

VARIATIONS IN FOOD NORMS AND PRACTICES BY MEAL TIMES AMONG INDIVIDUALS AGED 18-35 IN URBAN INDONESIA: AN ANALYSIS OF THE 2018 INDONESIAN FOOD BAROMETER

Faradiva Tama Dziljian¹, Fildzah Badzlina^{1*}, Helda Khusun^{1,2}, Judhiastuty Februhartanty²

¹Program Studi Gizi, Fakultas Ilmu-Ilmu Kesehatan, Universitas Muhammadiyah Prof. DR. Hamka

²Southeast Asian Ministers of Education Organization, Regional Centre for Food and Nutrition (SEAMEO RECFON)

Email: fildzah.badzlina@uhamka.ac.id

ABSTRACT

The culinary history of Indonesia reflects its rich diversity, influenced by cultural, social, and economic factors. In this context, food norms and practices vary across the country, particularly in terms of food selection and consumption. Food norms refer to cultural expectations and rules surrounding food choices, while food practices include the actual behavior of individuals during consumption. This study aimed to identify, analyze, and understand the differences between food norms and practices based on meal times in urban areas of Indonesia. To achieve this objective, a quantitative method with a cross-sectional design was adopted, utilizing data from the 2018 Indonesian Food Barometer (IFB). The study was conducted in 6 provinces- West Java, East Java, South Sulawesi, West Sumatra, Jakarta, and Bali-, with subjects aged 18 to 35 years. Furthermore, the collected data were analyzed using IBM SPSS statistical software and the McNemar Test. The results showed that there were differences between food norms and food practices at breakfast, lunch, and dinner. In particular, the largest gap occurred at breakfast, where food norms tended to be healthier than actual practices. In addition, consumption patterns at dinner showed a greater influence of social factors compared to other meal times.

Keywords: Eating Habits, Food Norms, Food Practices, Indonesian Food Barometer 2018, Meal Times.

INTRODUCTION

In Indonesia, eating habits are shaped by dynamic social, cultural, and economic changes (Gibney et al., 2018). Meal times in the country are divided into breakfast, lunch, and dinner, typically occurring between 02:00 and 10:00, 12:00 and 14:00, and 17:00 and 00:00 Western Indonesian Time, respectively (Lisetyaningrum et al., 2021). Based on a survey conducted by Putra et al. (2021), 83% and 17% of respondents had breakfast before and after 09:00 Western Indonesian Time, respectively. Differences in mealtime patterns are related to various social and cultural norms in the different regions of the country. Food norms refer to social expectations and rules governing food choices in an individual (Rozi et al., 2023). In Indonesia, rice remains a staple food and is consistently included in every main course, whether breakfast, lunch, or dinner. Approximately 97.7% of Indonesians consume rice daily (Rozi et al., 2023). These norms shaped typical eating behavior, specifically in urban areas,

where the fusion of traditional and modern cultures has increased.

Food practices refer to the actual behavior individuals exhibit during their daily consumption. It is important to acknowledge that food choice is often determined by factors such as convenience and personal preferences (Alimi, 2016). For example, in Indonesia, breakfast often consists of rice with simple side dishes and warm drinks such as coffee or tea (Lisetyaningrum et al., 2021). A study by the Indonesian Food Barometer (2018) showed that 5.2% of adults in the country skipped breakfast, whereas the prevalence among adolescents was higher, ranging from 37% to 58% (Indriasari et al., 2021).

Data from the Indonesian Food Barometer (2018) showed that the majority of Indonesians still chose a complete breakfast menu (full meal), consisting of rice and side dishes. Approximately 48.6% of respondents selected their breakfast menu, while options such as one-dish meals or bread/cereal were less popular (Khusun et al.,

2023). For lunch and dinner, 75.3% and 64.3% of the respondents preferred a full meal, respectively. However, more varied food choices are made available at meal times (Khusun et al., 2023).

This change in eating habits has become evident during the COVID-19 pandemic. Before the pandemic, 80.4% of respondents routinely ate breakfast, which increased to 90.4% during the New Normal (Arinda et al., 2021). This change highlights the importance of adapting eating habits in response to dynamic social conditions. In this context, breakfast is gaining increasing emphasis as a meal to support daily productivity (Panjaitan et al., 2020).

