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Research Article

A Qualitative Study of Eating Behaviour among On-Campus Students at a Malaysian Public University

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ABSTRACT

This study explores factors influencing the eating habits of on-campus university students. A qualitative research design using semi-structured interviews was involving eight students residing in on-campus accommodation. Thematic analysis followed Braun and Clarke's reflexive model and identified four main themes, namely limited food variety, convenience, health-consciousness and financial constraints. Meanwhile, food presentation was identified as a sub-theme of the limited food variety theme. Students reported limited food variety due to minimal dining options, leading to repetitive diets and dissatisfaction. Convenience was a key factor, with students choosing foods that were affordable and readily available. Some made health-conscious decisions to reduce unhealthy food intake but simultaneously increased consumption of protein-rich foods like red meat and full-fat dairy—potentially leading to high saturated fat and calorie intake. Financial constraints also played a role, with students often selecting inexpensive, less nutritious options. Hence, food presentation emerged as an important sub-theme and influence, with students showing a preference for colourful and visually appealing meals, regardless of nutritional quality. The findings highlight the need for universities to enhance food variety, accessibility, and affordability. Institutions could collaborate with food vendors to provide rotating menus and coordinate with *zakat* centres to support students financially through subsidised meals. Food and nutrition education should also be implemented to help students make informed dietary choices. Future research should include a more diverse student population to build a broader understanding of these issues.

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INTRODUCTION

Universities that support cultural diversity allow students to embrace new cultures, which contributes to the formation of new identities and social relationships. However, this cultural assimilation can influence food choices, often pushing students to conform to dominant campus norms. This adjustment may lead to unhealthy eating habits and reduced intake of nutritious foods (Alakaam & Willyard 2020; El-Mani *et al.* 2020). Other than that, it negatively affects physical health, academic performance, and overall well-being.

University cafeterias are central to students' dietary practices, offering meals within social, cultural, and economic contexts. According to Alakaam and Willyard (2020), diverse cultural food practices brought to campus shape students' dietary behaviours. Nevertheless, students often rely on food courts, convenience stores, or off-campus takeaways due to limited access to cooking facilities as well as a lack of cooking skills. Although food courts provide convenience, they may not always offer balanced meals (Keat *et al.* 2024). Furthermore, limited budgets and a lack of health awareness often lead

students to purchase cheaper, processed foods (Mensah & Oyebode 2022; Zigmont *et al.* 2021).

Pressures from academic, work, and social commitments reduce students' time and energy for healthy meal planning (Al-Awwad *et al.* 2021; Keat *et al.* 2024). Stress and social pressures contribute to emotional eating, where students eat in response to emotions rather than hunger, often choosing unhealthy options. This can lead to weight gain and further stress. In attempts to meet body image ideals or social expectations, some students adopt unsustainable weight control practices, such as restrictive dieting or extreme fasting (AlShebali *et al.* 2021). A qualitative study conducted by Muniandy *et al.* (2024) among university students in Malaysia revealed that the availability of campus food impacts students' emotional functioning. Unfortunately, the utilisation of online interviews by Muniandy *et al.* (2024) may have restricted data richness by limiting the observation of non-verbal cues and potentially impeding rapport-building with participants.

While some studies argue for the importance of nutrition education to guide healthier food selection (Ferreira *et al.* 2021), behavioural and environmental challenges often persist (Hilger-Kolb & Diehl 2019). Al-Awwad *et al.* (2021) emphasised the need for a multifaceted approach to understanding food choice determinants among university students. Nonetheless, gaps between dining service offerings and the diverse dietary needs of students remain a concern (El-Mani *et al.* 2020). Thus, this study aims to explore the factors shaping the food choices of university students residing at Universiti Teknologi MARA (UiTM) Puncak Alam. Identifying these influences is essential for developing effective interventions that empower students to make informed dietary decisions and promote a healthier campus environment.

METHODS

Design, location, and time

This study employed a qualitative research methodology to explore factors influencing students' dietary intake patterns at UiTM Puncak Alam in April 2024. Semi-structured interviews were conducted to gain an in-depth understanding of on-campus eating behaviours and the social, cultural, economic, and environmental factors shaping students' food choices.

