

A Study of Students' Satisfaction with Mahallah Cafeterias at The International Islamic University Malaysia (IIUM), Kuantan, Pahang

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ABSTRACT

Background: As the primary customers of the campus cafeterias, students largely depend on the food service provided to meet their dining needs without seeking off-campus alternatives. These services significantly impact students' overall quality of life, varying satisfaction across campus facilities, accommodations, and food choices. This study aims to evaluate students' satisfaction with campus cafeteria food services. **Methods:** A cross-sectional study was conducted in three student residential cafeterias at a university campus in Kuantan, Pahang. A total of 113 students participated in the study. A self-administered online questionnaire was distributed via messaging platforms using Google Forms. The questionnaire consisted of three sections: (1) sociodemographics, (2) visiting characteristics, (3) food service satisfaction questionnaire. **Results:** The majority of the students were satisfied with the cafeteria services. The total mean scores of all domains indicated that the respondents were satisfied with all food service attributes. Price and value fairness recorded the highest mean score, followed by ambience, service quality, food quality, and food variety. The correlation analysis revealed significant relationships between all food service attributes and overall satisfaction ($p < 0.01$). Service quality has the strongest positive correlation with the overall satisfaction score ($r = 0.582$, $p < 0.01$), and price and value fairness ($r = 0.426$, $p < 0.01$) has the weakest correlation with overall satisfaction. **Conclusion:** The results revealed that all domains, namely food quality, ambience, service quality, price and value fairness, and food variety have a significant relationship with students' satisfaction levels, providing insights and practical recommendations to the food service providers on how to improve their service and increase students' satisfaction levels.

Keywords:

food service; cafeteria; satisfaction.

INTRODUCTION

Food service is an important sector that involves the process of preparation, distribution, and provision of food and beverages to consumers outside the home. In higher education institutions, campus food service is one of the key sectors influencing students' quality of life (El-Said & Fathy, 2015). Given that students make up most of the food service customers at the universities, it is crucial to comprehend students' satisfaction thoroughly. The diversity of student populations in higher education institutions, driven by increasing enrollment from different states and nations and generational transitions results in distinct dietary and cultural preferences that influence individuals' satisfaction with the food service (Smith et al., 2020). Therefore, ensuring that campus food service meets the expectations of these diverse groups is essential in creating a positive environment and fostering a sense of home, especially for students living away from home.

Assessing students' satisfaction with cafeteria food service is important to identify their needs and enhance their overall food service experience. Students' experience with

campus cafeterias will directly influence their overall campus experience and well-being. A positive dining experience is thought to lead to a positive campus experience, which includes a conducive and supportive environment favorable for academic and personal development. Therefore, it is important to monitor all aspects of the food service to ensure the well-being and satisfactory experience of the students during study.

Despite the significance of campus food services, studies worldwide revealed higher levels of dissatisfaction. In a study conducted in Karachi, Pakistan, 63.6% of medical students expressed dissatisfaction with the food services in their school cafeterias, likely due to unmet expectations regarding the quality and delivery of the services. (Ahmed et al., 2019). Meanwhile, at Jiangsu University, China, 57.7% of students conveyed dissatisfaction with the university canteen (Wenjing, 2019). In Malaysia, 24.4% expressed either dissatisfaction or very dissatisfaction with the cafeteria service at their university (Nadzirah et al., 2013). Other than that, according to Smith et al. (2020), only 34% of United States students were satisfied with on-campus dining facilities. Overall, these numbers represent

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that most students are unsatisfied with university food service worldwide.

Although numerous studies have explored students' satisfaction with university food service, there may be a limited focus in research specifically addressing campuses where most students are from health science faculties. The students are particularly aware of the importance of balanced and nutritious meals due to the nature of their studies, making the quality of food services especially crucial for their well-being. Thus, this study aims to assess student satisfaction and investigate its relationship with food service attributes..

