

**Students' Perceptions of Free Nutritious Meals and Their Association with Health and Activity**Ahsanul Akbar^{1*}, Lalu Erpan Suryadi², Herman Afrian³, Didik Daniyantara⁴¹²³⁴Physical Education Study Program, Faculty of Education, Hamzanwadi University, West Nusa Tenggara, Indonesia**Keywords**

Free nutritious meal
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Vocational students;
physical activity; PE;
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perception

Abstract

Adequate nutrition is essential for adolescents' health and participation in physical activity. In 2025, Indonesia introduced the Free Nutritious Meal Programme (FNMP) to improve students' nutritional status; however, evidence about students' perceptions of the programme especially in vocational health schools implementing midday meal distribution remains limited. This study explored Grade XI students' perceptions of the FNMP programme and examined links with perceived health and engagement in Physical Education, Sport, and Health (PE) lessons. Using a descriptive qualitative design, eight students were purposively sampled, with a PE teacher and the school principal serving as key informants. Data collection involved semi structured interviews, participatory observation, and document review. Analysis followed Miles, Huberman, and Saldaña's interactive model, with source and technique triangulation. Findings show students held positive cognitive and affective perceptions of FNMP, reporting associations with improved physical fitness, reduced fatigue, enhanced concentration, and increased participation in PE activities. The results suggest students' perceptions operate as a mechanism connecting programme implementation to health improvements and ongoing physical activity engagement. These qualitative findings support the FNMP programme's effectiveness in vocational health school settings and offer practical insights for strengthening future school-based nutrition policies and implementation strategies.

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INTRODUCTION

Health represents an essential human condition that significantly impacts an individual's capacity for fruitful participation, in both social and economic realms (Kementerian Kesehatan Republik Indonesia, 2021). Nutrition serves as one of its essential components, and inadequate nutritional status persistently undermines physical and cognitive growth, especially among children and adolescents (Neda et al., 2023; Nuryadin et al., 2022). In response, the World Health Organization and UNICEF have positioned school-based nutrition interventions as a key promotive and preventive strategy within their global nutrition targets, which include reducing stunting, anemia, and wasting among school-age populations (Rahmah et al., 2025). International evidence consistently supports this approach: a meta-analysis by Wang et al. (2021) covering students aged 6-19 in developing countries found that school feeding programmes significantly improved attendance and cognitive performance, while a systematic review by Cohen et al. (2021) reported that universal free school meal policies were associated with better diet quality without the increased obesity risk that critics often anticipate. Community-level evidence further affirms that combined dietary and physical activity interventions in schools yield measurable improvements in student wellbeing (Buchanan et al., 2023; Alderman et al., 2024).

Within this global momentum, Indonesia introduced the Free Nutritious Meal Programme (Makan Bergizi Gratis/FNMP) in 2025 as a flagship national policy, targeting more than 82 million beneficiaries and allocating substantial state resources toward its implementation (Merlinda & Yusuf, 2025). Beyond food provision, the programme is intended to strengthen public awareness of healthy dietary habits and to support the development of quality human resources, as argued by Desiani and Syafiq (2025) and Wulandari et al. (2025), in line with the national education vision of empowering Indonesian citizens to become productive and adaptive individuals (Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional, 2003). This policy responds to a pressing domestic reality: although the national stunting prevalence has declined to 19.8% according to the 2024 Indonesian Health Survey, malnutrition among school-age adolescents remains as high as 38.3%, with long-term consequences for growth and disease risk (Kementerian Kesehatan Republik Indonesia, 2024). For vocational secondary schools specifically, the Badan Gizi Nasional (2025) has established a distribution scheme in which meals are provided at midday rather than during breakfast, raising an underexplored question of how a delayed feeding schedule interacts with students' subsequent engagement in physical and academic activities.

