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FOOD WELL-BEING OF AT-RISK POPULATIONS: A STUDY OF LOW-INCOME FAMILIES IN URBAN AREAS

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Abstract

The conventional wisdom associating food security predominantly with developing nations belies an increasingly salient reality: food insecurity constitutes a significant challenge within affluent societies, including those characterized by robust economic frameworks. This study investigates the multifaceted dimensions of food well-being (FWB) among low-income families residing in Russian megacities, focusing on their perceptions of food quality, safety and affordability. Through qualitative, in-depth interviews conducted with 18 participants across three major urban centers - Novosibirsk, Nizhny Novgorod and Perm - this research explores the strategies employed by these families to navigate the complex landscape of food access and maintain a semblance of well-being. Inductive analysis of interview data reveals a pervasive emphasis on balancing perceived quality with affordability, manifesting in practices such as strategic shopping, utilization of family garden plots ("dacha") for supplementary food production and reliance on traditional home-preserving techniques. A central finding underscores the significance of "home" as a core concept within the implicit understanding of FWB, highlighting a potential disconnect between the potential of urban foodscapes and the lived experiences of low-income residents. These findings contribute to a nuanced understanding of urban food inequalities and the challenges faced by vulnerable populations in achieving food-related well-being.

Keywords

Food well-being, food security, nutritional behaviors, food choices, low-income families.

1. Introduction

The discourse surrounding food security for an extended period has been disproportionately focused on the challenges encountered by developing nations (Ahmad *et al*., 2024; Rahaman *et al*., 2021). While the specter of widespread hunger and malnutrition in these regions rightly demands urgent attention, critical oversight persists: the insidious presence of food insecurity within the seemingly impenetrable fortresses of affluence. It is a fallacy to assume that economic prosperity ipso facto guarantees universal access to adequate, nutritious diets. Pockets of acute vulnerability exist even within the thriving metropolises of the developed world, where a confluence of socioeconomic factors conspires to create significant barriers to achieving what we term "food well-being" (FWB) for low-income populations (Tian & Henseler, 2025). A perplexing contradiction exists wherein, despite the evident abundance of food resources in developed societies, segments of the population continue to experience food insecurity and nutritional inadequacies (Oldroyd *et al*., 2022). This necessitates a critical re-

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evaluation of existing analytical paradigms to thoroughly investigate the multifaceted vulnerabilities related to food access within affluent urban settings.

Within the Russian Federation, these complexities are further exacerbated by the country's unique historical development and its present-day socioeconomic structure (Treivish, 2023). While the transition from a centrally planned system to a market-based economy has stimulated overall economic growth (Hassel & Palier, 2021), it has also given rise to increased income disparities and geographical inequalities in access to fundamental resources, most notably food (Moretti, 2024). The rapid economic transformations witnessed over the past few decades have fundamentally reshaped the social fabric of Russian society, created new vulnerabilities and exacerbated existing inequalities (Sossounov & Kolenikov, 2023). Rising income inequality, a pervasive trend observed across many post-Soviet nations, directly impinges upon the ability of low-income households to secure adequate and nutritious food. The spatial organization of megacities, characterized by uneven distribution of resources and opportunities, further compounds these challenges. The concentration of poverty in peripheral areas, coupled with limited access to affordable and healthy food options, creates localized "food deserts" within the urban landscape (Didenko *et al*., 2021).

The confluence of these factors - rapid economic transformation, widening income inequality and spatial segregation - creates conditions under which specific demographic groups face a heightened risk of food insecurity.

The persistent escalation in living costs, particularly prominent in major urban conurbations, exerts considerable strain on household budgets, consequently diminishing the financial capacity for food procurement. The diminished purchasing power resulting from stagnant or declining real wages among those in low-income occupations (Mareeva & Slobodenyuk, 2023) significantly restricts their ability to afford a nutritionally adequate diet. This economic vulnerability causes difficult choices, often prioritizing immediate needs over long-term health and nutritional considerations. Moreover, disparities in access to affordable, nutritious food within urban areas amplify existing inequalities, particularly for vulnerable populations. The central issue transcends mere caloric intake; it encompasses the availability of a diverse range of nutrient-rich foods essential for optimal health.

This study delves into the complexities of food-related well-being among at-risk populations in Russian megacities. Moving beyond conventional metrics of food security that primarily focus on caloric intake (Mozaffarian *et al*., 2022), this research adopts a holistic and multi-faceted approach.

The goal is to delve into the lived experiences, individual perceptions and adaptive strategies employed by low-income families as they navigate the complexities of food access and affordability.

