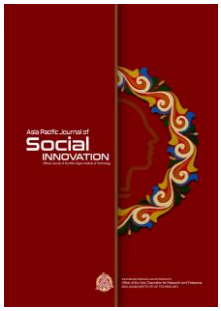

Asia Pacific Journal of Social Innovation
(formerly The Mindanao Forum)
ISSN (Online) 3116-5079 Journal homepage https://journals.msuiit.edu.ph/tmf

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To cite this article: Gloria Shiela E. Coyoca, Sofia Marie D. Martinez, Noreen Michelle Y. Yares, Arvin E. Zubiaga (2024) Factors Affecting the Behavioral Risk Scores for Noncommunicable Diseases Among the Students of Mindanao State University-Iligan Institute of Technology College of Nursing and College of Science and Mathematics. Asia Pacific Journal of Social Innovation, Iligan City.

To link to this article: https://journals.msuiit.edu.ph/tmf

Published online: 06 June 2024

APJSI
ASIA PACIFIC JOURNAL OF SOCIAL INNOVATION

(formerly The Mindanao Forum)
2024, Vol. 36, No. 1
https://journals.msuiit.edu.ph/tmf

Factors Affecting the Behavioral Risk Scores for Noncommunicable Diseases Among the Students of Mindanao State University-Iligan Institute of Technology College of Nursing and College of Science and Mathematics

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ABSTRACT

College students' lifestyle is a public health concern because they have an impact on their risk of contracting noncommunicable diseases (NCD). The prevalence of unhealthy lifestyle such as poor nutritional intake, smoking addiction, physical inactivity, and alcohol consumption is common among university students. NCDs continue to be a major cause of mortality and disability in the Philippines, however, their effects can be reversed by modification of daily behavior habits including reducing tobacco use, harmful use of alcohol, unhealthy diet and physical inactivity. This descriptive correlational study aimed to identify the factors affecting the behavioral risk scores of the respondents using Modified Simple Lifestyle Indicator Questionnaire. Age, BMI, and family income have a positive influence to the behavioral risk scores of the respondents. On the contrary, the year level and the ordinal position in the family have a negative influence to the behavioral risk scores of the respondents. Factors such as not available in the market, lack of time, lack of energy, religious beliefs, personal preference, and knowledge of the detrimental effects of smoking are the major factors affecting the eating habits, exercise, alcohol consumption and smoking habits of the respondents respectively. The findings of the study may be used to develop regulations that only permit the sale of healthy foods in school canteens and guidelines that only permit the provision of healthy foods for all academic-related activities. A quarterly health promotion program for the prevention and control of noncommunicable illnesses may also be offered to the various colleges.

KEYWORDS

alcohol consumption, behavioral risk scores, eating habits, noncommunicable diseases, smoking habits

CONTACT Gloria Shiela E. Coyoca ✉ gloriashiela.coyoca@g.msuiit.edu.ph

INTRODUCTION

College students' lifestyle is a public health concern because they have an impact on their risk of contracting noncommunicable diseases (NCD). The prevalence of unhealthy lifestyle such as poor nutritional intake, smoking addiction, physical inactivity, and alcohol consumption is common among university students (Bennasar-Veny et al., 2020). According to a recent review of worldwide trends, nearly 40% of students in the Philippines and 80.4% of the population (students aged 13 to 15) in Southeast Asian countries are not physically active (Pituk and Cagas, 2019; Guthold et al., 2018). Furthermore, Pengpid et al. (2020) disclosed the increasing prevalence of behavioral risk factors for non-communicable diseases among university students from countries in Africa, America, and Asia. This is validated by the study of Dungog et al., 2021 where it was found out that 230 students from Santa Lucia High School and the University of the Philippines had unhealthy lifestyle habits. These unhealthy lifestyle increases the risk of dying from a NCD which is responsible for 71% of all deaths globally (World Health Organization, 2021).