Recent studies in Indonesia have begun to document the early results of the programme. Student attendance increased and malnutrition rates decreased following the program's implementation (Qomarrullah et al., 2025). A controlled experiment at SMK Negeri 6 Medan after 24 days of program operation indicated improvements in attendance and nutritional intake of underprivileged youngsters. Further evaluation was needed to determine long-term learning results (Tambunan et al., 2025). Desiani and Syafiq (2025) carried out a complete study of the plan and validated its overall effectiveness in improving children's nutritional health. The program was also associated with better attentiveness in the classroom at the elementary level (Rozak et al., 2025). All studies reveal measurable results from the FNMP training. Most research is performed in elementary or general secondary school settings and is mostly quantitative, short-term and outcome-based measurements.

What is still not well enough understood is the subjective dimension of programme implementation: how students see, interpret and respond to the programme themselves, and how this impression translates into sustained involvement and behavioural outcomes. This gap is especially apparent in vocational health schools where students are educated in health-related competences and expected to internalise health-promoting habits, but qualitative research from such a specific educational track is lacking. Similarly, it is still unclear how a midday distribution schedule, which is different from the breakfast-based models considered in most of the previous literature, affects the cumulative nutritional and behavioural outcomes observed the next day, including in Physical Education, Sport, and Health (PE) lessons where physical readiness is directly relevant (Yan et al., 2024).

This gap is addressed in the current study by qualitatively exploring students' perceptions of the FNMP programme as a possible mechanism between policy implementation and health outcomes and physical activity engagement. The case of a vocational health school, where the programme has been implemented since early 2025, forms the basis of this study. This approach provides a new way of understanding the role of cognitive and affective perception, rather than dietary intake alone, in explaining heterogeneity in student involvement and the subsequent implications on physiological health and physical activity. The urgency of this question is reinforced by the broader objective of PE which is not only to train the body, but also to educate holistically, including nutrition and energy management for daily activity (Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional, 2003). Understanding this mechanism is not only important to assess the effectiveness of the FNMP programme in vocational education, but also to inform more comprehensive policy refinement based on evidence that reduces long-term health risks such as obesity and metabolic syndrome in adolescents (Zulfikar et al., 2025).

Therefore, this study aims to find out students' perceptions of the implementation of the Free Nutritious Meal Programme including the midday distribution schedule; to determine students' perceptions of the benefits of the Free Nutritious Meal Programme for their health; and to analyze the relationship between the students' perceptions of the Free Nutritious Meal Programme and their physical activity engagement especially in PE lessons at SMK Kesehatan NW Teros.

METHODS

This study employed a descriptive qualitative approach to provide a comprehensive understanding of students' perceptions of the Free Nutritious Meal Programme (FNMP) and the meanings they attributed to their participation in the programme. The study was grounded in a constructivist (interpretivist) paradigm, which seeks to understand how individuals interpret and construct meaning from their experiences within their natural social context. In this approach, the researcher served as the primary instrument of data collection, data were gathered through triangulation, and analysis was conducted inductively to generate rich descriptions and interpretations rather than statistical generalisations (Sugiyono, 2023; Creswell & Creswell, 2023). The descriptive qualitative design was considered appropriate because it enabled a holistic understanding of participants' lived experiences without aiming to develop a new theory, thereby differing from phenomenological or grounded theory approaches (Creswell & Creswell, 2023).

The study was conducted at SMK Kesehatan NW Teros, a private vocational school located in Labuhan Haji, East Lombok, West Nusa Tenggara, Indonesia. This school was selected because it has implemented the FNMP programme since early 2025 and applies a midday meal distribution schedule. Data were collected during the second semester of the 2025/2026 academic year, allowing the researcher to obtain information about the ongoing implementation of the programme and students' real-time feedback within the natural school setting (Creswell & Creswell, 2023).

Participants were selected through purposive sampling and consisted of eight Grade XI students who were active recipients of the FNMP programme and participated in Physical Education, Sport, and Health (PE) activities. Two supporting informants, a Physical Education teacher and the school principal, were included to enrich and triangulate the students' perspectives. Secondary data sources such as beneficiary lists, food delivery schedules, attendance records, and activity images were used to offer contextual and administrative validation of the core data.

