

Article

Enhancing Food Utilization and Satisfaction Through Hot Meals: An Action Research Study on Community Food-Pantry Events for University Students in Tokyo

Kayo Kurotani ^{1,*}, Natsumi Morichika ¹, Sana Yamada ¹ and Kazunori Ohkawara ²¹ Faculty of Food and Health Sciences, Showa Women's University, Tokyo 154-8533, Japan² Graduate School of Informatics and Engineering, The University of Electro-Communications, Tokyo 182-8585, Japan; ohkawara_kazunori@e-one.uec.ac.jp

* Correspondence: k-kurotani@swu.ac.jp; Tel.: +81-3-3411-6257

Abstract

Food insecurity is a considerable challenge for university students globally. While food pantries are a primary response, their impact on psychological well-being remains unclear. Here, we aimed to investigate effects of providing hot meals during community food-pantry events on participant satisfaction and self-reported loneliness among financially challenged university students in Tokyo. A non-randomized pre-post design was used to compare events with ($n = 87$) and without ($n = 41$) a hot meal. Participant satisfaction was assessed using a questionnaire; loneliness was measured using the University of California, Los Angeles (UCLA) Loneliness Scale. Hot-meal events had a 100% satisfaction rate. Notably, satisfaction with the café space was significantly higher in hot-meal events than in non-meal events ($p = 0.003$). However, analysis of covariance indicated that the adjusted mean difference in post-event loneliness scores was not statistically significant. Hot meals enhanced participant satisfaction and the perception of the venue, suggesting it is a key component of the food-utilization dimension of food security. Although a significant reduction in loneliness was not observed, the high appreciation of the dining environment suggests that future programs should integrate hot meals with strategies to maximize social interaction, aiming for a more holistic impact on student well-being.

Keywords: food insecurity; university student; food pantry; hot meal; satisfaction; loneliness; action research; Tokyo

1. Introduction

Food insecurity is defined as a limited or uncertain access to nutritious food. The Food and Agriculture Organization (FAO) reported that an estimated 8.2% of the global population may face hunger in 2024, down from 8.5% in 2023 and 8.7% in 2022 [1]. In addition, the global prevalence of moderate or severe food insecurity has gradually declined since 2021, reaching 28.0% by 2024. While the FAO index indicates that only 5.8% of the Japanese population suffers from moderate-to-severe food insecurity [2], the national average may not fully capture the nuanced struggles faced by different segments of the population. More recently, a survey conducted by a Japanese university found that nearly 44% of respondents had lost weight or gone an entire day without eating because they could not afford to buy food [3]. This finding underscores the fact that despite a seemingly low national prevalence, a significant portion of the population in Japan experiences severe food insecurity, a concern that extends to and is often exacerbated among vulnerable groups,



Academic Editor: Andriana Kaliora

Received: 28 November 2025

Revised: 21 December 2025

Accepted: 16 February 2026

Published: 24 February 2026

Copyright: © 2026 by the authors.

Licensee MDPI, Basel, Switzerland.

This article is an open access article distributed under the terms and conditions of the [Creative Commons Attribution \(CC BY\)](https://creativecommons.org/licenses/by/4.0/) license.

such as university students. In the Japanese context, this vulnerability is structurally deeply rooted [4]. The costs of higher education in Japan have risen, while household incomes have remained stagnant. Consequently, a growing number of students rely heavily on scholarships (often in the form of loans) and part-time employment to cover tuition and living expenses [5]. However, recent economic instability and inflation have eroded the real value of these incomes, pushing independent-living students into precarious situations where food expenditure is often the first budget item to be compromised [6].

