

Satisfaction Levels and Eating Behavior of Students at SMPN 2 Gondang Tulungagung Toward the Free Nutritious Meal Program (MBG)

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Abstract

The Free Nutritious Meal Program (MBG), launched nationally in January 2025 under Presidential Regulation No. 83 of 2024, is a government strategy to improve student nutrition and accelerate stunting reduction in Indonesia. This study aimed to describe student satisfaction levels and eating behavior patterns, and to analyze the relationship between satisfaction and students' perceived eating behavior changes at SMPN 2 Gondang, Tulungagung. A quantitative cross-sectional design was employed with a single data collection point. Of 719 students Classes VII–IX, 258 were selected via stratified random sampling Slovin formula, $e=5\%$, Class VII $n=90$, Class VIII $n=87$, Class IX $n=80$. A structured questionnaire was used. Section B measured satisfaction across six aspects (food taste/appearance, portion/adequacy, menu variety/nutrition, service/timeliness, hygiene/food safety, and overall satisfaction) using a 4-point Likert scale; Section C measured current eating behavior (C.1–C.4: meal frequency, vegetable/fruit, protein intake, snacking habits) and students' self-reported perception of behavior changes since joining MBG (C.5). Data were analyzed using descriptive statistics and Spearman correlation ($\alpha=0.05$). Results showed 77.9% of students were satisfied overall (mean=3.07). Highest satisfaction was on hygiene/food safety (mean=3.42); lowest on menu variety (mean=2.71). Eating behavior was generally positive: 53.3% regularly had lunch every day and 50.2% always finished the protein served. Snacking habits and fruit consumption remained suboptimal. Students' self-reported perception indicated positive behavior changes since MBG, most strongly for lunch regularity (mean=3.24). A moderate positive correlation was found between total satisfaction and perceived behavior change ($r=0.41$, $p<0.001$). Menu diversity improvement and local food adaptation are the primary areas requiring intervention..

1. Introduction

Nutritional problems among school-aged children in Indonesia remain a serious challenge that impacts growth, cognitive development, and long-term productivity. Data from the 2024 Indonesian Nutritional Status Survey (SSGI) recorded a national stunting prevalence of 19.8%, which is still far from the 2020–2024 RPJMN target of 14% (Kementerian Kesehatan RI, 2025; Kementerian PPN/Bappenas, 2020). Additionally, as many as 32% of adolescents aged 15–24 experience iron deficiency anemia, which directly affects their learning capacity (Kementerian Kesehatan RI, 2024). Malnutrition during growth periods has been proven to reduce academic achievement and adult productivity by up to 14% (Bundy et al., 2009), making school-based nutritional interventions an urgent and strategic necessity.

In response to these conditions, the government launched the nationwide Free Nutritious Meal (MBG) Program starting January 6, 2025, based on Peraturan Presiden Nomor 83 Tahun 2024 tentang Badan Gizi Nasional (BGN) (Pemerintah Republik Indonesia, 2024). This program targets 17,980,263 beneficiaries through Satuan Pelayanan Pemenuhan Gizi (SPPG) spread across Indonesia (Kementerian Keuangan RI, 2025). Each portion of MBG is designed to contain staple foods, animal protein, plant-based protein, and vegetables. International research proves that quality school feeding programs increase attendance, learning participation, and improve students' nutritional status (Bundy et al., 2009; Jomaa et al., 2011).

A comprehensive evaluation of the program needs to include beneficiary satisfaction levels and an overview of students' eating behavior during the program (Oliver, 1997; Guio, 2023). However, empirical research on the satisfaction and eating behavior of junior high school students in rural areas within the context of the MBG program remains highly limited (Maharani & Chairunnisa, 2024; Khasanah et al., 2025).

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This study aims to: (1) describe the satisfaction level of students at SMPN 2 Gondang Tulungagung toward the MBG program based on six aspects; (2) illustrate students' eating behavior during the MBG program; and (3) analyze the relationship between satisfaction and students' perceptions of changes in eating behavior since participating in the MBG program.

2. Method

This study utilizes a quantitative approach with a cross-sectional design and a single time-point data collection. The research was conducted at SMPN 2 Gondang, Gondang District, Tulungagung Regency, East Java, in 2026. This school was selected because it has consistently implemented the MBG program since January 2025 and represents the characteristics of a junior high school in a rural area with a diverse socioeconomic background among its students.

