

## **Food-Related Behavior of University Students in Misamis Occidental**

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### **Abstract**

A considerable number of students in Misamis University (MU) in Misamis Occidental province are from far places and stay in lodging houses or dormitories and buy food from restaurants and fast-food chains. One goal of MU is to help ensure that students are able to obtain nutritious and affordable food. However, there is no account yet of the food-related behavior of the students. This study aimed to examine the food-related behavior of students in Misamis University, Philippines. Specifically, this study aimed to determine the socioeconomic profile of the students, examine their budgeting, means of obtaining meals, factors for food-buying, eating patterns, and saving behavior. An analysis was also carried out to determine if the behavior differs with gender and year-level of students. Survey questionnaire aided with interview was the main tool to gather data from 150 university students residing in lodging houses near the school. Results showed that many students are aged within 19-21 years old, in their second-year level, and female. The weekly allowance of many students ranged from PhP 500-1000 but few also received PhP 200 or below, and very few received PhP 2000 and above. Students were found to create rarely a weekly budget for their expenses and exercise prudence sometimes. They preferred carinderia with cleanliness, affordability of foods, and taste as their main considerations. A day for students would have three full meals and three snack time. Their weekly saving ranged from PhP 51.00-100.00. Food outlet preference differed with gender in this study. The findings may shed light on how students spend their allowance with food need so that academic institutions such as Misamis University can implement effective interventions for students' food-related behavior.

**Keywords:** affordability, allowance, budgeting, food-buying, taste

## Introduction

Filipino families living in remote places send their children to colleges or universities away from home for quality education. These students have to learn to adjust to new conditions of living without a family member of greater experience to guide them (Bush et al., 1985). Residing in lodging houses is a new lifestyle that may provide them an opportunity to learn how to live independently (Khozaei et al., 2010). University life may bring change to living arrangements of students, which might also result in a reorientation of food-related behavior (El Ansari et al., 2012).

Food-related behavior of students can be defined and measured in a variety of ways. This behavior is the way how individuals act towards food which involves selection, purchase, consumption, and nutrient intake (Axelson & Brinberg, 1989). Age, gender, place of residence of students, financial factors including familial financial support and budgeting behaviors are demographic and socioeconomic conditions that could influence the food-related behavior of students and help predict their food security (Sibylle, 2012; Gaines et al., 2014). Individual lifestyle, attitudes, and preferences could also affect the food-related behavior of students (Richardson et al., 2011).

Most of the students' allowance is given on a weekly or monthly basis and could be one basis for their decision-making with regards to their food-related behavior (Legaspi et al., 2014). Aligning purchase behavior with budgeting expenses is crucial for students (Homburg et al., 2010). Regardless of the factors that affect student's behavior, food has been the top priority item (Rufino, 2015) as one of the basic physical requirements based on Maslow's Hierarchy of Needs (Cherry, 2014).

Food-related behavior is also important in the context of health (Tyrrell et al., 2015; Tanenbaum et al., 2016). Promoting knowledge of students with health and food safety is necessary (Jahed et al., 2012). Students have to adopt the healthy eating behavior to ensure good health (Brown et al., 2013). Awareness of the food-related behavior of university students is necessary to facilitate the development of more effective educational and environmental interventions that help ensure their welfare while attending schools and away from their families.

Universities and other academic institutions are also responsible in informing the students of the impact of food choice and other food-related activities to their well-being. Majority of the students in Misamis University (MU) in Misamis Occidental province are from far places and stay in lodging houses or dormitories and buy food from restaurants and fast-food chains. One goal of MU is to help ensure that students are able to obtain nutritious and affordable food. However, there is no account yet of the food-related behavior of the students. Hence, this study aimed to examine the food-related behavior of students in Misamis University, Ozamiz City, Philippines. Specifically, this study aimed to determine the socioeconomic profile of the students, examine their budgeting, means of obtaining meals, factors for food-buying, eating patterns, and saving behavior by finding out if they have weekly saving from their allowance. An analysis was also carried out to determine if the food-related behavior differs with gender and year-level of students. Nutrient intake was not included in this study. The findings of this study may shed light how students spend their allowance with food need so that academic institutions can plan and implement effective interventions for students' food-related behavior.

