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Mitigating Food Insecurity-Related Stigma:

A Review of Intervention Strategies

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Abstract

Objective: To characterize intervention strategies addressing food insecurity-related stigma implemented in federal nutrition programs (e.g. SNAP, WIC) and emergency food programs (e.g. food pantries, food cupboards) within high income countries. **Methods:** Six databases (PubMed, PsychINFO, Web of Science, CINAHL, Sociological Abstracts, Dissertations and Theses Global) and the Internet were searched through September 2024. Data on study characteristics and stigma intervention characteristics were extracted with a structured template. Descriptive statistics and thematic analysis were used. **Results:** The review found 46 intervention strategies across 18 articles. The majority of articles were based in the United States (89.9%) with the remaining portion from the United Kingdom (11.1%). Interventions most frequently targeted emergency food (44.4% of articles, 70.3% of interventions). Interventions were most often operating at the structural level (89.1%). **Conclusion:** This review demonstrates the frequency of structural level interventions, particularly within the emergency food setting, and the need to implement strategies that address the everyday interactions between staff/volunteers and those seeking food assistance.

Introduction

Food insecurity, defined as the lack of reliable access to a sufficient quantity of affordable and nutritious food, has been on the rise or persisted globally since 2019.[1] Individuals who face food insecurity are at an increased risk of deleterious physical and mental health outcomes including increased risk for diabetes, obesity, as well as anxiety and depression.[2] For children in families experiencing food insecurity, even very mild levels of food insecurity have been found to impact their behavioral, emotional, and academic outcomes.[3]

In response to this persistent challenge, federal food assistance and emergency food programs, such as the Supplemental Nutrition Assistance Program (SNAP), the Supplemental Nutrition Assistance Program for Women, Infants, and Children (WIC), and food pantries and banks, play a critical role in addressing gaps in access.[4–6] Yet, despite the evident need for supplemental and emergency food, many programs remain underutilized. For example, a 2019 report by the United States Department of Agriculture's (USDA) Food and Nutrition Service reported that 18% of

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individuals eligible for SNAP nationwide are not enrolled. In WIC, this gap increases to 49% of eligible people not participating.[7]

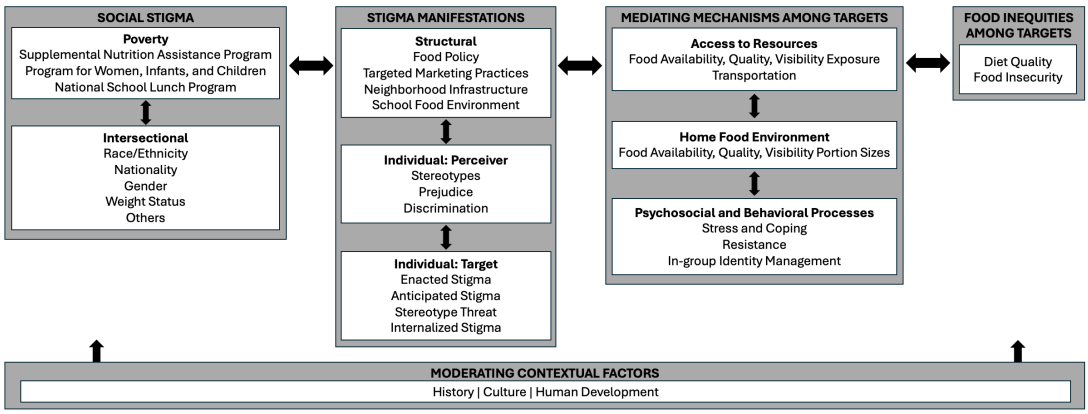
Stigma is frequently cited to be a contributing factor to this underutilization.[8] Stigma, in this context, can be defined as a social process where individuals are marked, judged, and devalued based on their food insecurity status or use of assistance programs.[9,10] Stigma makes it difficult for individuals to seek and ask for help,[11] internal feelings of shame,[12] self-consciousness,[13] and unworthiness.[8] In addition to being a stressor on mental health,[14] stigma has also been found to increase a person's risk for cardiovascular disease,[15] and negatively impact overall physical health and wellbeing.[16]

Stigma/Intervention Frameworks

The Stigma and Food Inequity Framework

The Stigma and Food Inequity Framework (figure 1),[9] describes how stigma is manifested, articulates factors that mediate experiences of stigma, and highlights moderating contextual factors that influence its impact. Specifically, this framework helps to clarify that at the individual level, stigma manifests for targets, that is the individuals who carry a stigmatized identity and face mistreatment (e.g., a person who is experiencing food insecurity or utilizing nutrition assistance programs), and for perceivers, individuals who perpetuate stigma by holding prejudice or mistreating those with stigmatized identities (e.g., a grocery store cashier, volunteer at a food pantry). Perceivers and targets experience stigma as a result of a multi-level, social process that exists when labeling, separation, status loss, discrimination and stereotyping occur within a power context and result in some groups being socially devalued and discredited. It also recognizes that structural stigma happens at the systems level where policies, systems, and environments perpetuate stigma.

Figure 1. The Stigma and Food Inequity Framework[9] Organizes and Exemplifies How Food Insecurity-Related Stigma Manifests



Stigma and Interventions: Characterizing Strategies

Recognizing that stigma occurs at multiple levels, public health researchers have developed a framework that characterizes interventions to address stigma. Interventions can be grouped into three main categories: structural, interpersonal, and intrapersonal.[17]

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Structural level interventions aim to change the societal, and institutional conditions that create stigmatizing environments.[17] Interventions at the structural level attempt to improve access and/or quality of the program or service.[18] An intervention may seek to change a state policy that imposes SNAP eligibility restrictions or address a food pantry offering expired goods.[19,20]

Interpersonal level interventions reduce stigma by addressing the interactions between targets and perceivers.[17] These interventions aim to increase intergroup contact and improve the quality of interactions, ensuring they are respectful, often through training and education.[17,21]

Intrapersonal level interventions address the way individuals think, feel, or behave. These interventions can be geared towards targets or perceivers and often involve education,[22] counseling,[17] or expressive and reflective writing.[23]

Research Objective

As research about the ways in which food insecurity and stigma manifest and intersect emerges, there is an increasing interest in characterizing the interventions and strategies currently underway or available which specifically intend to address food insecurity-related stigma. The goal of the current study is to characterize interventions of food insecurity-related stigma implemented in federal nutrition programs (e.g. SNAP, WIC) and emergency food programs (e.g. food pantries, food cupboards) within high income countries.

Methods

Data Sources

A search of six bibliographic databases including PubMed, APA PsycINFO (ProQuest), CINAHL Plus with Full Text, Sociological Abstracts, and Dissertations and Theses Global (ProQuest) was undertaken for this study. In partnership with a librarian, the team refined search terms and formatting in PubMed. The formatting of subsequent searches in other databases were adjusted based on the database-specific parameters, but included terms to best match the PubMed search. Search terms were categorized into three groups: 1) stigma-related terms (e.g., social stigma, shame, embarrassment), 2) food insecurity and assistance terms (e.g., SNAP, emergency food, food insecurity), and 3) intervention terms (e.g., intervention, strategy, program, evaluation). Complete search queries can be found in Appendix A. Additionally, the research team searched for gray literature by combining keywords into search engines (e.g. food insecurity stigma, SNAP stigma). The research team also conducted a snowball search of articles identified from databases and search engines.

Inclusion and Exclusion Criteria

Articles were included if they met the following criteria: (a) peer-reviewed or gray literature; (b) published in or before September 2024; (c) publication in the English language; (d) articles from high-income countries, as defined by the World Bank in 2024; and (e) article details an explicit and implemented intervention strategy specifically intended to address food insecurity-related stigma. Articles were excluded if they were: (a) a measure development, commentary, or review; (b) conducted in a mid- or low-income country; (c) lacking a detailed description of the intervention; (d) interventions not implemented to reduce food insecurity and food insecurity-related stigma; (e) examined a pediatric population; (f) lacking data associated with intervention

and/or outcomes closely related to food insecurity and food insecurity-related stigma were not included.

Data Extraction

Articles identified through databases were imported into Covidence for de-duplication and screening. Two research team members independently reviewed title/abstracts and full texts and resolved conflicts periodically through consensus and the input of a third team member. Articles identified through the gray literature (i.e., search engines) and snowball (i.e., citations) searches were unable to be entered into Covidence, and instead were reviewed by two team members, resolving conflicts by consensus. Data on study/article attributes and intervention characteristics were extracted using a structured template.

Data Synthesis

The structured template captured descriptive statistics and thematic analysis to summarize intervention characteristics and identify themes. The location, program of intervention (e.g., SNAP, WIC, emergency food), and study design (i.e., qualitative, quantitative, mixed-methods) were recorded. Interventions were coded according to the level of stigma addressed (i.e., structural, interpersonal, intrapersonal) and further grouped into categories (e.g., technology, training, service model).

