

Promoting Healthy Lifestyle in High School Students: Determination of the Lifestyle Status through the Healthy Lifestyle Screen (HLS) Assessment

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Background: Healthy lifestyle behaviors have given emphasis as an important characteristic in health promotion and to prevent diseases. Individuals who practiced healthy lifestyle behaviors in the early stage of life can withstand health risks in later life. To this end, researchers conducted a healthy lifestyle assessment as the initial step in school-based programs promoting healthy lifestyle and wellness among high school students. The aim of this study was to determine the lifestyle status among students and further assess lifestyle components that could affect them.

Methods: Data were collected from 380 high school students from grades eighth (n = 192) and tenth (n = 188). The Healthy Lifestyle Screen (HLS) was utilized to assess the lifestyle condition of the subjects of this study and it has components consisting dietary behavior, exercise or physical activity, water intake, sunshine exposure, temperance or self-control, quality of air, quality of rest or sleep, trust of which the higher score denotes healthier lifestyle.

Results: The results showed that respondents of the study are in the unstable lifestyle status as they obtained low mean sub-scale scores on lifestyle components such as water, rest and exercise. Lifestyle components included in HLS showed significant differences comprising the physical/mental, behavioral and environmental aspects ($p < 0.001$) associated with the general characteristics of the high school students.

Conclusion: Findings of this study showed the necessity in assessing the lifestyle status as an initial step for promoting, maintaining and establishing a well-balanced life and preventing the increase of health-risk behaviors and thus, highlighted the need of transforming healthy lifestyle behaviors among students through school-based intervention programs.

Key Words: Assessment, Healthy lifestyle behavior, Health promotion, High school students, Lifestyle status

INTRODUCTION

Healthy lifestyle is expressed into positive health behaviors being practiced so to be healthy as well as to prevent diseases. Healthy lifestyle behaviors are important characteristics in health promotion and may suppress markers of illness. Individuals who embraced healthy lifestyle behaviors can withstand health risks linked to disability and disease in later life. The World Health Organization has emphasized that 60% of the quality of an individual's life depends on his or her behavior and lifestyle. Therefore, the develop-

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ment and promotion of healthy lifestyle behaviors among adolescents is the foundation of disease prevention and in maintaining a healthy life [1-3].

In contrast, health-risk behaviors such as substance misuse, mental health, obesity and sedentary lifestyle becoming prominent during adolescence can increase an individual's vulnerability to negative health outcomes. Such modifiable behaviors usually established during adolescence as being the time of risk-taking and experimentation. When reaching the adolescent phase, an individual begins to integrate various roles to play in meaningful and constructive ways. Adolescence is the stage of life in which opportunities for health are promising and future patterns of adult health are manifested [3-7].

Pender stated in his study that a healthy lifestyle is necessary for improving health [8]. Many public health agenda aim to reduce health risks by giving a greater attention that can provide important opportunities to improve health and focus on assets including positive relationships, skills and values that help adolescents obtain a better quality of life. These health-enhancing behaviors include behaviors to be applied in an individual's life for improving well-being and self-actualization. Çelebi and colleagues [9] stated that a healthy lifestyle should not only focus on prevention from diseases, but also those behaviors that can improve the holistic well-being of a person throughout life. Healthy lifestyle behaviors are positive attitudes practiced daily by an individual including good nutrition, adequate rest, regular exercises, adequate water intake, good environment, self-control and even interpersonal relationships, however unhealthy lifestyle behaviors are defined as attitudes that deteriorates health due to acquired incorrect or incomplete information as well as observations. To obtain a healthy life, individuals have to control their own behavior, make better decisions, and cope with negative situations. The high school period is found to be the time that a person can develop a complete self-awareness. Schools are an outstanding venue to provide young ones with skills to improve their healthy lifestyle behaviors including mental health, social skills, and academic performance. Assessing the health behavior of young people in this period and providing them support in the lacking areas is of great importance.

According to the data from the Department of Education

(DepEd) in the Philippines as of 2017, the number of junior high school students is around 8.2 million out of the 28 million students from public and private schools, as well as state universities and colleges. The high school period is characterized by rapid physical, psychological and social changes experienced simultaneously. Students are in the rapid growing period and were identified as in the high risk of developing negative behaviors. Previous studies reported that more young people are involved in substance abuse, lack of physical activity, unhealthy diet, as well as early development of cardiovascular diseases [10-13].

The Department of Health Philippines [14] reported that adolescents in the Philippines practiced unhealthy diet, sleep deprivation, and physical inactivity. Philippines is still one of the unhealthiest countries in Asia being cardiovascular diseases (CVD) as the number one cause of death. Young individuals are not exempted among lifestyle-related non-communicable diseases (NCDs) such as smoking that obtained 19.7%; alcohol consumption up to 37%; and drug use with 4% admitting to the act. In addition, the Dangerous Drugs Board [15] reported that the lifetime drug use prevalence is around 6.1% of the same sample population of which 4.8 million Filipinos have used prohibited substances at least once in their lives.

Tarnal, Park and Kim [16] in their study had indicated that despite of the abundance of the information about lifestyle among individuals in the Philippines, there was lacking of necessary information regarding the lifestyle status and behaviors of high school students that belong to the vulnerable and crucial stage and thus, intervention is needed to be implemented at an early stage of life [17,18]. The objective of this study was to determine the lifestyle status of the high school students in the Philippines and further assess lifestyle components that affect that could affect them and could be critical for an individual's health improvement as well as establishing healthy lifestyle behaviors.

MATERIALS AND METHODS

1. Design and participants

This study used the Healthy Lifestyle Screen (HLS) as an assessment tool to assess the lifestyle condition of the students. The tool comprises three categories involving

physical, mental, behavioral, and environmental aspects in nine areas of lifestyle such as dietary behavior, exercise or physical activity, water intake, sunshine exposure, temperance or self-control, quality of air, quality of rest or sleep, trust. It is a Likert-Scale type of questionnaire in the degree of agreeableness (4; strongly agree, 3; agree, 2; disagree, 1; strongly disagree). The total score has three ranges: 36-71 = urgent status, 72-107 = unstable lifestyle, and 108-144 = stable lifestyle. The higher score denotes healthier lifestyle. General characteristics including age, gender, grade level as well as life satisfaction, happiness rate and health status were also utilized in this study.

The selection of this secondary school was based on the recognition of the ASEAN Training Center for Preventive Drug Education (ATCPDE) as one of the public schools dealing students having engaged into substance use (e.g., drugs, alcohol, and smoking of which needing to be addressed as one of the issues in the health risk behaviors among high school students. The criteria for selection of subjects were grade 8th and 10th grade currently enrolled in the school year of 2017-2018 and conducted to 380 randomly selected eighth and tenth high school students of Sta. Lucia High School, Pasig City, Philippines.