This study aimed to identify, analyze, and understand differences in food norms and practices based on mealtimes (breakfast, lunch, and dinner) in urban areas, specifically in West Java, East Java, South Sulawesi, West Sumatra, Jakarta, and Bali. Specifically, the characteristics of the respondents, such as province, age, gender, residence, ethnicity, occupation, and educational attainment, were identified. The study also explored food norms and practices for each mealtime and analyzed differences based on breakfast, lunch, and dinner.

METHODOLOGY

This study employed a quantitative approach with a cross-sectional design to investigate the differences between food norms and practices during breakfast, lunch, and dinner among individuals aged 18–35 years living in urban areas across six Indonesian provinces. The data used in this study were secondary data sourced from the Indonesian Food Barometer (IFB) 2018. This age range was selected as it represents young adults in a transitional phase, navigating between traditional food values and modern dietary behaviors. Although including older populations could offer a broader perspective, this is acknowledged as a limitation.

Sampling was conducted through random cluster sampling, selecting 11 cities and districts from Jakarta, West Java, East Java, South Sulawesi, West Sumatra, and Bali. After data cleaning and population-weighted adjustments, the final analytical sample comprised 1,665

individuals. Data were collected using structured questionnaires and a 1×24-hour food recall questionnaire. Rather than citing questionnaire codes, food norms were assessed by asking participants direct questions such as “What do you believe is the appropriate type of food for breakfast, lunch, and dinner if you had the time, access, and ingredients?” These questions were designed to capture culturally influenced expectations for each mealtime.

Food practices were assessed based on actual food consumption using a 1×24-hour recall in which respondents detailed everything they had consumed during the previous day. Responses were then categorized into individual food (e.g., instant noodles, composite dishes such as bakso or nasi goreng, packaged snacks, desserts, and home-cooked meals consumed individually) and shared food (e.g., liwetan-style meals, meals eaten together with family or friends, or traditional communal dishes such as Chinese banquet food). This classification allowed for a comparative analysis of whether participants’ mealtime behaviors were aligned with socially accepted food norms.

The list of food categories used in this study was derived from the IFB’s validated instrument, based on nationally representative dietary patterns and qualitative studies in Indonesia. Food types were grouped into categories such as ramesan (rice with multiple side dishes), instant noodles, soups, composite dishes, drinks and add-ons, fast food, and others, each reflecting traditional, convenience-based, or modern food practices commonly found in urban areas.

Data were processed using Microsoft Excel and analyzed using IBM SPSS. Univariate analysis was employed to describe the respondents’ demographic characteristics, including province, age, gender, ethnicity, education, occupation, and residence. Bivariate analysis was conducted using the chi-squared test and McNemar’s test. The McNemar test was specifically chosen for its ability to analyze paired nominal data, making it suitable for assessing the alignment (or incompatibility) between individual food norms and food practices reported by the same person across different meal times.

RESULTS AND DISCUSSION

The characteristics of respondents in this study showed significant variations across variables.

Table 1. Characteristics of Respondents

No	Variable	N	%
1	Province		
	Sumatera Barat	50	22,8
	DKI Jakarta	62	28,3
	Jawa Barat	18	8,2
	Jawa Timur	25	11,4
	Bali	27	12,3
	Sulawesi Selatan	37	16,9
	Total	219	100%
2	City		
	Bandung	18	8,2
	Surabaya	21	9,6
	Lumanjang	4	1,8
	Denpasar	21	9,6
	Klungkung	6	2,7
	DKI Jakarta	62	28,3
	Makassar	31	14,2
	Luwu Timur	6	2,7
	Padang	50	22,8
	Total	219	100%
3	Ethnicity		
	Minangkabau	45	20,5
	Betawi	28	12,8
	Sunda	24	11
	Jawa	41	18,7
	Bali	27	12,3
	Bugis	12	5,5
	Makassar	17	7,8
	Others (Cina, Batak, Papua, dsb)	25	11,4
	Total	219	100%
4	Education		
	Did not graduate from elementary school	3	1,4
	SD	16	7,3
	SMP	29	13,2
	SMA	131	59,8
	D3	17	7,8
	S1	19	8,7
	S2/S3	4	1,8
	Total	219	100%
5	Gender		
	Male	115	52,5
	Female	104	47,5