Guided by the constructivist paradigm, which views reality as subjective and shaped by individual experiences and social interactions (Kivunja & Kuyini 2017), this approach allowed the researchers to co-construct knowledge with participants. This paradigm was appropriate given the study's aim to explore students' lived experiences and perceptions. Consequently, ethical clearance was granted by the university's Research Ethics Committee (Ref. No. FPHP/FREC/667/2024).

Sampling

The target population consisted of approximately 11,000 resident students at UiTM Kampus Puncak Alam, Selangor, Malaysia. Purposive non-probability sampling was used to select participants relevant to the study objectives. Note that the participants were undergraduate students aged 20–25 and from different fields of study were selected to capture a range of food-related behaviours. However, students with eating disorders and those not residing on campus were excluded to maintain consistency. Recruitment was conducted through direct approaches at the university café.

Correspondingly, all participants were provided with an informed consent form detailing the study's purpose, procedures, and potential risks and benefits. The research team included graduate students specialising in Foodservice Management, with backgrounds in nutrition and food behaviour studies. The researchers, who shared demographic similarities with the participants, possessed insider knowledge of the campus environment, which likely fostered rapport and openness during the interviews. However, while shared background facilitated rapport, the research team engaged in regular peer debriefings to minimise the risk of interpretive bias.

To further mitigate bias, the researchers maintained a reflexive journal documenting personal reflections and decision-making throughout the study. Other than that, open-ended enquiries and participant-driven dialogues were employed during interviews to ensure that findings authentically represented participants' experiences rather than being influenced by researchers assumptions. This approach helped maintain transparency, strengthen the credibility of the research process, and ensure that the voices of the participants were central to the study's findings.

Data collection

The semi-structured interview guide was reviewed by two academic experts in food and nutrition to ensure content validity and alignment with the study's objectives. Subsequently, the experts evaluated each item for clarity, relevance, and phrasing, and minor revisions were made based on their feedback.

A pilot study was then conducted with two university students who were not included in the final sample. The pilot aimed to assess the clarity, flow, and pacing of the interview process. Correspondingly, feedback from the pilot prompted further refinements to ensure that questions were easy to understand and capable of eliciting detailed, meaningful responses. This step enhanced the consistency and quality of the main data collection process.

Following validation, in-person interviews were conducted using the revised guide. All interviews were conducted in Bahasa Malaysia and later translated into English for reporting. Note that translations were reviewed to ensure semantic equivalence. The interviewer used open-ended questions and probes to support free and in-depth responses. Each interview lasted approximately 30 – 45 minutes and was conducted in quiet on-campus settings to ensure privacy. Key question domains include dietary routines, food purchasing habits, budget constraints, and cultural influences. Prior to participation, informed consent was obtained, and participants were informed of their right to withdraw at any point without consequences. Anonymity was ensured by assigning coded identifiers, and storing audio recordings securely. Furthermore, initial saturation was observed after four interviews. However, the sample was expanded to include a broader academic background to ensure thematic richness and variation, aligning with guidance from Vasileiou *et al.* (2018).

Data analysis

Thematic analysis was conducted manually following Braun and Clarke's (2006) six-phase framework, which involves familiarisation with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report. This approach enabled the identification of recurring patterns and themes that provided comprehensive insights into participants' experiences. Hence, initial coding was conducted independently by two researchers. Themes were then discussed and refined through iterative peer review to ensure analytic consistency. Consequently, manual matrix coding was applied to systematically cross-tabulate themes and participant attributes, allowing a clearer visualisation of patterns and relationships within the qualitative data.

Two strategies were employed to enhance the trustworthiness of the findings: member checking and peer debriefing. Member checking involved sharing the transcribed interviews with selected participants to verify the accuracy and completeness of their accounts. Participants were invited to review their transcripts, clarify their statements, and confirm that their perspectives were accurately captured. Feedback obtained during this process led to minor adjustments, ensuring that participants' intended meanings were preserved and strengthening the credibility of the data.

Peer debriefing was conducted through regular consultations with the research supervisor, an experienced qualitative researchers. These sessions involved critical discussions about the coding process, theme development, and interpretation of results. Peer feedback helped the researchers to challenge assumptions, address potential biases, and maintain analytical rigour. The supervisor's involvement contributed to enhancing the dependability and confirmability of the study's findings.