MATERIALS AND METHODS

Study Design

This research used a cross-sectional study design based on a close-ended online questionnaire to assess the satisfaction level of IIUM Kuantan students with the Mahallah cafeteria food service. **Sampling Method**

This study involved students of IIUM Kuantan from six faculties: one medical faculty, four health sciences faculties, and one science-based faculty. Based on the total number of students, the sample size of this study was 346, according to Krejcie and Morgan's (1970) table for a given population.

A convenience sampling method was used to obtain the subjects. Students who met the inclusion criteria included (1) campus students, (2) local and international students, and (3) students who have visited all three on-campus cafeterias at least once. Before answering any questions, a consent form was provided to each respondent to ensure they understood the privacy and confidentiality of the information gathered from the survey.

Ethical Consideration

Ethical approval was obtained from the Kulliyah Postgraduate and Research Committee (KPGRC) and the International Islamic University Malaysia Research Ethical Committee (IREC) (IREC 2024-KAHS/DNS5).

Data Collection

This study was conducted using a self-administered online questionnaire using Google Forms. The questionnaire was disseminated to student residents' WhatsApp groups and campus Telegram, which consisted of male and female students.

The questionnaire consists of three sections: (1) sociodemographics, (2) visiting characteristics, and (3) food service satisfaction questionnaire. All the respondents were asked to rate their satisfaction with all hostel cafeterias: Cafeteria A, Cafeteria B, and Cafeteria C.

For the sociodemographic data, the questions include age, gender, faculty, study level, academic year, and family household income. For the visiting characteristics, the questions include which cafeteria the respondents mostly visit, the number of visits per day, and the average spending at the cafeteria.

The food service satisfaction questionnaire was adapted from several researchers, including Hall (2013) and Smith et al. (2020). The questionnaire comprised five domains related to food service satisfaction: food quality, food variety, service quality, price and value, and ambience, with 19 items. Several modifications were made to the instrument to improve its validity and better fit the research population. The respondents rated their satisfaction level by selecting any one of the 5-point Likert scale, ranging from 1 (very dissatisfied), 2 (dissatisfied), 3 (neutral), 4 (satisfied) and 5 (very satisfied). The cut-off point will be the midpoint 3. A mean score of 3 and above is considered satisfying, whereas below 3 three will be considered regarded as dissatisfying (Smith et al., 2020).

Statistical Analysis

The statistical data analysis was performed using Statistical Package for the Social Sciences (SPSS) statistical software, Windows Version 20.0. Descriptive statistics were performed to identify the frequency and percentage of categorical data for the sociodemographic data of respondents, while the mean and standard deviation were calculated for continuous data. Descriptive analysis was also used to assess satisfaction levels. Additionally, Pearson correlation analysis was performed to determine the relationship between each independent variable and student satisfaction.

RESULTS AND DISCUSSION

Descriptive Analysis

A total of 113 campus students were involved in this study. The sociodemographic data of the respondents is shown in Table 1. The age range of the respondents is between 19 and 34, including undergraduate and postgraduate students, with an average age of 22 years (SD=1.85). Of the 113 respondents, 110 were undergraduate students, and only 3 were postgraduate students. Most of the students who filled out the survey were female (84.1%) and male

15.9%. For the family household income, 40.7% were categorized as B40, with a family household income of less than RM 4,850. About 36.3% were in the M40 category, with family income ranging from RM 4,851 to RM 10,970. The remaining 23% were in the T20 category, with a family income of more than RM 10,971. Besides, nearly half (43.4%) of the respondents were third-year students, followed by second-year (23.9%), first-year (21.2%), fourth-year (10.6%), and fifth-year students (0.9%). Approximately half (54.9%) of the students were from the Faculty of Allied Health Sciences, followed by the Faculty of Science (16.8%), Faculty of Nursing (10.6%), Faculty of Medicine (8.8%), and Faculty of Pharmacy (8.0%). The minority of respondents were from the Faculty of Dentistry (0.9%).