2. Measures

The Healthy Lifestyle Screen (HLS) having a total of 36 items in different lifestyle components was utilized to assess the lifestyle condition of the students (N = 380). The assessment tool was categorized in physical/mental, lifestyle behavior, and environment including eight aspects of lifestyle such as dietary behavior, exercise or physical activity, water intake, sunshine exposure, temperance or self-control, quality of air, quality of rest or sleep, trust including the general physical condition in a Likert-Scale type in the degree of agreeableness and frequency (4; strongly agree, 3; agree, 2; disagree, 1; strongly disagree) of which the higher score denotes healthier lifestyle depicting in an individual's lifestyle choices. The questions used in this study were developed by the author in order to look at the different components and compare which one has most influence on high school students. Different lifestyle components including sunlight, water, air, rest, exercise, nutrition, temperance, trust and general physical condition. For the validity of the questions,

five professionals participated in the validation process. Each question was evaluated utilizing Content Validity Index (CVI) [19] and the result was more than 80% on all questions in categories (e.g. sunlight, water, air, rest, exercise, nutrition, temperance, trust and the general physical condition).

General characteristics including age, gender, grade, life satisfaction, happiness rate and health status were used in the study. The general characteristics of the high school students such as age, gender, year level, life satisfaction, happiness rate, and health status were included in the assessment.

3. Statistical analysis

Data being presented were frequencies, means, and standard deviation. T-test and One-way ANOVA were performed to determine the differences among lifestyle components of the high school students. Statistical significance will be set at $p < 0.05$. Content Validity Index [19] was measured using ratings of item relevance by content. Statistical analysis was performed utilizing the Statistical Package for Social Sciences (SPSS 23) for Windows statistical software.

4. Ethical approval

Ethical consent for the study was obtained from the institutional review board (IRB) of Sahmyook University, for the assessment (IRB No. 2-7001793-AB-N-012018031HR). In addition, the Schools Division Superintendent's approval to administer the study as it had met the overall objectives of the needs of the high school students designated by the Department of Education (DepEd) in the Philippines.

Table 1. General characteristics of subjects

Variables	Category	High school students (N = 380)
		n (%) / Mean \pm SD
Gender	Male	110 (28.9)
	Female	270 (71.1)
Age (Mean \pm SD)		14.64 \pm 1.42
Grade (Students)	8th	192 (50.5)
	10th	188 (49.5)
Life satisfaction (5 scales)		1.75 \pm 0.67
Happiness rate (5 scales)		1.58 \pm 0.63
Health status (5 scales)		1.89 \pm 0.60

RESULTS

For the high school students' general characteristics, the mean age is 15 years of which 28.9% are males (N = 110) and 71.1% females (N = 270). Students are from the grade eighth 50.5% (N = 192) and tenth 49.5% (N = 188). The

satisfaction level of the students has a mean score of (1.75) indicated as satisfied, both happiness rate (1.58) and health status (1.89) indicated as good (Table 1). In this study among Filipino high school students, lifestyle components such as rest having the item about sleeping for 7 to 8 hours had the lowest mean score (1.97), water having the item

Table 2. Significance of healthy lifestyle among Filipino high school students

	Items	High school students (N = 380)	t	p-value*
		Mean ± SD		
Sunlight	1. I go outside for the sun at least 10 minutes a day.	3.03 ± 0.82	-1.267	0.207
	2. I use a sun protection (suntan, shade, hat, etc.) properly	2.37 ± 0.81	4.224	< 0.001
	3. When sleeping at night, it is dark and there is no light.	3.35 ± 0.93	7.207	< 0.001
	4. I work in a place where the amount of sunlight is good.	2.96 ± 0.84	5.350	< 0.001
Water	5. I drink 8 glasses of water daily.	3.34 ± 0.68	-6.127	< 0.001
	6. I have easy access to clean, drinkable water.	3.71 ± 0.58	0.795	0.427
	7. I drink water during the meals.	1.27 ± 0.58	-0.666	0.506
	8. I drink caffeinated drinks (coffee, tea, supplements, energy drinks, etc.).	2.34 ± 0.93	-8.570	< 0.001
Air	9. I do deep breathing throughout the day.	3.14 ± 0.80	-1.100	0.273
	10. I open the window for fresh air daily.	3.39 ± 0.75	-2.237	0.026
	11. I am in an area with polluted air.	2.55 ± 0.94	-7.235	< 0.001
	12. I smoke or exposed to second-hand smoking.	3.43 ± 0.82	-1.221	0.223
Rest	13. I sleep for 7 to 8 hours.	2.68 ± 0.83	-9.196	< 0.001
	14. I use electronic devices after midnight.	1.97 ± 0.92	-11.352	< 0.001
	15. I stay on a regular healthy sleep-wake pattern.	2.54 ± 0.85	-7.174	< 0.001
	16. I feel sluggish and tired most of the time.	2.32 ± 0.89	-3.691	< 0.001
Exercise	17. I exercise for 30 minutes or more every day.	2.35 ± 0.87	-11.113	< 0.001
	18. I usually sweat when I exercise.	3.17 ± 0.88	4.491	< 0.001
	19. I enjoy physical activity whenever I have time.	3.06 ± 0.91	-4.904	< 0.001
	20. When I work, I stay in one position for long period time.	2.30 ± 0.80	-1.055	0.293
Nutrition	21. I eat a healthy breakfast.	3.23 ± 0.72	-7.113	< 0.001
	22. I eat meals regularly.	3.55 ± 0.66	-3.956	< 0.001
	23. I eat food slowly and chew it well.	3.28 ± 0.76	-2.322	0.021
	24. I eat balanced diet.	2.40 ± 0.86	-7.290	< 0.001
Temperance	25. I do not overeat.	2.61 ± 0.91	-1.307	0.193
	26. I drink alcohol.	3.77 ± 0.59	2.585	0.011
	27. I get angered and/or annoyed easily.	2.71 ± 0.92	-4.551	< 0.001
	28. I easily fall into temptation.	2.70 ± 0.90	0.126	0.900
Trust	29. I generally trust people.	2.92 ± 0.86	-4.346	< 0.001
	30. I am hopeful about the future.	3.40 ± 0.73	-0.603	0.548
	31. I feel trusted by my family and friends.	3.57 ± 0.60	-2.115	0.035
	32. I am satisfied with my daily life.	3.40 ± 0.67	1.356	0.177
General physical condition	33. There has been little change in my weight over the past year.	3.07 ± 0.81	-2.521	0.012
	34. I did not catch a cold or flu for one year.	2.18 ± 0.87	-4.654	< 0.001
	35. My blood pressure and blood sugar are in the normal range.	3.31 ± 0.83	0.065	0.949
	36. I do bowel movements at least once a day.	2.99 ± 0.76	-3.268	< 0.001

*p < 0.001.

about drinking caffeinated drinks (1.27) had the lowest mean score and exercise having the item about staying in one position for a longer period of time (2.30) had the lowest mean score and thus, these three lifestyle components obtained low in the total mean. Trust, air and nutrition were high in total mean score; and sunlight, temperance and general physical condition were in the middle range of the total mean score.

