

# Demographic Influences on Eating Behaviors among Young Adults in Barangay Indahag, Philippines: A Descriptive-Correlational Study

Nikka Agbayani, Ashley Blaise Arbutante, Lebby Reyss Bagares, Angela Camelle Barcelona, Nicole Christy Bonita, Trisha Mikaela Cagulada, Vince Edward Casulo, Victoria Dorothy Chung, Gwyneth Alexis Collera, Arvie Gen Alijandro Dacalos, Ellenita De los Santos Paolo Araune, Glenda De Vera

Universitas Esa Unggul, Jakarta Barat

Article information	Abstract
<p><b>Article history:</b></p> <p>Received: March 5<sup>th</sup>, 2024</p> <p>Revised: January 14<sup>th</sup>, 2025</p> <p>Accepted: February 11<sup>th</sup>, 2025</p> <hr/> <p><b>Corresponding author:</b></p> <p>Name: Paolo Araune</p> <p>Address: Xavier University-Ateneo de Cagayan. 73 Corrales Ave, Cagayan de Oro, 9000 Misamis Oriental, Philippines</p> <p>E-mail: <a href="mailto:paraune@xu.edu.ph">paraune@xu.edu.ph</a></p> <hr/> <p>International Journal of Nursing and Health Services (IJNHS), Volume 8, Issue 1, February 20<sup>th</sup>, 2025</p> <p>DOI: 10.35654/ijnhs.v8i1.787</p> <p>E-ISSN: 2654-6310</p>	<p><b>Background &amp; Aim:</b> Eating behaviors are vital health indicators, particularly among young adults aged 20-37, warranting attention in communities like Barangay Indahag, Philippines. This study analyzed how demographic factors influence eating habits in this context. Utilizing Sister Callista Roy's Adaptation Model, associations between gender, occupation, socio-economic status, physical activity, and food choices were explored to inform interventions promoting healthier eating. <b>Methods &amp; Materials:</b> Employing a descriptive-correlational research design. Surveys and a modified questionnaire based on the Dutch Eating Behavior Questionnaire collected data on restrained, emotional, and external eating behaviors. Statistical analyses, including the F-test, ANOVA, and T-tests, identified significant associations between demographic variables and eating behaviors. <b>Results:</b> Gender differences were significant, with females exhibiting higher levels of restrained eating while males showed more external and emotional eating behaviors. Females tended to be more weight and appearance-conscious, while males leaned towards indulging in appealing food options. No significant disparities were found based on occupation, socio-economic status, or weekly physical activity. <b>Conclusion:</b> Most respondents were females, unemployed, and had low incomes, engaging primarily in household physical activities and consuming high-calorie foods. Predominantly exhibiting External Eating Behavior, restrained eating was rare, and emotional eating was absent. <b>Recommendation:</b> Clinical practitioners in Barangay Indahag should prioritize interventions aimed at addressing gender-specific eating behaviors, such as restrained eating among females and external/emotional eating among males, to promote healthier eating habits and reduce the risk of eating disorders.</p>
<hr/> 	<p><b>Keywords:</b> eating, behavior, young adult, habits</p> <hr/> <p>This is an Open Access article distributed under the terms of the <a href="https://creativecommons.org/licenses/by-nc/4.0/">Creative Commons Attribution-Non-Commercial CC BY-NC 4.0</a></p>

## INTRODUCTION

Eating behaviors provide a significant indicative factor towards a person's health condition. They could profoundly influence potential significant medical and psychosocial repercussions, which could pose many important health issues such as obesity, diabetes, and heart disease. All were relatively frequent among adults then (1). As people reached adulthood, eating habits frequently became unhealthier, but the causes of this change needed to be understood more. During that stage of adulthood, transitions were generally difficult to achieve and were prone to weight gain. Although more people were overweight or obese in that age range, less was known about diet behavior, which was a crucial cause of obesity (2).

In addition, knowing proper nutrition was vital because it was also associated with recovery. Adequate nutrition was essential in preventing illnesses, which was one of the advocacies in nursing practice. According to the Expanded National Nutrition Survey (3), the prevalence of overweight and obesity among young ages 20-37 belonged to the early working age group or the young adults. This data indicated that more than a quarter of adults in the city had a high BMI or greater than 25 kilograms per meter squared ( $>25 \text{ kg/m}^2$ ) and may have had a higher risk of developing more health problems. Poor diets, inadequate nutrition, failing food systems, continuous practice of unhealthy vices, and little physical activity. according to the World Health Organization (4), were some of the leading factors causing the Philippines' growing obesity epidemic.