Results

Search Results

The initial database search produced 2,251 results, 1,964 of which were screened after duplicates were identified and removed (figure 2). Sixty-six results remained after title/abstract screening and ten results were included after full text screening. Another 49 articles were identified via internet and citation searching, eight of which remained after full text screening. In total, 18 articles were included in this review.

Figure 2. PRISMA Flow Diagram for Food Insecurity-Related Stigma Intervention Literature, 2024[24]

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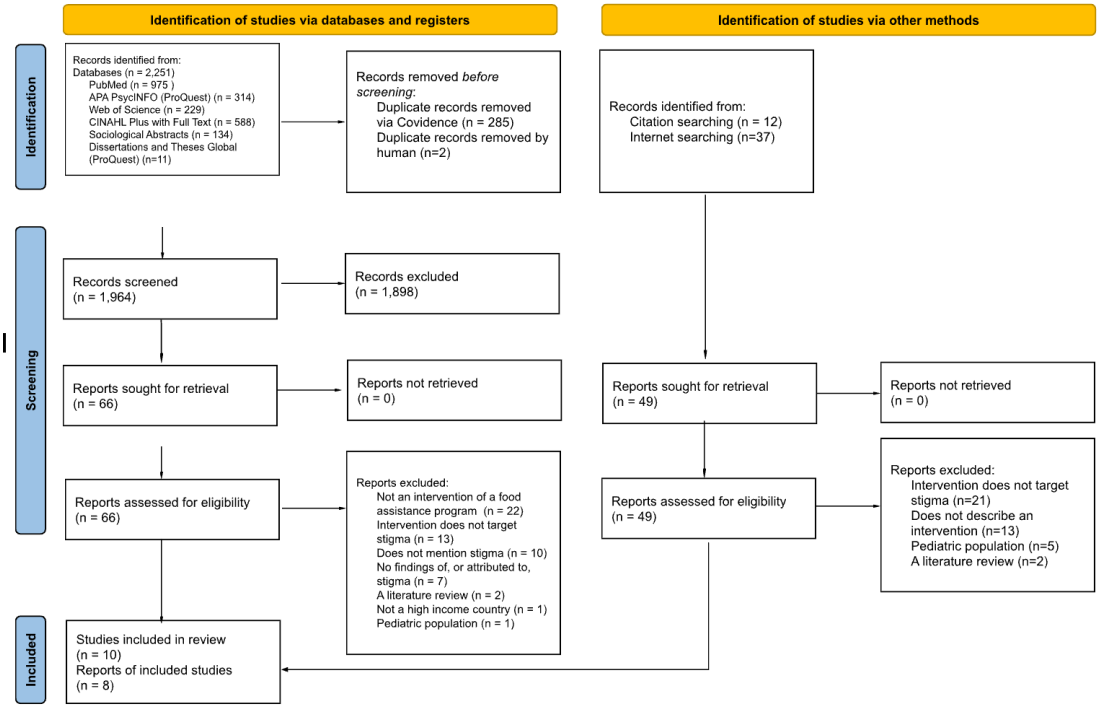

Study Characteristics

A majority of the included articles (n=16) originated in the United States of America, with the remainder (n=2) from the United Kingdom. Half of the articles (n=9) used mixed methods designs, seven articles used qualitative designs, and two articles used quantitative designs. Many articles (n=8) detailed an intervention in the emergency food setting. Interventions for future health/helping professionals (n=3) and general food insecurity (n=3) were the next most frequently identified. Three articles reported on interventions for WIC participants, and two articles considered SNAP interventions. One article examined both WIC and SNAP and was counted in both categories. The majority of articles (n=12) were published in the past five years, but date as far back as 2004 (n=1). Characteristics of articles included in the review can be found in Appendix B.

Intervention Levels and Categories

The 18 included articles detailed a total of 46 food insecurity-related stigma intervention strategies. Intervention levels and categories with examples are presented in Table 1. The frequencies of each intervention level and category can be found in Table 2. The complete list of interventions can be found in Appendix C. Structural level interventions were much more frequently implemented (n=41, 89.1%) than intrapersonal level interventions (n=3, 6.5%) or interpersonal level interventions (n=2, 4.3%).

Table 1. Food Insecurity-Related Stigma Intervention Categories and Definitions with Examples

Intervention Category	**Definition**	**Examples**
Structural Level		

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Technology	New technology, whether physical or online, is utilized to reduce feelings of discomfort and shame involved in receiving food.	Electronic Benefit Transfer (EBT) cards were provided in place of paper vouchers to alleviate discomfort and reduce stigma at checkout.[25–28]
		Open Food Network is a food hub that hosts an open-source software connecting local producers and consumers to provide a less stigmatizing experience to lower income communities when compared to traditional food banks.[29]
		U.S. Hunger's Full Cart uses artificial intelligence to objectively review emergency food applications and provide recommended services, removing judgement and potential shame.[30]
Messaging/ Communication	Spoken, posted, or displayed words are chosen with intention to reduce stigma.	Classroom materials presented by professors (e.g. course syllabi, slide decks) make information about campus food resources widely available, not just to students determined to be "in need," to reduce othering/singling out.[31]
		Food bank communication strategies use social media to emphasize fulfilling a duty to prevent food from being sent to a landfill, rather than *taking advantage* of a service or system.[32]
		Services are rebranded and referred to as markets and cafes, rather than food pantries or soup kitchens to avoid negative connotations.[33]
Service Model	A food assistance program alters how their service is traditionally/commonly provided to improve the client experience.	Feeding Tampa Bay's Trinity Cafe redesigned their food distribution warehouse to feel like a public market where clients can choose what items they would like to take.[34]
		The food hub avoided internalized stigma by offering clients a choice of what items they wanted, overcoming connotations that clients are "receivers" rather than "purchasers" of food.[29]
		Clients could receive food 24/7/365 with no questions asked and no proof of need in attempts to eliminate structural and social inhibitors to participation.[35]
Environment	The space inside the food assistance program is designed in a way to reduce stigma.	SuperShelf connected a food bank to funding that upgraded food displays with culturally and visually appealing signage and artwork, creating a space where clients feel respected.[21]
		The North East of England Independent Community Food Hub was designed to look like a community cafe rather than a typical food pantry.[32]

Location	The physical location of the food resource is positioned to offer convenience and/or privacy.	A hospital fully integrates their on-site food pantry into public use areas to normalize food pantry use within the community.[35]
		The food pantry was moved to a central location to demonstrate that it is a resource for the whole community, which over time may reduce the stigma.[36]
Food Selection /Quality	Food options provided strive to match the tastes and preferences of clients.	When the food bank learned that peanut butter was not something Hispanic families wanted it was swapped for greater quantities of rice and beans.[34]
		Boise State's food pantry reduces stigma by providing food and supplies that patrons want. They gather information by sending out surveys.[31]
Policy	Federal or state policies amend how a food program is administered to reduce stigma.	Implement policies that address SNAP eligibility restrictions by allowing SNAP access to unemployed and underemployed people, college students, and formerly incarcerated individuals.[27]
Staffing	The food program selects staff and volunteers (perceivers) with intention to ensure the client (target) experience is welcoming and accommodating.	Volunteers were commonly ex-food bank users who had lived experiences of the stigma and shame that are often felt when accessing food resources.[32]
		The Samaritan Community Center focused on recruiting and hiring bilingual volunteers and staff members to accommodate the large Spanish and Marshallese speaking population.[33]
Interpersonal Level		
Training	Food program staff and volunteers (perceivers) participate in a formal training to improve client (target) interactions and experiences.	Managers and volunteers were trained in cultural humility, client choice, and being both welcoming and respectful to pantry clients.[21]
Intrapersonal Level		
Training	Perceivers participate in an educational experience that intervenes on their personal perceptions of what food insecurity is like.	Students enrolled in a community nutrition course participated in a food insecurity experience where they could not spend more than $3 per day on food for five days to build empathy and reflect on a SNAP-user's experience.[23]
		Researchers used an online animated simulation to increase cultural competence of emerging health professionals.[37]

Interventions were tailored to specific target programs (i.e. SNAP, WIC, emergency food, future health/helping professionals, other/general food insecurity). Therefore, the following results are

organized by program of intervention and further grouped by intervention level (i.e. structural, interpersonal, intrapersonal).

Table 2. Food Insecurity-Related Intervention Program of Focus and Intervention Type by Frequency

Program Focus of Intervention	**N**	**%**
Emergency Food	*32*	*69.6*
Structural		
Messaging/Communication	8	17.4
Service model	7	15.2
Environment	5	10.9
Location	4	8.7
Food Selection/Quality	3	6.5
Staffing	2	4.3
Technology	1	2.2
Interpersonal		
Training	2	4.3
SNAP	*4*	*8.7*
Structural		
Policy	2	4.3
Technology	2	4.3
Other/General Food Insecurity	*4*	*8.7*
Structural		
Technology	3	6.5
Service Model	1	2.2
WIC	*3*	*6.5*
Structural		
Technology	3	6.5
Future Health/Helping Professionals	*3*	*6.5*
Intrapersonal		
Training	3	6.5
TOTAL	46	100.0

Emergency Food Program Interventions

Eight articles described intervention strategies within emergency food environments (44.4%).[21,29,31–36] Within these eight articles, 32 interventions were mentioned, comprising 69.6% of all interventions in this review. Most of these interventions were at the structural level (n=30, 65.2%), and two (4.3%) were at the interpersonal level.