Central to this investigation is an analysis of low-income families' perceptions regarding food quality, safety and cost and how these perceptions ultimately influence their food purchasing behaviors and overall sense of well-being.

This exploration seeks to contribute to a deeper comprehension of the socio-economic factors that underpin food insecurity within urban environments. Ultimately, the findings are intended to inform the development of policies aimed at fostering equitable access to sustainable and health-enhancing food systems for everyone in society. A central tenet of this research is that comprehending the lived experiences of at-risk populations is paramount for devising effective strategies to mitigate food insecurity and enhance food well-being amid rapid urbanization and economic transformations.

From Food Security to Food Well-Being: The Conceptual Evolution

The conceptual framework encompassing food security and well-being has undergone substantial evolution, shifting from a restrictive emphasis on caloric adequacy to a holistic appreciation of the intricate relationships between individuals, communities, and their respective food systems (Wells *et al*., 2021). While the conventional definition of food security, as articulated by the Food and Agriculture Organization (FAO), emphasizes the availability, accessibility, utilization and stability of food supplies, it often neglects the subjective experiences and perceptions that shape individuals' food-related well-being. A growing body of scholarly work challenges this reductionist approach, asserting that a more comprehensive framework is necessary to capture the complex interplay of factors that influence individuals' capacity to thrive in relation to food (Ejiohuo *et al*., 2024).

One of the central themes emerging from the literature is the recognition that food well-being extends far beyond the mere absence of hunger (Zeng & Montesinos Sansaloni, 2025). It encompasses a broader range of dimensions, including the physical, psychological, social and economic aspects of individuals' interaction with food (Vaqué-Crusellas *et al*., 2023). Some scholars have emphasized the importance of health outcomes as a key component of FWB, viewing it as a beneficial connection with food that promotes physical health and prevents disease (Luca *et al*., 2023). This perspective aligns with a broader trend in public health, which emphasizes well-being as a positive state of health, rather than simply the absence of illness. However, other researchers have argued that FWB encompasses a broader range of dimensions, including emotional satisfaction (Jaeger *et al*., 2022), social connections and economic accessibility (Tian & Kamran, 2023). They propose a more comprehensive framework that incorporates sustainable consumption practices and socio-cultural aspects of food.

Our study adopts an integrative approach, viewing FWB as encompassing both health-related factors and broader well-being indicators. The conceptual framework comprising four interconnected dimensions is posited: physiological, psychological (includes emotional responses to food-related experiences, mindful eating habits and instances of self-imposed dietary limitations, highlighting food's influence on mental and emotional well-being); social (incorporates shared food practices, family mealtime dynamics and social support networks, recognizing the importance of food in fostering social connections and community bonds) and economic (covers affordability strategies, shopping behaviors and budgetary practices, emphasizing the central role of economic factors in shaping access to food). The physiological dimension encompasses nutritional sufficiency, perceptions of food safety and subsequent health outcomes, underscoring the critical role of food in maintaining physical health and preventing illness.

Instead of measuring food security by objective indicators, this research looks into the well-being experiences of low-income families living in cities. Using both methods helps capture the complexities of their life struggles. It is particularly important how these challenges are lived in Russian megacities. Food well-being, for instance, exists under certain socio-economic and cultural conditions and, in turn, informs it. For instance, there are some areas which do not have convenient access to good healthy foods that are affordable. Social exclusion or a limited selection of food may drastically reduce the enjoyment and social aspects of meals. Therefore, a broader circulatory system tries to address robust realities along with more subtle emotional drivers of food security in order to enhance food well-being among urban vulnerable populations.

The Multifaceted Framework for Understanding Food Well-Being in Urban Russia

Existing research provides valuable insights into the multifaceted nature of food well-being. However, a more refined and contextually relevant conceptualization is necessary to accurately capture the experiences of vulnerable populations, particularly in the rapidly changing urban environments of modern Russia. This vision of food well-being builds on existing frameworks by emphasizing the dynamic interaction between three interconnected elements: 1) perceived quality, safety and accessibility of food products; 2) the subjective valuation of prices and associated coping mechanisms and 3) self-imposed limitations on food consumption. We argue that these elements are intrinsically linked to individuals' food purchasing behavior strategies and collectively shape their overall FWB. This perspective acknowledges the agency of individuals in navigating their food environments while simultaneously recognizing the constraints imposed by socioeconomic factors.