Barangay Indahag was explicitly located in Cagayan de Oro City. According to the their 2020 census, this barangay was recorded to have a total adult population in the age range of 20-37,6,201, with 3,389

male adults and 2,767 female adults. Due to the need for more information and studies regarding the eating behaviors of residents in Barangay Indahag, this study aimed to analyze the difference between demographic variables and eating behaviors among adults ages 20-37 in Barangay Indahag. In doing so, the researchers focused on selected factors that may strengthen the purpose of this study.

The study utilized Sister Callista Roy's Adaptation Model (5), which focuses on how individuals respond to environmental stimuli to maintain their integrity. This model emphasizes the importance of adaptation for enhancing well-being, quality of life, and dignity in death, viewing individuals holistically in their interactions with their surroundings.

Roy's model revolves around three key concepts: the human being, adaptation, and nursing (5). In this study, the human being concept relates to the participants, whose characteristics such as gender, occupation, socioeconomic status, physical activity, weekly exercise frequency, and dietary choices were examined. By considering these demographic variables, the researchers followed Roy's model, which suggests that various human attributes can influence adaptation. Thus, the model guided the researchers in identifying and analyzing the diverse characteristics of the respondents.

The next concept, adaptation, was associated with the study's dependent variables, specifically the eating behaviors of restrained, emotional, and external eating. The three categories under the eating behaviors were considered as the respondents' adaptations from the demographic variables because those independent variables affected a person's behavior towards eating. For instance, according to a study by Rosenqvist et al. (6), restrained eating was associated with

higher household income levels in females and higher occupational positions in males due to higher health considerations individuals with higher SES tended to harbor. Another example that focused on emotional eating from a study by Aoun et al. (7) stated that females tended to eat more when they felt negative emotions to adapt or cope with stress. Addressing that emotional eating in males was lower as males tended to resort to other ways of dealing with negative emotions such as gambling, alcohol drinking, and internet addiction.

Under the concept of adaptation were four modes: physiological, self-concept, role function, and interdependence (5). The physiological mode was concerned with maintaining the physical body and how it responded to environmental stimuli. The second mode, self-concept mode, was the need for mental maintenance, which included the individual's perceptions of their physical and personal self.

Social integrity was heavily emphasized in the third mode, the role function mode. This mode discussed the adjustments individuals made in response to the different role transitions that occurred throughout a lifetime. Lastly, the interdependence mode also took social integrity into account. In a person's connection with others, this mode focuses on striking a balance between independence and interdependence. These modes aided the researchers in identifying which specific human aspect of the eating behaviors utilized as an adaptive mechanism of the respondents to assist them in achieving better health outcomes.

According to Roy's model (5), nursing aims to promote the patient's adaptation during illness and health in all four modes. In line with that thought, the different eating behaviors, namely restrained, emotional, and external eating

behaviors, were related to this theory in terms of whether or not this was a particular coping mechanism or way of adaptation by the respondents.

The third concept of Roy's Adaptation Model is nursing (5), which emphasizes the role of nurses in evaluating patient behaviors for adaptation, fostering positive interactions with the environment, and supporting favorable responses to stimuli. This concept was applied to the researchers, who, as student nurses, aimed to address the lack of existing research on the eating behaviors of young adults in Barangay Indahag.

The novelty of this study lies in its focus on a specific and understudied population within the Philippine context, providing insights into how demographic factors such as sex, occupation, socio-economic status, physical activity, and food variety choice influence eating behaviors. Existing studies have primarily centered on Western populations or broader demographic groups, leaving a significant gap in understanding eating behaviors among young adults in this local setting. By evaluating and analyzing the respondents' eating behaviors, this study provides valuable data that can help the barangay design targeted health interventions and policies to address the root causes of unhealthy eating patterns. Such findings contribute to the broader discourse on community health and the development of culturally sensitive strategies to improve nutrition and overall well-being.

The study aimed to investigate whether there was a significant difference in the characteristics and eating behaviors of the respondents concerning various factors, including sex, occupation, socio-economic status, physical activity, and food variety choice. The research delved into these aspects to understand how they might influence and contribute to

variations in eating behaviors among the participants. As the study progressed, data analysis was conducted to determine the presence of any noteworthy distinctions in the mentioned demographic variables and their impact on the respondents' eating habits.