Three strategies were used for data collecting. Students' perspectives, views, and experiences regarding the implementation of the programme were explored through semi-structured in-depth interviews guided by an interview protocol; however, participants were free to elaborate on their personal experiences (Sugiyono, 2023). Moderate participatory observation was conducted to collect real-life behaviours and actions in relation to programme implementation. This enabled the researcher to catch information that are unlikely to arise from interviews alone (Creswell & Creswell, 2023). Documentation in the form

of beneficiary records, distribution schedules, health notes and activity images was used to gather supporting material to reinforce the authenticity of the interview and observation data.

Data were analysed using the interactive model of Miles, Huberman, and Saldaña, which consists of four components: data collection, data reduction, data display, and conclusion drawing/verification (Sugiyono, 2023). During the data reduction, raw data were classified into theme groupings, which were indicative of student perspective, health repercussions and impacts of physical exercise. The findings were then summarised in systematic narrative descriptions to facilitate interpretation. They were then systematically checked against incoming data until no further inconsistencies were found. Source and technique triangulation assured the validity of data. Triangulation of sources was made by comparing the data received from the student interviews with the data obtained from the Physical Education instructor and the school principal. The technique triangulation was done by comparing the findings of interviews with the results of observations and photographic documentation to check the consistency of the data source (Sugiyono, 2023).

RESULTS AND DISCUSSION

The data were gathered from interviews with 10 informants 8 class XI students (AAR, SAA, AA, FGP, NAS, MAR, NS, LHP) as key informants and a Physical Education teacher (MKA) and the school administrator (FTH) as supporting informants along with field observation and recording. The findings are structured around the three research objectives, which are students' impressions of the FNMP program, its relevance to students' health, and its relationship to physical activity involvement.

Students' Perceptions of the Free Nutritious Meal Programme

Field observation indicated that homeroom teachers routinely explained the purpose of the FNMP programme to students before each distribution session, consistently linking it to national concerns about child nutrition and stunting. This structured socialisation was reflected in students' own accounts. Most informants understood the programme primarily as a means of meeting nutritional needs, with some extending this understanding to its socio-economic function. As informant FGP explained, "this programme is meant to meet children's nutritional needs while also easing the family's economic burden." This socio-economic framing was uncommon among the students interviewed, suggesting that perception of the programme's purpose varied in depth even where basic understanding was shared. The Physical Education teacher's account added a critical layer largely absent from student responses: "some students still see the FNMP programme merely as free food, without fully understanding its role in improving their long-term nutritional status" (MKA). This discrepancy between operational awareness and deeper health literacy is a notable finding: it indicates that programme socialisation, while consistently delivered, has not uniformly translated into comprehensive nutritional understanding among all recipients.

Students' affective responses toward the programme were uniformly positive. Beyond satisfaction with food provision, students associated the programme with tangible personal benefits, including energy for daily activity and reduced household food expenditure. As informant NAS put it, "this programme really helps because I feel healthier, and I also save money I would have spent on snacks." Regarding food quality, students and supporting informants converged in reporting no complaints about spoiled food or hygiene throughout the observation period, with menus varying daily in accordance with national dietary guidelines.

The results are in line with Walgito's conceptualisation of perception quoted in Nisa et al., (2023) which conceptualises the cognitive dimension of perception as an active process of receiving, analyzing and interpreting information in the environment instead of a passive reception. The regular, planned socialisation at SMK Kesehatan NW Teros appears to be the main mechanism via which this active interpretation took place. This outcome supports Tambunan et al., (2025) who also found that FNMP implementation improved students' knowledge of balanced nutrition and health at SMK Negeri 6 Medan. It adds to this by identifying a residual gap between students' operational and health literacy understanding of

the programme. Such a nuance has not been reported in extant FNMP literature, which has tended to describe understanding in binary (adequate/inadequate) rather than graded terms.

Perceived Health Impact of the FNMP Programme

Students consistently reported physiological improvements attributed to regular participation in the FNMP programme, spanning three interrelated domains: physical fitness and energy, reduction in fatigue-related complaints, and mental concentration.