Globally, many college students experience food insecurity [7–10]. A recent review has shown that food insecurity negatively affects college students' academic performance, physical health, and mental health [9]. To address this growing challenge, universities have established campus food pantries as the primary means of supporting food-insecure students [11–13]. However, while these initiatives primarily focus on enhancing food availability and access, their broader impact on various dimensions of food security, particularly utilization (e.g., quality of prepared meals) and stability, and especially on the psychological well-being of students, remains unclear. For instance, a study on a client-choice campus food pantry in the U.S. highlighted limitations in the variety of food and nutrients distributed [11], suggesting that simply providing food may not fully address all aspects of food security. Furthermore, standard food-pantry models often operate as logistical distribution points, which are transactional spaces where interaction is minimal [14]. This approach addresses the physical need for calories but may overlook the “social hunger” associated with food insecurity. Social isolation is a known correlate of food insecurity [15], particularly among young adults living away from home. Therefore, interventions that combine food provision with opportunities for social engagement are crucial [16]. Addressing these multiple dimensions (availability, access, utilization, and stability) is essential for a comprehensive approach to food security [17]. In this context, the provision of prepared hot meals [18] or opportunities for communal dining [19] has gained attention as a potential strategy to enhance these dimensions. Previous research suggests that such initiatives can ensure immediate nutritional utilization and create a supportive environment that fosters social connectedness and potentially alleviates feelings of loneliness through the act of eating together (commensality) [19,20]. Despite these potential benefits, to the best of our knowledge, studies on campus- or community-based food pantries in Asian countries are limited, highlighting a geographical gap in the literature. Therefore, studies examining the diverse effects of campus food pantries on access, utilization, and well-being are needed.

In this study, we aimed to examine the effects of different food pantry-event types, specifically differentiating between those with and without a hot meal (Takidashi), on participant satisfaction and self-reported loneliness among university students facing financial hardship using an action research approach.

2. Materials and Methods

2.1. Study Design and Participants

This study is part of an ongoing action research project that evaluates and improves community-based food support activities through collaboration between researchers and local food pantry organizers. We employed a pre–post design within this action research framework, comparing three distinct food-pantry events. Two events, held in October 2024 and October 2025, included the onsite preparation and service of a hot meal (Takidashi), whereas the event in February 2025 did not. Each event hosted approximately 70 participants. Written informed consent was obtained at registration from 66 participants in October 2024, 70 in October 2025, and 62 in February 2025. Ultimately, 38 participants from the October 2024 event, 49 from October 2025, and 41 from February 2025 completed the post-event questionnaire and were included in this analysis. The primary reasons for

non-completion were time constraints and participants leaving immediately after receiving their food packages.

At each pantry event, food packages equivalent to ~2500 JPY per person were distributed. Food items were carefully selected based on nutritional balance, taste preference, ease of preparation, and participant needs. Recipes using distributed items were also provided to encourage enjoyable and nutritious meal preparation. The pantry was operated with the support of community volunteers ranging in age from university students to individuals in their 80s who personally interacted with each participant during food distribution. In addition, menstrual hygiene products were distributed to female students, and various donated foods and daily necessities (e.g., bread, ready-to-eat dishes, toiletries) were made available to them.

The specific intervention settings differed between event types. For the October 2024 and 2025 events, the hot meal provided was Tonjiru, a traditional Japanese miso soup containing pork and various vegetables, which was offered with unlimited refills. To create a relaxing “Ibasho” (a place of belonging) atmosphere, picnic mats were laid out to create a shoe-free area where participants could take off their shoes, sit on the floor, and enjoy the meal, drinks, and snacks together. Conversely, in the February 2025 event, although Tonjiru was not served, chairs were arranged face-to-face to facilitate conversation; beverages and snacks were provided to encourage social interaction. Background music was played during all sessions to create a welcoming ambiance.

This study was approved by the Showa Women’s University Ethics Review Board (Approval No. 23-38; approval date, 20 December 2023). Participants indicated their consent to participate by checking an opt-in box on the registration form. Participation in the study was entirely voluntary, and refusal to participate did not affect access to food pantry services.

2.2. Measures

Participant satisfaction with the food pantry was assessed using a short, self-administered questionnaire developed by the research team to provide immediate, site-specific feedback and capture overall impressions of the event. Specifically, participants were asked to rate their overall satisfaction with “the event as a whole” and “the café space (where food distribution took place)” on a four-point Likert scale (“very good,” “good,” “fair,” or “poor”). For the October 2024 and 2025 events, participants also rated their satisfaction with the “Takidashi (hot meal)” using the same four-point scale. The questionnaire also included an item asking whether participants “talked with staff members” during the event on a four-point scale ranging from “talked a lot” to “did not talk at all.”