Structural-Level Interventions

Seven types of structural level interventions were identified within emergency food settings including messaging/communication, service model, environment, location, food selection/quality, staff/volunteers, and technology.

Messaging/Communication Interventions. The most frequently mentioned intervention strategy to reduce stigma involved altering messaging and communication related to emergency

food programs. In total, eight messaging/communication interventions were described within six articles.[29,31–35] To increase awareness of emergency food resources, food pantries placed advertisements in the local paper,[34] grocery stores,[29] and on social media.[32] Additionally, professors at the University of California disclosed information about their campus's pantry on the first day of classes or in the syllabus.[31] In addition to these advertising interventions, emergency food programs altered the contents of their outreach materials to improve program accessibility. For example, food pantries made various changes to their messaging including referring to their resources as markets and cafes instead of food pantries or soup kitchens,[33] publicly displaying signs that read "Food for Everyone" to encourage broad participation, and altering their advertisements to clarify program administrative requirements (e.g., no paperwork).[34]

Service Model Interventions. Another common intervention strategy involved modifying emergency food program service models. Seven service model interventions were described within four articles.[29,33–35] In particular, pantries switched from standardized, pre-packaged bags of items to a "choice" or "client choice" model where clients have a more grocery store-like experience, hand selecting the items that best meet their dietary preferences and nutritional needs. Another article additionally described an innovative café experience where guests are served a three-course, sit-down meal by volunteers. Furthermore, a hospital food pantry designed its service model to allow clients to access food 24-hours a day, 7 days a week, 365 days a year and reduced administrative burden by eliminating proof of need, identification, and screenings or assessments.[35]

Environment Interventions. Five interventions altered the food pantry environments to improve client experiences.[21,32–34,36] Two articles displayed the food in a desirable way to make the food options look more appealing[21,34] and ensured the space had visually pleasing signage and artwork to add color to the space.[21] In another study, a college food pantry covered their windows with large branded decals that would block views to the clients inside, ensuring anonymity.[36] For a food pantry that had a large non-English speaking population, all signs and materials were translated in English, Spanish, and Marshallese, ensuring all clients could navigate the facilities.[33] In addition to the details that make food pantries more appealing, one article described an operation that looked more similar to a café than a food pantry, with tables and chairs, computers and fridges for client use.[32]

Location Interventions. Four interventions altered the physical location of the emergency food resource.[32,35,36] Intervention goals were split between preserving food pantry clients' sense of anonymity and integrating the food pantry with the public to normalize and desensitize the community. One article described a community hub's food bank whose location was out of sight to people passing by.[32] The food bank's location near other services, however, maintained a sense of anonymity for clients, where it was difficult to tell if someone was there for the food bank, or a game night. The opposite approach was also found in the literature. A college food pantry intentionally relocated the pantry from a more secluded location to a central one, hoping that with greater visibility and a location that demonstrates it's a resource for the whole community, stigma would eventually be reduced.[36] Additionally, a series of food pantries established within a hospital prioritized location for similar reasons by placing them in break rooms, elevator waiting areas, and public passageways to make food obviously available to all and easily accessible so family members could quickly return to visiting loved ones.[35]

Food Selection/Quality Interventions. Three interventions on food selection were implemented across three articles.[21,31,34] All three interventions revolved around a commitment to offer food items that the community genuinely wanted. One article described a food bank in a Hispanic community that sought advice about food selection from a neighboring emergency food operation. In response to their guidance, the food bank stopped offering peanut butter, and provided more fresh and prepared foods.[34] Boise State University surveys clients asking for feedback and suggestions regarding food selection.[31] Food shelf managers consulted with SNAP-Ed educators to help source more culturally desirable foods and increase the variety of fresh produce provided.[21]

Staffing Interventions. Two interventions focused on staff hiring/volunteer onboarding practices.[32,33] One article emphasized that the community food hub was both run by and for the community.[32] As such, the volunteers were typically ex-food bank users who had first-hand lived experiences with what it was like to be on the receiving end of services. Additionally, a food pantry within a community center that served many non-English speaking clients focused their recruitment efforts on hiring staff and finding volunteers who were bilingual to best accommodate patrons.[33]

Technology Intervention. One article introduced a technology-based intervention in the emergency food space. A food hub's online platform sought to streamline connections between producers and consumers via a single aggregated site. The open-source software was developed specifically for this online marketplace and aimed to create an alternative, less stigmatizing pathway to obtain food resources.[29]

Interpersonal Interventions

Training Interventions. Two articles discussed interpersonal interventions, both of which focused on training the staff and volunteers at the emergency food program.[21,34] One food pantry has coined the phrase "The Grow Code" that is displayed on their website, discussed in their interviewing process, and weaved throughout training. This unifying agreement ensures that staff and volunteers prioritize service with respect and dignity.[34] Another food pantry noted that managers and volunteers were trained specifically in cultural humility, client choice, and creating a welcoming and respectful environment.[21]

SNAP Interventions

Four interventions in SNAP were described in two articles.[27,28] All four (8.7%) interventions were at the structural level. SNAP interventions included two policy-related interventions and two technology-based interventions.

Policy Interventions. Policy-based interventions were implemented by federal and state governments to alter SNAP administration. The first policy sought to expand SNAP eligibility and inclusiveness by eliminating restrictions for certain populations, such as people who are underemployed, formerly incarcerated, or are college students. The second policy approach involved rejecting proposals aiming to restrict SNAP-eligible foods, thereby protecting SNAP customer's food.[27]

Technology Interventions. Both of the technology-based SNAP interventions included transitioning from paper food stamps to an electronic benefit transfer (EBT) card. These interventions sought to reduce administrative costs, fraud and theft of benefits, and social

stigma.[28] The use of an EBT card, compared to paper food stamps, has increased SNAP enrollment.[27]

Other/General Food Insecurity Interventions

Three articles examined intervention strategies that did not target a specific program or population, but rather, food insecurity in general, and the negative emotions that are often coupled with it.[26,30,38] Four (8.7%) structural interventions were described across the three articles including three (6.5%) technology interventions and one (2.2%) service model intervention.

Technology Interventions. In one of the technology interventions, a college campus aimed to mitigate stigma and administrative burdens by switching from paper meal tickets to a debit card that could fund students' meals three to four times each week.[26] In another instance, a technology intervention was implemented to maintain anonymity with an online food assistance application. This strategy eliminates any judgement or shame experienced when filling out a food assistance application in person and allows applicants to provide sensitive information in the privacy of their own home. The same article discussed the use of human-centric artificial intelligence (AI) and machine learning to remove subjectivity from evaluating people's lived experiences.[30]

Service Model Interventions. The service model intervention delivered weekly meal kits to rural and suburban low-income families containing the ingredients and recipes to make three meals. Meal delivery services provide convenience that many food insecure families could benefit from, but otherwise could not afford. Rather than measure the meal kit's effect on food security, researchers analyzed if receiving the service improved people's subjective social status, and indication of both mental and physical health.[38]

WIC Interventions

Three articles detailed intervention strategies within WIC settings.[25,27,39] All three of these articles discussed a structural level technology intervention (n=3, 6.5%).

Technology Interventions. Two of the technology-based interventions looked at the effects of WIC enrollment/participation after the program's transition from redemption using paper vouchers to an EBT card.[25,27] The third intervention targeted the Cash-Value Benefit amount WIC participants receive for fresh fruit and vegetable purchases. While other goods are redeemed via WIC on a quantity basis, produce is redeemed according to its cost. Individual grocery store codes and WIC authorized product codes may not align, and the difficulty of redemption has left significant amounts of WIC dollars unclaimed. The study found that a more flexible, mixed generic code mapping leads to the fewest erroneous rejections.[39]

Future Health/Helping Professionals Interventions

Three intervention strategies targeting current students on career paths that may connect people experiencing food insecurity to nutrition assistance programs were described in three articles.[23,37,40] Each of these articles described one intrapersonal intervention (n=3, 6.5%).

Training Interventions. Two interventions were budget restriction experiences assigned to students enrolled in a class or specific program. Students taking a community nutrition course at a land-grant university in the Northwest were required to spend no more than $3 per day on food for five days to simulate a SNAP participant's budget for 5 days. Journaled reflections about the

experience were analyzed and given empathy scores.[23] Social work master's students were instructed to spend no more than $6.10 per day on food for six days and could supplement their diets with free food obtained from family, friends, or food pantries. Discussion board posts were analyzed qualitatively.[40] A study piloted an online animated simulation with focus groups of emerging health professionals.[37] The simulation followed a character deciding whether to apply for public assistance and interacted with viewers by prompting them to select choices/make decisions to change the narrative. The goal of the simulation was to increase participant's cultural competence and empathy.