In the Philippines, NCDs such cancer, heart disease, diabetes, and chronic respiratory disease account for 68 percent of all deaths and increase the likelihood of dying before the age of 70 by 29 percent (World Health Organization United Nations Development Programme (2019). NCDs continue to be a major cause of mortality and disability in the Philippines, however, their effects can be reversed by modification of daily behavior habits including reducing tobacco use, harmful use of alcohol, unhealthy diet and physical inactivity (DOH, 2021). The school has a crucial role in educating students about their health and affecting their attitudes, beliefs, and behaviors (Kedar and Gupta, 2019). Hence, the knowledge development domain of undergraduate education creates a huge influence on students to conceptualize better dealing with noncommunicable disease risk factors (Pati et al., 2019; Singh et al., 2017).

One of the Sustainable Developmental Goals (SDG) is to ensure healthy lives and promote well-being for all at all ages (Goal 3). Preventive measures can contribute to the 2030 goal of lowering premature mortality from non-communicable diseases by one third (United Nations, n.d.). With the aforementioned facts, this study came into existence.

OBJECTIVES OF THE STUDY

The main objective of this study is to determine the scores of behavioral risk factors for non-communicable diseases among the students of Mindanao State University - Iligan Institute of Technology (MSU-IIT) to serve as a basis for the health promotion program in the institute. Specifically, this study also aims to:

1. Identify socio-demographic profiles of respondents in terms of the following: course, year level, sex, age, ordinal position in the family, family monthly income, religion, and body mass index (BMI) of the students officially enrolled in MSU-IIT.
2. Determine the respondents' behavioral risk scores in terms of:

    2.1 Eating habits

2.2 Exercise
2.3 Alcohol consumption
2.4 Smoking habits
2.5 Level of stress

3. Identify the interpersonal and situational factors affecting the behavioral risk scores.
4. Determine if there is a significant relationship between the respondents' demographic profile and the scores of behavioral risk factors for noncommunicable diseases.
5. Determine if there is a significant relationship between the interpersonal and situational factors and the scores of behavioral risk factors for noncommunicable diseases.

CONCEPTUAL FRAMEWORK

This study is anchored on Nola Pender's 1982 Health Promotion Model. This model focuses on people's interactions with their physical and interpersonal settings during attempts to improve health and strives to understand the factors that underpin the desire to engage in health-promoting behaviors. Only personal characteristics, situational effects, interpersonal influences, adherence to a plan of action, and health-promoting activity are covered in this study. Personal factors in this study correlate with the respondent's age, sex, the ordinal position in the family, course, year level, religion, and BMI. Interpersonal influences can be equated to the respondent's family, peers, religion, and personal preference) affecting their health behavioral practices. Situational influences refer to time, social, income & resources, motivation & weather that may have an impact on the respondents' health and behavioral practices. Finally, commitment to a plan of action refers to the proposed health promotion program based on the findings of the study.