Moreover, results showed significance of healthy lifestyle components among high school students of Sta. Lucia High school and the mean score of each significant item. For the sunlight, items about sun protection (2.37), sleeping at night without light (3.35) and places having good amount sunlight (2.96) are significant ($p < 0.001$). For the water, an item about drinking 8 glasses of water daily (3.34) and a negative item about drinking caffeinated drinks such as coffee, tea, supplements, energy drinks, etc. (2.34) are significant ($p < 0.001$). For the air, the negative item about staying in an area with polluted air (2.55) is significant ($p < 0.001$). For the rest, all items such as sleeping for 7 to 8 hours (2.68), being on a regular sleep-wake pattern (2.54), and negative items using electronic devices after midnight (1.97) and feeling sluggish and tired most of the time (2.32) are significant ($p < 0.001$). For the exercise, items about doing exercise for 30 minutes or more every day (2.35), usually sweating when exercising (3.17) and enjoying physical activities (3.06) are significant ($p < 0.001$). For the nutrition, items about eating a healthy breakfast (3.23), eating meals regularly (3.55) and eating balanced diet (2.40) are significant ($p < 0.001$). For the temperance, the item about getting angered and/or annoyed easily (2.71) is significant ($p < 0.001$). For the trust, the item about generally trusting people (2.92) is significant ($p < 0.001$). For the general physical condition, items about did not catch a cold or flu for one year (2.18) and doing bowel movements at least once a day (2.99) are significant ($p < 0.001$) (Table 2).

For the water, the age ($t = 3.653$, $p < 0.001$), grade ($t = 3.24$, $p < 0.001$), life Satisfaction ($F = 3.054$, $p = 0.017$), health status ($F = 2.801$, $p = 0.040$). In item 6 about access to clean and drinkable water, gender ($t = -2.120$, $p = 0.035$), grade ($t = -3.39$, $p = 0.001$), and the mean in item 7 about drinking water during meals, gender ($t = 2.788$, p

$= 0.006$), happiness ($F = 3.787$, $p = 0.005$) are significant. In the 8th item about drinking caffeinated drinks, life satisfaction ($F = 2.536$, $p = 0.040$), happiness ($F = 3.228$, $p = 0.013$), and health status ($F = 5.687$, $p = 0.001$) are significant.

For the air, the age ($t = -0.423$, $p < 0.001$), in the 10th item about the window to have fresh air daily, life satisfaction ($F = 5.789$, $p < 0.001$), happiness ($F = 6.347$, $p < 0.001$), in the 11th item about being in an area with polluted air, age ($t = 4.59$, $p < 0.001$), grade ($t = 5.15$, $p < 0.001$), life satisfaction ($F = 2.543$, $p = 0.038$), health status ($F = 3.044$, $p = 0.029$), and in item 12 about smoking or exposed to second-hand smoking, the grade ($t = 2.29$, $p = 0.022$), happiness ($F = 3.833$, $p = 0.005$), and health status ($F = 2.801$, $p = 0.040$) were significant.

For the rest, the gender ($t = 4.626$, $p < 0.001$), gender ($T = 5.73$, $p < 0.001$), grade ($t = 7.73$, $p < 0.001$), life Satisfaction ($F = 4.910$, $p < 0.001$), health status ($F = 8.341$, $p < 0.040$). In item 14 about using electronic devices after midnight, the health status ($F = 2.981$, $p = 0.031$) and happiness ($F = 6.347$, $p < 0.001$). In the 15th question, gender ($t = 3.373$, $p < 0.001$), the age ($t = 2.15$, $p = 0.033$), and grade ($t = 3.94$, $p < 0.001$) were significant.

For the exercise, the 17th item about exercising for 30 minutes or more everyday had resulted into the following: gender ($t = 2.280$, $p = 0.024$) and grade ($t = 2.84$, $p = 0.005$). In item 18 about sweating when doing exercises or physical activities, the age ($t = -2.00$, $p = 0.045$), grade ($t = -2.27$, $p = 0.024$), and health status ($F = 3.269$, $p = 0.021$). In the 19th item about enjoying physical activity, life satisfaction ($F = 3.171$, $p = 0.014$), happiness ($F = 2.566$, $p = 0.038$), and health status ($F = 2.800$, $p = 0.040$). In item 20 about working or staying in one position for a longer period of time, there is a significant difference according to life satisfaction ($F = 2.978$, $p = 0.019$) were significant.

For the nutrition, the item 21 about eating a healthy breakfast resulted in gender ($t = 2.326$, $p = 0.021$), age ($t = 4.07$, $p < 0.001$), grade ($t = 7.07$, $p < 0.001$), happiness ($F = 3.549$, $p = 0.007$), and health status ($F = 6.986$, $p < 0.001$). In item 22 about eating meals regularly, the age ($t = 2.14$, $p = 0.033$), grade ($t = 2.01$, $p = 0.045$), happiness ($F = 3.715$, $p = 0.006$), and health status ($F = 6.910$, $p <$

Table 3. Differences of healthy life style according to the general characteristics in high school students