No	Variable	N	%
	Total	219	100%
6	Age		
	18 years old	4	1,8
	19 years old	17	7,8
	20 years old	10	4,6
	21 years old	10	4,6
	22 years old	8	3,7
	23 years old	12	5,5
	24 years old	7	3,2
	25 years old	13	5,9
	26 years old	7	3,2
	27 years old	8	3,7
	28 years old	13	5,9
	29 years old	14	6,4
	30 years old	20	9,1
	31 years old	14	6,4
	32 years old	18	8,2
	33 years old	10	4,6
	34 years old	17	7,8
	35 years old	17	7,8
	Total	219	100%
7	Occupation		
	Legislators/ Managers	1	0,5
	Professionals	5	2,3
	Technicians	10	4,6
	Administrative staff	10	4,6
	Entrepreneurs	42	19,2
	Fishermen/ Farmers	1	0,5
	Industrial workers	2	0,9
	Machine operators/ Cooks	4	1,8
	Manual workers (Construction workers, laborers, housekeepers, housewives)	15	6,8
	TNI/ Police	4	1,8
	Students	23	10,5
	Housewives	63	28,8
	Drivers	7	3,2
	Not working	20	9,1
	Others	12	5,5
	Total	219	100%

Based on province, the majority were from DKI Jakarta (28.3%), followed by West Sumatra (22.8%) and South Sulawesi (16.9%). Approximately 20.5%, 18.7%, and 12.8% were from the Minangkabau, Javanese, and Betawi ethnic groups, respectively. It is important to acknowledge that most respondents had a high school education (59.8%) and bachelor's degree

questionnaire, which categorizes food types based on commonly consumed meals reported in national food surveys and qualitative studies of Indonesian dietary patterns (Khusun et al., 2023). Additionally, specific food items were classified according to the traditional, packaged, and modern dietary trends observed in urban settings.

The consumption of instant noodles during breakfast was notably higher in practice (4.6%) than in socially accepted norms (1.8%). This discrepancy reflects a broader trend in convenience-based eating, particularly among young urban adults who face time constraints and fast-paced routines. Instant noodles are widely accessible, quick to prepare, and relatively inexpensive, making them a practical option compared to traditional meals that require more preparation. Previous studies have shown that younger populations are more likely to favor processed or ready-to-eat meals because of their lifestyles and exposure to modern food marketing (Watso et al., 2023; Zhou et al., 2021). This shift suggests that, although not traditionally endorsed, such foods have become normalized in urban dietary practices.

Similarly, the frequency of consuming traditional or homemade food (9.1%) exceeded its perception as a normative breakfast choice (0.9%). This finding may indicate that homemade meals,

Table 2. Differences between Food Norms and Food Practices at Meal Times

Food Type	Breakfast				Lunch				Dinner			
	Food Norms		Food Practice		Food Norms		Food Practice		Food Norms		Food Practice	
	n	%	n	%	n	%	n	%	n	%	n	%
Food other than soup	49	22,4	26	11,9	2	0,9	1	0,5	14	6,4	13	5,9
Instant Noodles	4	1,8	10	4,6	3	1,4	6	2,7	5	2,3	23	10,5
Composite menu	17	7,8	24	11	7	3,2	17	7,8	13	5,9	25	11,4
Soup/ Soto	2	0,9	2	0,9	3	1,4	10	4,6	3	1,4	3	1,4
Ramesan	65	29,7	113	51,6	147	67,1	176	80,4	101	46,1	149	68
Drinks and additional food	38	17,4	13	5,9	0	0	0	0	3	1,4	1	0,5
Liwetan	0	0	0	0	2	0,9	0	0	1	0,5	0	0
Shared Food	29	13,2	0	0	49	22,4	0	0	67	30,6	0	0
Padang Food	2	0,9	0	0	5	2,3	0	0	4	1,8	0	0
Chinese Food	0	0	0	0	0	0	0	0	1	0,5	0	0
Fast Food	0	0	2	0,9	0	0	3	1,4	1	0,5	4	1,8
Traditional/ Homemade Food	2	0,9	20	9,1	0	0	0	0	1	0,5	1	0,5
Packaged Food	1	0,5	9	4,1	0	0	0	0	2	0,9	0	0
Total	219	100	219	100	219	100	219	100	219	100	219	100

although not widely acknowledged as a formal or ideal breakfast in modern urban discourse, still serve as a default option for many due to cultural habits or economic necessity (Gibney et al., 2018). Homemade foods are often overlooked in food norm discussions, yet their persistence reflects resilience in cultural practice. In contrast, food categories such as packaged goods, drinks, and side items showed alignment between norms and practices, suggesting societal consistency in defining what constitutes an acceptable supplementary breakfast (Khusun et al., 2023).