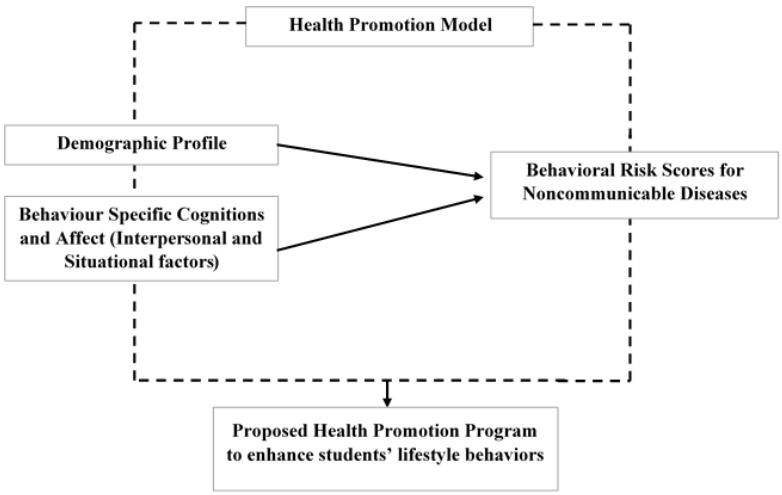

Figure 1. Conceptual Framework

The researchers integrated the Health Promotion Model by Pender (1982) in exploring the factors that may affect the respondents' behavioral risk scores. These scores will then be utilized for the proposed health promotion program that is foreseen to have an impact on the respondents' health-promoting behavior. The independent variables in the study were: a) demographic profile: sex, age, the ordinal position in the family, family monthly income, religion, course, year level, BMI: b) interpersonal factors: social (family & peers), religion (norm); Primary sources of interpersonal factors are families and peers. These are factors that can increase or decrease the commitment to choosing actions that may affect the dependent variable and this influence is measured by the researchers to describe its relationship to the dependent variable. c) situational factors: income, resources, personal preference & motivation, time & weather; The situational factors are personal perceptions and cognitions of any given situation or context that can facilitate or impede behavior including perceptions of options available, such as personal preference (the feeling of wanting or feeling of distaste of doing health-promoting behavior), motivation (the reason that impedes or promotes health-promoting behavior), and time (the availability of doing or performing health-promoting behavior. Meanwhile, the dependent variable is the respondents' behavioral risk scores: low risk, moderate risk, and high risk.

Hypotheses

H01: There is no significant relationship between the demographic profile in terms of sex, age, ordinal position in the family, family monthly income, religion, course, year level, BMI and the scores of behavioral risk factors for noncommunicable diseases

H02: There is no significant relationship between the interpersonal and situational factors and the scores of behavioral risk factors for noncommunicable diseases.

METHODOLOGY

Research Design

Descriptive correlational research design was used to conduct in establishing the association between the respondents' demographic profile, interpersonal and situational factors, and behavioral risk scores in addition to describing the aforementioned variables.

Locale of the Study

The researchers conducted the study at Mindanao State University - Iligan Institute of Technology. Data were collected virtually from Mindanao State University-Iligan Institute of Technology College of Nursing and College of Science and Mathematics students - an external unit of the Mindanao State University System and one of the ten campuses of the Mindanao State

University System. It is a public, coeducational higher learning and research university located along the National Highway in Iligan City.

Figure 2. MSU-IIT Campus Map. (Rosales & Cipriano, 2019)
(Image source: Google pictures)

Data Gathering Procedure

Data were collected using combination of a Simple Lifestyle Indicator Questionnaire or SLIQ, a few questions adopted from the studies of the authors Alhyas et al. (2015), Asma et.al. (2010), Edozo & Oluyinka (2019), and a few questions authored by the researchers themselves after ethical approval and study permission from the MSU-IIT, CON Ethical Review Committee has been obtained. To easily determine the respondents, the researchers sent a letter to the deans of the College of Nursing and College of Science and Mathematics appealing for access to the list of names of the students with their corresponding ID numbers that are officially enrolled during the second semester of school year 2020 to 2021. The researchers followed the Data Privacy Act of 2012 to ensure that the respondents will remain anonymous during the whole procedure. To acquire the necessary data from the eligible respondents, the researchers used Google Forms. Because of the pandemic's restrictions, the researchers used Google Mail and social networking sites to obtain the information they required. Online social media platforms (Facebook, Messenger) and e-mails (Gmail) were employed in this study to communicate with the chosen random respondents.

With the authorization to obtain the institution's student list of names and ID numbers from the College of Nursing and College of Science and Mathematics, confidential storing in removable and portable media was utilized to preserve secrecy. The researchers observed precautions to protect data against accidental, or unlawful access or theft of the students' identities and ID numbers. Due to quarantine restrictions and the inability to meet face to face, researchers kept data in password-protected files to avoid abuse or theft. Confidentiality of the respondents' information was observed throughout the study.

Statistical Tool and Analysis

In the quantitative stage, participants' answers obtained from the data collection tool was processed using the software package, Statistical Package for the Social Sciences (SPSS). Descriptive statistical analysis was computed in all survey questions in order to obtain concise description of the findings that expounded the demographic profile, eating habits during the past year, exercise per week, alcohol consumption, smoking, and level of stress in everyday life.

Different statistical test was used on some variables under demographic profile due to its different measurement scale. Pearson's correlation was used to evaluate the existence of a significant relationship between the respondents' age and BMI, and the scores of behavioral risk factors for noncommunicable diseases. Chi-square test for independence was used to investigate its significant relationship to the scores of behavioral risk factors for noncommunicable diseases. Spearman correlation was used for year level, family monthly income, and ordinal position under demographic profile since they are ordinal variables in order to test its significant relationship to the scores of behavioral risk factors for noncommunicable diseases.

