71st ICoMST
GIRONA - CATALONIA - SPAIN
3rd-8th August - 2025

SENSORY PERCEPTION AND MARKET POTENTIAL OF SPAM AMONG YOUNG ASIA-PACIFIC CONSUMERS

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I. INTRODUCTION

SPAM, a widely recognized canned meat product introduced by Hormel Foods in 1937, has remained popular across cultures due to its convenience, long shelf life, and distinctive flavor [1]. It has become a staple in the Asia-Pacific region, where it is featured in both traditional and modern cuisines [2, 3]. Beyond its cultural appeal, SPAM plays a key role in food security by providing an accessible, shelf-stable protein source [4]. The surge in U.S. demand for shelf-stable proteins during the early stages of COVID-19 in 2020 suggests an opportunity to promote SPAM as a nutritious and convenient option, particularly for younger generations living independently or facing food insecurity [5]. In Taiwan, younger consumers (ages 20-25) represent an emerging market influenced by globalization, health trends, and shifting dietary habits [6]. Understanding their perceptions of SPAM is vital for assessing its market potential and developing effective adaptation strategies. This study explores the sensory perceptions of SPAM among trained and untrained panelists, focusing on key attributes such as taste, texture, aroma, and overall acceptability. By comparing responses from individuals with a meat science background to general consumers, the research offers valuable insights into consumer behavior and sensory preferences.

II. MATERIALS AND METHODS

This low-risk pilot study evaluates the sensory perceptions of the Imported SPAM Luncheon Can (Lotte brand), which is the most widely available SPAM product in Taiwan's grocery stores. A concise set of trained sensory descriptors, as recommended by Powell et al. (2019), was used to guide the evaluations. The trained panelists—individuals with backgrounds in meat science and prior sensory evaluation experience—served as the control group, while the untrained panelists were general consumers with no formal training. A total of 24 young adults (ages 20 to 25) were recruited and equally assigned to the trained (N = 12) and untrained (N = 12) groups. Each participant evaluated a standardized SPAM sample (1 × 1 × 5 cm) and rated its appearance, texture, flavor, aroma, and overall acceptance using a 7-point hedonic scale. Evaluations were conducted in a controlled sensory environment with randomized sample presentation to minimize bias. Informed participation was confirmed via an opt-in consent checkbox, and data were collected using a structured questionnaire. Although the sample size is limited, it aligns with existing recommendations for pilot sensory studies [7] and offers valuable insights into how sensory training may influence consumer perception. Data will be analyzed using descriptive statistics and one-way ANOVA to identify significant differences between groups, providing preliminary implications for future product development and targeted marketing strategies.

III. RESULTS AND DISCUSSION

The numerical ratings represent the extent of liking, with higher scores indicating greater preference. The color of SPAM was rated higher by untrained panelists (5.69 ± 0.34) compared to trained panelists (4.82 ± 0.44), suggesting that trained panelists, who may have a more refined understanding of meat product coloration, were more critical of the product's appearance. In contrast, untrained consumers perceived the color as more acceptable, likely influenced by their general familiarity with processed meats. Both trained and untrained panelists rated the saltiness of SPAM similarly, with mean scores of 5.55 ± 0.31 and 5.54 ± 0.33, respectively. This indicates a consistent perception of saltiness across groups, suggesting that salt content is not a divisive factor in consumer acceptance. However, given the ongoing trend toward reduced sodium intake, future product modifications could consider offering lower-sodium alternatives. Untrained panelists similarly preferred the juiciness of SPAM (4.77 ± 0.51) compared to trained panelists (4.73 ± 0.33). The minimal difference suggests that both groups found the product sufficiently moist. However, trained panelists may have expected a more uniform texture in processed meat products, leading to slightly lower ratings. A significant difference was observed in texture scores, with trained panelists rating it lower (4.27 ± 0.49) than untrained panelists (5.23 ± 0.32), suggesting that trained panelists were more critical of the mechanical properties of SPAM, likely due to their understanding of meat

structure and processing techniques. In contrast, untrained consumers found the texture more acceptable, possibly because of their familiarity with processed meat textures in everyday meals. Flavor was rated higher by trained panelists (6.00 ± 0.30) compared to untrained panelists (5.92 ± 0.31), indicating that while both groups found SPAM flavorful, trained panelists had a slightly greater appreciation for its taste profile, possibly due to their recognition of its umami characteristics and seasoning balance. Overall acceptance scores showed that trained panelists (5.82 ± 0.35) preferred SPAM more than untrained panelists (5.16 ± 0.21), suggesting that individuals with a background in meat science were more favorable towards the product, potentially due to their understanding of its formulation and expected sensory properties. The lower acceptance score among untrained panelists indicates an opportunity to adjust product attributes, such as texture and appearance, to enhance consumer appeal.

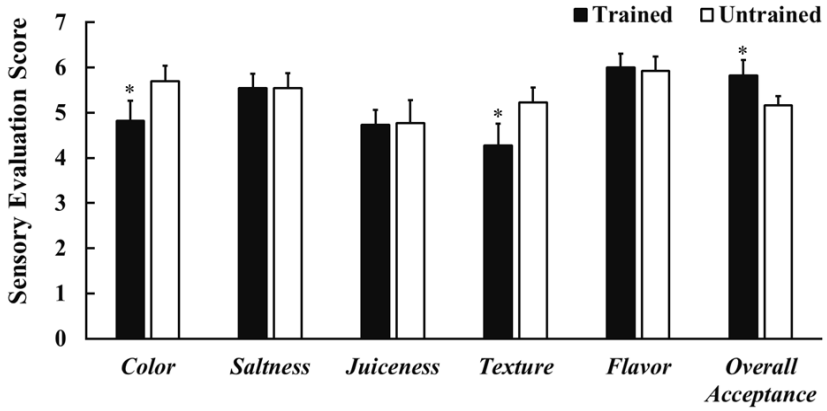


Figure 1. Sensory Evaluation of SPAM by Trained and Untrained Panelists. Sensory attribute ratings (mean ± standard deviation) for color, saltiness, juiciness, texture, flavor, and overall acceptance of SPAM, evaluated by trained and untrained panelists. Each point represents the average of 12 observations. Bars indicate standard error (SE). *Means with differences between groups differ significantly ($P < 0.05$).

IV. CONCLUSION

The findings suggest that while SPAM is generally accepted among young Taiwanese consumers, there are areas for improvement. The significant texture difference points to a potential need for reformulation. Although saltiness ratings were consistent, the growing trend toward lower sodium intake could drive demand for reduced-sodium variants. Marketing efforts should emphasize SPAM's flavor and versatility, particularly for untrained consumers. However, the study's small sample size and focus on 20-25-year-olds may not fully represent the broader market. Future research should expand the sample size and consider factors such as cultural influences, dietary habits, and preparation methods. Comparing the findings with mature SPAM markets (e.g., Guam, Hawaii, USA) could provide valuable insights into cross-cultural preferences [8].

ACKNOWLEDGEMENTS

This work was supported by the University of Guam J. Yang Scholarship from J. Yang & Family Foundation.

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