Loneliness was measured using the three-item University of California, Los Angeles (UCLA) Loneliness Scale, a validated short form consisting of three questions (e.g., “How often do you feel left out?”). Four choices were available for each item: (1) never, (2) rarely, (3) sometimes, and (4) always. Higher scores indicated higher levels of loneliness [21]. The Japanese version has also been validated [22].

2.3. Statistical Analysis

Descriptive statistics were used to summarize participants’ demographic characteristics and baseline variables. Comparisons between events with a hot meal (October 2024 and 2025) and the event without (February 2025) were conducted using independent samples t-tests for continuous variables. Fisher’s exact tests were used for categorical variables to account for small sample sizes and cells with zero frequencies. Between-group differences in UCLA loneliness scores after food-pantry events were assessed using analysis of covariance (ANCOVA), with baseline values and the timing of the event as a covariate.

All statistical analyses were performed using Stata version 19.0 (StataCorp LLC, College Station, TX, USA). Statistical significance was set at a two-tailed *p*-value < 0.05. Missing data were excluded from the analysis on a case-by-case basis.

Generative artificial intelligence (GenAI) was used to assist in drafting and refining the manuscript for clarity and grammatical correctness. The authors thoroughly reviewed and edited the manuscript and take full responsibility for its content.

3. Results

3.1. Participant Characteristics

Table 1 presents participant characteristics. Of 87 participants in the hot-meal group (October 2024 and 2025) and 41 in the non-hot-meal group (February 2025), approximately two-thirds were male (73.6% and 65.9%, respectively, *p* = 0.37). First-time attendees accounted for 43.7% of the hot-meal group and 36.6% of the non-hot-meal group (*p* = 0.45). Regarding living conditions, trends were similar between groups (*p* = 0.28). Approximately one-third of participants in each group reported that their situation had worsened. Although a higher proportion in the non-hot-meal group reported improvement (“Better”) than in the hot-meal group (41.5% vs. 27.6%), this difference was not statistically significant. Notably, the category “Keep worse” (defined as a situation remaining deteriorated) accounted for a substantial portion of responses. Other variables, including part-time work frequency, dietary habits, and self-rated health, were comparable between the groups. Overall, no statistically significant differences in demographic or lifestyle characteristics were observed.

Table 1. Participant characteristics by pantry-event type (with vs. without a hot meal).

Characteristics	With a Hot Meal (<i>n</i> = 87)	Without a Hot Meal (<i>n</i> = 41)	<i>p</i> -Value
Sex [n (%)]			
Men	64 (73.6)	27 (65.9)	0.37
Women	23 (26.4)	14 (34.1)	
Participation [n (%)]			
First time	38 (43.7)	15 (36.6)	0.45
Twice or more	49 (56.3)	26 (63.4)	
Living situation [n (%)]			
Worse	29 (33.3)	12 (29.3)	0.28
Keep worse	34 (39.1)	12 (29.3)	
Better	24 (27.6)	17 (41.5)	
Part-time job [n (%)] ¹			
≥5 days/week	6 (6.9)	4 (9.8)	0.46
1–4 days/week	56 (64.4)	30 (73.2)	
Occasionally	18 (20.7)	4 (9.8)	
None	7 (8.1)	3 (7.3)	
Number of meals per day [n (%)] ¹			
1	7 (8.1)	5 (12.2)	0.39
2	46 (52.9)	18 (43.9)	
3	34 (39.1)	17 (41.5)	
4	0 (0.0)	1 (2.4)	
Cooking frequency [n (%)] ¹			
Every day	53 (60.9)	24 (58.5)	0.49
3–4 days/week	17 (19.5)	5 (12.2)	
1–2 days/week	9 (10.3)	5 (12.2)	
Almost never	8 (9.2)	7 (17.1)	

Table 1. *Cont.*

Characteristics	With a Hot Meal (<i>n</i> = 87)	Without a Hot Meal (<i>n</i> = 41)	<i>p</i> -Value
Grocery shopping frequency [n (%)] ¹			
Almost Every day	9 (10.3)	3 (7.3)	0.44
3–4 days/week	46 (52.9)	19 (46.3)	
1–2 days/week	32 (36.8)	18 (43.9)	
Almost never	0 (0.0)	1 (2.4)	
Self-rated health [n (%)] ¹			
Good	17 (19.5)	13 (31.7)	0.34
Fairly good	26 (29.9)	11 (26.8)	
Average	27 (31.0)	9 (22.0)	
Rather poor	13 (14.9)	8 (19.5)	
Poor	4 (4.6)	0 (0.0)	

¹ *p*-values were calculated using Fisher's exact test.