Variables*	Gender		Age (years)		Grade		Life satisfaction				Happiness rate				Health status					
	Male	Female	11-15	16-20	8th	10th	Very satisfied	Neither		Very Dis-satisfied	Excellent	Good	Fair	Poor	Very poor	Excellent	Good	Fair	Poor	
								Satisfied	Dis-satisfied											
Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	F (p)	Mean ± SD	F (p)	Mean ± SD	F (p)	Mean ± SD	F (p)	Mean ± SD	F (p)	Mean ± SD	F (p)	Mean ± SD	F (p)
Sunlight	3.04 ± 0.86	3.03 ± 0.81	2.91 ± 0.81	3.29 ± 0.79	2.88 ± 0.82	3.18 ± 0.80	2.89 ± 0.78	3.11 ± 0.82	2.80 ± 1.23	3.33 ± 0.52	3.00 ± 1.15	3.03 ± 0.81	3.03 ± 0.83	3.00 ± 0.89	4.00 ± 0.00	2.00 ± 0.00	3.23 ± 0.62	2.95 ± 0.84	3.20 ± 1.10	3.20 ± 1.03
	0.072 (0.943)		-4.33 (< 0.001)		-3.54 (< 0.001)		1.906 (0.109)							2.195 (0.069)				2.941 (0.033)		
	2.33 ± 0.85	2.38 ± 0.79	2.34 ± 0.82	2.42 ± 0.78	2.35 ± 0.83	2.38 ± 0.78	2.37 ± 0.84	2.37 ± 0.79	2.40 ± 1.07	2.17 ± 0.41	2.25 ± 0.50	2.40 ± 0.79	2.34 ± 0.81	2.50 ± 1.38	2.50 ± 0.50	2.00 ± 0.00	2.34 ± 0.78	2.37 ± 0.81	2.30 ± 1.03	2.50 ± 0.53
	-0.594 (0.553)		-0.93 (0.351)		-0.41 (0.681)		0.120 (0.975)							0.299 (0.878)				0.158 (0.925)		
	3.38 ± 0.82	3.33 ± 0.97	3.43 ± 0.90	3.17 ± 0.97	3.41 ± 0.88	3.29 ± 0.98	3.20 ± 0.92	3.41 ± 0.94	3.40 ± 0.84	3.33 ± 1.03	4.00 ± 0.00	3.30 ± 0.93	3.35 ± 0.95	3.67 ± 0.52	4.00 ± 0.00	4.00 ± 0.00	3.50 ± 0.74	3.31 ± 0.96	3.30 ± 0.92	3.00 ± 1.33
	0.493 (0.622)		2.57 (0.011)		1.25 (0.213)		1.574 (0.180)							0.992 (0.421)				1.374 (0.250)		
	2.91 ± 0.87	2.99 ± 0.83	2.95 ± 0.86	3.00 ± 0.80	2.95 ± 0.90	2.98 ± 0.78	2.90 ± 0.85	3.01 ± 0.82	3.30 ± 0.82	2.16 ± 0.98	2.50 ± 1.00	2.88 ± 0.88	3.03 ± 0.81	3.00 ± 0.89	3.25 ± 0.50	3.00 ± 0.00	2.89 ± 0.84	2.98 ± 0.83	3.15 ± 0.74	2.70 ± 1.25
	-0.781 (0.436)		-0.47 (0.639)		-0.35 (0.722)		2.467 (0.045)							0.843 (0.499)				0.903 (0.440)		
Water	3.53 ± 0.63	3.26 ± 0.69	3.37 ± 0.67	3.28 ± 0.70	3.45 ± 0.61	3.22 ± 0.73	3.47 ± 0.64	3.25 ± 0.70	3.30 ± 0.82	3.33 ± 0.52	4.00 ± 0.00	3.38 ± 0.66	3.30 ± 0.68	3.00 ± 0.89	3.00 ± 1.15	4.00 ± 0.00	3.40 ± 0.67	3.32 ± 0.68	3.50 ± 0.69	2.80 ± 0.79
	3.653 (< 0.001)		1.19 (0.236)		3.24 (0.001)		3.054 (0.017)							1.381 (0.240)				2.801 (0.040)		
	3.61 ± 0.64	3.75 ± 0.56	3.68 ± 0.60	3.77 ± 0.54	3.61 ± 0.66	3.80 ± 0.47	3.72 ± 0.61	3.69 ± 0.58	3.80 ± 0.42	4.00 ± 0.00	3.50 ± 0.58	3.68 ± 0.66	3.74 ± 0.49	3.33 ± 0.52	3.50 ± 0.58	4.00 ± 0.00	3.75 ± 0.58	3.68 ± 0.60	3.90 ± 0.31	3.80 ± 0.42
	-2.120 (0.035)		-1.52 (0.130)		-3.39 (0.001)		0.609 (0.656)							1.105 (0.354)				1.233 (0.298)		
	1.42 ± 0.71	1.21 ± 0.51	1.26 ± 0.55	1.29 ± 0.63	1.32 ± 0.57	1.22 ± 0.59	1.30 ± 0.60	1.40 ± 0.70	1.33 ± 0.52	1.50 ± 0.57	1.27 ± 0.58	1.32 ± 0.64	1.20 ± 0.48	2.00 ± 0.89	1.50 ± 0.58	1.00 ± 0.00	1.35 ± 0.76	1.26 ± 0.53	1.20 ± 0.41	1.00 ± 0.00
	2.788 (0.006)		-0.35 (0.729)		1.59 (0.113)		0.555 (0.695)							3.787 (0.005)				1.296 (0.276)		
	2.29 ± 0.86	2.36 ± 0.95	2.36 ± 0.92	2.29 ± 0.94	2.29 ± 0.88	2.39 ± 0.97	2.15 ± 0.92	2.43 ± 0.92	2.70 ± 1.06	2.33 ± 0.52	2.00 ± 0.00	2.21 ± 0.98	2.46 ± 0.84	2.33 ± 1.03	3.00 ± 1.15	1.00 ± 0.00	2.09 ± 0.92	2.36 ± 0.89	3.00 ± 1.03	2.40 ± 1.07
	-0.680 (0.497)		0.68 (0.498)		-1.13 (0.261)		2.536 (0.040)							3.228 (0.013)				5.687 (0.001)		

Table 3. Continued 1

Variables*	Gender		Age (years)		Grade		Life satisfaction				Happiness rate				Health status					
	Male	Female	11-15	16-20	8th	10th	Very satisfied	Neither		Very Dissatisfied	Excellent	Good	Fair	Poor	Very poor	Excellent	Good	Fair	Poor	
								Satisfied	Dis-satisfied											
Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	
Air	2.85 ± 0.87	3.26 ± 0.74	3.14 ± 0.79	3.13 ± 0.81	3.06 ± 0.87	3.22 ± 0.72	3.24 ± 0.76	3.10 ± 0.82	3.20 ± 0.79	2.67 ± 1.03	3.00 ± 0.00	3.12 ± 0.88	3.18 ± 0.73	3.18 ± 0.52	3.50 ± 0.58	3.00 ± 0.00	3.18 ± 0.78	3.11 ± 0.81	3.10 ± 0.85	3.80 ± 0.42
	-0.423 (< 0.001)		0.12 (0.902)		-1.96 (0.051)		1.237 (0.295)		1.237 (0.295)		0.00	0.88	0.73	1.926 (0.105)		0.00	0.78	2.528 (0.057)		0.42
10.	3.44 ± 0.74	3.37 ± 0.76	3.39 ± 0.70	3.38 ± 0.85	3.38 ± 0.71	3.39 ± 0.79	3.54 ± 0.61	3.36 ± 0.79	2.50 ± 0.53	3.00 ± 0.89	3.00 ± 1.15	3.47 ± 0.67	3.35 ± 0.79	3.67 ± 0.52	2.00 ± 0.00	2.00 ± 0.00	3.46 ± 0.67	3.40 ± 0.75	3.30 ± 0.80	2.80 ± 1.03
	0.775 (0.439)		0.15 (0.884)		-0.11 (0.916)		5.789 (< 0.001)		5.789 (< 0.001)		1.15	0.67	0.92	6.347 (< 0.001)		0.00	0.67	2.396 (0.068)		1.03
11.	2.55 ± 0.95	2.55 ± 0.93	2.70 ± 0.94	2.25 ± 0.86	2.78 ± 1.00	2.30 ± 0.80	2.48 ± 0.92	2.55 ± 0.92	3.40 ± 0.70	2.33 ± 1.37	3.00 ± 1.15	2.60 ± 0.96	2.50 ± 0.92	2.33 ± 0.52	3.00 ± 1.15	2.00 ± 0.00	2.70 ± 1.04	2.52 ± 0.92	2.70 ± 0.66	1.80 ± 0.42
	-0.060 (0.952)		4.59 (< 0.001)		5.15 (< 0.001)		2.573 (0.038)		2.573 (0.038)		1.15	0.96	0.92	0.723 (0.576)		0.00	1.04	3.044 (0.029)		0.42
12.	3.46 ± 0.94	3.42 ± 0.76	3.46 ± 0.81	3.35 ± 0.82	3.52 ± 0.82	3.33 ± 0.81	3.38 ± 0.89	3.43 ± 0.79	3.80 ± 0.42	4.00 ± 0.00	3.00 ± 1.15	3.39 ± 0.83	3.48 ± 0.79	3.67 ± 0.52	2.00 ± 0.00	4.00 ± 0.00	3.43 ± 0.92	3.44 ± 0.78	3.50 ± 0.83	2.80 ± 0.79
	0.429 (0.668)		1.30 (0.195)		2.29 (0.022)		1.637 (0.164)		1.637 (0.164)		1.15	0.83	0.79	3.833 (0.005)		0.00	0.92	2.067 (0.104)		0.79
Rest	2.98 ± 0.86	2.56 ± 0.79	2.85 ± 0.81	2.35 ± 0.75	2.98 ± 0.82	2.37 ± 0.72	2.84 ± 0.91	2.62 ± 0.77	2.00 ± 0.67	3.33 ± 0.52	2.00 ± 0.00	2.76 ± 0.90	2.64 ± 0.77	2.00 ± 0.00	2.00 ± 0.00	3.00 ± 0.00	2.93 ± 0.85	2.68 ± 0.82	2.10 ± 0.55	2.00 ± 0.00
	4.626 (< 0.001)		5.73 (< 0.001)		7.73 (< 0.001)		4.910 (0.001)		4.910 (0.001)		0.00	0.90	0.77	2.376 (0.052)		0.00	0.85	8.341 (< 0.001)		0.00
14.	1.98 ± 0.95	1.97 ± 0.91	2.01 ± 0.93	1.90 ± 0.90	2.03 ± 0.93	1.91 ± 0.90	1.90 ± 0.88	2.00 ± 0.95	1.80 ± 0.63	2.17 ± 0.75	2.50 ± 0.58	1.98 ± 0.91	1.95 ± 0.94	2.00 ± 0.63	2.50 ± 0.58	2.00 ± 1.41	1.76 ± 0.81	2.04 ± 0.94	2.10 ± 0.91	1.50 ± 0.71
	0.110 (0.912)		1.15 (0.251)		1.35 (0.179)		0.719 (0.579)		0.719 (0.579)		0.58	0.91	0.94	0.357 (0.839)		0.00	0.81	2.981 (0.031)		0.71
15.	2.76 ± 0.93	2.44 ± 0.80	2.60 ± 0.89	2.41 ± 0.74	2.70 ± 0.91	2.37 ± 0.74	2.16 ± 0.90	2.47 ± 0.81	2.80 ± 0.79	2.83 ± 0.98	2.75 ± 0.50	2.53 ± 0.86	2.54 ± 0.84	2.67 ± 0.52	2.50 ± 1.29	2.00 ± 0.00	2.60 ± 0.90	2.53 ± 0.85	2.45 ± 0.60	2.40 ± 0.84
	3.373 (0.001)		2.15 (0.033)		3.94 (< 0.001)		1.139 (0.338)		1.139 (0.338)		0.50	0.86	0.84	0.238 (0.917)		0.00	0.90	0.339 (0.797)		0.84
16.	2.29 ± 0.93	2.33 ± 0.87	2.35 ± 0.90	2.24 ± 0.85	2.38 ± 0.93	2.25 ± 0.84	2.30 ± 0.93	2.31 ± 0.85	2.40 ± 0.97	3.00 ± 0.89	1.75 ± 0.96	2.32 ± 0.84	2.31 ± 0.93	2.17 ± 0.41	2.00 ± 1.15	3.00 ± 1.41	2.23 ± 0.88	2.35 ± 0.88	2.40 ± 0.99	2.00 ± 0.82
	-0.349 (0.728)		1.20 (0.230)		1.43 (0.152)		1.334 (0.257)		1.334 (0.257)		0.96	0.84	0.93	0.472 (0.757)		0.00	0.88	0.810 (0.489)		0.82