## **METHODS**

### **Design**

In this study, a descriptive-correlational research design was employed to delineate the nature and relationships among various variables, with the primary objective of generating hypotheses to comprehend the association between independent and dependent variables. The correlational research design facilitated an exploration of the interrelationships among the variables of interest, specifically between the independent variable, encompassing demographic data, and the dependent variable, which constituted the eating behaviors of the study participants. The researchers conducted surveys to comprehensively overview the intricate relationship between demographic data and eating behaviors.

### **Sample, sample size & sampling technique**

The study was conducted in Barangay Indahag, situated in Cagayan de Oro City, Misamis Oriental. According to the Official 2020 Record of Barangay Inhabitants of Barangay Indahag, it had 4,828 residents aged 20-37, comprising 2,692 male and 2,136 female residents. The barangay was a populated area with houses built in duplex style using mixed materials, including lightweight and concrete. Furthermore, Indahag had established barangay officers and a board of directors, engaging in activities that strengthened community participation. The researchers expressed interest in

studying eating behaviors among young adults in Barangay Indahag, Cagayan de Oro City. Additionally, Barangay Indahag already had an established contact person accessible to the researchers. Given these reasons, the researchers decided to select adults aged 20-37 in Barangay Indahag as potential respondents for the study.

The study's respondents were composed of individuals who met the following inclusion criteria: certified residents from a specific barangay in Cagayan de Oro City, residents aged between 20-37 years old, expressed an interest in participating in the study, were able to understand English or Cebuano, and had read, comprehended, or understood, and signed the informed consent voluntarily.

The researchers utilized the stratified sampling technique to identify clusters of individuals who participated in the research study. This technique was considered the most suitable for the study, ensuring that each available sex group from the data was important by providing adequate samples for good representation (8). In applying the stratified sampling for this study, the sample size was first subdivided into strata, with each cluster having its corresponding number of samples. The strata used in this study were the respondents' sex and age groups. The Cochran formula was employed to determine the sample size, as it allowed the determination of the optimum sample size based on the required precision, confidence level, and anticipated fraction of the attribute present in the population (9). This formula is often used to determine the sample size needed when the entire population being sampled is large. Out of the 4,828 population within the specific age range of 20-37, for both males and females in the barangay, the sample size was computed at 357 respondents.

### **Data collection process**

A letter seeking permission to conduct the study was submitted to the Dean of Nursing. Data collection involved using a modified questionnaire, which was then distributed to the respondents. Before data collection, a letter of intent had been sent to the barangay captain of the specifically chosen barangay. The letter explained the nature of the study and requested assistance that the researchers might need during data gathering. Additionally, an informed consent letter for the respondents was included, detailing the purpose of the study and its confidentiality clause, assuring that the collected data remained confidential and had not been accessed by other parties without the respondents' permission.

### **The instrument of data collection**

The researchers aimed to investigate demographic variables and their correlation with eating behaviors among adults in Barangay Indahag, utilizing a modified questionnaire based on the Dutch Eating Behavior Questionnaire (DEBQ) as the data-gathering instrument. The DEBQ is a 33-item self-rated questionnaire divided into three subscales: restrained eating, emotional eating, and external eating (10). The researchers' modified questionnaire comprised two parts: the first part gathered demographic data, such as sex, age, and socio-economic status, while the second part assessed individual eating behaviors using a 26-item, 4-point Likert scale, with responses ranging from "Always" to "Rarely." Specifically, questions 1-10 addressed restrained eating behaviors, questions 11-19 focused on external eating behaviors, and questions 20-26 assessed emotional eating behaviors.

To establish the validity and reliability of the questionnaire, a pilot test was conducted with a subset of

respondents matching the study's inclusion criteria. The internal consistency of the modified DEBQ was evaluated using Cronbach's alpha, a widely used statistical measure of reliability. The overall Cronbach's alpha score was 0.87, indicating good reliability. Subscale-specific scores were 0.85 for restrained eating, 0.84 for external eating, and 0.86 for emotional eating, confirming that the instrument was reliable for assessing eating behaviors in the target population.

Participants who met the eligibility criteria were informed about the study's purpose, benefits, and risks through an informed consent letter included on the first page of the questionnaire. The letter also detailed the researchers' names, the research adviser's name, and the voluntary nature of participation, ensuring respondents could withdraw at any time without repercussions. Before the survey administration, the researchers oriented the respondents, explained the study, and provided instructions to ensure clarity and understanding. Assistance was offered when needed, and respondents' signatures were obtained as confirmation of their informed consent.

### **Data analysis**

Regarding statistical tools, the F-test or ANOVA was utilized for independent variables with more than two categories, aiming to analyze and compare the means of each variable across two or more independent variables when relevant. Preferred T-tests were also employed for questionnaire questions with two choices, specifically for independent variables categorized into two groups.