Table 1: Sociodemographic data of respondents (n=113)

	Frequency (n)	Percentage (%)
Age (Mean ± SD)	21.93 ± 1.85	
Gender		
Female	95	84.1
Male	18	15.9
Study level		
Undergraduate	110	97.3
Postgraduate	3	2.7
Year of study		
Year 1	24	21.2
Year 2	27	23.9
Year 3	49	43.4
Year 4	12	10.6
Year 5	1	0.9
Faculty		
Allied Health Sciences	62	54.9
Dentistry	1	0.9
Medicine	10	8.8
Nursing	12	10.6
Pharmacy	9	8.0
Science	19	16.8
Household income		
< RM 4,850	46	40.7
RM 4,851 – RM 10,970	41	36.3
>RM 10,971	26	23.0

Table 2 presents the visiting characteristics of the respondents. More than half (72.6%) of the respondents visit Cafeteria A daily, followed by Cafeteria B (15.9%) and Cafeteria C (11.5%). Regarding duration, most respondents, accounting for 43.4%, have visited the cafeteria for three years throughout their study. Following this, 27.4% of the respondents have used the cafeteria for

2 years, while 17.7% have dined there for less than a year. Besides, 7.1% have been cafeteria customers for a year, 3.5% for four years, and 0.9% for over four years. For the frequency of dining at the cafeteria, approximately half (49.6%) of the students visit the cafeteria twice per day, followed by once per day (39.8%), and thrice per day (9.7%). Only a minority visit the cafeteria more than three times daily (0.9%). As for the daily expenses at the cafeteria, more than half of the students (65.6%) were reported to spend between RM 5 and RM 10. Following this, 26.6% spent RM 11 to RM 15, and 6.3% spent between RM 16 to RM 20 daily. Only 0.9% of the students reported spending less than RM 5, and 0.9% spent more than RM 20 at the cafeterias daily.

Table 2: Behavioral characteristics of the respondents (n = 113)

	Frequency (n)	Percentage (%)
Mostly visited cafeterias		
Cafeteria A	82	72.6
Cafeteria B	18	15.9
Cafeteria C	13	11.5
Duration of dining at the cafeteria		
Less than 1 year	20	17.7
1 year	8	7.1
2 years	31	27.4
3 years	49	43.4
4 years	4	3.5
More than 4 years	1	0.9
Frequency of visits to the cafeteria per day		
1 time	45	39.8
2 times	56	49.6
3 times	11	9.7
More than 3 times	1	0.9
Average daily expenditure at the cafeteria		
< RM 5	1	0.9
RM 5 – RM 10	74	65.5
RM 11 – RM 15	30	26.6
RM 16 – RM 20	7	6.2
> RM 20	1	0.9

The respondents' overall satisfaction with each hostel cafeteria was summarized in Figure 1. Cafeteria B received a total of 69% for satisfaction, indicating that the cafeteria excels and fulfils most of the students' expectations regarding the food service provided. One of the contributing factors is the lower price and reasonably good portion size of the meals. According to the researcher's observation, there is an approximate difference of RM 1 to RM 2 for similar meals and dishes compared to the other two cafeterias. Additionally, the higher satisfaction level

with Cafeteria B may have resulted from the hygienic environment. As for Cafeteria B, it was graded with “A” for its premise. According to the Food Hygiene Regulations (2009), the A grade means that the premises got 80% to 100%, which indicates a good level of cleanliness. Factors influencing food premises grades include location, water supply, pest control, ventilation, food storage, toilet facilities, food handlers' attire and health, food preparation practices, and temperature (Badrul et al., 2024; Kaur et al., 2021). Food premises grading provides individuals with an overview of cleanliness and sanitation standards within the premises. This proves that maintaining a hygienic environment may enhance students' satisfaction. Cafeteria A was placed second for overall satisfaction with 53.1%, followed by Cafeteria C (45.2%). Cafeteria A is the most spacious and has the most customers. However, a lower satisfaction level may be due to the lower level of cleanliness of the dining due to grading and cooking areas. Cafeteria C is reported as having the lowest satisfaction score, which might result from the limited menu, as it was observed to have limited options for breakfast and lunch menus. Thus, students have to travel to other cafeterias to buy food. Overall, the majority of the respondents rated Cafeteria A and B as satisfied, while the majority rated Cafeteria C as neutral.