Intervention Efficacy

The majority of interventions reported to have a positive effect on food service utilization. The data to support these claims varied by article, ranging from quantitative statistics,[21,23,25,28,37–40] such as SNAP/WIC usage or increased empathy scores, to qualitative data based on observations, testimonies, or first-hand experience.[26,27,30–36] One article found an intervention on service model from a food pantry to a local food hub was unable to address food insecurity-related stigma, and recommended broader societal-level changes were necessary.[29]

Discussion

This review uses a multi-level approach to categorize intervention strategies aiming to address food insecurity-related stigma[17] with the language and context of the Stigma and Food Inequity Framework.[9] Across 18 included articles identified from scholarly databases and reputable Internet sources, 46 interventions and strategies were described. Our findings demonstrate that a majority of interventions operate at the structural level (n=41, 89.1%), as opposed to the interpersonal level (n=2, 4.3%) or intrapersonal level (n=3, 6.5%). Additionally, most interventions occurred within emergency food program environments (n=32, 69.6%). Structural level interventions most frequently utilized technology (n=9, 19.6%), often in the form of an EBT card for food purchases,[25–28] innovated operations through an alternative service model (n=8, 17.4%), offering pantry clients a choice-based, "shopping"-like experience,[28,33–35] or made changes to how the food program was messaging and communicating services (n=8, 17.4%) through signage and language/word choice.[29,31–35] Messaging has been emphasized in other literature expressing the need to normalize the use of food banks and pantries,[41] and regard it as a way to care for one's family, rather than a sign of weakness.[42] These strategies substantiate findings in a 2018 article describing a sense of shared community identity can humanize the emergency food experience.[43]

The degree of structural level interventions is encouraging as these typically result in the broadest impact.[17] However, accounts of negative individual-level stigma manifestations are extremely common, especially within the emergency food setting and warrant greater intervention.[8] Of the 46 total interventions, only two described interpersonal strategies to support staff or volunteers working with clients/customers.[21,34] This relative lack of interpersonal strategies contradicts recommendations found in other studies to increase training for grocery store staff,[44] university faculty,[45] and SNAP/WIC caseworkers.[46] Three studies described interventions to help increase awareness among students with an intention of working in the social services sector.[23,37,40] We observed a lack of interpersonal level interventions, a need that parallels other stigma reduction fields 15-20 years ago.[47,48] However, these fields have begun to recognize and close the gap by putting greater emphasis on interpersonal interventions.[49]

Similarly to our study, other articles have reported an emphasis on college students as the study population.[8,50]

Stigma does not manifest itself within a vacuum, and intervention approaches should be multi-layered and recognize stigma's intersectionality. Food insecurity-related stigma often exacerbates or originates from other negative social dynamics such as racism,[51] and social isolation[52] in addition to physical barriers that targets may face such as physical mobility limitations.[53,54] Food insecurity-related stigma overlaps with weight stigma[55] and discrimination against low-income populations referred to as welfare stigma or poverty stigma.[56] This complexity suggests that future interventions must address the dynamic dimensions of stigma and the discrimination it perpetuates. The overlap additionally may explain why the majority (89.1%) of strategies uncovered in this review focused on structural level interventions that encouraged broad organizational-level changes. It may also represent an opportunity however to dovetail training efforts around stigma with interconnected topics such as racism, substance use disorder, or mental health.

Strengths and Limitations

Our database search spanned six databases to identify relevant articles across health sciences, psychology, sociology, and other social sciences. Further sources were identified from a wide Internet search and the reference sections of included articles. However, there is a possibility that some articles were missed if they were published in a database we did not search, were located beyond our keyword search, or were not available in English. Additionally, our search did not include articles focused on child nutrition programs (e.g., school meals) where there has been an emphasis on lunchroom stigma.[57,58] Future research could apply a similar methodology of this review to exclusively focus on interventions of lunchroom stigma. Finally, due to the inconsistent style of writing between gray literature and scholarly sources and even within the gray literature, it is possible that our review excluded interventions that in practice were relevant but were not adequately described or were presented as ideas but not active interventions with any associated data. Of note, there is not a common measure of food insecurity-related stigma, perhaps contributing to this gap and a lack of definitive causality that would link an intervention to an increased utilization of services. Future research to design and apply such a tool is warranted. Lastly, articles reviewed presented a myriad of recommendations for those implementing federal and emergency food programs, based on their article's findings. We did not categorize these suggestions to maintain the scope of our review, however, future researchers and food program professionals may find them beneficial.

Conclusion

Our review emphasizes the need for greater interpersonal and intrapersonal level interventions to address food insecurity-related stigma, especially those that consider these overlapping forms of discrimination. The inclusion of stigma-specific knowledge and relevant examples functions to expose and intervene on normalized, yet discriminatory, practices and could be incorporated into existing training on cultural awareness and inclusion at emergency food sites, in medical settings, and grocery stores, as an example.

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References

1. Moncayo, J. R., & Cafiero, C. (n.d.). *Hunger and food insecurity.* Food and Agriculture Organization of the United Nations. https://www.fao.org/hunger/en
2. Gundersen, C., & Ziliak, J. P. (2015, November). Food insecurity and health outcomes. *Health Affairs (Project Hope)*, *34*(11), 1830–1839. https://doi.org/10.1377/hlthaff.2015.0645 PubMed
3. Cook, J. T., & Frank, D. A. (2008). Food security, poverty, and human development in the United States. *Annals of the New York Academy of Sciences*, *1136*(1), 193–209. https://doi.org/10.1196/annals.1425.001 PubMed
4. Carlson, S., & Keith-Jennings, B. (2018). *SNAP is linked with improved nutritional outcomes and lower health care costs*. Center on Budget and Policy Priorities, 1-19. https://www.cbpp.org/research/snap-is-linked-with-improved-nutritional-outcomes-and-lower-health-care-costs
5. Carlson, S., & Neuberger, Z. (2021). *WIC Works: addressing the nutrition and health needs of low-income families for more than four decades.* Center on Budget and Policy Priorities. https://www.cbpp.org/research/food-assistance/wic-works-addressing-the-nutrition-and-health-needs-of-low-income-families
6. Mousa, T. Y., & Freeland-Graves, J. H. (2019, June). Food security of food recipients of a food pantry and soup kitchen. *Public Health Nutrition*, *22*(8), 1451–1460. https://doi.org/10.1017/S1368980018003658 PubMed
7. United States Department of Agriculture Food and Nutrition Service. (2021). *National and state level estimates of WIC eligibility and program reach in 2021.* https://www.fns.usda.gov/research/wic/eligibility-and-program-reach-estimates-2021
8. Halverson, M. M., Appel, E. Y., Earnshaw, V. A., Sands, G., Powell, R., Rozin, M., . . . Karpyn, A. (2025, September 5). Food insecurity-related stigma among adults in the United States: A scoping review. *Am J Health Promot*, *08901171251375977*, 8901171251375977. https://doi.org/10.1177/08901171251375977 PubMed
9. Earnshaw, V. A., & Karpyn, A. (2020, December 31). Understanding stigma and food inequity: A conceptual framework to inform research, intervention, and policy. *Translational Behavioral Medicine*, *10*(6), 1350–1357. https://doi.org/10.1093/tbm/ibaa087 PubMed
10. Goffman, E. (1963). Stigma: Notes on the management of spoiled identity. *Touchstone (Nashville, Tenn.)*.
11. Allen, S., Onsando, W. M., Patel, I., Canavan, C., Goodman, D., & Dev, A. (2023, September). Food insecurity and food access among women in Northern New England during the perinatal period. *J Obstet Gynecol Neonatal Nurs*, *52*(5), 374–383. https://doi.org/10.1016/j.jogn.2023.06.004 PubMed