### **Ethical consideration**

The researchers ensured that the study did not compromise the privacy and safety of the respondents, adhering to the legal provisions of Republic Act No. 10173, also known as the Data Privacy Act of 2012.

The study received approval from the Xavier University Research Ethics Board (XU REC Package No. NSG-2023001283). Full consent was obtained before the study, ensuring a complete understanding of the implications. Anonymity throughout the study was maintained, allowing respondents to use initials instead of their complete names in the informed consent form. Respondents' answers and obtained data were highly safeguarded and placed in an envelope accessible only to the researchers. Strict confidentiality was observed, ensuring the data were not publicly accessible unless permitted by the law. If the study results were to be published, the identity of the participants would be kept confidential. The records were stored until the end of the research, and the permanent deletion of data was done through paper shredding and placed in the proper waste receptacle. These data were used for research purposes only.

## Results

Table 1 depicts the eating patterns of the participants categorized by gender. The analysis utilized mean scores to provide a comprehensive representation of the respondents' eating behaviors, as these scores reflect the overall tendencies within the population and enable comparisons across groups.

In terms of restrained eating, females displayed poorer eating habits, with an average score of 2.34, while males exhibited higher levels of external and emotional eating behaviors, with mean scores of 2.65 and 1.92, respectively.

Statistical analysis using a t-test yielded p-values of <0.01 for restrained and external eating behaviors and 0.616 for emotional eating behavior. Since the p-values for restrained and external eating behaviors were below the 0.05 threshold, the hypotheses were rejected, indicating a significant difference in these behaviors among respondents aged 20 to 37 based on gender. However, no significant disparity was observed in emotional eating behaviors between male and female respondents. Using mean scores allows for capturing nuanced behavioral differences, particularly in continuous variables like eating behaviors.

During the study, it was observed that most respondents had toned body structures and were relatively lean and fit. In the data-gathering phase, most female respondents reported being mindful of their weight and appearance, showing greater caution in the amount and type of food they consumed compared to males. Conversely, male respondents admitted eating more when stimulated by appealing food options.

Table 1. T-test Results of Respondent's Eating Behaviors When Grouped According to Sex

Profile	Eating Behaviors of the Respondents					
	Restrained Eating		External Eating		Emotional Eating	
Sex	Mean	p-value	Mean	p-value	Mean	p-value
Male	2.07	<0.01**	2.65	<0.01**	1.92	0.616 ns
Female	2.34		2.45		1.89	

Legend: ns = Not Significant \* = Significant \*\* = Highly Significant

These observations suggested that female respondents were more conscious of their weight and appearance, engaging in restrictive eating behaviors to control their body weight, while the male population was more lenient in dietary habits and engaged more in external eating behaviors.

Table 2 presented the eating behaviors of the respondents when grouped according to their occupation. The self-employed respondents exhibited the highest mean averages for restrained, external, and emotional eating behaviors, indicating they had the poorest eating behaviors. Utilizing the F-test or ANOVA, it was determined that there was no significant difference in the eating behaviors of residents in a Barangay located in Cagayan de Oro aged 20 to 37 years old when grouped according to occupation. The three p-values were more significant than 0.05, leading to the acceptance of the hypothesis.

Table 2 also revealed the eating behaviors of the respondents when grouped according to their socio-economic status. Concerning restrained eating, respondents earning Php 9,001 - Php 15,000 had the highest mean average of 2.34, while those earning Php 5,000 and below had the lowest mean average of 2.18. Regarding external eating, respondents earning Php 15,001 and above had the highest mean of 2.63, whereas those earning Php 5,000 below and Php 5,000 - Php 9,000 had the lowest mean of 2.53. For emotional eating, respondents earning Php 9,001 - Php 15,000 had the highest mean of 1.95, and those earning Php 15,001 and above had the lowest mean of 1.86. The F-test or ANOVA yielded p-values of 0.278, 0.717, and 0.810, exceeding 0.05. Therefore, the hypothesis was accepted, indicating no significant difference between the eating behaviors of the respondents and their socio-economic status.

Table 2 presented the eating behaviors of the respondents when grouped according to the type of physical activities they engaged in. Individuals who

participated in jogging or running every week consistently exhibited the highest results for restrained, external, and emotional eating behaviors, with mean values of 2.33, 2.80, and 2.60, respectively. The F-test or ANOVA resulted in p-values of 0.018, 0.022, and <0.01, surpassing 0.05. Therefore, the hypothesis was rejected, indicating a significant difference in the respondents' restrained and external eating behaviors and a highly significant difference in the emotional eating behaviors when grouped according to their physical activities.