## **Materials and Methods**

### ***Study design***

The study employed the descriptive design and survey method with questionnaire as the main tool to gather the data from the respondents. Interview was also employed to obtain further information. Independent variables were gender and year-level of students. The dependent variable was food-related behavior.

### ***Instrument and measures***

The first section of the questionnaire included an informed consent that indicated the purpose and scope of the study, confidentiality of the information, anonymity of the respondent's identity, and the right to voluntary participation. A section on demographic information followed which included the age, gender, year-level, and allowance per week. The next section included a list of choices for budgeting scheme,

means of obtaining meals, factors for food-buying, eating patterns, and saving behavior. The studies of Sibylle (2012) and Gaines et al. (2014) serve as the basis for these parameters. The five-point Likert scale was used for determining the students' budgeting scheme and means of obtaining meals. The mean of their responses was interpreted using the following continuum: 1.00-1.79 (Never), 1.80-2.59 (Rarely), 2.60-3.39 (Sometimes), 3.40-4.19 (Often), and 4.20-5.00 (Always). In determining the factors for food-buying, the respondents were asked to rank the items (1-6) considering 1 as the most important factor. The mean rank was then obtained. For the eating patterns, the amount spent for each meal or snacks was obtained. The saving behavior of students was indicated by the amount saved weekly by the students. The survey instrument was pilot-tested by 10 target students for validity.

### ***Population and sample***

The study population was composed of university students in all year levels from nine colleges in Misamis University. These students reside in nearby lodging houses where they could cook their food. Majority of them were from the towns and cities in Misamis Occidental province. This particular population may have a different food-related behavior from those living with their families who usually do not buy food from restaurants and fast-food chains but with their parents who would cook for them. The sample was determined by conducting an initial survey of the total number of students residing in nearby lodging houses. From 245 students (12% of the total population) staying in lodging houses, 150 of them were randomly sampled. The sample size was determined using the Raosoft sample size calculator.

### ***Sampling procedures***

The survey questionnaire was administered to the target respondents who agreed to participate in the study. This tool was aided with interview to obtain additional information from students. The researchers did not offer the respondents any suggestions, except to encourage participants to review the entire list before answering. The respondents were given ample time to answer the questionnaire.

### ***Data analysis***

Descriptive statistics used were percentage and means. The data were analyzed using the Statistical Package for Social Sciences (SPSS) and software to organize, process and generate answers to the queries investigated (Kinnear & Gray, 1999). The difference in food-related behavior of students as to gender and year-level was analyzed using the t-test with significance specified as  $P < 0.05$ .

## **Results and Discussions**

### ***Socioeconomic profile of students***

Table 1 shows the profile of the respondents. Many students aged within 19-21 years old. There were more female participants than the male. Gender difference is a factor of food choice and other food-related behavior among college students (Mooney & Walbourn, 2001). Most respondents were second-year students but a considerable number of the respondents were also in their third-year. Student allowance could vary depending on where the school is situated and the socioeconomic background of the family. Many students had allowance enough for their needs, others had greater than what is enough but there were those with allowance even below the minimum. Low-income students have monthly allowance enough for their minimum needs and others may even find it hard to stay in school without need-based grants (Fack & Grenet, 2015). Students in Metro Manila receive higher allowance compared to rural areas (Canlas, 2014). Their food-related behavior may slightly differ from those seen in MU students. Students who move to study away from their homes receive their weekly or monthly allowance and the cost in terms of time and transaction charges when sending money is also considered. The allowance may serve as a budget constraint for the students. The responses of students to budget restrictions with respect to their consumption of various commodities may vary with each other (Legaspi et al., 2014).