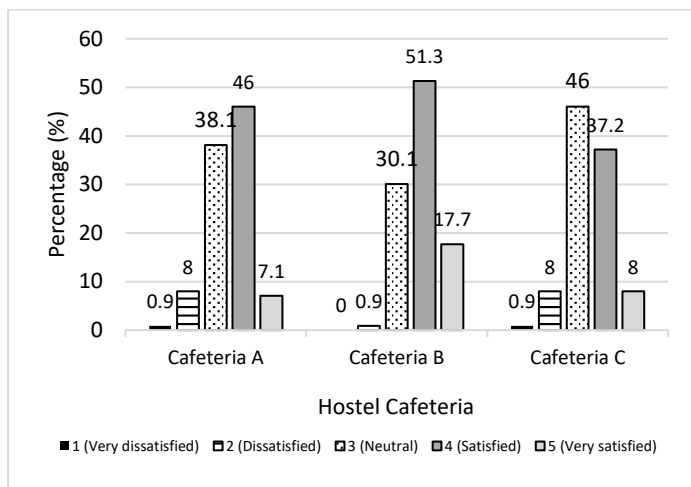


Figure 1: Percentage of total students' satisfaction level with hostel cafeterias

As presented in Table 3, overall, the total mean scores of all domains were above 3, indicating that the respondents were satisfied with all the food service attributes. The high score for price and value fairness indicates that students were most satisfied with the prices offered at the cafeterias. This was supported by previous studies by Mahmood (2023) that found almost half of the students were satisfied with the pricing of the food. This indicates that the food prices were perceived as reasonable and affordable for university students with limited budgets, given the portion size received. Following price and value fairness, the domain ambience also received a high score,

reflecting the cafeteria environment's comfortability and cleanliness. The result was consistent with the findings of Rajpoot and Gahfoor (2020) and Asghar (2023). These results show the importance of maintaining a good physical environment with a pleasant view, hygiene, and comfortable seating to leave a positive dining experience.

On the other hand, food quality and variety recorded the lowest satisfaction scores by the students. The lowest score, indicating the most dissatisfaction in the food quality domain, was the freshness of food, which may be related to the ingredients used, such as chicken, fish, and vegetables.

The descriptive analysis of the food quality domain revealed that the taste of the food has the highest mean value ($M = 3.63$, $SD = 0.746$) while the freshness of the food has the lowest mean value ($M = 3.21$, $SD = 0.871$) (Table 3). The lowest score, indicating the most dissatisfaction in the food quality domain, was the freshness of food, which may be related to the ingredients used, such as chicken, fish, and vegetables, which might affect the taste and texture of the food. According to the World Health Organization (WHO) (2022), the freshness of food correlates with the safety of the food, meaning that non-fresh food, especially raw food, potentially poses a harmful effect, such as foodborne illness, to consumers. To ensure food safety, it is essential to serve dishes at proper temperatures, which both Cafeteria A and B manage using a bain-marie to keep food warm and quality. However, most food items at the three cafeterias are not adequately covered, leaving them vulnerable to contamination from flies and other pests. This poor practice poses a high risk of foodborne illnesses, which could deter students from returning to the cafeteria.

Regarding food variety, the variety of fruits and vegetable options has the lowest means ($M = 3.04$, $SD = 1.093$). It was observed that all three cafeterias provided many types of vegetable dishes, but they were similar every day. Moreover, the only cafeteria that offers cut fruits is Cafeteria A, but the variety is very limited, which raises students' dissatisfaction with the availability of fruits and vegetables. Moreover, the absence of a chiller or freezer in hostel buildings limits the types and number of fruits the students can buy off-campus and store. Thus, the limited availability and variety of fruits at the cafeterias pose a barrier for the students to consume adequate fiber in their daily meals (Borrelli, 2016).