Table 2 also presented the eating behaviors of the respondents when grouped according to the number of days they engaged in their physical activities per week. Concerning restrained eating, the highest mean of 2.25 was observed among respondents who never had any physical activity and those who engaged in physical activities 1 to 2 days per week. Regarding external eating, the poorest eating behavior was found in the respondents who performed physical activities 3 to 4 days per week. Lastly, the highest emotional eating behavior was observed among those who never engaged in physical activity during the week, with a mean average of 2.06. The F-test or ANOVA yielded a p-value of <0.01 for emotional eating. Thus, the hypothesis was rejected, indicating a highly significant difference in the emotional eating behaviors of the respondents when grouped according to the number of days they engaged in physical activities per week.

Table 3 presented the eating behaviors of the respondents when grouped according to their food variety choice. Concerning restrained eating, respondents who preferred high-caloric foods like bread, eggs, tuna, meat, pork, chicken, and cheese exhibited poorer eating behavior with a mean of 2.24. Conversely, those who favored high-sodium foods such as fish, junk food, noodles, and canned items like sardines showed higher associations with both external and emotional eating behaviors

than those who chose high-caloric foods. A t-test yielded p-values of 0.719, 0.134, and 0.025 for restrained, external, and emotional eating behaviors. Therefore, a significant difference was observed in the emotional eating behaviors and food variety choices of the residents in Barangay Indahag aged 20 to 37 years old. These findings suggested that individuals' food variety choice could influence their eating behaviors and affect their overall health. The preference for high-caloric food might indicate a tendency toward less controlled eating.

## Discussion

Women were more likely to go on diets or adopt restrictive eating habits and behaviors than men, with the control of one's weight being more prevalent in the female population (11). This self-restrictive behavior stemmed from the concern that societal standards would negatively criticize one's appearance. In a study conducted by Wang et al. (12), it was found that women reported more restrained eating behaviors than men, particularly when experiencing feelings of shame due to their fear of receiving unfavorable comments about their general appearance from the public.

Table 2. Eating Behaviors According to Occupation, Socio-economic Status, Type of Physical Activity, and Number of Days of Physical Activity in a Week

Eating Behaviors of the Respondents							
		Restrained Eating		External Eating		Emotional Eating	
Variable		Mean	p-value	Mean	p-value	Mean	p-value
Occupation	Unemployed	2.16	0.164	2.53	0.957	1.89	0.566
	Self-employed	2.29		2.55		1.95	
	Employed	2.28		2.52		1.87	
Socio-economic Status	Php 5,000 below	2.18	0.278 ns	2.52	0.717 ns	1.91	0.810 ns
	Php 5,000 - Php 9,000	2.28		2.52		1.87	
	Php 9,001 - Php 15,000	2.34		2.53		1.95	
	Php 15,001 and above	2.21		2.63		1.86	
Type of Physical Activity	None	2.23	0.018*	2.52	0.022*	2.01	<0.01**
	Walking	2.28		2.49		1.85	
	Jogging/Running	2.33		2.80		2.60	
	Anaerobic Exercise	2.32		2.59		1.97	
	Playing Sports	1.98		2.66		1.85	
	Doing Household Activities	2.28		2.43		1.77	
Number of Days of Physical Activity in a Week	Never	2.25	0.818 ns	2.52	0.982 ns	2.06	<0.01**
	1-2 days	2.25		2.53		2.01	
	3-4 days	2.23		2.55		1.78	
	5-7 days	2.16		2.52		1.74	

During the data-gathering phase of this study, female respondents expressed concerns about maintaining their youthful appearance after childbirth and achieving ideal body measurements to appear presentable in the public eye. In contrast, male respondents mainly reported eating whatever they wanted until they were satisfied and full. These experiences were further elucidated in a study by Cunningham et al. (13), which discussed the consistent pursuit of a toned physique linked to dissatisfaction with one's current weight or shape, with women engaging in restrained eating in hopes of reducing their body weight.

served as a means to supplement their family's income (14).

Sari-sari stores typically had very low-profit margins due to their diverse range of low-cost items (15). The same held for online small businesses selling cosmetics and clothing. The makeup and fashion industry faced intense competition, with numerous brands and retailers vying for customers (16), making it challenging for sellers in these niches to stand out and attract buyers.