RESULTS AND DISCUSSION

A total of eight undergraduate students from UiTM Kampus Puncak Alam, aged 21 to 24 and residing on campus for two to five semesters, participated in the study (Table 1). Thematic analysis generated 40 codes grouped into four themes (Table 2): limited food variety, convenience, health factors, and financial constraints. Meanwhile, one sub-theme that is food presentation, was also identified. The emergence of these themes was supported by coded participant quotes.

Themes that influence eating behaviour of on-campus university students

Theme 1: Limited food variety. Two participants shared that their eating behaviours had changed since staying in college, primarily due to limited food variety.

"There is not much food. Every day, the menu is almost similar……. My eating habits

have changed because, at home, I eat what my mother cooks. But here, it is difficult to get the food that I want. So, I just eat whatever food is available. Here, most foods are the same, just that the food was cooked in different methods" (Participant 1, Female, 23).

This shift aligns with findings from Aires *et al.* (2021), highlighting how transitioning to university life often leads to greater independence in food choices. Other than that, the absence of parental supervision and increased autonomy can significantly alter students' eating patterns (Ho *et al.* 2022). Such changes may negatively impact physical and mental health (Lee *et al.* 2021; James *et al.* 2022), cognitive function (Wright *et al.* 2017), and long-term health outcomes (Muscaritoli 2021).

"At home, when we eat rice, we must eat with proteins and vegetables, but here, I seldom eat what I used to eat at home. Here, just rice and fried chicken." (Participant 7, Female, 23).

A few participants reported that there are selections of foods. However, they opted for cheaper food due to financial constraints. Most students reported consuming rice and chicken since chicken is sold at an affordable price. In addition, chicken is considered a versatile protein source.

"I only eat carbohydrate and protein food so that I become fuller. By taking rice and chicken, I can save money…. As a student, I always have financial constraints. Therefore, I must limit my food intake." (Participant 4, Male, 24).

As stated earlier by Participant 1, all cafés sold similar food, but the food was cooked in many styles and methods. This repetitive menu led to dissatisfaction among students. For example, one participant commented:

"The menu is the same every day and doesn't suit my taste." (Participant 1, Female, 23).

Andreassen *et al.* (2021) argued that food diversity influences satisfaction, while Steenson and Buttriss (2020) emphasised its importance for balanced nutrient intake. Without both of them, students risk nutrient deficiencies, potentially affecting their health (Muscaritoli *et al.* 2021). The theme of limited food variety became even more evident in how students responded when their preferred café was closed. Despite the lack of food diversity, students often eat to avoid

Table 1. Profiles of the participants

Participant	Age	Gender	Semester	Field of study	Duration of stay on-campus
P1	23	Female	5	Hotel management	5 semesters
P2	23	Male	4	Gastronomy	2 semesters
P3	23	Female	5	Tourism	3 semesters
P4	24	Male	4	Foodservice management	4 semesters
P5	21	Male	4	Education	4 semesters
P6	23	Male	4	Health sciences	4 semesters
P7	23	Female	5	Education	5 semesters
P8	21	Female	4	Tourism	4 semesters

Table 2. Four key themes emerged from 40 new codes with descriptions of the identified themes

Themes*	Sub-theme	Total codes (40)	Description
I. Limited food variety		2	Participants experienced minimal food options, leading to dissatisfaction with available options.
	Presentation of food	1	Visually appealing and enticing experience of food.
II. Convenience		13	Convenience refers to how proximity to food outlets, ease of access, and food availability.
III. Health factor		12	The various elements that influence a person's overall health and well-being include nutritional components of food, portion size, and health conditions.
IV. Financial constraint		12	Limitations on the ability to spend or access money.

*Factors influence on-campus student's eating behaviour

hunger, reflecting a coping mechanism rather than informed food choices.

"I usually buy chicken rice in this one café, but if it closes, I will buy food in another café instead. It doesn't matter. The food does not taste good, and I do not enjoy eating it. But, still, I eat so that I will not be hungry." (Participant 6, Male, 23).

Even when they changed cafés, students often sought the same food types.