RESULTS AND DISCUSSION

The respondents' demographic profile in terms of course, year level, sex, age, ordinal position in the family, family monthly income, religion, and body mass index are shown in Table 1. It shows that there are more respondents who are third year in their course compared to other year level. Also, more than half of the total respondents were females with which females exceed males by 94 counts or approximately 20%. This implies that the majority of the respondents who participated in this study are female. The youngest respondent recorded is 18 years old while the oldest is 24 years of age. It shows that most of the respondents are the eldest child while being the youngest in the family is the minority group in the study. For the family monthly income, the highest percentage is 22.46% (75) that has a monthly income of 30,001 – 40,000 and the lowest percentage is 1.80% (6) has a family monthly income of 100k above. Grounded on the Philippine Institute for Development Studies (PIDS) (Adrian, 2021), a family income of ₱21,194 to ₱43,828 is categorized as lower middle class. Roman Catholicism is seen to have the highest reported frequency, with 221 out of 334 respondents, or 63.17 percent of all respondents in the research, while Iglesia ni Cristo has the lowest number, 2.69 percent. There are 212, 67, and 7 students in total who fit into the categories of normal, overweight, and obese, respectively.

Table 1. Frequency and percentage distribution of respondents' demographic profile.

Demographic Variables	Frequency(n)	Percentage (%)
Course		
College of Science & Mathematics	237	71
College of Nursing	97	29
Year Level		
Level 1	0	0
Level 2	102	30.54
Level 3	118	35.33
Level 4	114	34.13
Sex		
Male	120	35.93
Female	214	64.07
Age		
18	2	0.6
19	33	10.2
20	77	23.8
21	102	31.5
22	81	25
23	24	7.4
24	5	1.5
Ordinal Position		
Eldest	124	37. 13
Middle	118	35.33
Youngest	92	27.54
Family Monthly Income		
10k and below	52	11.57
10,001-20k	40	11.98
20,001-30k	67	20.06
30,001-40k	75	22.46
40,001-50k	47	14.07
50,001-60k	23	6.89
60,001-70k	15	4.49
70,001-100k	6	1.80
100k above	9	2.69
Religion		
Roman Catholic	221	63.17
Islam	39	9.88
Iglesia ni Cristo	9	2.69
Baptist	15	4.49
Protestant	25	7.49
Seventh Day Adventist	13	3.89
Aglipayan	13	3.89
Others	15	4.49
Body Mass Index		
Underweight	46	13.77
Normal	212	63.47
Overweight	67	20
Obese	7	2
Extremely Obese	2	0.59

According to Table 2, 66.77% of all respondents had an eating habit score of 1, which is equivalent to "Moderate Risk." This finding suggests that the respondents ate fruits, high fiber cereals, and green leafy vegetables at least twice to six times each week. This outcome is consistent with the study by Abraham et al. (2018), which discovered that despite the fact that students ate a lot of processed food, they tried to eat better by selecting fresh fruit substitutes when those options were available.

Table 2. Eating habits risk score of the respondents.

Eating Habits Risk Score	Remarks	Frequency	Percentage
0	High Risk	52	15.57%
1	Moderate Risk	223	66.77%
2	Low Risk	59	17.66%
Total		334	100%

According to Table 3, 46.71 percent of all respondents received an exercise risk score of 2, which is considered to be a low risk. This indicates that at least four to seven times per week, about half of the respondents engaged high intensity exercises such as jogging, bicycling lap swimming, aerobics, and weight training. This is supported by Romero-Blanco et al. (2020) which found out that many university students engaged in more strenuous and moderate physical exercise during lockdown.

Table 3. Exercise risk score of the respondents.

Exercise Risk Score	Remarks	Frequency	Percentage
0	High Risk	79	23.65%
1	Moderate Risk	99	29.64%
2	Low Risk	156	46.71%
Total		334	100%

Table 4 presents the alcohol consumption risk score of the respondents in terms of frequency and percentage distribution. As observed, more than 95% of the total respondents garnered a risk score of '2' which indicates a low behavioral risk status in terms of alcohol consumption. It is important to note that, of the 334 respondents in total, 120 (35.93%) were males and 214 (64.07%) were females in this study. As a result, female respondents outnumbered male respondents by 20%. White (2020), discovered that men tend to drink more frequently and heavily than women, supports this finding. Additionally, Peltzer and Pengpid, 2016 found out that college students' low alcohol

consumption risk scores were a result of their understanding of the negative effects of alcohol intake.