3.2. Satisfaction

Table 2 presents participant satisfaction by pantry-event type. Among participants who attended the events with a hot meal, 93.1% (*n* = 81) rated the Takidashi (hot meal) as “very good.” Regarding the café space, the proportion of participants rating it as “very good” was significantly higher in the hot-meal group (78.2%) than in the non-hot-meal group (48.8%; *p* = 0.003). Interaction with staff was prevalent across both conditions; 91.9% of participants in the hot-meal group and 83.6% in the non-hot-meal group reported talking to staff “a lot” or “a little,” with no significant difference observed (*p* = 0.19).

Table 2. Participant satisfaction by pantry-event type (with vs. without a hot meal).

	With a Hot Meal (<i>n</i> = 87)	Without a Hot Meal (<i>n</i> = 41)	<i>p</i> -Value ¹
Satisfaction with Takidashi [n (%)]			
Very good	81 (93.1)	-	NA
Good	2 (2.3)		
Fair/Poor	0 (0.0)	-	
Not use	4 (4.6)		
Satisfaction with café space [n (%)]			
Very good	68 (78.2)	20 (48.8)	0.003
Good	10 (11.5)	11 (28.2)	
Fair/Poor	0 (0.0)	0 (0.0)	
Not use	9 (10.3)	10 (25.6)	
Talked with staff [n (%)] ²			
A lot	9 (10.5)	5 (12.9)	0.19
A little	70 (81.4)	29 (70.7)	
Not much	7 (8.1)	5 (12.8)	
Not at all	0 (0.0)	2 (4.9)	

NA: not applicable. ¹ *p*-values were calculated using Fisher's exact test. ² One participant did not answer this question and was excluded from the percentage calculation.

3.3. Loneliness

As shown in Table 3, the UCLA loneliness scores after participation in each pantry event, adjusted for baseline score, were 6.53 (SE = 0.16) for the events with a hot meal and 6.41 (SE = 0.24) for the event without a hot meal. The adjusted mean difference between events was not significant (*p* = 0.69).

Table 3. Loneliness scores after participation in each pantry event (adjusted by ANCOVA).

	With a Hot Meal (n = 87)		Without a Hot Meal (n = 41)	
UCLA loneliness score				
Before (mean, SD)	6.80	(2.41)	6.61	(1.99)
Adjusted mean (SE) after event ¹	6.53	(0.16)	6.41	(0.24)
Between-Group Difference (95% CI) ²		0.11 (−0.46, 0.69)		
p-value ²		0.69		

¹ Adjusted for baseline UCLA loneliness scores. ² p-value for between-group difference from ANCOVA.

4. Discussion

In this study, we investigated the impact of community-based food-pantry events, specifically differentiating between those with and without hot meals (Takidashi), on participant satisfaction and self-reported loneliness among university students facing financial hardships. Satisfaction with the hot meal was exceptionally high, with 100% of participants who received a hot meal reporting satisfaction with the Takidashi event. Furthermore, satisfaction with the café space was significantly higher for events featuring a hot meal than for the event without one ($p = 0.003$). These findings highlight the multifaceted role of food pantries in addressing food insecurity among vulnerable student populations, consistent with the FAO’s comprehensive framework of availability, access, utilization, and stability [17]. This aligns with a growing body of literature emphasizing the critical role of campuses and community-based food-support initiatives in mitigating food insecurity, particularly among students [11].