**Table 1. Socioeconomic profile of the respondents (n=150).**

<b>Variables</b>	<b>Categories</b>	<b>Frequency</b>	<b>Percentage</b>
Age	18 and below	52	34.67
	19-21	76	50.67
	22 and above	22	14.67
Sex	Female	85	56.67
	Male	65	43.33
Year-level	1	2	1.33
	2	67	44.67
	3	59	39.33
	4	18	12.0
	5	4	2.67
Allowance per week	250 and below	10	6.67
	251- 500	18	12.0
	501- 750	46	30.67
	751- 1,000	39	26.0
	1,001- 1,250	18	12.0
	1,251- 1,500	10	6.67
	1,501- 1,750	4	2.67
1,751- 2, 000	1	0.67	
2,000 and above	4	2.67	

***Food-related behavior of students***

Table 2 shows the food-related behavior of the respondents. Students were found to create rarely a weekly budget for their expenses and exercise prudence sometimes. Studies showed that financial behavior of students is related to age, gender, year level, income level, and qualification for financial aid (Shim et al., 2008; Gutter et al., 2010). Older students are more proficient in budgeting than the younger counterparts (Chen & Volpe, 1998). Female students have stronger budgeting inclinations than men (Shim et al., 2008). Students in higher year-level tend to have greater expenses (Baum & O’Malley, 2003). A study also showed that students receiving allowances from parents had more favorable attitudes toward maintaining a budget (Kidwell & Turrisi, 2004). The likelihood to maintain a budget can be influenced by both positive attitudes toward the idea of budgeting and greater perceived ability with it. Some students develop better budgeting strategies to meet their financial obligations, and those who create budgets save on a regular basis (Hayhoe et al., 2000). Budgeting is an

example of fiscally prudent tendencies and being prudent contributes to long-term financial stability (Davtyan, 2010).

**Table 2. Food-related behavior of university students.**

<b>Food-related behavior</b>	<b>Mean</b>	<b>Interpretation</b>
<b>A. Budgeting scheme</b>	<b>Weighted mean</b>	<b>Frequency</b>
Creating a weekly budget for expenses	2.53	Rarely
Exercising prudence on food spending	2.96	Sometimes
<b>B. Means of obtaining food for meals</b>		
Buying or eating at fast food restaurants	3.07	Sometimes
Buying or eating at school canteen	2.31	Rarely
Buying or eating at carinderias	4.08	Often
Buying or eating at food stands	1.03	Never
Cooking at lodging house	2.79	Sometimes
<b>C. Factors for food-buying</b>	<b>Mean rank</b>	<b>Rank</b>
Price	2.85	2
Taste preference	2.94	3
Convenience (distance)	3.71	4
Cleanliness	2.61	1
Availability of the food	3.87	5
Peer Influence	4.96	6
<b>D. Eating patterns</b>	<b>Mean amount (PhP)</b>	
Breakfast	32.71	
Morning snack	15.85	
Lunch	36.96	
Afternoon snack	17.29	
Dinner	38.79	
Midnight snack	13.64	
<b>E. Saving behavior</b>		
Weekly saving from allowance	51.00-100.00	

4.20-5.00–Always; 3.40-4.19–Often; 2.60-3.39–Sometimes 1.80-2.59–Rarely; 1.00-1.79–Never

Students in this study indicated that they buy food or eat often at carinderia. Sometimes, they also buy food or eat at fast food restaurants or cook at their house for their meals. They rarely buy or eat at the school canteen but they never buy food or eat at food stalls. Carinderias are part of the Filipino culture and are easily found almost anywhere. Outside the school campus of Misamis University are many carinderias that are open already at early morning, hence, buying or eating in carinderia seems convenient for students. Also, students find the foods

in carinderia cheap and affordable which could be perfect for their budget (Martinez & Martinez, 2008). Affordability of the foods is the general basis for satisfaction of a typical student consumer (Azanza, 2001). Usually people with low economic status, prefer to choose food with more reasonable price (French et al., 2001; Srivastava, 2013). Students may find eating in carinderias more practical than going home to eat, bringing lunch, or eating in fast-food chains. However, Kim et al. (2010) showed that the generation of college students nowadays has found also the convenience of eating in fast food restaurants due to quick service and not so expensive cost. Drewnowski and Darmon (2005) also reported that socioeconomic status may influence students' consumption in fast food chain or restaurant. Thus, food product prices and individual budget influence students' food choices (Deliens et al., 2014).