Table 4. Alcohol consumption risk score of the respondents.

Alcohol Consumption Risk Score	Remarks	Frequency	Percentage
0	High Risk	5	1.50%
1	Moderate Risk	9	2.69%
2	Low Risk	320	95.81%
Total		334	100%

More than half (85.63%) of all respondents, as shown in Table 5, received a risk score of 2. The meaning of this number indicates that the respondents never smoke. This assertion is supported by a research by Znazen et al. (2021) that found that 55.56 percent of college students had never smoked. Furthermore, a study by Shekhar et al. (2017) revealed that only 7.3% of college students smoked cigarettes.

Table 5. Smoking habits risk score of the respondents.

Smoking Habits Risk Score	Remarks	Frequency	Percentage
0	High Risk- Smoker	6	1.80%
1	Moderate Risk - Past smoker	42	12.57%
2	Low Risk- Non-Smoker	286	85.63%
Total		334	100%

Table 6 shows that more over half (52.69%) of the respondents had a moderate risk rating for their level of stress. A study by Seedhom et al. (2019), which found that medical students suffered significant stress, supports this outcome.

Table 6. Level of stress of the respondents.

Level of Stress	Remarks	Frequency	Percentage
0	High Risk	132	39.53%
1	Moderate Risk	176	52.69%
2	Low Risk	26	7.78%
Total		334	100%

Table 7 presents the interpersonal and situational factors influencing the eating habit risk scores of the respondents. Note that count is used since respondents can select more than 1 factor per eating habits category. Based on the total count, it shows that 'not available in the market ranks highest in influencing the eating habits risk score followed by 'prefer other food'. This resonates with the study of Sogari et al. (2018), availability of food was one of the reported factors to a healthy eating habit. In today's food environment, accessibility was assumed to impede healthy eating because unhealthy food was widely available in most places (Zorbas et al., 2018). Also, healthy alternatives in cafeterias, vending machines, and social gatherings/events were all believed to be lacking in workplaces and institutions (Zorbas et al.).

Table 7. Interpersonal and situational factors influencing the eating habits risk score of the respondents.

Interpersonal & Situational Factors	Lettuce	Fruit	High Fiber	Total
	Count (%)	Count (%)	Count (%)	
Not available in the market or around the community	122 (36.5)	173 (51.8)	106 (31.7)	401 (1st)
Expensive	68 (20.4)	20 (6.0)	38 (11.4)	126
Prefer other food	150 (44.9)	75 (22.5)	120 (35.9)	345 (2nd)
Palatability-don't like the taste	40 (12.0)	79 (23.7)	117 (35.0)	236
No factor	65 (19.5)	35 (10.8)	60 (18.0)	160

Table 8 reveals that "lack of time" has the highest impact affecting the respondents' risk scores for physical exercise, while "fear of harm" has the least impact. The study by Al-Hazzaa (2018) confirms that lack of time is the biggest obstacle to physical activity among college students from King Khalid University in Saudi Arabia.

Table 8. Interpersonal and situational factors affecting the exercise or physical activity risk score of the respondents.

Interpersonal & Situational Factors	Light	Moderate	Vigorous	Total
	Count (%)	Count (%)	Count (%)	
Lack of time	194 (58.1)	240 (71.9)	252 (75.4)	686 (1st)
Social influence	29 (8.7)	37 (11.1)	48 (14.4)	114
Lack of energy	138 (41.3)	154 (46.1)	160 (47.9)	452 (2nd)
Lack of motivation	113 (33.8)	134 (40.1)	131 (39.2)	378
Fear of injury	3 (0.9)	10 (3.0)	35 (10.5)	48
Lack of skills	18 (5.4)	43 (12.9)	104 (31.1)	165
Lack of resources	23 (6.9)	56 (16.8)	116 (34.7)	195
Weather conditions	56 (16.8)	55 (16.5)	60 (18.0)	171
No factor	94 (28.1)	48 (14.4)	38 (11.4)	180

Table 9 shows "no factor" has the greatest total count observed. This suggests that the respondents' alcohol intake risk scores are unaffected by any factor. It is significant to highlight that 214 (64.07%) of the 334 respondents in this survey are females. In a study conducted among college students in the Carpathian Euroregion, Zadarko-Domaradzka et al. (2018) discovered that female students were less likely to engage in risky drinking than their male counterparts.