Table 3: Descriptive analysis of items in each domain

Items	Mean	Std. Deviation
Food Quality	3.45	0.690
Taste of food	3.63	0.746
Appearance of food	3.50	0.836
Freshness of food	3.21	0.871
Nutritional content of food	3.44	0.801
Ambience	3.67	0.74
Cleanliness of facilities	3.54	0.887
Cleanliness of cutlery and crockery	3.50	0.937
Seating comfortability	3.73	0.858
Appropriate lighting	3.92	0.908
Service Quality	3.62	0.714
Courteous staff	3.66	0.902
Staff respond to request	3.67	0.871
Staff apply hygiene procedures while serving food	3.55	0.845
Staff work quickly	3.65	0.924
Length of operating hours	3.56	1.141
Price and Value Fairness	3.68	0.861
Reasonable price	3.65	0.935
Appropriate portion size	3.71	0.893
Food Variety	3.41	0.701
Variety of fruits and vegetables options	3.04	1.093
Variety of breakfast menu	3.26	0.989
Variety of lunch menu	3.85	0.899
Variety of dinner menu	3.50	0.888

Pearson Correlation Analysis

Table 4 summarizes the result of the Pearson Correlation analysis used to identify which attributes strongly influence overall satisfaction. The correlation analysis showed a significant relationship as the p-value was less than 0.05 ($p < 0.01$) for all domains. Service quality strongly correlates with the overall satisfaction score ($r = 0.582$, $p < 0.01$). It is followed by ambience ($r = 0.529$, $p < 0.01$), food quality ($r = 0.520$, $p < 0.01$), and food variety ($r = 0.469$, $p < 0.01$). The domain price and value fairness have the weakest positive correlation with overall satisfaction ($r = 0.426$, $p < 0.01$).

Table 4: Result of correlation analysis

Variables	1	2	3	4	5	6
1 Food Quality	1					
2 Ambience	.568*	1				
3 Service Quality	.598*	.671*	1			
4 Price and Value Fairness	.347*	.392*	.500*	1		
5 Food Variety	.427*	.451*	.564*	.382*	1	
6 Overall satisfaction	.520*	.529*	.582*	.426*	.469*	1

*All the correlations are significant at the p-value < 0.05 .

Among the five domains, the correlation analysis showed that service quality has the strongest positive correlation with overall satisfaction. This result corresponds with the previous studies (Serhan & Serhan, 2019; Asghar, 2023). This positive relationship between service quality and satisfaction indicates the importance of excellent service in predicting the students' perception of the cafeteria's food service. If students feel their needs are fulfilled, their satisfaction with the service increases as they receive a pleasant experience. Therefore, cafeteria employees should receive continuous training in handling and greeting customers politely and attentively to maintain a friendly and pleasing atmosphere in the dining area.

Following service quality, ambience, food quality, and food variety also exhibit significant positive relationships with overall satisfaction. Interestingly, although the domain price and value fairness also positively influence satisfaction level, it has the weakest correlation, indicating that the students put less priority on price than other attributes such as service quality, ambience, food quality, and food variety. This aligns with the findings by Abdullah et al. (2019) and Mahmood (2023) that the students might perceive reasonable and affordable prices for the food and beverages offered. This shows that multiple factors influence students' satisfaction.

While this study provides valuable insights, certain limitations should be acknowledged. First, the sample size is much lower than required due to a limited number of eligible respondents and time constraints. Thus, the generalizability of the result could not represent the whole university population in Kuantan, Pahang. Also, the comparison between groups, such as gender, could not be made due to an unproportioned number of respondents. Therefore, future research could consider comparing demographic factors such as gender and year of study, and this could be done by ensuring sufficient sample sizes were collected, with a proportional number of each group. Second, the study area only includes three residential cafeterias on campus, while there are many more cafeterias in each faculty building. Expanding the scope to include all the cafeterias on campus, such as the ones at faculty buildings, in future studies would provide more insights into the satisfaction levels with cafeterias' food service within the campus.

CONCLUSION

This study explored students' satisfaction levels with the food service attributes of on-campus cafeterias in Kuantan. The results revealed that all five domains, namely food quality, ambience, service quality, price and value fairness, and food variety, significantly correlate with

students' satisfaction levels. The service quality domain has the strongest positive correlation with overall satisfaction, followed by the ambience, food quality, food variety, and price and value fairness. These findings contribute to understanding several food service areas that may need improvement to enhance the students' satisfaction levels with their dining experience on campus.

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