Vilar-Compte et al. (17) discovered that urban poverty posed a significant barrier to accessing healthy diets. The urban poor often needed more income, making it challenging to afford a diverse range of healthy food items.

Table 3. Eating Behaviors According to Food Variety Choice

Profile	Eating Behaviors of the Respondents					
	Restrained Eating		External Eating		Emotional Eating	
Food Variety Choice	Mean	p-value	Mean	p-value	Mean	p-value
High Caloric Food	2.24	0.719 ns	2.51	0.134 ns	1.88	0.025*
High Sodium Food	2.20		2.64		2.06	

During interviews with self-employed respondents, it was discovered that most owned a sari-sari store or sold products online. Food, drinks, and essential household products were the most commonly sold items among those who owned a sari-sari store. For those engaged in online sales, the most popular items were makeup, skincare products, and clothing. These self-employed individuals were predominantly women. Historically, women were responsible for household activities and childcare, while men were the primary breadwinners. However, this traditional gender role division has changed, with more women entering the workforce and contributing to their families' financial stability. For women without access to formal employment, engaging in profitable economic activities in the informal sector

Additionally, they might live in areas with restricted access to healthy food retailers and face time constraints due to long working hours. This situation explained why low-income individuals often consumed whatever was readily available, given their limited financial resources, lack of access to healthy food, and time constraints. Furthermore, the study was conducted in areas distant from the city, where access to healthy food options was limited, further complicating finding and affording healthy foods.

The study revealed that emotional eating behavior was most prevalent in young adults who engaged in physical activities. These findings indicated that respondents who participated in physical activities might have experienced increased emotional eating behavior. This

indication suggests that exercise could have influenced their ability to resist emotional signals or refrain from eating in response to unfavorable sensations. Individuals who engaged in emotional eating were more likely to elevate their levels of physical activity, possibly because physical activity can help alleviate stress and anxiety, both common triggers for emotional eating. Moreover, exercise could enhance mood and improve self-esteem, reducing the inclination to seek solace in food (18). Additionally, emotional eating behavior was closely linked to engaging in physical activity, compensating respondents exhibiting emotional eating behavior. It is established that physical activity holds particular significance for emotional eaters, as they are significantly more inclined to engage in physical activity, likely as a strategy for weight control and managing the negative emotions associated with emotional eating (19).

Emotional eating has been linked to excessive intake of energy-dense and high-fat foods (20). Kiebula et al. (21) found that those with low physical activity most frequently chose sweets as snacks and exhibited more frequent fast-food consumption. Individuals who engaged in physical activity were likelier to adopt restrained eating habits to maintain a healthy weight. At the same time, those who were physically inactive were more prone to external eating, consuming in response to external stimuli like the smell or mere presence of food. Magklis et al. (22) investigated a study that revealed that emotional eating was a risk factor for weight gain. According to Al-Musharaf (23), emotional eating behavior was reported to be triggered by a significant decrease in physical activity.

Moreover, their study results indicated that anxiety, depression, and stress scores were individually linked to poorer sleep quality, shorter sleep length, less physical activity, and more sitting time, with solid correlations among them. Women under stress consumed snacks

daily, and young women's dietary patterns, including increased fat intake, meal frequency, calorie intake from sweets, and heightened fast-food consumption, were identified as the primary predictors of emotional eating. This finding aligns with the positive impact on mood induced by consuming appetizing meals high in fat and sugar, as eating foods rich in these elements boosts the production of serotonin and dopamine, enhancing mood. Emotional eating develops as an adaptive method for coping with negative emotions, serving as a psychological factor in emotional eating.

The study by Winkler et al. (24) aimed to examine the role of emotional eating in elucidating the relationship between food insecurity and BMI (body mass index). The research explored how individuals who experienced food insecurity might have engaged in emotional eating behaviors as a coping mechanism, ultimately leading to a higher BMI. The findings revealed that emotional eating partially mediated the connection between food insecurity and higher BMI, suggesting that individuals confronting food insecurity might resort to food for emotional comfort, resulting in compromised eating behaviors and weight gain. This literature corresponds with the results presented in Table 3, which indicate that individuals who prefer high-caloric and high-sodium foods manifest higher levels of external and emotional eating behaviors. It underscores the role of emotional eating as a potential mechanism through which food variety choice can influence eating behaviors and weight outcomes. The study supports the idea that specific food preferences, particularly those linked to emotional eating, may impact individuals' eating behaviors and weight status, particularly in the context of food insecurity.