Statistical analysis using the McNemar test revealed a significant incompatibility between breakfast norms and practices ($P < 0.001$), indicating an ongoing transition in urban dietary behavior. Notably, 87% of respondents who viewed individual food as the norm also followed it in practice, while 13% who perceived shared food as the norm did not. This suggests a marked shift toward individualistic eating habits, likely driven by urbanization, changing family dynamics, and reduced time for communal meals. Scaglioni et al. (2018) and Kosaka et al. (2018) emphasized that urban environments often discourage shared mealtimes due to differing schedules and increased autonomy, resulting in fragmented dietary routines. As Indonesia continues to urbanize, these findings underscore the importance of exploring how evolving lifestyles shape and sometimes override traditional food norms.

At lunchtime, respondents consumed ramesan more frequently (80.4%) than indicated by food

norms (67.1%), highlighting the differences between social expectations and actual eating habits. The consumption of a composite menu was also higher in practice (7.8%), suggesting that individuals often preferred more varied meals than those prescribed by the norms. While the social norm of eating together (shared food) was relatively high (22.4%), no respondents adhered to this practice. Additionally, despite low norms for instant noodles (2.7%) and soup/soto (4.6%), both food types were still consumed in practice, indicating that convenience and accessibility may play a significant role in food choices.

Bivariate analysis revealed a significant discrepancy between food norms and practices at lunchtime, with the McNemar test results featuring a p-value of <0.001 . Table 2 shows that 77% of the respondents considered individual food as the norm and followed this in practice, while 23% perceived shared food as the norm, yet none adhered to it. This deviation from norms suggests that shifting lifestyles, particularly in urban settings, influence meal structures. According to Scaglioni et al. (2018), urbanization and changing work routines contribute to more individualized eating habits, where people opt for solitary meals because of time constraints and scheduling conflicts. The preference for individual meals may also be associated with increased autonomy in food choices and a modern dining culture, which prioritizes efficiency over traditional social values.

During dinner, respondents ate ramesan more frequently (68%) than suggested by the norms

Table 3. Bivariate Table of Differences in Food Norms and Food Practices at Meal Times

Breakfast							
Food selection		Food Practice					P-Value
		Individual Food		Shared Food		Total	
		n	%	n	%	N	
Food Norms	Individual Food	190	87	0	0	190	<0.001
	Shared Food	29	13	0	0	29	
Lunch							
Food Norms	Individual Food	168	77	0	0	168	<0.001
	Shared Food	51	23	0	0	51	
Dinner							
Food Norms	Individual Food	150	68	0	0	150	<0.001
	Shared Food	69	32	0	0	69	

(46.1%), signifying a stronger preference for this food type during the evening. The consumption of instant noodles at dinner (10.5%) was significantly higher than the norm (2.3%), reflecting the popularity of instant noodles despite their limited acceptance of traditional diets. Furthermore, the norms of eating together were relatively high (30.6%); however, similar to lunchtime, this practice was not followed. The McNemar test confirmed significant differences between food norms and practices at dinner, with a p -value of <0.001 . Table 2 shows that 68% of the respondents considered individual food as the norm and adhered to it, while 32% considered shared food as the norm but did not follow through in practice.

These findings suggest that social norms influence perceptions of proper meal structures, but actual practices do not always align with these expectations. This inconsistency could be attributed to the increasing influence of modern lifestyles, in which convenience and flexibility shape eating behaviors. Zhou et al. (2021) noted that urban dwellers, particularly young adults, prioritize quick and accessible meals, often sacrificing traditional shared meals for practical reasons. For instance, the observed reliance on instant noodles illustrates how economic and time constraints push individuals toward processed and ready-to-eat foods rather than conventional home-cooked meals.