4.1. Contextual Role of the Food Pantry in Addressing Food Availability and Stability

The food-pantry event, held 2–3 times a year, addresses food availability and supports the stability of the food supply for financially vulnerable students in Tokyo. By providing free food packages and operating periodically, this initiative serves as a valuable supplementary source of food assistance, helping to mitigate transitory food insecurity [23]. Even if not frequent, this scheduled provision can help students plan their limited budgets more effectively and mitigate mental-health disorders associated with uncertain food access [24].

4.2. Specific Impact of the Hot Meal on Enhancing Food Access and Utilization

Food pantries directly address the access dimension of food security by providing free food packaging to financially struggling students. A value of ~2500 JPY per package offers tangible economic relief, directly improving the participants’ ability to acquire food. This is consistent with studies showing that food pantries help reduce the financial burden of food costs for university students experiencing financial hardships, thereby increasing their economic access to nutritious food [25]. Furthermore, by targeting university students in the suburban areas of Tokyo, the initiative ensures physical access to food support services within their academic and residential proximity, a crucial factor for students with limited transportation and time [26,27]. Thus, the pantry’s efforts contribute to the utilization aspect of food security, as the distributed food items were carefully selected considering “nutritional balance, taste preference, ease of preparation, and participants’ needs,” and recipes were provided. The inclusion of hot meals in the October 2024 and 2025 events represents a significant enhancement in food access by providing immediate and prepared nourishment, which is highly valued [28]. The 100% satisfaction rate with the Takidashi underscores its critical value. For students who lack adequate cooking facilities, time, or energy for meal preparation owing to academic demands or part-time work, a readily available warm meal offers immediate nourishment and alleviates the burden of meal preparation. Importantly, the significantly higher satisfaction with the café space

during hot-meal events ($p = 0.003$) suggests that the provision of prepared warm food transformed the participants' perception of the environment. While the physical space remained unchanged, the act of eating a hot meal likely shifted the atmosphere from a transactional "distribution point" to a welcoming "Ibasho", which is a physical and psychological "place" where individuals feel acceptance, belonging, comfort, security, and freedom [29]. For individuals experiencing financial stress, the warmth and hospitality associated with receiving a warm meal can contribute to psychological comfort and a sense of dignity, which are integral to holistic well-being and, by extension, to effective food utilization [30].

4.3. Effect on Loneliness and Psychological Well-Being

Our results revealed that the adjusted mean difference in loneliness scores between hot-meal events and non-hot-meal events was not statistically significant. This suggests that the absence of a hot meal did not lead to a statistically significant difference in post-event loneliness scores between the two events. Our results align with a meta-analysis showing that the effect of food assistance on mental health was not significant [31]. The absence of significance can be attributed to several factors. Interpreting this as evidence of equivalent effects should be done with caution, because the relatively small sample size and short-term pre-post design may have limited the statistical power to detect subtle changes. Additionally, measuring transient changes in psychological states, such as loneliness, poses inherent challenges; large-scale, longer-term intervention designs might be more appropriate to capture these shifts. However, findings highlight a crucial practical insight for future action research: simply providing a hot meal may be insufficient to achieve a holistic impact on student well-being. While the hot meal successfully created a welcoming atmosphere, the social interactions—though frequent—may have remained largely transactional or superficial. Future studies should focus on implementing and evaluating deliberate strategies to foster meaningful social interactions that leverage the positive environment created by the event, such as structured group activities or increased one-on-one engagement with dedicated staff or volunteers [32].

4.4. Limitations

As an action research project aimed at improving community support activities, this study provided important practical insights. However, it has some limitations. First, there are practical constraints and a focus on the implementation feasibility characteristics of action research. This design makes it challenging to conclusively attribute the observed differences solely to the provision of a hot meal. Specifically, seasonal differences (October vs. February) may have acted as confounding factors; for instance, colder temperatures in February might have influenced participants' physical need for warmth or their psychological state, independent of the event type. Additionally, differences in specific food packages or changes in external conditions (e.g., economic or academic environment) between event dates may have influenced outcomes. Second, the action research approach, which focuses on improving specific interventions, inherently limits this study's scope to a single case. This study focuses exclusively on a specific student population in a single suburban area of Tokyo. This context specificity limits the generalizability of the findings to food pantries in other regions or to vulnerable populations, as food insecurity and social support needs vary widely. Specifically, the cultural reception of Takidashi—which is traditionally associated with community aid in Japan—may have positively influenced participant satisfaction in ways that might not transfer to other cultural contexts. Similarly, the urban setting of Tokyo, with its specific accessibility and student demographics, limits the applicability of these findings to rural or international institutional settings. Third, to address practical needs, the