Carinderias are just a few steps away from the school campus but distance is not the primary factor considered by students for buying food. This study showed that cleanliness ranks number one among the factors that students consider where to buy food or eat as shown in studies in other countries (Knutson, 2000; Zopiatis & Pribic, 2007). The price of food is the second consideration and the third is the taste. Students prefer food outlet that serve meals that fall within their budget (Delayco & Biana, 2015). Taste preference has consistently been shown as a basic criterion for choosing an eating outlet (Shannon et al., 2002; Sulek & Hensley, 2004). This study showed that availability of food and peer influence were not among the top driving factors for students' choice where to buy food or eat. Azanza (2001) reported that reasonable food prices, cleanliness, and varied menu were among the factors considered by Filipino students typical also among MU students. Also, exposure to television food advertising and other food marketing sources are positively linked to food choices and eating behavior of students (Scully et al., 2012).

This study showed that MU students do not buy or eat at food stalls for their meals. In Ozamiz City, rolling stores or food stalls are common and they are found outside school campuses. Outdoor foods are usually seen outside the school campuses (Kelly et al., 2015). Different street foods are sold in food stalls such as 'kwek-kwek', 'isaw', helmets,

‘adidas’, and fish or chicken balls. ‘Kwek-kwek’ is made from eggs covered with a batter of flour, cornstarch, seasonings and some food coloring. ‘Isaw’ is referred to both pig and chicken intestines, grilled over hot fire. Helmets are chicken heads poked onto skewers and grilled over charcoal. ‘Adidas’ are chicken feet prepared like helmets. These foods are usually food street snacks which MU students would buy for their snacks but not for meals. In other places like Cebu, students would eat at food stalls selling rice, fried chicken, and packed foods but such stall types are not found in Ozamiz City (personal observation).

Looking into the eating patterns of students in this study, a day would have three full meals and three snack time including midnight which is not surprising as students may stay late at night studying. In carinderias around Misamis University, most students could only find scrambled eggs, hotdogs, sausages, ‘pancit’ or noodles, fried chicken, and fish tinola for breakfast. Fish tinola is a Filipino ginger-based soup dish composed of fish, papaya or chayote wedges, malunggay and/or hot pepper leaves. Food intake and eating behavior of students are crucial to their academic performance. A positive association between eating behavior and academic performance was observed in female university students (Valladares et al., 2016). Based on interview, the students admitted that they could usually skip breakfast to catch up the early morning class that starts at 7 AM. Wy and As (2011) reported that breakfast is the most frequently skipped meal among university students.

Generally, students choose food to eat based on taste, cost, nutritional benefits, convenience and pleasure, among others (Teves & Narciso, 2015). The average amount spent by the students for each meal in this study is PhP 38.79 but they spend more for dinner. During the interview, students shared they would spend more for dinner because they have enough time to cook the main meal they consider for the day.

Students may face challenges when budgeting. They become problematic when managing finances seems out of control but students in this study were also able to save weekly a little amount from their allowance as shown in the results. The weekly savings of students may imply awareness on how to spend their money wisely. This result suggests that students with greater knowledge on personal finance tend to engage in effective financial behavior. The study of Sabri and

MacDonald (2010) showed that students with higher financial knowledge are more likely to report savings behavior and also report fewer financial problems. The study of Stollak et al. (2011) further demonstrated that female students are much better planners and budgeters than males.

### ***Test for difference in food-related behavior of students***

Independent t-test (Table 3) revealed significant gender difference in food behavior of students with regard to buying or eating at food outlets which agrees with the study of Boek et al. (2012). Majority of the male preferred carinderias and fast-food restaurants. The result is similar with the findings of Driskell et al. (2006). In contrary, female preferred to buy or eat in school canteen. Cafeteria services in schools contribute to healthy eating habits of students (Raulio et al., 2010) as eating out of home is still a risk factor for lower micronutrient intake (Lachat et al., 2012). Female students in this study may have preferred the school cafeteria than men do for healthier diet but Guagliardo et al. (2011) reported that eating regularly at university canteen was less frequent among less well-off students. The finding of this study may be an input to MU administrators in planning for school cafeteria to ensure that foods are nutritious, varied, and affordable to cater the preference of all students. Women tend to evaluate the campus food service experience differently from men looking more on variety of attributes such as performance in service and product quality, menu, and facility, while men satisfaction on campus foodservice derived predominantly from food quality and perceived value (Kwun, 2011). Hence, students eat more meals outside their home and have various dining experiences from food outlets and when it comes to dining, male and female students think differently (Zopiatis & Pribic, 2007; Boek et al., 2012).

