise, most of the subjects practiced Hinduism. The relationship status of almost all the subjects of the study was single. More than half of the subjects had an education status of Graduate level.

**Anthropometric Data Measures:** By using the measured height and weights of the subject, the Body Mass Index (BMI) was calculated. The mean BMI falls into the normal category along with most of the subjects falls in the same category (BMI= 18.5 kg/m – 24.9 kg/m<sup>2</sup>). The maximum calculated BMI was 34.8, whereas, the minimum calculated BMI was 15.9.

**Health- Promoting Lifestyle Profile- II:** The HPLP- II scores below 2.5 were considered as low, the scores between 2.5 to 3 were considered moderate and those above than 3 were considered as high. The overall score of the HPLP- II for the entire study was moderate (M= 2.6). The score for the subscale of health responsibility was low (M= 2.3), while for the subscales of physical activity (M= 2.5), nutrition (M= 2.6), spiritual growth (M= 2.9), interpersonal relationships (M= 2.8), stress management (M= 2.6) were moderate.

##### 4.1 RECOMMENDATIONS

Awareness must be raised among the University students regarding Health Responsibility and Spiritual Growth. Routinely exercises, physical activity, aerobics, yoga, stress management practices must be practiced and sedentary lifestyle must be reduced so as to avoid any kind of illness and diseases.

**Health Responsibility:** Keeping in view the results of the interpreted data of the study, the score for the health responsibility was low. So, there is need to aware the students regarding the need of health responsibility. As the University life is a transitional period for them, so there is need to keep check on the health status as the students become more independent and they neglect their health status. So, the health should be given equal importance like the other aspects of life. As the negligence to health can result in various serious complications in future.

**Physical Activity:** As the students enter into a new phase of life and in turn, they neglect the physical activity and adapt a sedentary lifestyle which can lead to obesity and other diseases such as cardio vascular diseases. In order to reduce the risk of such diseases, the University students should exercise daily and practice the physical activity that can be any form like running, walking, swimming, brisk walking, aerobics, Zumba etc.

**Nutrition:** University students starts paying less attention to the health and practice consuming junk foods, practice unhealthy eating habits and ignore healthy and nutritious diet. The health and nutrient- dense diet should be followed by the students to reduce the risk of any disease. Nutrition is a necessary aspect of life and especially in the adolescent age it is of prime importance. Unhealthy eating habits and consumption of junk foods should be reduced by the University students. Though, the score for the nutrition subscale was moderate but it should be at high level.



**Spiritual Growth:** The score for the subscale was moderate for the study. So, there is need among students regarding the adaptation of various techniques that would help them in reducing the workloads. Meditation is the best way to increase the spiritual growth.

**Interpersonal Relationship:** As the students get into a new era of life from the high school to the University life, so they meet new people and new friends and groups. Hence, there is need to maintain the interpersonal relations with each other. So, there is a need to maintain the interpersonal relationships. This can be done by spending more time with family and friends.

**Stress Management:** Due to the transitional phase, the University students feel stress due to many factors viz., academic pressure, family pressure, peer pressure etc. So, in order to reduce the levels of stress the University students must practice certain stress releasing technique such as yoga, introspection, meditation etc.

**LIMITATIONS:** The limitations in this study existed as the sample size for the study was less than expected due to the constrain of time.

Due to the limitation of the study design, the subject composition was unevenly distributed i.e., there were more of female subjects than the male subjects.

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