12. Louie, N. T., Kim, L. P., & Chan, S. E. (2020, September). Perceptions and barriers to SNAP utilization among Asian and Pacific Islanders in greater Los Angeles. *Am J Health Promot*, *34*(7), 779–790. https://doi.org/10.1177/0890117120925746 PubMed
13. El Zein, A., Vilaro, M. J., Shelnutt, K. P., Walsh-Childers, K., & Mathews, A. E. (2022, May 20). Obstacles to university food pantry use and student-suggested solutions: A qualitative study. *PLoS One*, *17*(5), e0267341. https://doi.org/10.1371/journal.pone.0267341 PubMed
14. Hatzenbuehler, M. L., Phelan, J. C., & Link, B. G. (2013, May). Stigma as a fundamental cause of population health inequalities. *American Journal of Public Health*, *103*(5), 813–821. https://doi.org/10.2105/AJPH.2012.301069 PubMed
15. Panza, G. A., Puhl, R. M., Taylor, B. A., Zaleski, A. L., Livingston, J., & Pescatello, L. S. (2019, June 10). Links between discrimination and cardiovascular health among socially stigmatized groups: A systematic review. *PLoS One*, *14*(6), e0217623. https://doi.org/10.1371/journal.pone.0217623 PubMed
16. O'Donnell, A. T., Corrigan, F., & Gallagher, S. (2015, August 25). The impact of anticipated stigma on psychological and physical health problems in the unemployed group. *Frontiers in Psychology*, *6*, 1263. https://doi.org/10.3389/fpsyg.2015.01263 PubMed
17. Cook, J. E., Purdie-Vaughns, V., Meyer, I. H., & Busch, J. T. A. (2014, February). Intervening within and across levels: A multilevel approach to stigma and public health. *Soc Sci Med*, *103*, 101–109. https://doi.org/10.1016/j.socscimed.2013.09.023 PubMed
18. Livingston, J. D. (2020). Structural stigma in health-care contexts for people with mental health and substance use issues: A literature review. *Mental Health Commission of Canada.* https://doi.org/10.13140/RG.2.2.21168.17929
19. Fong, K., Wright, R. A., & Wimer, C. (2016). The cost of free assistance: Why low-income individuals do not access food pantries. *Journal of Sociology and Social Welfare*, *43*, 71. https://doi.org/10.15453/0191-5096.3999
20. Han, J. (2020). SNAP expansions and participation in government safety net programs. *Economic Inquiry*, *58*(4), 1929–1948. https://doi.org/10.1111/ecin.12909
21. Brinston, T., Phipps, S., Stratten, M., McGee-Brown, J., & Purry, A. (2023). SuperShelf transformation: Centering equity in a predominantly African American community. *Journal of Nutrition Education and Behavior*, *55*(7), 6. https://doi.org/10.1016/j.jneb.2023.05.015
22. Armstrong, B. J., Kalmuss, D., Franks, M., Hecker, G., & Bell, D. (2010, June). Creating teachable moments: A clinic-based intervention to improve young men's sexual health. *American Journal of Men's Health*, *4*(2), 135–144. https://doi.org/10.1177/1557988309331796 PubMed
23. Harmon, A., Landolfi, K., Shanks, C. B., Hansen, L., Iverson, L., & Anacker, M. (2017, March). Food insecurity experience: Building empathy in future food and nutrition professionals. *Journal of Nutrition Education and Behavior*, *49*(3), 218–227.e1. https://doi.org/10.1016/j.jneb.2016.10.023 PubMed
24. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., . . . Moher, D. (2021, March 29). The PRISMA 2020 statement: An updated guideline for

reporting systematic reviews. *BMJ (Clinical Research Ed.)*, *372*, n71. https://doi.org/10.1136/bmj.n71 PubMed

25. Bai, Y., & Ciecierski, A. (2023, December). Participants' underlying beliefs of using WIC electronic benefit transfer (EBT) cards in stores in New Jersey. *Journal of Community Health*, *48*(6), 1038–1043. https://doi.org/10.1007/s10900-023-01262-0 PubMed
26. Broton, K. M., Mohebali, M., & Goldrick-Rab, S. (2022). Deconstructing assumptions about college students with basic needs insecurity: Insights from a meal voucher program. *Journal of College Student Development*, *63*(2), 229–234. https://doi.org/10.1353/csd.2022.0018
27. Guardia, L., & Lacko, A. (2021, December 1). *To end hunger, we must end stigma.* Food Research & Action Center. https://frac.org/blog/endhungerendstigma
28. Zekeri, A. A. (2004). The adoption of electronic benefit transfer card for delivering food stamp benefits in Alabama: Perceptions of college students participating in the food stamp program. *College Student Journal*, *38*(4), 602–607.
29. Psarikidou, K., Kaloudis, H., Fielden, A., & Reynolds, C. (2019). Local food hubs in deprived areas: Destigmatising food poverty. *Local Environment*, *24*(6), 525–538. https://doi.org/10.1080/13549839.2019.1593952
30. Raymond, C., & Rouzier, A. (2023, April 18). *Shame and hunger: Breaking the stigma through lived experiences.* Behavioral Health News. https://behavioralhealthnews.org/shame-and-hunger-breaking-the-stigma-through-lived-experiences/
31. Boise State University. (2021, March 29). *Reducing the stigma of food insecurity on college campuses.* https://www.boisestate.edu/deanofstudents/2021/03/29/reducing-the-stigma-of-food-insecurity-on-college-campuses/
32. Brennan-Tovey, K., Board, E. M., & Fulton, J. (2023). Counteracting stigma-power: An ethnographic case study of an independent community food hub. *Journal of Contemporary Ethnography*, *52*(6), 778–798. https://doi.org/10.1177/08912416231199095
33. Rowland, B., Mayes, K., Faitak, B., Stephens, R. M., Long, C. R., & McElfish, P. A. (2018, June 22). Improving health while alleviating hunger: Best practices of a successful hunger relief organization. *Current Developments in Nutrition*, *2*(9), nzy057. https://doi.org/10.1093/cdn/nzy057 PubMed
34. Ali, A. (2022, April 12). *Fighting stigma in hunger relief, one small step at a time.* Food Bank News. https://foodbanknews.org/fighting-stigma-in-hunger-relief-one-small-step-at-a-time/
35. Feed1st. (2024). *Pantry program toolkit*. UChicago Medicine. https://www.keepandshare.com/doc21/117209/feed1st-toolkit-2024?da=y
36. Fernandez, H. (2020, February 4). *Tackling the challenge (and the stigma) of student food insecurity.* Academic Impressions. https://www.academicimpressions.com/tackling-the-challenge-and-the-stigma-of-student-food-insecurity/
37. Johnson, K. E., Fleck, M., & Pantazes, T. (2019). "It's the story": Online animated simulation of cultural competence of poverty—A pilot study. *The Internet Journal of Allied Health Sciences and Practice*, *17*(2), 10. https://doi.org/10.46743/1540-580X/2019.1766

38. Yarborough, J., Chambers, K. A., Sierra, I. R., House, L. A., Mathews, A. E., & Shelnutt, K. (2022). A Heathy meal kit intervention improves subjective social status of rural and suburban participants with low-income. *Journal of Nutrition Education and Behavior*, *54*(7), S86–S87. https://doi.org/10.1016/j.jneb.2022.04.185

39. Zhang, J., Zhang, Q., Tang, C., Park, K., Harrison, K., McLaughlin, P. W., & Stacy, B. (2022). The role of generic price look-up code in WIC benefit redemptions. *Journal of Public Policy & Marketing*, *41*(3), 237–253. https://doi.org/10.1177/07439156221092418

40. Kenney, J. L., & Young, S. R. (2019). Using experiential learning to help students understand the impact of food insecurity. *Journal of Social Work Education*, *55*(1), 64–74. https://doi.org/10.1080/10437797.2018.1491356

41. Gipson, A. (2023, June 18). *Lesson 16: Normalizing food access for college students.* Food Dignity. https://fooddignitymovement.org/lesson-15-normalizing-food-access-for-college-students/

42. Murray-McGinnis, E. (n.d.). *Breaking the stigma: Using a food pantry is nothing to be ashamed of.* St. Vincent de Paul Temple. https://svdptempleterrace.org/breaking-the-stigma-using-a-food-pantry-is-nothing-to-be-ashamed-of/

43. Bowe, M., Wakefield, J. R. H., Kellezi, B., McNamara, N., Harkin, L., & Jobling, R. (2019). 'Sometimes it's not just about the food': The social identity dynamics of foodbank helping transactions. *European Journal of Social Psychology*, *49*(6), 1128–1143. https://doi.org/10.1002/ejsp.2558

44. Leone, L., Haynes-Maslow, L., Kasprzak, C., Raja, S., & Epstein, L. H. (2022). The WIC shopping experience: A qualitative study examining retail-based strategies to increase WIC retention and redemption rates. *Journal of Hunger & Environmental Nutrition*, *17*(4), 460–474. https://doi.org/10.1080/19320248.2021.1915906

45. Crutchfield, R. M., Carpena, A., McCloyn, T. N., & Maguire, J. (2020). The starving student narrative: How normalizing deprivation reinforces basic need insecurity in Higher education. *Families in Society*, *101*(3), 409–421. https://doi.org/10.1177/1044389419889525

46. Gaines-Turner, T., Simmons, J. C., & Chilton, M. (2019, December). Recommendations from SNAP participants to improve wages and end stigma. *American Journal of Public Health*, *109*(12), 1664–1667. https://doi.org/10.2105/AJPH.2019.305362 PubMed

47. Heijnders, M., & Van Der Meij, S. (2006, August). The fight against stigma: An overview of stigma-reduction strategies and interventions. *Psychol Health Med*, *11*(3), 353–363. https://doi.org/10.1080/13548500600595327 PubMed

48. Livingston, J. D., Milne, T., Fang, M. L., & Amari, E. (2012, January). The effectiveness of interventions for reducing stigma related to substance use disorders: A systematic review. *Addiction (Abingdon, England)*, *107*(1), 39–50. https://doi.org/10.1111/j.1360-0443.2011.03601.x PubMed

49. Bielenberg, J., Swisher, G., Lembke, A., & Haug, N. A. (2021, December). A systematic review of stigma interventions for providers who treat patients with substance use disorders. *Journal of Substance Abuse Treatment*, *131*, 108486. https://doi.org/10.1016/j.jsat.2021.108486 PubMed