Table 3. Continued 2

Variables*	Gender		Age (years)		Grade		Life satisfaction				Happiness rate				Health status					
	Male	Female	11-15	16-20	8th	10th	Very satisfied	Satisfied	Neither Satisfied nor dissatisfied	Dis-satisfied	Very Dis-satisfied	Excellent	Good	Fair	Poor	Very poor	Excellent	Good	Fair	Poor
Exercise	2.52 ± 0.96	2.28 ± 0.82	2.40 ± 0.82	2.23 ± 0.94	2.47 ± 0.82	2.22 ± 0.90	2.36 ± 0.88	2.34 ± 0.86	2.30 ± 1.15	2.67 ± 0.52	2.25 ± 0.50	2.31 ± 0.85	2.38 ± 0.86	2.00 ± 1.26	2.50 ± 1.29	3.00 ± 1.41	2.47 ± 0.88	2.31 ± 0.84	2.55 ± 1.00	2.10 ± 1.20
	2.280 (0.024)	3.16 ± 0.89	3.11 ± 0.88	3.30 ± 0.87	3.07 ± 0.88	3.28 ± 0.86	3.14 ± 0.92	3.20 ± 0.85	3.30 ± 0.06	3.00 ± 0.63	2.75 ± 1.26	3.11 ± 0.88	3.24 ± 0.85	3.33 ± 1.21	2.50 ± 1.29	3.50 ± 0.70	3.27 ± 0.91	3.16 ± 0.86	3.35 ± 0.87	2.40 ± 0.70
	-0.142 (0.887)	-2.00 (0.045)	3.05 ± 0.91	3.09 ± 0.90	3.05 ± 0.94	3.07 ± 0.87	3.19 ± 0.90	3.03 ± 0.87	2.90 ± 1.20	2.17 ± 1.17	2.25 ± 0.96	3.20 ± 0.81	2.96 ± 0.95	2.50 ± 2.33	2.75 ± 1.26	2.50 ± 0.70	3.30 ± 0.92	3.01 ± 0.89	2.85 ± 1.09	2.90 ± 0.57
	1.768 (0.078)	-1.907 (0.058)	2.25 ± 0.78	2.41 ± 0.77	2.37 ± 0.79	2.24 ± 0.80	2.30 ± 0.83	2.30 ± 0.76	3.00 ± 0.94	1.83 ± 0.75	1.75 ± 0.50	2.22 ± 0.84	2.39 ± 0.76	2.39 ± 0.76	2.33 ± 0.52	1.75 ± 0.50	2.50 ± 0.70	2.16 ± 0.80	2.36 ± 0.78	2.30 ± 0.98
Nutrition	3.36 ± 0.70	3.17 ± 0.73	3.33 ± 0.70	3.02 ± 0.73	3.47 ± 0.65	2.98 ± 0.72	3.37 ± 0.70	3.16 ± 0.74	3.10 ± 0.74	3.33 ± 0.52	3.00 ± 0.00	3.34 ± 0.70	3.13 ± 0.73	3.33 ± 0.52	2.50 ± 0.58	4.00 ± 0.00	3.48 ± 0.63	3.20 ± 0.73	3.00 ± 0.79	2.60 ± 0.52
	2.326 (0.021)	4.07 (< 0.001)	3.60 ± 0.64	3.44 ± 0.69	3.61 ± 0.65	3.48 ± 0.66	3.67 ± 0.59	3.47 ± 0.69	3.60 ± 0.84	3.67 ± 0.52	3.50 ± 0.58	3.58 ± 0.62	3.52 ± 0.69	4.00 ± 0.00	2.50 ± 0.58	4.00 ± 0.00	3.75 ± 0.54	3.49 ± 0.69	3.80 ± 0.41	3.00 ± 0.67
	1.926 (0.105)	7.07 (< 0.001)	2.14 (0.033)	2.14 (0.033)	2.01 (0.045)	2.01 (0.045)	3.19 ± 0.83	3.35 ± 0.71	3.00 ± 0.67	3.33 ± 1.03	2.50 ± 0.58	3.18 ± 0.83	3.38 ± 0.69	3.33 ± 0.52	2.50 ± 0.58	3.00 ± 0.00	3.20 ± 0.89	3.30 ± 0.74	3.30 ± 0.66	3.20 ± 0.42
	6.986 (< 0.001)	2.992 (0.003)	-0.26 (0.792)	-2.38 (0.018)	2.929 (0.059)	2.292 (0.059)	2.44 ± 0.93	2.40 ± 0.82	2.50 ± 0.97	1.83 ± 0.75	1.75 ± 0.50	2.40 ± 0.83	2.45 ± 0.89	2.00 ± 0.63	1.50 ± 0.58	1.50 ± 0.71	2.46 ± 0.92	2.43 ± 0.85	2.10 ± 0.64	1.80 ± 0.63
	0.881 (0.379)	1.61 (0.107)	2.85 (0.005)	1.318 (0.263)	2.127 (0.077)															