Table 9. Interpersonal and situational factors affecting the alcohol consumption risk score of the respondents.

Interpersonal & Situational Factors	Wine	Beer	Spirits (Gin)	Total
	Count (%)	Count (%)	Count (%)	
Not present in Family history of alcohol	18 (5.4)	18 (5.4)	17 (5.1)	53
Not present in Family history of alcohol	8 (2.4)	17 (5.1)	19 (5.7)	44
Personal preference	134 (40.1)	155 (46.4)	146 (43.7)	435 (2nd)
Income (I can afford to buy alcohol)	7 (2.1)	6 (1.8)	7 (2.1)	20
Income (I can't afford to buy alcohol)	23 (6.9)	16 (4.8)	14 (4.2)	53
Against Religion	41 (12.3)	43 (12.9)	43 (12.9)	127
No factor	167 (50.0)	149 (44.6)	158 (47.3)	474 (1st)

According to the overall count as shown in Table 10, "I am aware of its impact on our health "is the leading factor affecting the respondents' smoking habit risk scores. Chinwong et al. (2018) discovered that awareness of the health risks was the primary driver of intention to give up smoking among Thai university students supports this finding.

Table 10. Interpersonal and situational factors affecting the smoking habit risk score of the respondents.

Interpersonal & Situational Factor/Barriers	Are you a smoker?	If no, did you ever smoke?	Total
	Count (%)	Count (%)	
Family history of tobacco use	17 (5.1)	23 (6.9)	40
Peer pressure (If answer is "yes")	0 (0.0)	14 (4.2)	14
Personal preference (If answer is "yes")	15 (4.5)	21 (6.3)	36
I have knowledge of its effects on our health. (If answer is "no")	180 (53.9)	161 (48.2)	341 (1st)
I can afford to buy a cigarette (If answer is "yes")	3 (0.9)	5 (1.5)	8
I can't afford to buy a cigarette (If answer is "no")	14 (4.2)	13 (3.9)	27
I'm curious, that is why I tried.	0 (0.0)	31 (9.3)	31
Against Religion	38 (11.4)	29 (8.7)	67
No barriers	151 (45.2)	133 (39.8)	284 (2nd)

Table 11, shows that age, BMI, family monthly income, and course have a calculated probability value (p-value) that is lesser than the 5% alpha level. Thus, the first null hypothesis (H01) is rejected under these variables. There is a significant relationship between the age, BMI, family monthly income, course of the students, and their scores on behavioral risk factors for non-communicable diseases. Yet, based on Pearson's r and Spearman correlation, the calculated correlation coefficient reveals that the level of strength between those significant demographic profiles such as age, BMI, and family monthly income has either very weak to weak correlation to the dependent variable. This is why a low r-squared is obtained in multiple linear regression.

Table 11. Relationship between students' demographic profile and the scores of behavioral risk factors for non-communicable diseases.

Risk Factors	Demographic Profile	Test Statistics	Correlation Coefficient/ X^2	P-value
SLIQ Score	Age	Pearson's r	0.2190	**0.0001***
	BMI	Pearson's r	0.1872	**0.0006***
	Sex	Chi-square test for Independence	10.7111	0.2960
	Ordinal Position in the Family	Spearman	-0.0684	0.2122
	Religion	Chi-square test for Independence	53.0696	0.8090
	Family Monthly Income	Spearman	0.2833	**0.0001***
	Course	Chi-square test for Independence	107.3624	**0.0270***
	Year Level	Spearman	0.0399	0.4675