**Table 3. Test for gender difference in food-related behavior of students.**

Food-related behavior	Gender		df= 148 Sig. (two-tailed)
	Female (n=85)	Male (n=65)	
<b>A. Budgeting scheme</b>			
Creating a weekly budget for expenses	2.55	2.50	0.809
Exercising prudence on food spending	2.99	2.92	0.717
<b>B. Means of obtaining food for meals</b>			
Buying or eating at fast food restaurants	2.91	3.29	0.034*
Buying or eating at school canteen	2.51	2.06	0.005*
Buying or eating at carinderias	4.11	4.05	0.732
Buying or eating at food stands	1	1.06	0.254
Cooking at lodging house	2.91	2.65	0.270
<b>C. Factors for food-buying</b>			
Price	2.93	2.74	0.505
Taste preference	2.84	3.08	0.256
Convenience (distance)	3.79	3.62	0.453
Cleanliness	2.59	2.63	0.878
Availability of the food	3.79	3.99	0.406
Peer influence	5.02	4.88	0.550
<b>D. Eating patterns</b>			
Breakfast	30.31	35.85	0.291
Morning snack	16.62	14.83	0.451
Lunch	37.06	36.83	0.946
Afternoon snack	18.75	15.38	0.165
Dinner	38.69	38.92	0.953
Midnight snack	12.65	14.94	0.442
<b>E. Saving behavior</b>			
Weekly saving from allowance	2.24	2.28	0.890
Allowance	3.75	3.73	0.958

\*Significant at  $p < 0.05$

However, findings revealed no significant difference in food behavior of students with their year-level (Table 4). This study does not support the claim of Stollak et al. (2011) that students can plan and budget better as they mature, nor does it agree the findings of Brunt et al. (2008) showing differences in eating patterns of college students. However, it has to be taken into account that the context of these studies is quite different from the current study.

**Table 4. Test for difference in food-related behavior by year-level.**

Food-related behavior	Year-level		df= 148 Sig. (two- tailed)
	Below 3 <sup>rd</sup> -year (n=69)	3 <sup>rd</sup> -year and above (n=81)	
<b>F. Budgeting scheme</b>			
Creating a weekly budget for expenses	2.58	2.49	0.645
Exercising prudence on food spending	2.90	3.01	0.524
<b>G. Means of obtaining food for meals</b>			
Buying or eating at fast food restaurants	3.19	2.98	0.243
Buying or eating at school canteen	2.38	2.26	0.465
Buying or eating at carinderias	4.10	4.06	0.819
Buying or eating at food stands	1.06	1.00	0.280
Cooking at lodging house	2.81	2.78	0.885
<b>H. Factors for food-buying</b>			
Price	3.09	2.64	0.117
Taste preference	3.00	2.89	0.600
Convenience (distance)	3.51	3.89	0.094
Cleanliness	2.54	2.67	0.634
Availability of the food	4.07	3.70	0.116
Peer influence	4.74	5.15	0.092
<b>I. Eating patterns</b>			
Breakfast	34.14	31.48	0.610
Morning snack	16.91	14.94	0.404
Lunch	37.10	36.84	0.938
Afternoon snack	17.20	17.37	0.945
Dinner	40.72	37.15	0.355
Midnight snack	15.59	11.98	0.222
<b>J. Saving behavior</b>			
Weekly saving from allowance	2.41	2.07	0.262
Allowance	3.72	3.77	0.881

\*Significant at  $p < 0.05$

## **Conclusion and Recommendations**

The food-related behavior of university students shows some characteristics typical for those who live in lodging houses near the school that are surrounded by several carinderias. These students manage to save weekly from their allowance despite creating rarely a weekly budget for expenses and exercising prudence sometimes. Their preference for carinderias with cleanliness, affordability of foods, and taste as their main factors for buying or eating in this type of food outlet has sustained their eating patterns and class schedule. A significant difference in food outlet preference with gender may have something to do with the different perspective of female and male students on healthy diet and satisfaction. Seminars on budgeting and food spending are recommended to enlighten more the university students on ways they can change or improve their food-related behavior. Research on dietary intake of students is also encouraged. Misamis University may enhance its role in effective acquisition of good food-related attitude/behavior by providing nutritious and affordable food in an atmosphere of cleanliness.

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