50. Dalky, H. F. (2012, June). Mental illness stigma reduction interventions: Review of intervention trials. *Western Journal of Nursing Research*, *34*(4), 520–547. https://doi.org/10.1177/0193945911400638 PubMed

51. Eylem, O., de Wit, L., van Straten, A., Steubl, L., Melissourgaki, Z., Danışman, G. T., . . . Cuijpers, P. (2020, June 8). Stigma for common mental disorders in racial minorities and majorities a systematic review and meta-analysis. *BMC Public Health*, *20*(1), 879. https://doi.org/10.1186/s12889-020-08964-3 PubMed

52. Mullis, S. (2016). Alleviating social isolation and food insecurity through community gardening: How the Oronoo Community Garden impacts seniors. *The University of Maine Honors College. 403.* https://digitalcommons.library.umaine.edu/honors/403

53. Frongillo, E. A., & Warren, A. M. (2018). *An evaluation report: Senior food assistance, related programming, and seniors' experiences across the Feeding America network.* Feeding America. https://www.feedingamerica.org/sites/default/files/research/senior-hunger-research/senior-hunger-evaluation.pdf

54. Halverson, M. M., Appel, E., Powell, R., Sands, G., Brown, A., Chrisostam, N., Sharma, S., & Karpyn, A. (Under Review, 2025a). Expectations and experiences of food insecurity-related stigma and disclosure among emergency food program clients.

55. Becker, C. B., Middlemas, K., Gomez, F., & Kilpela, L. S. (2021, June). An exploratory examination of internalized weight stigma in a sample living with food insecurity. *Body Image*, *37*, 238–245. https://doi.org/10.1016/j.bodyim.2021.03.006 PubMed

56. Reutter, L. I., Stewart, M. J., Veenstra, G., Love, R., Raphael, D., & Makwarimba, E. (2009, March). "Who do they think we are, anyway?": Perceptions of and responses to poverty stigma. *Qualitative Health Research*, *19*(3), 297–311. https://doi.org/10.1177/1049732308330246 PubMed

57. Chapman, L. E., Gosliner, W., Schwartz, M. B., Zuercher, M. D., Ritchie, L. D., Orta-Aleman, D., . . . Cohen, J. F. W. (2025, June). Understanding free or reduced-price school meal stigma: A qualitative analysis of parent perspectives. *The Journal of School Health*, *95*(6), 389–399. https://doi.org/10.1111/josh.70004 PubMed

58. Domina, T., Clark, L., Radsky, V., & Bhaskar, R. (2024). There is such a thing as a free lunch: School meals, stigma, and student discipline. *American Educational Research Journal*, *61*(2), 287–327. https://doi.org/10.3102/00028312231222266

Appendix A.

Search Queries and Article Quantities by Database

Database	Search	Articles
PubMed	((((("Social Stigma"[Mesh] OR "Social Discrimination"[Mesh] OR "Perceived Discrimination"[Mesh] OR "Stereotyping"[Mesh] OR "Prejudice"[Mesh] OR "Rejection, Psychology"[Mesh] OR "Social Status"[Mesh] OR "Social Isolation"[Mesh] OR "Guilt"[Mesh] OR "Shame"[Mesh] OR "Embarrassment"[Mesh] OR	N = 975

	"Disclosure"[Mesh] OR "Truth Disclosure"[Mesh] OR "Self Disclosure"[Mesh] OR "Coping Skills"[Mesh] OR "Social Segregation"[Mesh] OR Discrimination[Title/Abstract] OR prejudice[Title/Abstract] OR stereotyping[Title/Abstract] OR stigma[Title/Abstract] OR Perceived Discrimination[Title/Abstract] OR Self-stigmatization[Title/Abstract] OR Shame[Title/Abstract] OR Stereotype[Title/Abstract] OR Respect[Title/Abstract] OR Othering[Title/Abstract] OR Exclusion[Title/Abstract] OR "Social Status Hierarchies"[Title/Abstract] OR "Social Rejection"[Title/Abstract] OR "Social Status Loss"[Title/Abstract]))) AND ((("Food Assistance"[Mesh] OR "Public Assistance"[Mesh] OR "Food Insecurity"[Mesh] OR "Access to Healthy Foods"[Mesh] OR "Food Security"[Mesh] OR SNAP[Title/Abstract] OR WIC[Title/Abstract] OR food assistance[Title/Abstract] OR food bank*[Title/Abstract] OR food pantr*[Title/Abstract] OR Supplemental Nutrition Assistance Program[Title/Abstract] OR "Special Supplemental Nutrition Program for Women, Infants, and Children"[Title/Abstract] OR Food Assistance Program*[Title/Abstract] OR Food Aid Program*[Title/Abstract] OR Food Stamp Program*[Title/Abstract] OR Food Stamp*[Title/Abstract] OR SNAP Program*[Title/Abstract] OR "Women, Infants, and Children Program"[Title/Abstract] OR WIC Program[Title/Abstract] OR "Special Supplemental Nutrition Program for Women, Infants, and Children"[Title/Abstract] OR food cupboard*[Title/Abstract] OR emergency food*[Title/Abstract]))))) AND ((("Program Evaluation"[Mesh] OR "Policy"[Mesh] OR "Evidence-Based Practice"[Mesh] OR Intervention[Title/Abstract] OR Program[Title/Abstract] OR Strateg*[Title/Abstract] OR Programme[Title/Abstract] OR Evaluation[Title/Abstract]))))	
PsychINFO	(MAINSUBJECT.EXACT("Stigma") OR MAINSUBJECT.EXACT("Discrimination") OR MAINSUBJECT.EXACT("Visual Discrimination") OR MAINSUBJECT.EXACT("Social Discrimination") OR MAINSUBJECT.EXACT("Perceptual Discrimination") OR MAINSUBJECT.EXACT("Stereotyped Attitudes") OR MAINSUBJECT.EXACT("Shame") OR MAINSUBJECT.EXACT("Embarrassment") OR MAINSUBJECT.EXACT("Self-Disclosure") OR tiab(Discrimination OR prejudice OR stereotyping OR stigma OR Perceived Discrimination OR Self-stigmatization OR Shame OR Stereotype OR Respect) MAINSUBJECT.EXACT("Prejudice") OR MAINSUBJECT.EXACT("Social Acceptance") OR MAINSUBJECT.EXACT("Social Status") OR	N=314

	MAINSUBJECT.EXACT("Social Isolation") OR MAINSUBJECT.EXACT("Guilt")) AND (MAINSUBJECT.EXACT("Social Services") OR MAINSUBJECT.EXACT("Community Services") OR MAINSUBJECT.EXACT("Community Welfare Services") OR MAINSUBJECT.EXACT("Food Insecurity") OR MAINSUBJECT.EXACT("Food") OR MAINSUBJECT.EXACT("Nutrition") OR MAINSUBJECT.EXACT("Government Programs") OR tiab(SNAP OR WIC OR food assistance OR food bank* OR food pantr* OR Supplemental Nutrition Assistance Program OR "Special Supplemental Nutrition Program for Women, Infants, and Children" OR Food Assistance Program* OR Food Aid Program* OR Food Stamp Program* OR Food Stamp* OR SNAP Program* OR "Women, Infants, and Children Program" OR WIC Program OR "Special Supplemental Nutrition Program for Women, Infants, and Children" OR food cupboard*)) AND ((MAINSUBJECT.EXACT("Intervention") OR MAINSUBJECT.EXACT("Program Evaluation") OR MAINSUBJECT.EXACT("Evidence Based Practice")) OR tiab(program OR policy OR programme OR evaluation OR strateg*))	
Web of Science	((TS=(Discrimination OR prejudice OR stereotyping OR stigma OR "Perceived Discrimination" OR "Self-stigmatization" OR Shame OR Stereotype OR Respect)) AND (TS=(SNAP OR WIC OR "food assistance" OR "food bank*" OR "food pantr*" OR "Supplemental Nutrition Assistance Program" OR "Special Supplemental Nutrition Program for Women, Infants, and Children" OR "Food Assistance Program*" OR "Food Aid Program*" OR "Food Stamp Program*" OR "Food Stamp*" OR "SNAP Program*" OR "Women, Infants, and Children Program" OR "WIC Program" OR "Special Supplemental Nutrition Program for Women, Infants, and Children" OR "food cupboard*")) AND (TS=("Intervention" OR "Program Evaluation" OR "Program" OR "Policy" OR "Programme" OR "evaluation" OR "evidence-based practice" OR "strateg*")))	N = 279
CINAHL	((MH "Stigma") OR (MH "Discrimination") OR (MH "Perceived Discrimination") OR (MH "Stereotyping") OR (MH "Prejudice") OR (MH "Social Status") OR (MH "Social Isolation") OR (MH "Guilt") OR (MH "Shame") OR (MH "Embarrassment") OR (MH "Truth Disclosure") OR (MH "Self Disclosure") OR (MH "Coping")) OR (Discrimination OR prejudice OR stereotyping OR stigma OR Perceived Discrimination OR Self-stigmatization OR Shame OR Stereotype OR Respect)	N = 588