"My choice may not be to find the same food. I may increase the presence of carbohydrates and proteins." (Participant 4, Male, 24).

"If I eat, I will make sure my food has rice, a side dish between chicken or fish and some vegetables." (Participant 7, Female, 23).

The repetition in food choices reflects the broader issue of limited food variety, echoing previous research that highlights the negative impact of limited food environments on student diets (Mensah & Oyebode 2022). Beyond expressing dissatisfaction, students' descriptions of monotonous food options highlight a systemic constraint on food autonomy. This aligns with Al-Awwad *et al.* (2021), who suggested that institutional food systems can perpetuate dietary homogeneity, particularly in resource-limited settings. On the other hand, Wongprawmas *et al.* (2022) proposed that access to nutritional guidance can help mitigate these challenges. Improving the diversity, appeal, and nutritional value of campus food—alongside nutrition education—may enhance students' well-being and dietary choices.

Despite limited food variety, food presentation does influence participants' eating behaviour. Out of eight participants, only one respondent stated that food presentation influenced her eating behaviour.

"I choose only colours that attract attention. For example, if the cafés are selling a similar type of food, I will choose the food sold by the café with the most attractive colour." (Participant 3, Female, 23).

Even with limited variety, food presentation enhances perceived diversity (Mogilner *et al.* 2008), boosts appetite and acceptance (Chen *et al.* 2020) and increases meal satisfaction (Istijanto *et al.* 2023). Zainol *et al.* (2018) found that plate design elements, like colour, shape, and orientation, influence perception, while Kunz *et al.* (2020) noted that food colour signals its healthiness. However, in this study, Participant 3 specifically chose meals based on appealing colours but not aiming for a balanced selection of rice, protein, and vegetables.

Although only one participant mentioned this, it highlights how aesthetics can influence dietary preferences. Yu and Liu (2023) also noted that attractive food enhances consumer perception and satisfaction. However, Martinez-Perez *et al.* (2022) discovered that while presentation affects initial food preferences, long-term eating habits are more strongly shaped by taste, nutrition, and convenience.

Theme 2: Convenience. Convenience emerged as a significant factor influencing participants' eating behaviours, as mentioned by seven out of eight participants. In this context, convenience refers to the ease of accessing quick, readily available food options, regardless of nutritional quality, through nearby dining outlets, takeout, or delivery services that cater to students' busy schedules. The findings revealed that many students consumed food based solely on availability and need, without giving much consideration to the nutritional consequences.

"I do think about the consequences of eating an imbalanced meal, but as a student, I just eat food so that I won't get hungry. I take a lot of rice, although I know that it is not good. Hahaha. Rice does have portions, right? But I just eat it." (Participant 6, Male, 23).

Most participants ate what was sold in the cafeteria, primarily rice and chicken. While this reflects the limited food variety discussed in Theme 1, it also highlights how ease of access shapes student choices. As stated in past studies, students are more likely to purchase food at on-campus cafés due to the accessibility of reasonably priced options (Abraham *et al.* 2018). As a result, students tend to repeatedly consume their favourite food and only go to their preferred café.

"There are many shops in the café. I usually buy chicken rice in this one café, but if it closes, I will buy in another café instead." (Participant 6, Male, 23).

When bored with routine meals, some students opted for convenience store items or used food delivery services.

"If I'm tired of eating at a café, I'll buy at a convenience store or order GrabFood. At the convenience store, I usually buy snacks and bread." (Participant 8, Female, 21).

Others mentioned slight shifts in food choices based on what was available.

"If the shop I always go to is not open, I will go to another shop, but buy a different side dish, and not buy the same side dish from the shop I usually buy from. For example, spicy chicken." (Participant 7, Female, 23).

In addition, several male participants claimed that cost and satiety were also contributing factors (Serhan & Serhan 2019). They will choose food that makes them feel fuller longer, thus reducing their meal expenditure.

"I overeat rice consumption over side dishes to fill my stomach and save money." (Participant 6, Male, 23).

Participants' prioritisation of availability over nutrition may reflect bounded rationality under conditions of time poverty, a phenomenon widely observed among university students managing multiple roles. The theme reflects students' adaptability and preference for readily available options amid academic and time constraints.