study used relatively small sample sizes ($n = 87$ and $n = 41$) and a short-term assessment period (immediate post-event measurement). This constraint likely resulted in insufficient statistical power (Type II error), making it difficult to detect significant effects on loneliness even if such effects existed. Measuring transient changes in psychological states such as loneliness immediately after the event poses inherent challenges; longer-term follow-up is necessary to capture meaningful psychosocial changes. Furthermore, moderate post-event questionnaire completion rates, likely due to time constraints at the venue, may introduce selection bias, as respondents may not be fully representative of all attendees. Fourth, a key intended mechanism of the intervention, that is, the promotion of social interaction by providing a hot meal, was potentially underutilized in the operational setting. The high proportion of participants who reported talking with staff suggests that pantry events offered some level of social contact. However, we could not identify the effect of reducing loneliness. This might be due to the nature of these interactions being largely transactional or brief, lacking the depth required to impact psychological well-being. Finally, participant satisfaction was assessed using a questionnaire developed in-house by the research team to gather site-specific feedback within the context of action research. The use of this in-house questionnaire limits the measurement reliability and validity. Additionally, the extremely high satisfaction rates indicate a “ceiling effect,” which restricted the variability of data and the ability to detect subtle differences. Future action research should integrate these limitations by designing specific strategies to intentionally promote social interaction during events, aiming for larger-scale data collection where feasible, and incorporating longer-term follow-ups to assess the sustained impact of activities.

5. Conclusions

We investigated the impact of providing hot meals (Takidashi) during community-based food-pantry events on the satisfaction and self-reported loneliness of university students facing financial hardships in Tokyo. The findings highlight the pivotal role of hot meals in enhancing participant satisfaction, evidenced by a 100% satisfaction rate for the Takidashi and significantly higher satisfaction with the café space than for events without hot meals. This suggests that the hot meal serves as a valuable component that creates a welcoming atmosphere and contributes to food security “utilization” by offering immediate nourishment, psychological comfort, and a sense of dignity. Although a statistically significant effect on reducing loneliness was not confirmed in this study, the enhanced appreciation of the pantry environment offers critical practical insights. Future action research and community practice should integrate hot meals as a core component of food support to create a conducive environment. Simultaneously, distinct strategies to maximize social interaction—such as structured group activities or peer-support facilitation—should be designed with the aim of having a more holistic impact on participants’ well-being.

Author Contributions: Conceptualization, K.K.; methodology, K.K.; software, K.K.; validation, K.K.; formal analysis, K.K.; investigation, K.K., N.M. and S.Y.; resources, K.K. and K.O.; data curation, K.K.; writing—original draft preparation, K.K.; writing—review and editing, K.O.; supervision, K.K.; project administration, K.O.; funding acquisition, K.K. All authors have read and agreed to the published version of the manuscript.

Funding: This work was supported by JSPS KAKENHI (grant number 23K02015).

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki and approved by the Showa Women’s University Ethics Review Board (Approval No. 23-38, 20 December 2023).

Informed Consent Statement: Informed consent was obtained from all participants involved in the study.

Data Availability Statement: The data supporting the findings of this study are not publicly available due to ethical and privacy restrictions. Individual-level data contain information that could compromise participants' privacy. Therefore, data sharing was not included in the informed consent form, which was approved by the Institutional Ethics Committee. Aggregated or anonymized data may be made available by the corresponding author upon reasonable request, with the approval of the ethics committee.

Acknowledgments: The authors would like to thank Kazuko Yamada and the dedicated volunteers of the Chofu Tomonkai (Waseda Alumni Association), and the Chofu City Council of Social Welfare for their invaluable support in organizing and operating community food-pantry events.