	AND ((MH "Food Assistance") OR (MH "Public Assistance") OR (MH "Food Security") OR (MH "Access to Healthy Foods")) OR (SNAP OR WIC OR food assistance OR food bank* OR food pantr* OR Supplemental Nutrition Assistance Program OR "Special Supplemental Nutrition Program for Women, Infants, and Children" OR Food Assistance Program* OR Food Aid Program* OR Food Stamp Program* OR Food Stamp* OR SNAP Program* OR "Women, Infants, and Children Program" OR WIC Program OR "Special Supplemental Nutrition Program for Women, Infants, and Children" OR food cupboard*) AND ((MH "Program Evaluation") OR (MH "Public Policy")) OR (Intervention OR program OR programme OR evaluation OR "evidence-based practice" OR strateg*)	
Sociological Abstracts	(MAINSUBJECT.EXACT("Stigma") OR MAINSUBJECT.EXACT("Discrimination") OR MAINSUBJECT.EXACT("Stereotypes") OR MAINSUBJECT.EXACT("Social rejection") MAINSUBJECT.EXACT("Social isolation") OR MAINSUBJECT.EXACT("Shame") OR MAINSUBJECT.EXACT("Self disclosure") OR MAINSUBJECT.EXACT("Social status") OR MAINSUBJECT.EXACT("Guilt") OR MAINSUBJECT.EXACT("Coping") OR MAINSUBJECT.EXACT("Prejudice") OR MAINSUBJECT.EXACT("Embarrassment") OR abstract(Discrimination OR prejudice OR stereotyping OR stigma OR Perceived Discrimination OR Self-stigmatization OR Shame OR Stereotype OR Respect)) AND (MAINSUBJECT.EXACT("Food security") OR MAINSUBJECT.EXACT("Food stamps") OR abstract(SNAP OR WIC OR food assistance OR food bank* OR food pantr* OR Supplemental Nutrition Assistance Program OR "Special Supplemental Nutrition Program for Women, Infants, and Children" OR Food Assistance Program* OR Food Aid Program* OR Food Stamp Program* OR Food Stamp* OR SNAP Program* OR "Women, Infants, and Children Program" OR WIC Program OR "Special Supplemental Nutrition Program for Women, Infants, and Children" OR food cupboard*)) AND (MAINSUBJECT.EXACT("Intervention") OR MAINSUBJECT.EXACT("Program evaluation") OR MAINSUBJECT.EXACT("Public policy") OR MAINSUBJECT.EXACT("Evidence-based practice") OR abstract(program OR programme OR evaluation OR strateg*))	N = 134

Dissertations and Theses Global	(MAINSUBJECT.EXACT("Stigma") OR MAINSUBJECT.EXACT("Discrimination") OR MAINSUBJECT.EXACT("Visual Discrimination") OR MAINSUBJECT.EXACT("Social Discrimination") OR MAINSUBJECT.EXACT("Perceptual Discrimination") OR MAINSUBJECT.EXACT("Stereotyped Attitudes") OR MAINSUBJECT.EXACT("Shame") OR MAINSUBJECT.EXACT("Embarrassment") OR MAINSUBJECT.EXACT("Self-Disclosure") OR tiab(Discrimination OR prejudice OR stereotyping OR stigma OR Perceived Discrimination OR Self-stigmatization OR Shame OR Stereotype OR Respect) MAINSUBJECT.EXACT("Prejudice") OR MAINSUBJECT.EXACT("Social Acceptance") OR MAINSUBJECT.EXACT("Social Status") OR MAINSUBJECT.EXACT("Social Isolation") OR MAINSUBJECT.EXACT("Guilt")) AND (MAINSUBJECT.EXACT("Social Services") OR MAINSUBJECT.EXACT("Community Services") OR MAINSUBJECT.EXACT("Community Welfare Services") OR MAINSUBJECT.EXACT("Food Insecurity") OR MAINSUBJECT.EXACT("Food") OR MAINSUBJECT.EXACT("Nutrition") OR MAINSUBJECT.EXACT("Government Programs") OR tiab(SNAP OR WIC OR food assistance OR food bank* OR food pantr* OR Supplemental Nutrition Assistance Program OR "Special Supplemental Nutrition Program for Women, Infants, and Children" OR Food Assistance Program* OR Food Aid Program* OR Food Stamp Program* OR Food Stamp* OR SNAP Program* OR "Women, Infants, and Children Program" OR WIC Program OR "Special Supplemental Nutrition Program for Women, Infants, and Children" OR food cupboard*)) AND (MAINSUBJECT.EXACT("Intervention") OR MAINSUBJECT.EXACT("Program Evaluation") OR MAINSUBJECT.EXACT("Evidence Based Practice") OR tiab(program OR policy OR programme OR evaluation OR strateg*))	n=11

Appendix B.

Characteristics of Included Articles

Citation	Location	Program of	Study De	Level of Stigma Addressed		
				Structural	Interpers	Intrapers

		Intervention	sign									onal	onal
				Policy	Location	Environment	Staffing	Service model	Technology	Messaging/Communication	Food quality	Training	Training
Ali, A. (2022, April 12). Fighting stigma in hunger relief, one small step at a time. Food Bank News. *https://foodbanknews.org/fighting-stigma-in-hunger-relief-one-small-step-at-a-time/*	USA FL, WA	Emergency food	Mixed-methods	0	0	1	0	2	0	3	1	1	0
Bai, Y., & Ciecierski, A. (2023). Participants' underlying beliefs of using WIC electronic benefit transfer (EBT) cards in stores in New Jersey. *Journal of Community Health, 48*(6), 1038-1043. doi.org/10.1007/s10900-023-01262-0	USA NJ	WIC	Qualitative	0	0	0	0	0	1	0	0	0	0
Boise State University. (2021, March 29). *Reducing the stigma of food Insecurity on college campuses.* https://www.boise	USA ID	Emergency food	Qualitative	0	0	0	0	0	0	1	1	0	0

state.edu/deanofstudents/2021/03/29/reducing-the-stigma-of-food-insecurity-on-college-campuses/													
Brennan-Tovey, K., Board, E. M., & Fulton, J. (2023). Counteracting stigma-power: An Ethnographic case study of an independent community food hub. *Journal of Contemporary Ethnography, 52*(6), 778-798. https://doi.org/10.1177/0891241623 1199095	UK	Emergency food	Qualitative	0	2	1	1	0	0	1	0	0	0
Brinston, T., Phipps, S., Stratten, M., McGee-Brown, J., & Purry, A. (2023). SuperShelf transformation: Centering equity in a predominantly African American community. *Journal of Nutrition Education and Behavior, 55*(7), 6.	USAMN	Emergency food	Mixed-methods	0	0	1	0	0	0	0	1	1	0
Broton, K. M., Mohebali, M., & Goldrick-Rab, S. (2022). Deconstructing assumptions about college students	USAMA	Food insecurity	Mixed-methods	0	0	0	0	0	1	0	0	0	0

with basic needs insecurity: Insights from a meal voucher program. *Journal of College Student Development, 63*(2), 229-234. doi.org/10.1353/csd.2022.0018													
Feed1st. (2024). *Pantry program toolkit.* UChicago Medicine. https://www.keepandshare.com/doc21/117209/feed1st-toolkit-2024?da=y	USAIL	Emergency food	Mixed-methods	0	1	0	0	3	0	1	0	0	0
Fernandez, H. (2020, February 4). *Tackling the challenge (and the stigma) of student food insecurity.* Academic Impressions. https://www.academicimpressions.com/tackling-the-challenge-and-the-stigma-of-student-food-insecurity/	USACO	Emergency food	Qualitative	0	1	1	0	0	0	0	0	0	0
Guardia, L. & Lacko, A. (2021, December 1). *To end hunger, we must end stigma.* Food Research & Action Center. https://frac.org/blog/endhungerendstigma	USA	SNAP, WIC	Mixed-methods	2	0	0	0	0	2	0	0	0	0
Harmon, A., Landolfi, K., Shanks, C. B., Hansen, L.,	USA	Early health	Mixed-me	0	0	0	0	0	0	0	0	0	1