The study population comprised all active students enrolled at SMPN 2 Gondang Tulungagung for the 2025/2026 academic year, totaling 719 students: Grade VII (252 students), Grade VIII (243 students), and Grade IX (224 students). Sample size was calculated using the Slovin formula with a margin of error (e) = 5% and a 95% confidence level:

$$n = N / (1 + N \times e^2) = 719 / (1 + 719 \times 0.05^2) = 719 / 2.7975 = 258 \text{ respondents}$$

Sampling used proportional stratified random sampling per grade (Sugiyono, 2019): Grade VII = $(252/719) \times 258 = 90$ students; Grade VIII = $(243/719) \times 258 = 87$ students; Grade IX = $(224/719) \times 258 = 80$ students; totaling 257 students (proportional rounding). Inclusion criteria: active students who had participated in MBG for at least one month and provided signed informed consent. Exclusion criteria: students absent during data collection or following a special diet on medical advice.

Data were collected using a structured questionnaire consisting of three sections. Section A: respondent identity data including grade, sex, age, daily pocket money, duration of MBG participation, and frequency of MBG receipt per week. Section B: satisfaction with MBG, measured on a 4-point Likert scale (1=very dissatisfied, 4=very satisfied) across 23 items in six domains: food taste and appearance (4 items), portion size and adequacy (4 items), menu variety and nutritional content (4 items), service and timeliness (4 items), hygiene and food safety (4 items), and overall satisfaction (3 items). Section C: student eating behavior, consisting of a current eating behavior frequency subscale (C.1–C.4, 16 items, Never/Rarely/Often/Always scale) and a students' self-reported perception of eating behavior changes since MBG (C.5, 5 items, 4-point Likert scale). Validity testing (r calculated $> r$ table = 0.361) and reliability testing (Cronbach's Alpha Section B = 0.86; Section C = 0.81) were conducted on 30 students outside the sample (Nunnally, 1978).

Data were analyzed using SPSS version 26.0 through: (1) Descriptive analysis to describe respondent characteristics, distribution of satisfaction scores per domain, and eating behavior profiles (C.1–C.4), with satisfaction score categorization as follows: 1.00–1.50 = very dissatisfied; 1.51–2.50 = dissatisfied; 2.51–3.50 = satisfied; 3.51–4.00 = very satisfied (Riduwan, 2015). Subscale C.5 was analyzed descriptively as students' self-reported perception, not as a pre-post change measurement. (2) Spearman correlation to analyze the relationship between total satisfaction scores (Section B) and perceived eating behavior change scores (C.5), with correlation strength interpreted as: weak $r < 0.30$; moderate $0.30 \leq r < 0.50$; strong $r \geq 0.50$ (Cohen, 1988). Significance level $\alpha = 0.05$.

3. Result and Discussion

3.1 Respondent Characteristics

Of 258 questionnaires distributed, 257 were completed and analyzable (response rate 99.6%). Respondent distribution is presented in Table 1.

Table 1. Respondent Characteristics (n=257)

Characteristic	n	%
Grade VII	90	35.0
Grade VIII	87	33.9
Grade IX	80	31.1
Sex: Female	134	52.1
Sex: Male	123	47.9
Daily pocket money ≤ IDR 5,000	38	14.8
Daily pocket money IDR 5,001–IDR 15,000	176	68.5
Daily pocket money > IDR 15,000	43	16.7
Duration in MBG: < 1 month	13	5.1
Duration in MBG: 1–3 months	53	20.6
Duration in MBG: > 3 months	191	74.3
MBG frequency: 1–2 days/week	14	5.4
MBG frequency: 3–4 days/week	33	12.8
MBG frequency: 5 days/week	210	81.7

The majority of respondents (74.3%) had participated in the MBG program for more than 3 months, and 81.7% received it every school day. This high duration and frequency of participation provides a solid basis for respondents to offer representative assessments of the program (Guio, 2023).

3.2 Student Satisfaction with the MBG Program

Overall, 77.9% of students reported being satisfied or very satisfied with the MBG program. The mean total satisfaction score was 3.07 (SD=0.38), falling within the “satisfied” category. Table 2 presents mean satisfaction scores per domain.

Table 2. Mean Satisfaction Scores per Domain (n=257)

Satisfaction Domain	Mean	SD	Category
B.1 Food Taste and Appearance	2.98	0.51	Satisfied
B.2 Portion Size and Adequacy	3.15	0.44	Satisfied
B.3 Menu Variety and Nutritional Content	2.71	0.57	Satisfied
B.4 Service and Timeliness	3.21	0.42	Satisfied
B.5 Hygiene and Food Safety	3.42	0.39	Very Satisfied

B.6 Overall Satisfaction	3.18	0.46	Satisfied
Total Satisfaction Score	3.07	0.38	Satisfied

The hygiene and food safety domain received the highest score (mean=3.42; very satisfied). Students felt safe consuming MBG meals and reported no physical complaints after eating, reflecting the implementation of sound hygiene standards by SPPG units (Ministry of Finance of the Republic of Indonesia, 2025). The service and timeliness domain was also rated positively (mean=3.21), indicating consistent distribution regularity and staff courtesy.