The first element, perceived quality, safety and accessibility of food products, reflects the importance of individuals' subjective evaluations of the food available to them. It is not simply enough for food to be physically present in a given location; individuals must also perceive that food as being of sufficient quality and safe for consumption (Campbell & Feldpausch, 2022). A range of variables, including personal convictions, cultural standards, shapes this perception and knowledge acquired from diverse sources, such as media reports, health professionals and individual experiences. Accessibility encompasses not only physical proximity but also elements such as transportation expenses, business hours and the availability of culturally appropriate food choices. This element is particularly salient in the context of Russian megacities, where disparities in access to nutritious food options may exist across different neighborhoods. Residents with limited financial resources may encounter significant challenges in obtaining high quality, safe food products due to factors such as restricted transportation, the absence of supermarkets in their locales and the prevalence of low-quality, processed foods (Madlala *et al*., 2023).

The second element, price perception and coping strategies, acknowledges the pivotal role of economic variables in shaping individuals' food choices. Subjective price valuation refers to individuals' personal assessments of the affordability of various food products, considering their income levels, expenses and overall financial situation. In times of economic hardship, individuals with limited financial resources may prioritize affordability over other considerations, such as quality or nutritional value. To manage limited financial resources, individuals may use various strategies, including shopping at discount retailers, buying in bulk, reducing portion sizes or substituting cheaper ingredients. While these coping mechanisms may be essential for immediate survival, they can have negative consequences for long-term health and overall well-being. The stress and anxiety associated with managing a tight budget can also contribute to psychological distress and social isolation.

The third element, self-imposed restrictions in food consumption, acknowledges that individuals may intentionally limit their food intake for a variety of reasons, including health concerns, weight management or ethical considerations (Mocic Pavic *et al*., 2023). While some self-imposed restrictions may be beneficial, such as limiting the consumption of processed foods or sugary drinks, others may be detrimental, particularly for vulnerable populations. For example, low-income residents may restrict their consumption of essential nutrients, such as protein or fresh produce, due to affordability concerns. The

relentless pressure exerted by societal ideals concerning body image and weight management frequently precipitates deleterious dieting behaviors and the development of disordered eating patterns (Ralph *et al*., 2022).

The interplay of perceived qualities pertaining to food, encompassing its quality, safety and accessibility, in conjunction with price considerations, adaptive coping mechanisms and self-imposed dietary constraints, collectively influences individual food acquisition practices, thereby fundamentally shaping their comprehensive food well-being.

Low-income urban residents, in making daily food choices, must consistently navigate a landscape of competing priorities. This often results in difficult trade-offs that can have significant consequences for their physical, psychological and social health. For example, if individuals perceive a lack of high quality, affordable food options in their immediate neighborhood, they may be forced to rely on processed foods, increasing their risk of obesity and type II diabetes (Ruze *et al*., 2023). At the same time, financial constraints may lead individuals to reduce their intake of essential nutrients, potentially weakening their immune system and increasing their vulnerability to infectious diseases. A comprehensive understanding of the dynamic interplay between these factors is, therefore, essential for designing effective interventions that improve food well-being among vulnerable populations.

Focusing on Vulnerable Groups (Low-Income Families)

This research focuses on vulnerable groups, particularly low-income families in Russian megacities, guided by a commitment to addressing social justice issues and promoting equitable access to essential resources, including food. People, to some degree, regardless of their socioeconomic status, experience food insecurity. However, some demographic groups remain particularly vulnerable due to the combination of socioeconomic elements that heighten their exposure (Tate *et al*., 2021). Specifically, women in the context of the socioeconomic framework face considerable challenges because of limited finances, insufficient employment opportunities and lack of social services. The spatial concentration of poverty in urban areas further complicates these issues and creates what are termed ‘food deserts’ defined as areas with limited access to affordable and nutritious food (Choudhary & Brewis, 2024). This suggests that without sufficient attention being paid to low-income families in urban settings, understanding their specific needs will remain elusive and effective interventions aimed at improving their food security will not be designed.

Additionally, the authors note that cities face new particular issues for sensitive groups (Schröder *et al*., 2022). Although urban centers have amenities such as greater access to employment and social welfare services, they also pose greater barriers to food security. Urban areas have a high cost of living including housing and transportation, which strains household budgets. This results in scarce resources being allocated for food. The abundance of convenience stores and fast-food restaurants in many urban neighborhoods greatly limit the ability of economically disadvantaged residents to secure healthy and nutritiously dense food options. In addition, the isolating and fast pace of urban life diminishes social support systems, increasing the likelihood of food insecurity. Within the context of Russian megacities, the unique historical development and the nation’s socio-economic landscape further complicate these issues (Bezrukov *et al*., 2024).