Iverson, L., & Anacker, M. (2017). Food insecurity experience: Building empathy in future food and nutrition professionals. *Journal of Nutrition Education and Behavior, 49*(3), 218-227. doi.org/10.1016/j.jneb.2016.10.023	MT	professionals	thods										
Johnson, K. E., Fleck, M., & Pantazes, T. (2019). "It's the story": Online animated simulation of cultural competence of poverty--A pilot study. *Internet Journal of Allied Health Sciences and Practice, 17*(2), 10. doi.org/10.46743/1540-580X/2019.1766	USANM	Early health professionals	Mixed-methods	0	0	0	0	0	0	0	0	0	1
Kenney, J. L., & Young, S. R. (2019). Using experiential learning to help students understand the impact of food insecurity. *Journal of Social Work Education, 55*(1), 64-74.	USA, A large urban univers	Early health professionals	Qualitative	0	0	0	0	0	0	0	0	0	1

doi.org/10.1080/10437797.2018.1491356	ity in the Northeast												
Psarikidou, K., Kaloudis, H., Fielden, A. & Reynolds, C. (2019). Local food hubs in deprived areas: destigmatising food poverty. *Local Environment, 24*(6). 525-538. https://doi.org/10.1080/13549839	UK	Emergency food	Qualitative	0	0	0	0	1	1	1	0	0	0
Raymond, C., & Rouzier, A. (2023, April 18). *Shame and hunger: Breaking the stigma through lived experiences.* Behavioral Health News. https://behavioralhealthnews.org/shame-and-hunger-breaking-the-stigma-through-lived-experiences/	USA	Food insecurity	Mixed-methods	0	0	0	0	0	2	0	0	0	0
Rowland, B., Mayes, K., Faitak, B., Stephens, R. M., Long, C. R., & McElfish, P. A. (2018). Improving health while alleviating hunger: Best practices of a	USAAR	Emergency food	Qualitative	0	0	1	1	1	0	1	0	0	0

successful hunger relief organization. *Current Developments in Nutrition, 2*(9). doi.org/10.1093/cdn/nzy057													
Yarborough, J., Chambers, K. A., Sierra, I. R., House, L. A., Mathews, A. E., & Shelnutt, K. (2022). P144 A Heathy meal kit intervention improves subjective social status of rural and suburban participants with low-income. *Journal of Nutrition Education and Behavior, 54*(7), S86-S87. doi.org/10.1016/j.jneb.2022.04.185	USAFL	Food insecurity	Quantitative	0	0	0	0	1	0	0	0	0	0
Zekeri, A. A. (2004). The adoption of electronic benefit transfer card for delivering food stamp benefits in Alabama: perceptions of college students participating in the food stamp program. *College Student Journal, 38*(4), 602-607.	USAAL	SNAP	Quantitative	0	0	0	0	0	1	0	0	0	0

Zhang, J., Zhang, Q., Tang, C., Park, K., Harrison, K., McLaughlin, P. W., & Stacy, B. (2022). The role of generic price look-up code in WIC benefit redemptions. *Journal of Public Policy & Marketing, 41*(3), 237-253. doi.org/10.1177/07439156221092418	USAVA	WIC	Mixed-methods	0	0	0	0	0	1	0	0	0	0
TOTAL	**N/A**	**N/A**	**N/A**	**2**	**4**	**5**	**2**	**8**	**9**	**8**	**3**	**2**	**3**

Appendix C.

Food Insecurity-Related Intervention Strategies: Levels and Categories

Structural-level	Category	Description
1.	Technology	Electronic Benefit Transfer (EBT) cards were provided in place of paper vouchers to alleviate discomfort for WIC participants at check out.[25]
2.	Technology	Students received a debit card rather than paper meal tickets to reduce stigma and administrative burdens.[26]
3.	Technology	Electronic Benefit Transfer (EBT) cards provided in place of paper vouchers reduces stigma for SNAP participants.[27]
4.	Technology	Electronic Benefit Transfer (EBT) cards provided in place of paper vouchers reduces stigma for WIC participants.[27]
5.	Technology	The novelty of the Open Food Network's food hub was its online platform.[29]
6.	Technology	The food assistance application can be completed online, allowing users to share information in a private, judgement-free space.[30]
7.	Technology	The use of human-centric artificial intelligence and machine learning on the food assistance application is another way to combat stigma using an objective method to evaluate people's

		lived experiences, removing negative emotions such as shame.[30]
8.	Technology	Electronic Benefit Transfer (EBT) cards were provided to SNAP participants in place of paper vouchers to reduce embarrassment and social stigma felt at check out.[28]
9.	Technology	Using a generic price lookup number for fruits and vegetables purchased with WIC can lower the probability of a rejected transaction which can be an extremely frustrating and stigmatizing experience.[39]
10.	Messaging/communication	The food bank runs ads in the local paper, promoting that no paperwork is needed to receive food, phrasing their services as an act of food justice rather than a handout.[34]
11.	Messaging/communication	Many food pantry clients respond more positively when they feel the food they are receiving is an outcome of paying taxes over the years.[34]
12.	Messaging/communication	Clients also feel more comforted knowing that their receiving of benefits is not excluding someone else from doing the same.[34]
13.	Messaging/communication	Professors in the University of California system begin the semester by displaying data about food insecurity and where to find resources on campus.[31]
14.	Messaging/communication	The community food hub tried to change the narrative around food aid users through its social media account.[32]
15.	Messaging/communication	A sign reads "Food for Everyone" to encourage people to take the food they need and decrease feelings of stigma.[35]
16.	Messaging/communication	The food hub has tried to destigmatize its services by advertising in adjacent spaces as well such as at the social supermarket and the food co-op, as well to the attendees of the center's health and cooking classes.[29]
17.	Messaging/communication	Rather than refer to their services as food pantries or soup kitchens, the Samaritan Community Center rebranded to call them markets and cafes.[33]
18.	Service model	Feeding Tampa Bay's Trinity Cafe serves guests free nutritious, sit-down meals where volunteers provide a high-end dining experience.[34]
19.	Service model	Feeding Tampa Bay's Trinity Cafe redesigned their food distribution warehouse to feel like a

		public market where clients can choose what items they would like to take.[34]
20.	Service model	The food pantry was available and open 24/7/365.[35]
21.	Service model	Clients could receive food with no prescription, proof of need, or questioning.[35]
22.	Service model	The Feed1st model promotes dignity by operating as a client-choice pantry.[35]
23.	Service model	The food hub avoided internalized stigma by offering clients a choice of what items they wanted, overcoming connotations that clients are “receivers” rather than “purchasers” of food.[29]
24.	Service model	The Samaritan Community Center made the decision to switch from a traditional food distribution mode to a client-choice model.[33]
25.	Service model	Low income families received a delivery of three meal kits each week for six consecutive weeks and were asked to rank their social status in relation to society.[38]
26.	Environment	Orcas Island Food Bank reduces stigma by displaying fresh food in an inviting way.[34]
27.	Environment	The North East of England Independent Community Food Hub did not look like a typical food pantry, but rather a community café.[32]
28.	Environment	SuperShelf connected the food bank to funding to display foods with culturally and visually appealing signage and artwork.[21]
29.	Environment	The college food pantry’s windows are covered in large branded decals to both call attention to the pantry but also create a sense of privacy for those inside.[36]
30.	Environment	Samaritan Community Center translated all of their signs to include English, Spanish, and Marshallese to ensure all clients could navigate their facilities.[33]
31.	Location	The North East of England Independent Community Food Hub was well hidden to offer clients a sense of privacy.[32]
32.	Location	The North East of England Independent Community Food Hub offered a range of services (game nights, children’s clubs) so it wasn’t obvious which services people were accessing.[32]

33.	Location	A hospital fully integrates their on site food pantry into public use areas to alleviate the stigma of food insecurity.[35]
34.	Location	The food pantry was moved to a central location to make it a resource for the whole community, which over time may reduce the stigma.[36]
35.	Food selection/quality	The food bank recently learned that peanut butter was not something Hispanic families wanted so they swapped it out for greater quantities of rice and beans. They also learned that many clients preferred to get cooked food over raw ingredients, since many members work multiple jobs and do not have much time to cook.[34]
36.	Food selection/quality	Boise State's food pantry reduces stigma by providing food and supplies that patrons want. They gather information by sending out surveys.[31]
37.	Food selection/quality	SNAP-Ed Educators worked with managers to identify and obtain more culturally desirable foods, and to increase the variety of fresh produce.[21]
38.	Policy	SNAP eligibility restrictions perpetuate stigma and poverty by restricting access to unemployed and underemployed people, college students, and formerly incarcerated individuals.[27]
39.	Policy	Proposals that restrict SNAP customer's food choice create additional points of frustration at check out and ignore the research that shows the diets of SNAP and non-SNAP participants are similar.[27]
40.	Staffing	Volunteers were commonly ex-food bank users who had lived experiences of the stigma and shame that are often felt when accessing food resources.[32]
41.	Staffing	The Samaritan Community Center focused on recruiting and hiring bilingual volunteers and staff members to accommodate the large Spanish and Marshallese speaking population.[33]
Interpersonal-level	Category	Description
1.	Training	Staff and volunteers are trained using The Grow Code, a set of principles introduced during each interview that vows to "honor all." Anyone on the team is consequently chosen by the food

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		bank, but also choses to respect the culture of the organization.[34]
2.	Training	Managers and volunteers were trained in cultural humility, client choice, and being both welcoming and respectful to pantry clients.[21]
Intrapersonal-level	Category	Description
1.	Training	Students enrolled in a community nutrition course participated in a food insecurity experience where they could not spend more than $3 per day on food for five days to build empathy and reflect on a SNAP-user's experience.[23]
2.	Training	Researchers used an online animated simulation to increase cultural competence of emerging health professionals.[37]
3.	Training	Social work masters students were assigned to spend no more than $6.10 per day on food to increase insight and empathy regarding receiving SNAP benefits.[40]