In contrast, the menu variety and nutritional content domain received the lowest score (mean=2.71), although still within the “satisfied” category. Approximately 31.5% of students considered MBG menus insufficiently varied from day to day. This is consistent with the findings of Guio (2023), who noted that menu diversity is the most challenging dimension in school feeding programs, as it requires ongoing adaptation to local food cultural preferences (Guio, 2023). The food taste and appearance domain (mean=2.98) also warrants attention, with 28.4% of students reporting that menus occasionally did not suit their tastes, particularly menus less familiar with the local food culture of Tulungagung (Maharani & Chairunnisa, 2024).

The overall satisfaction distribution was: very satisfied 18.7%, satisfied 59.2%, dissatisfied 18.2%, and very dissatisfied 3.9%. The dissatisfaction rate of 22.1% indicates a clear area for improvement to sustain students’ dietary compliance over the long term (Jomaa et al., 2011).

3.3 Student Eating Behavior Profile During MBG Participation

This section describes students’ current eating behavior based on subscale C.1–C.4 data collected at a single time point. These data reflect the eating behavior conditions of students during MBG participation, not a pre-post program comparison.

Table 3. Student Eating Behavior Profile During MBG Participation (n=257)

Eating Behavior Indicator	Never (%)	Rarely (%)	Often (%)	Always (%)
C.1 Three meals per day	3.5	12.1	38.9	45.5
C.1 Breakfast before school	8.9	21.4	34.2	35.4
C.1 Regular lunch every day	2.3	8.6	35.8	53.3
C.1 Family dinner	4.7	19.5	42.0	33.9
C.2 Vegetable consumption in meals	3.1	18.3	42.8	35.8
C.2 Fruit consumption	7.8	34.6	38.9	18.7
C.2 Finishing vegetables in MBG	5.4	22.6	41.3	30.7
C.2 Vegetable consumption outside MBG	6.2	29.6	43.6	20.6
C.3 Animal-source protein daily	4.7	16.3	39.7	39.3
C.3 Plant-source protein daily	2.3	12.1	44.0	41.6
C.3 Finishing protein in MBG	1.9	9.3	38.5	50.2

C.3 Milk/dairy consumption	14.4	38.5	31.1	16.0
C.4 Buying snacks at school canteen/stall	9.7	28.4	39.3	22.6
C.4 Packaged snacks >1x/day	18.7	41.2	29.6	10.5
C.4 Packaged sweetened beverages daily	22.6	38.5	28.0	10.9
C.4 Buying food outside during MBG hours	31.9	44.7	17.9	5.4

Students' overall eating behavior profile demonstrated a reasonably positive pattern in terms of main meal frequency and protein consumption. A total of 53.3% of students had regular lunch every day—a higher proportion than those who always ate breakfast (35.4%)—suggesting that MBG availability plays a role in structuring students' lunchtime regularity. Protein intake was also adequate, with 50.2% of students always finishing the protein served in MBG and 41.6% routinely consuming plant-source protein daily.

Regarding vegetable consumption, 35.8% of students always consumed vegetables in their meals, and only 30.7% always finished the vegetables served in MBG. This pattern indicates that vegetables remain a less preferred food component among students, consistent with the general tendency of Indonesian adolescents to have lower vegetable preferences compared to protein-rich dishes (Story et al., 2002). Fruit consumption was the lowest, with only 18.7% of students regularly consuming fruit daily, while 34.6% were categorized as rarely consuming fruit. This warrants attention given the recommendation of at least 2–3 fruit servings per day for adolescents (Ministry of Health of the Republic of Indonesia, 2024).

Regarding snacking habits, the data presented an encouraging yet cautionary picture. On the one hand, 31.9% of students reported never buying food outside during MBG meal hours, and 44.7% rarely did so, suggesting that MBG is reasonably effective in meeting students' lunchtime nutritional needs at school. On the other hand, 10.5% of students still consumed packaged snacks more than once a day and 10.9% consumed packaged sweetened beverages daily. Although the proportions are small, excessive consumption of ultra-processed foods and beverages among adolescents remains a risk for excessive intake of sugar, fat, and sodium (Mikkilä et al., 2005). Milk and dairy consumption was also low (only 16.0% always), whereas calcium from dairy is important for bone development during adolescence (Ministry of Health of the Republic of Indonesia, 2024).