This study has potential biases that should be acknowledged. First, the use of self-reported questionnaires to assess eating behaviors may introduce social desirability bias, as participants may

underreport unhealthy habits or overreport behaviors they perceive as favorable. Additionally, the cross-sectional nature of the study limits the ability to establish causality between eating behaviors and the identified factors, such as gender or physical activity. These limitations highlight the need for future research employing longitudinal designs and objective measures to validate and extend the findings.

Despite these limitations, the study has important implications for clinical practice and policymaking. Clinicians, particularly dietitians and mental health professionals, can use these findings to tailor interventions addressing gender-specific eating behaviors. Policymakers can also use these results to develop regulations promoting public health, such as stricter labeling of high-caloric and high-sodium foods to discourage overconsumption and campaigns to improve access to affordable healthy food options in urban and rural settings. Additionally, workplace wellness programs that incorporate stress management and encourage physical activity can help mitigate emotional eating behaviors, supporting both individual health and broader community well-being.

## Conclusion

Females constituted the majority of the respondents, making up more than half of the total population in the research study. Most of the population was unemployed, resulting in most respondents earning a monthly income of Php 5,000 or less. Regarding physical activity, most respondents typically engaged in household activities, doing them only 1-2 days per week. Lastly, the majority of the respondents in the barangay tended to consume high-caloric food choices.

The predominant eating behavior observed among the respondents in a specific barangay in Cagayan de Oro City was External Eating Behavior, often practiced 4-6 days a week. This finding

suggests that the respondents exhibited poor eating habits, with a focus on external stimuli such as the appearance and smell of food, passing by food stores or street vendors, and engaging in vices like smoking or drinking alcohol. These external stimuli were considered unhealthy, potentially threatening the respondents' health.

Eating behaviors among young adults in a specific Barangay in Cagayan de Oro City were frequently aligned with External Eating behavior, indicating poor practice. However, restricted eating behaviors were rarely considered positive, while emotional eating behaviors were never practiced, indicating perfect practices. This result suggests that the respondents in the barangay did not restrict themselves from consuming food through weight-loss diets or fasting, and their food intake was not associated with their emotional status. Despite these positive aspects, the prevalence of External Eating Behavior indicates a significant risk for the incidence of eating disorders and disordered eating behaviors among these individuals, given their current situation and other profile variables.

**Acknowledgements:** The authors would like to thank all respondents who took part in this study

**Conflict of interests:** The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Funding:** No external funding for this study was received

## References

- (1) Nagata JM, Garber AK, Tabler JL, Murray SB, Bibbins-Domingo K. Prevalence and correlates of disordered eating behaviors among young adults with overweight or obesity. *J Gen Intern Med.* 2018 Aug;33(8):1337-1343. DOI:

- <https://doi.org/10.1007/s11606-018-4465-z>
- (2) Lanoye A, Brown KL, LaRose JG. The transition into young adulthood: a critical period for weight control. *Curr Diab Rep.* 2019 Nov;17(11). DOI: <https://doi.org/10.1007/s11892-017-0938-4>
  - (3) FNRI-DOST. 2018 Expanded National Nutrition Survey. FNRI-DOST website. [Accessed February 10, 2024]. Available from: <https://fnri.dost.gov.ph/index.php/programs-and-projects/news-and-announcement/763-2018-expanded-national-nutrition-survey>.
  - (4) World Health Organization. Obesity and overweight: Fact sheet [Internet]. [Accessed February 10, 2024]. Available from: <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>.
  - (5) Hanna DR, Roy C. Roy adaptation model and perspectives on the family. *Nurs Sci Q.* 2001 Jan;14(1):10-3.
  - (6) Rosenqvist E, Kiviruusu O, Konttinen H. The associations of socioeconomic status and financial strain with restrained and emotional eating among 42-year-old women and men. *Appetite.* 2022 Feb 1;169:105795.
  - (7) Aoun C, Nassar L, Soumi S, El Osta N, Papazian T, Rabbaa Khabbaz L. The cognitive, behavioral, and emotional aspects of eating habits and association with impulsivity, chronotype, anxiety, and depression: A cross-sectional study. *Front Behav Neurosci.* 2019;13. DOI: <https://doi.org/10.3389/fnbeh.2019.00204>
  - (8) Elfil M, Negida A. Sampling methods in clinical research; an educational review. *Emergency.* 2017;5(1).
  - (9) Uakarn C, Chaokromthong K, Sintao N. Sample size estimation using Yamane and Cochran and Krejcie and Morgan and Green formulas and Cohen statistical power analysis by G\*Power and comparisons. *APHEIT Int J.* 2021;10(2):76–86. Available from: <https://so04.tci-thaijo.org/index.php/ATI/article/view/254253>
  - (10) Ohara K, Mase T, Kouda K, Miyawaki C, Momoi K, Fujitani T, et al. Association of anthropometric status, perceived stress, and personality traits with eating behavior in university students. *Eat Weight Disord.* 2019 Jan 17;24(3):521–531. DOI: <https://doi.org/10.1007/s40519-018-00637-w>
  - (11) Barouti AA, Tynelius P, Lager A, Björklund A. Fruit and vegetable intake and risk of prediabetes and type 2 diabetes: results from a 20-year long prospective cohort study in Swedish men and women. *Eur J Nutr.* 2022 Jun;61(6):3175–3187. DOI: <https://doi.org/10.1007/s00394-022-02871-6>
  - (12) Wang Y, Wang J, Geng J, Wang H, Lei L. Body talk on social networking sites and restrained eating among adolescents: A test of a multiple mediation model. *Body Image.* 2023 Jun 1;45:145-52.
  - (13) Cunningham ML, Pinkus RT, Lavender JM, Rodgers RF, Mitchison D, Nora, Ganson KT, et al. The “not-so-healthy” appearance pursuit? disentangling unique associations of female drive for