Theme 3: Health factor. Health emerged as a significant factor influencing eating behaviour, as reported by six of the eight participants. Moreover, many acknowledged the health consequences associated with dietary habits and shared strategies to improve their eating patterns, such as reducing portion sizes and limiting rice, oily food, and sugary drinks. This aligns with Lee *et al.* (2020), who determined that health awareness fosters healthier food choices among students. However, Keat *et al.* (2024) observed that other factors, including availability, convenience, and cost, often outweigh health concerns. Similarly, taste and price influence eating patterns (Lee *et al.* 2020), while familiarity and affordability may override health priorities (Prada *et al.* 2021).

Meanwhile, those with nutritional literacy can make informed choices, even in restrictive food environments (Wongprawmas *et al.* 2022; Iyassu *et al.* 2024). One participant, who is actively involved in sport-related activities, reported that he increases his protein intake to support his health goals. He is also aware of his body requirements in terms of nutrients and daily calorie intake and avoiding excessive intake of carbohydrates, which can lead to obesity.

"Changes in terms of rice portions: Before, I used to take more rice than side dishes, but now, side dishes are more than rice. This has led to a change in my diet that requires protein to recover the body/muscles……. I also calculate how many calories I need in a day….. I know the importance of nutrients that I need for my daily life" (Participant 5, Male, 21).

The present study suggests that some students made conscious efforts to improve their eating habits due to health awareness. Students reported adopting various dietary strategies to maintain their health, including practising the "Quarter-Quarter Half" (*Suku-Suku Separuh*) concept introduced by the Malaysian Ministry of Health, limiting the intake of sweetened beverages, reducing the consumption of oily foods and rice, practising portion control, and regularly drinking plain water. The inconsistency between health awareness and actual food practices reflects the knowledge-behaviour gap, where cognitive awareness is not always translated into action due to structural and environmental constraints (Iyassu *et al.* 2024).

"Playing an important role because I am aware of the health implications of the food we eat. I do not want to have health problems such as being obese or having high blood pressure. So, if I want to drink, I will drink plain water instead of sweetened beverages." (Participant 3, Female, 23).

"I care about the importance of the nutrients that I need to get in my daily life…. I really consider the implications of food consumption on my health, such as if I consume high carbohydrates in my daily life, it will cause fatness and obesity." (Participant 5, Male, 21).

Nevertheless, students often practice moderation rather than strict avoidance.

"I eat less unhealthy food, but I will only eat it when I want, and I limit my intake." (Participant 4, Male, 24).

In addition to health awareness, existing health conditions were another motivating factor. Some students experience pre-existing health problems that make them cautious of their food intake.

"Yes, because I have health problems …" (Participant 2, Male, 23).

"I have a health problem, so what has changed now is I will reduce the consumption of light food and snacks to ensure the health of my body." (Participant 7, Female, 23).

These findings align with Ljubičić *et al.* (2022), who assessed that health conditions are often associated with dietary change, typically prompted by increased awareness, professional advice, or self-management strategies (Davidson & Scholz 2020; Bouwman *et al.* 2022).

Additionally, health motivation plays a key role in driving healthier food choices (Claessens *et al.* 2023).

In summary, health is a significant factor in shaping students' eating behaviours. Although constrained by affordability and convenience, many participants made intentional dietary adjustments to maintain or improve their health, reflecting a broader trend toward health-conscious eating among college students.

Theme 4: Financial constraints. Financial constraint was the fourth theme identified. Six out of eight participants reported that financial pressure had altered their eating habits. Limited money often leads students to restrict their food intake (Zigmont *et al.* 2021). Hence, the students opt to omit healthy food due to the price and reduce the meal portion.

"I eat rice and chicken, but no vegetables because vegetables are expensive. I always have to cut my food portion." (Participant 2, Male, 23)

"It must have been because usually, I will reduce the portion of food to save money." (Participant 3, Female, 23).

The students also reduce the frequency of food intake.

"Undoubtedly, I used to, as a student, it was normal; I used to eat only once a day, which is at lunchtime only." (Participant 8, Female, 21).

To manage costs, students often sacrifice food quality, avoiding vegetables due to high prices.