Table 3. Continued 3

Variables*	Gender		Age (years)		Grade		Life satisfaction				Happiness rate				Health status						
	Male	Female	11-15	16-20	8th	10th	Very satisfied	Satisfied	Neither Satisfied nor dissatisfied	Dis-satisfied	Very Dis-satisfied	Excellent	Good	Fair	Poor	Very poor	Excellent	Good	Fair	Poor	
																					Mean ± SD
Temperance	25.	2.53 ± 0.96	2.65 ± 0.90	2.62 ± 0.90	2.53 ± 0.92	2.70 ± 0.90	2.50 ± 0.88	2.68 ± 0.92	2.60 ± 1.07	2.67 ± 1.37	2.00 ± 0.00	2.54 ± 0.88	2.67 ± 0.92	2.00 ± 0.89	3.00 ± 1.15	4.00 ± 0.00	2.54 ± 0.87	2.64 ± 0.92	2.70 ± 0.92	2.20 ± 1.03	
		-1.171 (0.242)	-0.09 (0.930)		-1.88 (0.060)		1.134 (0.264)		8.025 (< 0.001)		2.504 (0.042)		2.504 (0.042)		3.710 (0.006)		0.997 (0.394)		0.997 (0.394)		0.997 (0.394)
	26.	3.55 ± 0.88	3.87 ± 0.38	3.78 ± 0.59	3.75 ± 0.59	3.77 ± 0.63	3.78 ± 0.55	3.65 ± 0.80	3.80 ± 0.41	4.00 ± 0.42	2.50 ± 0.58	3.70 ± 0.68	3.85 ± 0.50	4.00 ± 0.00	3.00 ± 0.00	4.00 ± 0.00	3.68 ± 0.72	3.80 ± 0.56	3.80 ± 0.41	3.60 ± 0.52	
		-3.672 (< 0.001)	0.46 (0.648)		-0.09 (0.924)		8.025 (< 0.001)		5.379 (< 0.001)		1.117 (0.348)		1.117 (0.348)		2.087 (0.082)		2.469 (0.062)		2.469 (0.062)		1.275 (0.283)
Trust	27.	2.81 ± 1.04	2.66 ± 0.86	2.78 ± 0.91	2.56 ± 0.92	2.78 ± 0.92	2.63 ± 0.91	2.50 ± 0.96	2.82 ± 0.87	3.20 ± 0.52	1.50 ± 0.58	2.73 ± 0.91	2.72 ± 0.93	2.33 ± 0.52	1.50 ± 0.58	3.00 ± 0.00	2.68 ± 0.79	2.74 ± 0.92	2.70 ± 1.13	2.00 ± 1.15	
		1.299 (0.196)	2.13 (0.034)		1.52 (0.129)		5.379 (< 0.001)		1.175 (0.321)		1.175 (0.321)		1.175 (0.321)		2.087 (0.082)		0.791 (0.499)		0.791 (0.499)		2.138 (0.095)
	28.	2.75 ± 0.94	2.68 ± 0.89	2.73 ± 0.90	2.62 ± 0.90	2.75 ± 0.94	2.64 ± 0.86	2.60 ± 0.86	2.73 ± 0.91	3.10 ± 1.10	2.25 ± 0.95	2.75 ± 0.87	2.67 ± 0.93	2.33 ± 0.82	2.00 ± 1.15	3.00 ± 1.41	2.65 ± 0.92	2.72 ± 0.89	2.70 ± 0.86	2.30 ± 1.06	
		0.663 (0.508)	1.07 (0.284)		1.26 (0.207)		1.175 (0.321)		4.419 (0.002)		3.031 (0.018)		3.031 (0.018)		1.117 (0.348)		2.87 ± 0.77		2.87 ± 0.88		0.791 (0.499)
Trust	29.	3.11 ± 0.90	2.84 ± 0.83	2.99 ± 0.82	2.77 ± 0.91	3.11 ± 0.81	2.72 ± 0.87	3.16 ± 0.85	2.80 ± 0.92	3.17 ± 0.75	3.25 ± 0.96	3.01 ± 0.84	2.87 ± 0.85	2.00 ± 0.89	3.00 ± 1.15	2.00 ± 1.41	3.07 ± 0.77	2.87 ± 0.88	3.15 ± 0.93	2.50 ± 0.53	
		2.782 (0.006)	2.30 (0.022)		4.48 (< 0.001)		4.419 (0.002)		1.840 (0.120)		1.840 (0.120)		1.840 (0.120)		3.031 (0.018)		2.469 (0.062)		2.469 (0.062)		2.469 (0.062)
	30.	3.49 ± 0.69	3.37 ± 0.74	3.31 ± 0.67	3.58 ± 0.74	3.32 ± 0.74	3.49 ± 0.71	3.44 ± 0.66	3.37 ± 0.77	3.90 ± 0.63	3.50 ± 1.00	3.42 ± 0.67	3.37 ± 0.78	3.83 ± 0.41	3.00 ± 1.15	3.50 ± 0.70	3.49 ± 0.67	3.37 ± 0.74	3.50 ± 0.69	3.40 ± 0.84	
		1.509 (0.132)	-3.37 (0.001)		-2.31 (0.022)		1.840 (0.120)		5.159 (< 0.001)		7.361 (< 0.001)		7.361 (< 0.001)		0.962 (0.428)		0.742 (0.528)		0.742 (0.528)		0.742 (0.528)
Trust	31.	3.66 ± 0.58	3.54 ± 0.61	3.63 ± 0.59	3.46 ± 0.61	3.68 ± 0.55	3.47 ± 0.63	3.75 ± 0.50	3.50 ± 0.52	3.67 ± 1.15	3.00 ± 0.48	3.70 ± 0.48	3.48 ± 0.63	3.33 ± 0.52	2.50 ± 1.73	4.00 ± 0.00	3.73 ± 0.55	3.55 ± 0.57	3.60 ± 0.68	2.80 ± 1.03	
		1.868 (0.063)	2.61 (0.009)		3.43 (0.001)		5.159 (< 0.001)		7.361 (< 0.001)		7.361 (< 0.001)		7.361 (< 0.001)		9.770 (< 0.001)		7.822 (< 0.001)		7.822 (< 0.001)		7.822 (< 0.001)
	32.	3.46 ± 0.62	3.37 ± 0.69	3.43 ± 0.62	3.33 ± 0.76	3.48 ± 0.63	3.32 ± 0.70	3.53 ± 0.66	3.32 ± 0.66	3.20 ± 0.92	3.67 ± 0.52	3.58 ± 0.63	3.27 ± 0.65	2.67 ± 0.52	2.50 ± 0.58	4.00 ± 0.00	3.70 ± 0.46	3.35 ± 0.69	3.10 ± 0.72	3.00 ± 0.67	
		1.179 (0.239)	1.28 (0.203)		2.33 (0.020)		2.409 (0.049)		2.409 (0.049)		9.770 (< 0.001)		9.770 (< 0.001)		9.770 (< 0.001)		9.163 (< 0.001)		9.163 (< 0.001)		9.163 (< 0.001)