The differences between food norms and practices at lunchtime and dinnertime reflect a broader shift in eating behaviors in urban Indonesia, demonstrating a significant incompatibility between social expectations and real-world practices. Despite social norms favoring shared meals, actual practices frequently lean toward individual eating, likely due to fast-paced urban lifestyles (Scaglioni et al., 2018). According to Social Cognitive Theory (SCT), Social norms influence behavior through observational learning and reinforcement, according to SCT. However, in practical settings, situational factors, such as work schedules, social structures, and convenience-oriented food choices, often override traditional norms.

This inconsistency may have health and nutritional implications, as “non-normal” choices—such as frequent consumption of instant noodles and processed foods—are linked to an

increased risk of Non-Communicable Diseases (NCDs). For example, instant noodles are high in sodium, saturated fats, and preservatives, which can contribute to hypertension, obesity, and cardiovascular diseases if consumed regularly (Watso et al, 2023). Additionally, a decline in shared meals could impact dietary diversity, as individually prepared meals tend to be less varied and nutritionally balanced than communal dishes traditionally served in Indonesian households.

Given these shifts, public health interventions should consider both social and economic factors to bridge the gap between food norms and actual practices (Zhou et al., 2021). Policymakers could promote awareness campaigns that encourage healthier eating habits while considering the modern need for convenience. Workplace and school meal programs can also reinforce communal eating to maintain social bonds and improve nutritional intake.

CONCLUSIONS

In conclusion, this study highlights the significant differences between food norms and actual eating practices, particularly in urban Indonesia. While established norms often promote shared meals, practices tend to lean toward individual consumption, especially at lunchtime and dinnertime. This incompatibility between societal expectations and real-life behavior is evident across all mealtimes, signaling a shift in eating habits that may be influenced by modern lifestyles. To address this issue, it is essential to align eating practices with healthier food norms to reduce the risk of noncommunicable diseases (NCDs). However, further research is needed to explore the specific factors that contribute to these deviations, such as socioeconomic status, psychological influences, and environmental pressures.

Moreover, future studies should examine the role of media, urbanization, and dietary knowledge in shaping food behaviors, providing a more nuanced understanding of why these discrepancies exist. To effectively address the gap between food norms and practices, targeted interventions should be considered, such as nutrition education programs, urban food policies

that promote healthy eating, and school-based initiatives to instill positive food norms in the younger generations. Government involvement is crucial; however, more specific strategies, such as improving access to nutritious food in urban areas, could significantly support healthier eating habits and reduce the risk of diet-related diseases.

ACKNOWLEDGMENT

We would like to express our gratitude to SEAMEO RECFON for the permission to use the 2018 IFB data in this research.