- toned muscularity with disordered eating and compulsive exercise. *Body Image*. 2022 Jul 13. Available from: <https://www.sciencedirect.com/science/article/pii/S1740144522001036>
- (14) Gano-An JC, Gempes GP. The success and failures of Sari-Sari stores: exploring the minds of women micro-entrepreneurs. *Holistica*. 2020;11(2):25-51. DOI: <https://doi.org/10.2478/hjbpa-2020-0017>
- (15) Beldad K. 10 Steps in Starting a Sari-Sari Store Business. *Bria Homes*. 2022. Available from: <https://www.bria.com.ph/articles/10-steps-in-starting-a-sari-sari-store-business/>
- (16) Cruz R, Frontuna EJ, Tabieros L, Lanozo J, Deato E. Online Sellers' Lived Experiences and Challenges: A Qualitative Study Amidst COVID-19 Pandemic. *Int J Psychol Counseling*. 2021;12:59-105. Available from: <https://doi.org/10.6084/m9.figshare.18482672.v1>
- (17) Vilar-Compte M, Burrola-Méndez S, Lozano-Marrufo A, Ferré-Eguiluz I, Flores DP, Gaitán-Rossi P, et al. Urban poverty and nutrition challenges associated with accessibility to a healthy diet: a global systematic literature review. *Int J Equity Health*. 2021;20(1). DOI: <https://doi.org/10.1186/s12939-020-01330-0>
- (18) Martinez-Avila WD, Sanchez-Delgado G, Acosta FM, Jurado-Fasoli L, Oustric P, Labayen I, et al. Eating behavior, physical activity and exercise training: a randomized controlled trial in young healthy adults. *Nutrients*. 2020 Dec;12(12):3685. DOI: <https://doi.org/10.3390/nu12123685>
- (19) Frayn M, Livshits S, Knäuper B. Emotional eating and weight regulation: a qualitative study of compensatory behaviors and concerns. *J Eat Disord*. 2018;6(1). DOI: <https://doi.org/10.1186/s40337-018-0210-6>
- (20) Al-Musharaf S. Prevalence and predictors of emotional eating among healthy young Saudi women during the COVID-19 pandemic. *Nutrients*. 2020 Oct;12(10):2923. DOI: <https://doi.org/10.3390/nu12102923>
- (21) Kiebuła P, Tomczyk K, Furman J, Łabuz-Rozzak B. Association between eating habits and physical activity in primary school students. *Wiad. Lek*. 2020 Jan 1;73:2120-6.
- (22) Magklis E, Howe LD, Johnson L. Eating style and the frequency, size and timing of eating occasions: A cross-sectional analysis using 7-day weighed dietary records. *Scientific Reports*. 2019;9(1). DOI: <https://doi.org/10.1038/s41598-019-51534-w>
- (23) Al-Musharaf S. Prevalence and predictors of emotional eating among healthy young Saudi women during the COVID-19 pandemic. *Nutrients*. 2020 Oct;12(10):2923. DOI: <https://doi.org/10.3390/nu12102923>
- (24) Winkler MR, Muth ND, Reczek RW, Kroeger RA. The role of emotional eating in explaining the link between food insecurity and BMI. *J Health Psychol*. 2021 Mar;26(3):378-389.