Table 3. Continued 4

Variables*	Gender		Age (years)			Grade		Life satisfaction					Happiness rate					Health status				
	Male	Female	11-15	16-20	8th	10th	Very satisfied	Satisfied	Neither Satisfied nor dissatisfied	Dis-satisfied	Very Dis-satisfied	Excellent	Good	Fair	Poor	Very poor	Excellent	Good	Fair	Poor	Mean ± SD	F (p)
General physical condition	2.97 ± 0.84 -1.430 (0.154)	3.10 ± 0.80 -1.04 (0.301)	3.03 ± 0.83 2.25 ± 2.06 ±	3.13 ± 0.77 -1.04 (0.301)	2.97 ± 0.85 -2.24 (0.026)	3.16 ± 0.76 -2.24 (0.026)	3.19 ± 0.80 0.80	3.05 ± 0.79 0.79	2.30 ± 1.06 4.050 (0.003)	2.67 ± 0.52 0.52	2.50 ± 0.58 0.58	3.05 ± 0.86 0.86	3.07 ± 0.77 0.77	3.00 ± 0.89 0.89	3.50 ± 0.58 0.58	3.00 ± 0.00 0.00	3.21 ± 0.74 0.74	3.03 ± 0.82 0.82	2.90 ± 0.97 0.97	3.20 ± 0.79 0.79	Mean ± SD	F (p)
	2.24 ± 0.95 0.707 (0.481)	2.16 ± 0.84 0.707 (0.481)	2.25 ± 0.90 0.90	2.06 ± 0.79 2.12 (0.035)	2.24 ± 0.95 1.25 (0.211)	2.13 ± 0.79 1.25 (0.211)	2.27 ± 0.88 0.88	2.18 ± 0.84 0.84	1.50 ± 0.85 3.865 (0.004)	2.33 ± 1.37 1.37	1.00 ± 0.00 0.00	2.15 ± 0.86 0.86	2.26 ± 0.89 0.89	1.67 ± 0.52 0.52	1.50 ± 0.58 0.58	1.00 ± 0.00 0.00	2.27 ± 0.89 0.89	2.19 ± 0.86 0.86	1.90 ± 1.07 1.07	1.80 ± 0.42 0.42	Mean ± SD	F (p)
	3.36 ± 0.81 0.702 (0.483)	3.29 ± 0.83 0.702 (0.483)	3.35 ± 0.81 0.81	3.21 ± 0.85 1.59 (0.120)	3.42 ± 0.79 2.74 (0.006)	3.19 ± 0.84 2.74 (0.006)	3.38 ± 0.77 0.77	3.25 ± 0.85 0.85	3.80 ± 0.42 5.210 (< 0.001)	4.00 ± 0.00 0.00	2.00 ± 0.00 0.00	3.36 ± 0.87 0.87	3.28 ± 0.76 0.76	3.67 ± 0.52 0.52	1.50 ± 0.58 0.58	3.00 ± 0.00 0.00	3.58 ± 0.70 0.70	3.26 ± 0.83 0.83	3.10 ± 0.72 0.72	2.80 ± 1.23 1.23	Mean ± SD	F (p)
	3.01 ± 0.76 0.321 (0.748)	2.98 ± 0.76 0.321 (0.748)	2.96 ± 0.76 0.76	3.06 ± 0.75 -1.20 (0.232)	2.97 ± 0.78 -0.54 (0.591)	3.01 ± 0.74 -0.54 (0.591)	3.05 ± 0.73 0.73	2.96 ± 0.78 0.78	3.10 ± 0.74 0.586 (0.673)	2.67 ± 0.52 0.52	3.00 ± 0.00 0.00	3.06 ± 0.73 0.73	2.91 ± 0.78 0.78	3.33 ± 0.52 0.52	2.50 ± 0.58 0.58	4.00 ± 0.00 0.00	3.01 ± 0.81 0.81	2.96 ± 0.75 0.75	3.50 ± 0.51 0.51	2.60 ± 0.52 0.52	Mean ± SD	F (p)

*Healthy Lifestyle Screen (HLS) Question number contents are consistent with the items shown in Table 2.

0.001). In item 23 about eating food slowly and chewing it well, gender ($t = -2.949$, $p = 0.003$), grade ($t = -2.38$, $p = 0.018$), and happiness ($F = 2.742$, $p = 0.028$). In question 24 about eating a balanced diet, the grade level ($t = 2.85$, $p = 0.005$) and health status ($F = 2.694$, $p = 0.046$) were significant.

For the temperance, item 25 about controlling one's self not to overeat resulted happiness ($F = 2.504$, $p = 0.042$). In item 26 about a negative question on drinking alcohol, gender ($t = -3.672$, $p < 0.001$), life Satisfaction ($F = 8.025$, $p < 0.001$), and happiness ($F = 3.710$, $p = 0.006$). In item 27 about a negative question on getting angered or annoyed easily, the age ($t = 2.13$, $p = 0.034$) and life satisfaction ($F = 5.379$, $p < 0.001$) were significant.

For the trust, item 29 about had resulted into gender ($t = 2.782$, $p = 0.006$), age ($t = 2.30$, $p = 0.022$), grade ($t = 4.48$, $p < 0.001$), satisfaction with life ($F = 4.419$, $p = 0.002$), and happiness ($F = 3.031$, $p = 0.018$). In item 30, the age ($t = -3.37$, $p = 0.001$) and grade ($t = -2.31$, $p = 0.022$). In item 31, age ($t = 2.61$, $p = 0.009$), grade ($t = 3.43$, $p < 0.001$), life Satisfaction ($F = 5.159$, $p < 0.001$), happiness ($F = 7.361$, $p < 0.001$), and health status ($F = 7.822$, $p < 0.001$). In item 32 about being satisfied with the one's daily, the grade level ($t = 2.33$, $p = 0.020$), satisfaction with life ($F = 2.409$, $p = 0.049$), happiness ($F = 9.770$, $p < 0.001$), and health status ($F = 9.163$, $p < 0.001$) showed significant differences.

For the general physical condition, item 33 about the little change in one's weight over the past year showed that the significant difference in grade level ($t = -2.24$, $p = 0.026$) and life satisfaction ($F = 4.050$, $p = 0.003$). In item 34 about not catching a cold or flu for one year, age ($t = 2.12$, $p = 0.035$), satisfaction with life ($F = 3.865$, $p = 0.004$), and happiness ($F = 2.498$, $p = 0.042$). In item 35 about normal range of blood pressure and blood sugar, the grade level ($t = 2.74$, $p = 0.006$), life Satisfaction ($F = 5.210$, $p < 0.001$), happiness ($F = 5.652$, $p < 0.001$), and health status ($F = 5.067$, $p = 0.002$). In item 36 about doing bowel movements at least once a day, happiness ($F = 2.574$, $p = 0.037$) and health status ($F = 4.171$, $p = 0.006$) were significant differences (Table 3).