Students said they felt less tired and were better able to keep up with school activities in terms of their health and vitality. "I feel stronger in my body and I don't get tired quickly during lessons after joining this programme," said AAR. The morning weariness and hunger-related discomfort that students so often recall in their pre-program recollections were reported to have significantly decreased; informant NAS commented, "I rarely feel weak now and I do not get sick as easily as before." The Physical Education teacher confirmed this pattern, observing that the students appeared to be fitter overall and rarely complained about fatigue during lessons or physical activities, and the principal who linked the programme's nutritional provision to improved physical readiness for school activities.

Mental capability findings showed a similar tendency. Students experienced greater attentiveness in class which they linked to not studying on an empty stomach. As stated by informant NS, "When studying, I feel more focused because my body feels fresher and I do not feel hungry in class. From an educational perspective, the Physical Education instructor confirmed, "students seem more focused and follow instructions better than before" (MKA).

The findings are consistent with Maslow's hierarchy of requirements. Defta et al., (2025) noted that meeting the basic physiological needs such as food was a precondition for the optimal functioning of the physical and cognitive. The consistency across the measures of fitness, decreased weariness and attention indicates dietary adequacy is a major enabler, not a stand-alone advantage. This is consistent with findings from Wang et al., (2021) who reported that school feeding interventions improved cognitive performance among students aged 6-19 in developing countries and Putra et al., (2025) who found a link between breakfast provision and improved learning concentration among adolescents. However, the current results extend this literature by demonstrating a similar effect under midday rather than morning distribution schedule, suggesting that timing of nutritional intake may be less important than its cumulative regularity in producing these outcomes. The finding was in accordance with Qomarrullah et al., (2025) who also found similar decrease in complaints of malnutrition after long involvement in FNMP.

Relationship between Perception and Physical Activity Engagement

The most consistent behavioral consequence indicated by informants was related to physical activity, notably in Physical Education, Sport and Health (PE) sessions. Students reported an improvement in enthusiasm in participating in athletic activities, an increase in physical fitness in PE sessions, and a rise in resistance to exhaustion during physical exercise. Informant AAR said: "I now perform sports more often, because my body feels stronger and does not get tired so fast. "Especially on endurance, I don't get tired quickly anymore during PE, and I can finish the activity until the end," she noted. Informant NS also said, "I rarely miss PE class because my body feels more ready to exercise." The Physical Education instructor supported these reports by confirming, through first-hand classroom observation, that student participation had improved, and complaints of exhaustion had decreased during PE lessons since the programme was introduced.

Overall, the data are consistent with a sequential effect in which a pleasant impression fosters adherence to the program, so enhancing physiological preparation and then increasing motivation and ability to be physically active. The interpretative frame previously discussed is consistent with Walgito's in Nisa et al., (2023); Grondin, (2025) views, who see perception as an active process, where perception acts as a catalyst for action rather than being the outcome of behaviour. This is consistent with the comprehensive study undertaken by Buchanan et al., (2023) on how nutrition interventions in schools led to increased physical activity engagement, particularly when combined with formal physical education. This is in accordance with the

results of Tambunan et al., (2025) which showed similar improvements in student participation and fitness in similar contexts of vocational schools. The present results extend the literature by specifying the process as the students' perceptual and affective responses to the curriculum rather than a direct and unmediated effect of dietary intake on the change in behavior. This distinction matters in terms of how schools may encourage, rather than just offer, the program's intended benefits.

CONCLUSION

The findings of this study indicate that students at SMK Kesehatan NW Teros generally have positive cognitive and affective perceptions of the Free Nutritious Meal Programme, as evidenced by their awareness of the nutritional purpose of the programme and their consistent enthusiasm for participation. However, there remains a residual gap in operational awareness and deeper nutritional health literacy among some students. Such views are consistent with objective physiological improvements, including better physical fitness and energy, decreased complaints of weariness and stomach discomfort, and greater concentration during learning activities. These health advantages are associated with higher engagement in physical activity, particularly during Physical Education, Sport, and Health (PE) sessions, as reflected in increased participation, greater physical strength, and improved resistance to exhaustion during exercise. Taken together, these findings suggest that students' perceptions function not only as subjective responses to the programme but also as an important mechanism linking programme implementation with improved health outcomes, sustained participation, and greater engagement in physical activity, even under a midday distribution schedule that differs from the breakfast-based models more commonly examined in previous studies.

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