Shifting to a market-based system has worsened the inequality gap for income as well as access to basic resources in Russia. Westernized policies dealing with food still follow the Soviet-era systems of prioritizing mass over quality, further compounding the legacy of inequality. This greatly contributes to a lack of widespread understanding regarding healthy diets and an overreliance on convenience foods. Along with that, Russia's ongoing economic troubles such as inflation and a lack of job opportunities hit low-income families the hardest, making it increasingly difficult for these families to access sufficient and healthy food.

Despite the importance of these economic factors, their influence is particularly concerning when looking at food resources. Social and cultural aspects are equally crucial when looking at vulnerable groups. The problem of food access can stem from social ostracism, prejudice or a lack of resources. For example, some older adults, especially women living alone, may not have the means to reach a supermarket or prepare the food themselves. Ethnic minorities and immigrants might also deal with systemic discrimination within the food system, restricting access to foods that are important for their culture. By concentrating on low-income families in Russian urban centers, this research endeavors to illuminate the intricate web of factors that contribute to food insecurity and promote a more human-centered understanding of the hardships they endure. It is hoped that the findings from this study will inform the development of effective policy interventions and community-based programs, specifically tailored to meet the unique needs of vulnerable populations, thereby promoting equitable access to sustainable and nutritious food for all members of society.

2. Materials and Methods

This study employed a qualitative research design to investigate the dimensions of food-related well-being among low-income families residing in Russian metropolitan areas. Given the multifaceted nature of FWB and the importance of capturing the lived experiences of vulnerable populations, qualitative inquiry was deemed the most appropriate methodological approach (Dehalwar & Sharma, 2024).

Participants

Data were collected through semi-structured, in-depth face-to-face interviews with 18 participants from three Russian megacities: Novosibirsk (Siberia Region), Nizhny Novgorod (Volga Region) and Perm (Ural Region). These cities were selected to provide geographical diversity and represent different socioeconomic contexts within Russia. Participants were recruited using purposive sampling (Urcia, 2021).

The inclusion criteria for participation were:

1) Residing in one of the three selected megacities for at least three years;

2) Having a family's monthly income per person below 25,000 rubles (approximately $277 USD as of February 2024). This income threshold was chosen based on the average per capita income in Russia (53,000 rubles in 2023) and aimed to capture families experiencing economic hardship.

Procedures

Interviews were conducted between February 1 and March 30, 2024. The interview guide included open-ended questions about participants' food purchasing habits, perceptions of food quality and safety, coping strategies for managing food

budgets and experiences related to food access and affordability. Interviews were audio-recorded with participants' informed consent.

Data Analysis

Data analysis was conducted using inductive thematic analysis, a systematic approach for identifying, organizing and interpreting patterns of meaning within qualitative data (Christou, 2022). Transcripts were read and re-read to identify recurring themes and patterns related to participants' FWB. The research team collaboratively developed a coding scheme based on the identified themes and the data were then coded. The findings are reported according to the Standards for the Presentation of Qualitative Research Results (SRQR) to ensure transparency and rigor.

3. Results

This study sought to explore the strategies employed by low-income families in navigating the complexities of food well-being within a rapidly changing socio-economic landscape. Contrary to the notion that such families adopt uniform approaches, the data reveals nuanced and context-dependent strategies shaped by individual perceptions and resource constraints. The core tenets of these strategies revolve around a perceived interplay between food quality, safety and accessibility; a subjective valuation of prices coupled with coping mechanisms and self-imposed limitations on consumption. The qualitative data reveals how these elements dynamically shape individual food purchasing strategies.

Firstly, **the perceived quality, safety and availability of food products**. The participants highlighted the complexity of assessing food quality. While some expressed a direct correlation between price and quality: "*What is more expensive is better. I am already convinced of that*" (*woman, 83 years, pensioner, Perm*), others acknowledged nuances. Concerns regarding food safety were paramount, particularly regarding processed foods with additives: "*E-numbers and all that. And they cost very little. I will not take them because they are harmful*" (*woman, 51 years, single mother, Novosibirsk*). This illustrates a conscious avoidance of perceived health risks.

Brand loyalty and origin played a significant role: "*I try to buy our local Knyagininsky milk*" (*man, 67 years, pensioner, Nizhny Novgorod*), highlights a preference for locally sourced items, possibly linked to perceptions of freshness and trust in local producers. Brand loyalty emerged as another significant factor in shaping perceptions of quality and safety. Some participants expressed a preference for specific brands that they associated with consistent quality and reliability: "*I mostly just stick to one brand that I like*" (*woman, 24 years, Perm*). This reliance on established brands can be viewed as a strategy for mitigating uncertainty and reducing the cognitive burden of evaluating unfamiliar products.