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. FAO. The State of Food Security and Nutrition in the World 2025: Addressing High Food Price Inflation for Food Security and Nutrition. Available online: <https://www.fao.org/publications/fao-flagship-publications/the-state-of-food-security-and-nutrition-in-the-world/en> (accessed on 21 December 2025).
2. FAO. Prevalence of Moderate and Severe Food Insecurity in Japan. Available online: <https://www.fao.org/faostat/en/#country/110> (accessed on 21 December 2025).
3. The Institute of Science Tokyo. The State of Food Security in Japan and Support for Climate Change Measures. Available online: <https://tmduglobalhealthpromotion.com/media/3168/> (accessed on 21 December 2025). (In Japanese)
4. OECD. *Education at a Glance 2024*; OECD Publishing: Paris, France, 2024. [CrossRef]
5. Japan Student Services Organization. Result of Student Life Survey 2022. Available online: https://www.jasso.go.jp/statistics/gakusei_chosa/2022.html (accessed on 21 December 2025).
6. National Federation of University Co-operative Associations. The 59th Student Life Survey. Available online: https://www.univcoop.or.jp/press/life/pdf/pdf_report60.pdf (accessed on 21 December 2025).
7. Nikolaus, C.J.; An, R.; Ellison, B.; Nickols-Richardson, S.M. Food insecurity among college students in the United States: A scoping review. *Adv. Nutr.* **2020**, *11*, 327–348. [CrossRef] [PubMed]
8. Anthony, H.; Clare, C.; Jed, R.; Joel, S.; Sara, G.-R. Still Hungry and Homeless in College. Available online: <https://perspectives.acct.org/stories/still-hungry-and-homeless-in-college> (accessed on 21 December 2025).
9. Loofbourrow, B.M.; Scherr, R.E. Food insecurity in higher education: A contemporary review of impacts and explorations of solutions. *Int. J. Environ. Res. Public Health* **2023**, *20*, 5884. [CrossRef]
10. Bruening, M.; Argo, K.; Payne-Sturges, D.; Laska, M.N. The struggle is real: A systematic review of food insecurity on postsecondary education campuses. *J. Acad. Nutr. Diet.* **2017**, *117*, 1767–1791. [CrossRef]
11. Mitchell, A.I.; Prescott, M.P. Evaluating a campus food pantry's potential impact on nutrition security using the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) framework. *Curr. Dev. Nutr.* **2023**, *7*, 101984. [CrossRef]
12. Mitchell, A.; Prescott, M.P. The role of campus food pantries in the food security safety net: On-going or emergency use at a midwest campus pantry. *Nutrients* **2022**, *14*, 4876. [CrossRef]
13. Idehai, O.V.; Mbaya, P.; Chung, T.; Bhurosy, T. A systematic review of factors associated with student use of campus food pantries: Implications for addressing barriers and facilitating use. *BMC Public Health* **2024**, *24*, 97. [CrossRef]
14. Bazerghi, C.; McKay, F.H.; Dunn, M. The role of food banks in addressing food insecurity: A systematic review. *J. Community Health* **2016**, *41*, 732–740. [CrossRef] [PubMed]
15. El Zein, A.; Shelnutt, K.P.; Colby, S.; Vilaro, M.J.; Zhou, W.; Greene, G.; Olfert, M.D.; Riggsbee, K.; Morrell, J.S.; Mathews, A.E. Prevalence and correlates of food insecurity among U.S. college students: A multi-institutional study. *BMC Public Health* **2019**, *19*, 660. [CrossRef]
16. Dunbar, R.I.M. Breaking bread: The functions of social eating. *Adapt. Hum. Behav. Physiol.* **2017**, *3*, 198–211. [CrossRef] [PubMed]
17. FAO. The State of Food and Agriculture. Available online: <https://www.fao.org/publications/fao-flagship-publications/the-state-of-food-and-agriculture/en> (accessed on 21 December 2025).
18. Aung, T.; Kim, B.R.; Kwak, H.S.; Kim, M.J. Neuroimaging approach: Effects of hot and cold germinated wheat beverages on electroencephalographic (EEG) activity of the human brain. *Foods* **2023**, *12*, 3493. [CrossRef]
19. Vesnaver, E.; Keller, H.H. Social influences and eating behavior in later life: A review. *J. Nutr. Gerontol. Geriatr.* **2011**, *30*, 2–23. [CrossRef]
20. Marovelli, B. Cooking and eating together in London: Food sharing initiatives as collective spaces of encounter. *Geoforum* **2019**, *99*, 190–201. [CrossRef]