REFERENCES

- Agustina, R., Nadiya, K., Andini, E. A., Setianingsih, A. A., Sadariskar, A. A., Prafiandini, E., Wirawan, F., Karyadi, E., & Raut, M. K. (2020). Associations of meal patterning, dietary quality and diversity with anemia and overweight-obesity among Indonesian school-going adolescent girls in West Java. *PLOS ONE*, 15(4), e0231519. <https://doi.org/10.1371/journal.pone.0231519>
- Alimi, B. A. (2016). Risk factors in street food practices in developing countries: A review. *Food Science and Human Wellness*, 5(3), 141–148. <https://doi.org/10.1016/j.fshw.2016.05.001>
- Antriyandarti, E., Agustono, Rusdiyana, E., & Ani, S. W. (2021). The dynamics of household residence and decision making where to purchase rice in a sustainable development era: A case study in urban and rural Indonesia. *IOP Conference Series: Earth and Environmental Science*, 739(1), 012049. <https://doi.org/10.1088/1755-1315/739/1/012049>
- Arinda, D. F., Fajar, W. I., Sari, D. M., & Yuliarti, Y. (2021). Aktivitas fisik, perilaku kesehatan dan gizi di masa new normal pada pegawai di Indonesia. *Jurnal Pangan Kesehatan Dan Gizi Universitas Binawan*, 1(2), 9–19. <https://doi.org/10.54771/jakagi.v1i2.154>
- Gibney, M., Barr, S., Bellisle, F., Drewnowski, A., Fagt, S., Livingstone, B., Masset, G., Varela Moreiras, G., Moreno, L., Smith, J., Vieux, F., Thielecke, F., & Hopkins, S. (2018). Breakfast in Human Nutrition: The International Breakfast Research Initiative. *Nutrients*, 10(5), 559. <https://doi.org/10.3390/nu10050559>
- Khusun, H., Anggraini, R., Februhartanty, J., Mognard, E., Fauzia, K., Maulida, N. R., Linda, O., & Poulain, J.-P. (2023). Breakfast Consumption and Quality of Macro- and Micronutrient Intake in Indonesia: A Study from the Indonesian Food Barometer. *Nutrients*, 15(17), 3792. <https://doi.org/10.3390/nu15173792>
- Kim, H. J., & Kim, K. W. (2023). Beliefs, self-efficacy, subjective norms, and eating behaviors according to the breakfast frequency among female university students in South Korea. *Nutrition Research and Practice*, 17(6), 1170. <https://doi.org/10.4162/nrp.2023.17.6.1170>
- Kosaka, S., Suda, K., Gunawan, B., Raksanagara, A., Watanabe, C., & Umezaki, M. (2018). Urban-rural difference in the determinants of dietary and energy intake patterns: A case study in West Java, Indonesia. *PLOS ONE*, 13(5), e0197626. <https://doi.org/10.1371/journal.pone.0197626>
- Lisetyaningrum, I., Pujasari, H., & Kuntarti. (2021). A Cross-Sectional Analysis of Snacking Habits, Eating Habits, Physical Activity, and Indicators of Obesity among High School Students in Jakarta, Indonesia. *Journal of Public Health Research*, 10(1_suppl), jphr.2021.2402. <https://doi.org/10.4081/jphr.2021.2402>
- Panjaitan, B., Tobing, K. N., & Harahap, S. (2020). Penyuluhan manfaat sarapan di smk yapim sei rotan medan. *Jurnal Abdimas Mutiara*, 1(1), 82–88.
- Putra, A., Syafira, D. N., Maulyda, S., & Cahyati, W. H. (2018). Kebiasaan Sarapan pada Mahasiswa Aktif. *HIGEIA (Journal of Public Health Research and Development)*, 2(4), 577–586. <https://doi.org/10.15294/higeia.v2i4.26803>
- Rozi, F., Santoso, A. B., Mahendri, I. G. A. P., Hutapea, R. T. P., Wamaer, D., Siagian, V., Elisabeth, D. A. A., Sugiono, S., Handoko, H., Subagio, H., & Syam, A. (2023). Indonesian market demand patterns for food commodity sources of carbohydrates in facing the global food crisis. *Heliyon*, 9(6), e16809. <https://doi.org/10.1016/j.heliyon.2023.e16809>
- Rustiadi, E., Pravitasari, A. E., Setiawan, Y., Mulya, S. P., Pribadi, D. O., & Tsutsumida, N. (2021). Impact of continuous Jakarta megacity urban expansion on the formation of the Jakarta-Bandung conurbation over the rice farm regions. *Cities*, 111(3), 103000. <https://doi.org/10.1016/j.cities.2020.103000>
- Saragih, B., & Saragih, F. M. (2020). Gambaran Kebiasaan Makan Masyarakat pada Masa Pandemi Covid-19. *Research Gate*, 19, 1–12.

- Scaglioni, S., De Cosmi, V., Ciappolino, V., Parazzini, F., Brambilla, P., & Agostoni, C. (2018). Factors Influencing Children's Eating Behaviours. *Nutrients*, 10(6), 706. <https://doi.org/10.3390/nu10060706>
- Watso, J. C., Fancher, I. S., Gomez, D. H., Hutchison, Z. J., Gutiérrez, O. M., & Robinson, A. T. (2023). The damaging duo: Obesity and excess dietary salt contribute to hypertension and cardiovascular disease. *Obesity Reviews*, 24(8), e13589.
- Zhou, C., Li, M., Liu, L., Zhao, F., Cong, W., & Zhang, F. (2021). Food Consumption and Dietary Patterns of Local Adults Living on the Tibetan Plateau: Results from 14 Countries along the Yarlung Tsangpo River. *Nutrients*, 13(7), 2444. <https://doi.org/10.3390/nu13072444>