"As I said, I usually eat rice, chicken, and omelette and don't eat vegetables. This is because the price of vegetables is expensive and not worth it." (Participant 6, Male, 23).

Besides, processed foods like instant noodles were commonly consumed, especially during financial shortfalls.

"Once, even more so at the end of the semester when I was short of money, I would eat instant noodles." (Participant 6, Male, 23).

Students also reported overeating rice to stay full longer.

"Only once, but as a student, I overeat rice consumption over side dishes to fill my stomach and save money." (Participant 6, Male, 23).

Some students also chose to opt for dietary adjustments or buy certain food items outside campus to save money.

"There are changes based on my selection. At the same time, I want to save money." (Participant 4, Male, 24).

"Ever, there was a change in eating habits among college friends, buying chicken outside the campus and only buying rice in the campus café." (Participant 5, Male, 21).

They are also aware that their peers are facing similar financial challenges.

"I noticed that my friends who want to save rarely buy chicken; they only buy rice, eggs and a little gravy. There are also those who take rice and chicken breast portions and gravy." (Participant 6, Male, 23).

This theme was evident among participants like Participants 2, 3, 4, 5, 6, and 8 who adapted their food choices due to economic limitations. As Penne and Goedemé (2021) explained, social and financial barriers strongly shape students' eating behaviours. Students' strategies, such as skipping meals or reducing food diversity, reflect food insecurity coping mechanisms outlined in the USDA framework. It could also be interpreted through Sen's 'capability approach', where individuals are deprived of income and meaningful choices (Penne & Goedemé 2021).

Zigmont *et al.* (2021) and Powell *et al.* (2021), noted that economic pressures often override nutrition awareness. Even students who are knowledgeable about healthy eating had to forgo nutritious options, such as vegetables (Keat *et al.* 2024). On the other hand, Martinez *et al.* (2021) suggested that subsidised meal programs could reduce the adverse effects of financial strain on food choices. Thus, financial constraints significantly influence students' dietary behaviours, underlining the need for institutional support to mitigate these challenges.

The burden of financial limitations was examined to compromise students' mental well-being (Jessop *et al.* 2020), reducing their attentiveness to health-related needs and shaping unhealthy dietary behaviours. Enhancing the variety, accessibility, and appeal of food options, in tandem with educational and financial support, may foster healthier eating behaviours among university students. Furthermore, cultural background, food familiarity, and early life experiences are crucial in shaping their dietary practices.

CONCLUSION

The findings of this study conclude that student food behaviour is not merely a matter of personal choice but is shaped by institutional,

economic, and psychosocial determinants. Moreover, the relatively small and homogeneous sample size limits the ability to capture diverse food experiences across various cultural, economic, and dietary backgrounds. Thus, caution is warranted as broader inclusion would enrich theme variability. Addressing on-campus dietary challenges thus requires a structural response that integrates nutritional education with systems-level reform in food service delivery.

Future studies should incorporate a broader range of student profiles, including international students, non-residents, and those with specific dietary restrictions. While the study relied solely on student self-reports, future research could explore longitudinal dietary transitions across academic semesters, investigate the perspectives of food providers, or employ mixed methods to triangulate self-reported behaviours with observational and nutritional data. In addition, clear and actionable strategies can be implemented at public universities to enhance food variety and affordability, as well as promote food literacy among students. Simultaneously, the universities can collaborate with food vendors to implement rotational and balanced menus that reflect students' cultural and nutritional needs.

To ensure all students have access to nutritious and balanced meals, the universities can establish subsidised food voucher programmes in coordination with student financial aid or *zakat* centers. Ongoing food literacy campaigns and health promotion programmes can be embedded in university activities, including during the orientation weeks, which can be co-designed with the students. By improving food variety and affordability, coupled with food and nutrition education, universities can serve as a platform to foster healthier dietary habits among students. The experiences they gain during university help enhance their post-university life, improving their well-being and preparedness for future challenges. In conclusion, ensuring the availability of nutritious and high-quality food on campus is essential in supporting students' academic success and co-curricular engagement, as well as contributing to forming well-rounded individuals and future leaders.

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DECLARATION OF CONFLICT OF INTEREST

The authors declared that they have no conflict of interest.

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