3.4 Students' Perceived Eating Behavior Changes Since MBG

Subscale C.5 measured students' self-reported perceptions of changes in eating behavior since joining the MBG program. As data were collected at a single time point, these results reflect students' subjective assessments rather than objective pre-post measurements. Table 4 presents the descriptive distribution of perceived eating behavior change scores.

Table 4. Students' Perceived Eating Behavior Changes Since MBG — C.5 (n=257)

Perceived Behavior Change Item (C.5)	Mean	SD	Category
More regular lunch since MBG	3.24	0.61	Agree
More accustomed to eating vegetables since MBG	2.97	0.68	Agree
Less frequent unhealthy snacking since MBG	2.78	0.72	Agree

MBG helps meet nutritional needs at school	3.41	0.52	Strongly Agree
MBG has a positive impact on my eating habits	3.19	0.58	Agree
Mean Total Score C.5	3.12	0.49	Agree

All perceived behavior change items yielded mean scores above 2.50 (agree/satisfied category), indicating that students subjectively perceived positive impacts of the MBG program on their eating behavior. The strongest perceptions were for “MBG helps meet nutritional needs at school” (mean=3.41) and “more regular lunch” (mean=3.24), consistent with the actual behavioral profile in C.1 where 53.3% of students reported eating lunch regularly every day (Khasanah et al., 2025).

The lowest perceived change was for “less frequent unhealthy snacking since MBG” (mean=2.78). Although still in the positive (agree) category, this value indicates that the substitution effect of MBG on snacking habits was not strongly perceived by all students, consistent with C.4 data showing persistent snacking behaviors. The peer social influence on adolescent snacking cannot be addressed through nutritious meal provision alone, but requires additional integrated nutrition education (Story et al., 2002; Güngör et al., 2022). It must be emphasized that C.5 data represent self-reported perceptions and are therefore susceptible to social desirability bias; longitudinal studies are needed to objectively measure behavioral change.

3.5 Students’ Perceived Eating Behavior Changes Since MBG

Spearman correlation results indicated a significant positive relationship between total satisfaction scores (Section B) and perceived eating behavior change scores (C.5): $r = 0.41$, $p < 0.001$. Based on Cohen’s (1988) criteria, this correlation is classified as moderate. This means that students who reported higher satisfaction with various aspects of the MBG program tended to perceive greater positive changes in their eating behavior subjectively (Cohen, 1988).

This finding supports Oliver’s (1997) satisfaction theory, which holds that positive evaluation of service quality promotes greater program acceptance, which in turn is reflected in greater perceived positive impact (Oliver, 1997). Practically, this result affirms that improving the lower-scoring satisfaction domains—particularly menu variety (mean=2.71) and food taste (mean=2.98)—has the potential to strengthen students’ perceived positive impact and encourage more optimal consumption. Similar research in the European context also found that student satisfaction with school menu quality is a significant predictor of better food consumption (Guio, 2023).

4. Conclusion

This study concludes that the MBG program at SMPN 2 Gondang Tulungagung is generally running well and providing positive impacts for students. A total of 77.9% of students expressed satisfaction (total mean = 3.07, satisfied category). The highest satisfaction was achieved in the hygiene and food safety domain (mean=3.42), while menu variety received the lowest score (mean=2.71) and remains the primary area for improvement. The eating behavior profile of students during MBG participation demonstrated good lunchtime regularity (53.3% always regular) and adequate protein consumption (50.2% always finishing MBG protein), while fruit and dairy consumption still require improvement. In terms of self-reported perceptions, students felt positive changes in their eating behavior since joining MBG, particularly in lunchtime regularity and meeting nutritional needs at school (C.5 mean = 3.12). A significant moderate positive correlation was found between total satisfaction and perceived eating behavior change ($r=0.41$, $p<0.001$), indicating that improvements in program quality could directly strengthen the impact perceived by students.

Based on these findings, the following recommendations are proposed: (1) development of a more varied menu cycle based on Tulungagung local food to improve student acceptance; (2) integration of nutrition education within MBG implementation to reinforce behavioral change, particularly regarding fruit, vegetable, and dairy consumption; (3) regular monitoring of student satisfaction as a program evaluation system at the school level; and (4) further research using longitudinal or quasi-experimental designs to objectively measure eating behavior change, given the limitations of the cross-sectional design which only yields perceptual data at a single time point.

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