DISCUSSION

This study aimed to determine the lifestyle status of high school students and further assess lifestyle components that affect the Filipino high school students. The Healthy Lifestyle Screen (HLS) was an intended assessment tool to assess the current lifestyle of the students as this stage is crucial specifically in forming behavior patterns [20].

In this concept of the study, gathered data have been documented with findings indicated to determining the lifestyle status of high school students utilizing the HLS comprising nine lifestyle categories (sunlight, water, air, rest, exercise, nutrition, temperance, trust and general physical condition establishing a holistic healthy lifestyle behaviors in physical/mental, behavioral and environmental aspects of the high school students as well as the further assessment of the lifestyle components that greatly affect them. To our knowledge, this is the first study to show the different lifestyle components comprising the physical/mental, behavioral and environmental aspects having positive effects to the healthy lifestyle behaviors of an individual. In the national agenda for improving the health of the youth, it is unfortunate that in healthy lifestyle programs, aspects such as mental or psychosocial health has been largely missing in creating health programs for the adolescents. Thus, there is only a little evidence that manifest health curricula for high school students, though it can positively improve not only the healthy lifestyle behaviors, but also the academic performance, stress management as well as their psychosocial health.

This study showed that among high school students, lifestyle components such as water, rest and exercise were low compared to other lifestyle components (e.g. sunshine, nutrition, air, temperance, trust and general physical condition) as resulted from the assessment utilizing the HLS. The water as a lifestyle component includes drinking 8 glasses of water daily, easy access to clean, drinkable water and negative items as drinking during the meals and drinking caffeinated drinks. Iglesia and colleagues [21] stated that a high proportion of adolescents are at risk of an inadequate fluid intake. Previous study regarding the water and fluid intake of the population across age groups in the Philippines implied low water intake adequacy and higher

intake of sugary beverages. Ly and colleagues [7] stated that students who drank more water have a better defecation pattern which is a good indication of being healthy and to take into consideration regarding the access to foods and beverages that are low in nutrients and high in fats and sugar in schools [22-25].

Another finding of this research is that the lifestyle component having a low mean sub-scale score of the HLS was rest including items about enough hours of sleep, stay on a regular healthy sleep-wake pattern and the negative items on the use of electronic devices after midnight and feeling sluggish and tired most of the time. An increasing attention in research is given to health risks depicting that many adolescents do not get sufficient and quality sleep. Not having enough sleep or rest is a condition known as sleep deprivation of which can cause fatigue, daytime sleepiness, clumsiness and weight loss or weight gain and adversely affects the brain and cognitive function. Lack of sleep or quality rest can lead to serious consequences. Chen and colleagues [26] stated that the amount of sleep is an important indicator of health and well-being in adolescents of which having 6-8 hours per night regularly and a critical factor in adolescent health as well as health-related Behaviors. High school students who had inefficient sleep on an average school night likely to engage in risky behavior as based from the previous report that most teens are not getting the recommended hours of sleep of which associated with a variety of risky behaviors such as physical inactivity, alcohol consumption, cigarette smoking and even fighting. Unhealthy sleeping habits in students is associated with increased vulnerability to psychoactive substance abuse, injuries as well as poor daytime functioning. Among Norwegian adolescents, delayed sleep phase appeared to be common and associated with negative outcomes such as lower average school grades, high risk in using harmful substances, elevated anxiety and depression scores [27,28].

Physical activity or exercise is another lifestyle component found out to be low in the mean score among high school students having items such as exercising for 30 minutes or more daily, sweating when exercising, enjoying physical activities and the negative item about staying in one position for a longer period of time. Field and colleagues (2001) stated that lack of exercise among young

people has been found out to contribute to health problems. Sedentary behavior was found to increase with age especially after early adolescence that is associated with deleterious health outcomes [29-32]. Tanaka and colleagues [33] stated that sleep health is closely related to physical as well as mental health aspects of an individual. Healthy lifestyle habits such as regular exercise, having a quality sleep and proper diet are important for maintaining and improving students' health.

According to the results of this study, it was found out that high school students practiced healthy lifestyle status is unstable based on the Healthy Lifestyle Screen assessment tool; and, general characteristics such as gender, age, grade level along with perceived life satisfaction, happiness rate and health status were found to be effective on the healthy lifestyle behaviors in different lifestyle components (sunlight, water, air, rest, exercise, nutrition, temperance, trust and general physical condition). Unhealthy lifestyle behaviors such as being sedentary or staying in position for a long period, lack of water intake, sleep deprivation along with smoking, consuming alcohol, drinking during meals, drinking caffeinated drinks, being in an area with polluted air, excessive use of electronics, getting angry or annoyed easily as well as losing self-control among adolescents is becoming a major health phenomenon leading to non-communicable diseases, the top cause of death in most countries. It is not only the presence of obesity and unhealthy lifestyle characteristics at this life stage being associated with increased chronic disease risk, but this also may be a critical time during which young people adopt lasting health behavior patterns including unhealthy dietary habits of which becoming a major public health concern [34-36].

Thus, there is a great need to promote healthy lifestyle in all areas among adolescents. Transforming the healthy lifestyle behaviors through school-based intervention programs is of great importance for maintaining and establish well-being and overall health among adolescents. It is beneficial to reach young ones at schools by an effective health programs promoting healthy lifestyles in order to help them gain knowledge, positive attitudes and behaviors in relation to health as well as to prevent them from developing unhealthy lifestyle or health-risk behaviors.

This present study found that high school students' cur-

rent lifestyle is in the unstable status and in a high risk of developing unhealthy lifestyle behaviors some of which are poor diet, sleep deprivation, lack of physical activity, harmful substance use, injuries, poor academic performance and the like. HLS obtaining multiple lifestyle components such as sunlight, water, air, rest, exercise, nutrition, temperance, trust and general condition comprised in physical/mental, behavioral and environmental aspects of lifestyle enable an individual to determine areas needed to be improved by considering those lifestyle components that are usually taken for granted. This is a confirmation that HLS is an efficient assessment tool for determining lifestyle components associated with the efficacy of future health-promoting interventions on the health and well-being of adolescents. This study had several limitations such as the number of respondents. Due to the relatively small sample, there remains a problem with generalizing the results. Researchers of this study need to further examine among high school students of different ages, genders, backgrounds, nationalities, economic status and even academic levels in relation to their lifestyle behaviors as initial step in creating school-based programs that could promote healthy lifestyle to the high school students.

In conclusion, respondents of the study were in the unstable lifestyle status having low mean sub-scale scores on healthy lifestyle components such as water, rest and exercise. The assessment tool was designated to initially address lifestyle-related non-communicable diseases (NCDs) due to unhealthy lifestyle practices as well as to establish health-related lifestyle practices in components pertaining to the well-balanced physical/mental, behavioral and environmental factors affecting the individual's healthy lifestyle behaviors. Findings highlight the need of having school-based healthy lifestyle intervention programs and preventive measures through a positive approach specifically in promoting and developing healthy behaviors as well as establishing resiliency among high school students.

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