(*) Significant at 5% α level

Figure 3 depicts the path analysis of all variables in the study. It is observed that age, BMI, sex, and family monthly income have a positive influence on the dependent variable. This means to say that as the age of the respondents' increases, the higher will be the higher behavioral risk score. The same applies to the BMI and family monthly income. As the BMI and family monthly income increase, the higher will be the higher behavioral risk score. The study by Nazar et al. (2018) discovered that older university students were more likely to display high-risk lifestyle behavior than their younger counterparts, supports the result that age has an impact on the behavioral risk score. Grasdalsmoen et al. (2019) disclosed that college students with greater BMI were less active, supports the notion that BMI has a direct relationship with the behavioral risk score. The result that the family income has an impact on the behavioral risk score supports the study of Ssewanyana et al. (2018), where it was observed that students who have enough money as direct handouts from their parents can readily access unhealthy foods.

On the other hand, the year level, ordinal position among siblings, religion, and course have a negative correlation with the dependent variable. Romero- Blanco et al. (2020) support our finding that first-year students and second-year university students spend more time sitting and have decreased physical activity than higher year level. Park & Cormier (2018) unveiled that youngest siblings were at a higher risk of becoming overweight or obese than their older siblings. This finding may increase the score on behavioral risk factors for non-communicable diseases among the younger siblings in the

family. Since the correlation between religion and course is very small and with an insignificant p-value, these variables can be disregarded which has little to no effect on the model.

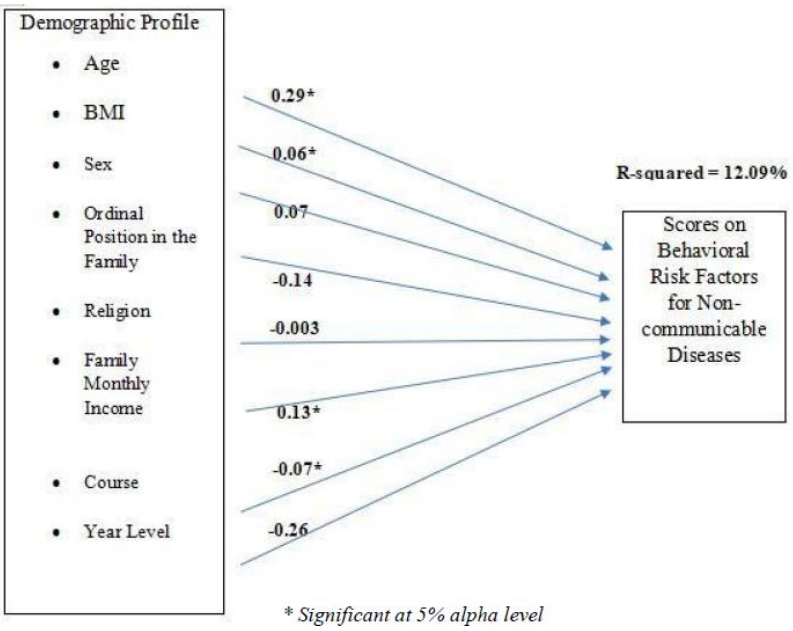

Figure 3: Path Analysis via Multiple Linear Regression

Finally, after taking into consideration how each independent variable affected the dependent variable, it was discovered that behavioral risk factors for non-communicable diseases accounted for just 12.09 percent (2) of the total impact on student scores. The remaining hidden factors or variables not taken into account in the study are responsible for the remaining 87.91 percent of the total influence on the student's score on behavioral risk factors for non-communicable diseases. The preceding related behavior, perceived action advantages, perceived action variables, perceived self-efficacy, activity-related affect, and current conflicting demands and preferences were not examined in this study.