21. Hughes, M.E.; Waite, L.J.; Hawkley, L.C.; Cacioppo, J.T. A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Res. Aging* **2004**, *26*, 655–672. [[CrossRef](#)]
22. Arimoto, A.; Tadaka, E. Reliability and validity of Japanese versions of the UCLA loneliness scale version 3 for use among mothers with infants and toddlers: A cross-sectional study. *BMC Womens Health* **2019**, *19*, 105. [[CrossRef](#)]
23. Seligman, H.K.; Smith, M.; Rosenmoss, S.; Marshall, M.B.; Waxman, E. Comprehensive diabetes self-management support from food banks: A randomized controlled trial. *Am. J. Public Health* **2018**, *108*, 1227–1234. [[CrossRef](#)] [[PubMed](#)]
24. O'Connor, E.A.; Webber, E.M.; Martin, A.; Henninger, M.L.; Eder, M.; Lin, J.S. U.S. Preventive Services Task Force evidence syntheses, formerly systematic evidence reviews. In *Preventive Services for Food Insecurity: A Systematic Review for the U.S. Preventive Services Task Force*; Agency for Healthcare Research and Quality: Rockville, MD, USA, 2025.
25. Russell, J.; Austin, K.; Charlton, K.E.; Igwe, E.O.; Kent, K.; Lambert, K.; O'Flynn, G.; Probst, Y.; Walton, K.; McMahon, A.T. Exploring financial challenges and university support systems for student financial well-being: A scoping review. *Int. J. Environ. Res. Public Health* **2025**, *22*, 356. [[CrossRef](#)] [[PubMed](#)]
26. Safayet, M.; Casellas Connors, J.P.; Watson, M. Measuring access to food banks and food pantries: A scoping review of spatial analysis approaches. *Health Place* **2024**, *88*, 103251. [[CrossRef](#)]
27. Algert, S.J.; Agrawal, A.; Lewis, D.S. Disparities in access to fresh produce in low-income neighborhoods in los Angeles. *Am. J. Prev. Med.* **2006**, *30*, 365–370. [[CrossRef](#)]
28. Lirette, T.; Podovennikoff, J.; Wismer, W.; Tondou, L.; Klatt, L. Food preferences and meal satisfaction of meals on wheels recipients. *Can. J. Diet. Pract. Res.* **2007**, *68*, 214–217. [[CrossRef](#)] [[PubMed](#)]
29. Kayama, M.; Yamakawa, N. Acculturation and a sense of belonging of children in U. S. Schools and communities: The case of Japanese families. *Child. Youth Serv. Rev.* **2020**, *119*, 105612. [[CrossRef](#)]
30. Wu, T.; Ramesh, N.; Doyle, C.; Hsu, F.-C. Cold and hot consumption and health outcomes among US Asian and White populations. *Br. J. Nutr.* **2025**, *134*, 645–659. [[CrossRef](#)] [[PubMed](#)]
31. O'Donnell, A.J.; Takgbajouah, M.; Bushnell, A.; Sagan, D.; Mirich, C.; Mansfield, D.; Clark Withington, M.H.; Buscemi, J. Links between food assistance program participation and mental health: A systematic review and meta-analysis. *J. Health Care Poor Underserved* **2024**, *35*, 1307–1327. [[CrossRef](#)] [[PubMed](#)]
32. Rhodes, E.C.; Pérez-Escamilla, R.; Okoli, N.; Hromi-Fiedler, A.; Foster, J.; McAndrew, J.; Duran-Becerra, B.; Duffany, K.O.C. Clients' experiences and satisfaction with produce prescription programs in California: A qualitative evaluation to inform person-centered and respectful program models. *Front. Public Health* **2024**, *12*, 1295291. [[CrossRef](#)] [[PubMed](#)]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.