Table 12 presents the association between the interpersonal and situational factors and the scores of behavioral risk factors for non-communicable diseases. The respondents' eating habits is associated with not available in the market or around in the community. The finding is well-supported by the study of Zorbas et al. (2018), where they have found that healthy alternatives in cafeterias and social gatherings are lacking in workplaces and institutions. Cavallini et al. (2020) supported the findings that respondents' exercise risk levels were influenced by their lack of time. Lack of time was the main factor preventing 324 respondents between the ages of 18 and 64 from engaging in physical activity. The religion affecting the alcohol consumption is supported by Luczak et al. (2014), where it was unveiled that

religious commitment was linked with reduced alcohol consumption. Finally, smoking habits are influenced by knowledge of the detrimental effects of smoking and opposition to religion. This lends credence to a study by Panahi et al. (2017) that discovered a link between attitudes toward low smoking habits and understanding of the harms associated with smoking. Additionally, the young people's religious convictions had an impact on their decision to abstain from any behaviors related to smoking (Demir-Dagdas and Child, 2019). Basing on these findings, the second null (H02) hypothesis that hypothesized that "there is no significant relationship between the interpersonal and situational factors and the scores of behavioral risk factors for non-communicable diseases" is rejected.

Table 12. Relationship between the interpersonal and situational factors and the scores of behavioral risk factors for non-communicable diseases.

Risk Factors Score	Barriers	X^2	P-value
Eating Habit	Not available in the market or around in the community	18.18	**0.0001***
	Prefer other food	40.50	**0.0001***
Exercise	Lack of time	2.59	0.2740
	Lack of energy	15.94	**0.0001***
Alcohol	Personal preference	15.51	**0.0001***
	Against religion	0.84	0.6560
Smoking	I have knowledge of its effects on our health.	4.25	0.1190
	Against religion	10.30	**0.0060***

(*) *Significant at 5% α level*

CONCLUSION AND RECOMMENDATIONS

The study bears its share of limitations. First, the respondents were recruited from only two colleges in the institute. Thus, the external validity may be limited when considering the MSU-IIT in general. Moreover, the study may have been biased towards the alcohol consumption and smoking habits risk scores of the respondents, given that the female respondents outnumbered male respondents by 20%. Nevertheless, the present study provided valuable evidence of the impact of the factors 'Not available in the market' 'and 'Prefer other food' towards the eating habit risk scores of the respondents. Thus, it is highly recommended that a policy be put in place that focuses on permitting only healthy foods to be sold in the school canteen. Environmental changes should also be made, such as labeling healthier food items, as well as setting up a nutrition information point where students can see healthy food options. In addition, there should be a policy that states that only healthy food may be offered at all academic-related events. There is also a need for the Institute Clinic to conduct a quarterly health promotion program for the prevention and control for noncommunicable diseases to the different colleges. This program includes monitoring the students' BMI, blood pressure, blood sugar, and

knowledge and attitude towards alcohol and smoking. The Office of Guidance and Counseling may conduct online symposiums such as spiritual affiliation enhancements that serve as a conduit for sustaining the low behavioral risk scores on alcohol consumption and smoking among college students. Finally, to improve the adaptive, social, and emotional skills needed for effective stress management, mindfulness-based wellness programs could be used and included in the College of Nursing and College of Science and Mathematics courses.

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NOTES ON CONTRIBUTORS

Dr. Gloria Shiela E. Coyoca is an Associate Professor V at Mindanao State University – Iligan Institute of Technology, College of Nursing. With over 20 years of experience in nursing education across hospital and university settings, she holds a PhD in Nursing Science from St. Paul University Philippines, a Master's in Nursing Administration from Misamis University, and dual Bachelor's degrees in Medical Technology and Nursing from Velez College and Iligan Medical Center College, respectively. Her research interests include health promotion, holistic nursing, and spirituality.

Sofia Marie D. Martinez is a graduate of the College of Health Sciences at Mindanao State University-Iligan Institute of Technology. Ms. Martinez is pursuing a career as a forensic pathologist, driven by her belief that the resolution of unsolved cases lies within the silence of evidence.

Noreen Michelle Y. Yares is a graduate of the College of Health Sciences at Mindanao State University-Iligan Institute of Technology in 2022. Ms. Yares aspires to become a general surgeon to address severe illnesses with surgical precision, aiming to make a meaningful impact on patients' lives through her skills and expertise.

Arvin E. Zubiaga, is a graduate of the College of Health Sciences at Mindanao State University-Iligan Institute of Technology. Mr. Zubiaga is a staff nurse at University of Santo Tomas Hospital and is pursuing a Master of Arts in Nursing at the Graduate School of the University of Santo Tomas in Manila, driven by his passion for continuous learning.