Participants demonstrated a heightened awareness of the multifaceted nature of food quality, extending beyond mere taste and encompassing safety concerns and nutritional value. The pursuit of "normal quality" was often intertwined with strategic acquisition, reflecting a resource-conscious approach: "*I try to look for some discounts somewhere and buy at discounts, well, so that it is of normal quality*" (*woman, 51 years, single mother, Novosibirsk*).

A significant determinant of perceived quality was the perceived freshness of the product, particularly for perishable goods like dairy and produce: "*First of all, it's the expiration date, right… Basically I take today's*" (*woman, 24 years, Perm*). This emphasis

on freshness suggests a focus on minimizing potential health risks and ensuring optimal nutritional content.

However, assessing quality often involves navigating a complex interplay of cues. Participants relied on visual cues, olfactory signals and prior experience to evaluate food products: "*It is about appearance. It looks good, doesn't smell like anything, appearance, smell*" (*woman, 24 years, Perm*). These sensory assessments highlight the embodied knowledge and practical expertise that individuals bring to their food choices.

Secondly, **the subjective valuation of prices and associated coping mechanisms**. The economic constraints faced by the participants significantly influenced their food choices. The feeling of anxiety when unable to afford food was explicitly articulated: "*It just causes some discomfort and anxiety. When you just don't have anything to buy food with*" (*woman, 24 years, Perm*). Coping mechanisms involved seeking discounts, strategic shopping and prioritizing essential foods.

This showcases a proactive effort to manage budget constraints. The cultivation of home gardens was a recurring theme, providing access to fresh produce and lessening dependence on market fluctuations: "*We have our own garden. We eat almost entirely our own products*" (*woman, 78 years, pensioner, Nizhny Novgorod*).

The rising cost of living emerged as a pervasive concern, prompting participants to actively manage their food budgets through a range of coping mechanisms. While the notion of "not skimping on quality" resonated with many, budgetary constraints often necessitated compromises and trade-offs. This strategy requires not only time and effort but also access to information about pricing and product availability.

The perception of a direct relationship between price and quality was also prevalent, although not universally accepted. Some participants expressed the belief that higher-priced products generally offered superior quality. However, others acknowledged the potential for price discrepancies and the importance of discerning value regardless of cost.

A common coping mechanism was the cultivation of home gardens (dachas), allowing families to supplement their food supply with fresh produce. This strategy provides a sense of control over food quality and safety, while also reducing reliance on market-based purchases.

Finally, **self-imposed limitations on food consumption**. Participants often implemented restrictions on their diet, not only due to financial limitations. "*I try to limit myself in sweets*" (*woman, 46 years, Perm*). This demonstrates an understanding of health implications and a proactive effort to mitigate them.

The desire to consume higher quality, potentially more nutritious food was frequently expressed, albeit constrained by affordability: "*I limit myself because I would like to eat the highest quality products*" (*man, 22 years, Perm*), exposing a gap between desired and actual consumption patterns. The study revealed that low-income families often engage in self-imposed limitations on food consumption as a means of managing their budgets and prioritizing essential needs. This can include reducing the frequency or quantity of specific foods, such as meat. Participants recognized the trade-offs between immediate gratification and long-term well-being, often prioritizing nutritional value overindulgence.

To summarize, the findings underscore the need for policies and interventions that address the root causes of food insecurity and empower individuals to make informed food choices within their respective contexts.

4. Discussion

The proposed framework for understanding food well-being resonates with (Jaeger *et al*., 2022; Tian & Kamran, 2023) yet also expands upon existing research. While studies highlight the impact of socioeconomic factors on food access and security (Bozsik *et al*., 2022), the present analysis delves deeper into the nuances of individual perception and agency within a specific cultural and economic context.

Similar to findings in the aforementioned study, the informants in the Russian context demonstrated a keen awareness of the relationship between price and quality. However, this perception is not universally held. The informants also articulated the use of heuristics based on appearance and expiration dates for judging quality. This aligns with research that suggests consumers use readily available information to assess food quality when more objective indicators are unavailable (Su *et al*., 2022). Distrust of certain food origins was also apparent, with a preference for local produce and skepticism towards imported goods: "*Foreign, I consider this to be poor-quality food*" (*man, 70 years, pensioner, Novosibirsk*). This contrasts with a globalized food system and potentially reflects concerns about food safety standards and transportation distances, which could be a subject for further research.

The financial strain experienced by vulnerable populations significantly shapes food choices. Strategic shopping and prioritization are crucial coping mechanisms (Mızrak, 2023). The prominence of home gardening and reliance on personal produce represents a substantial adaptation strategy not always highlighted in studies focused on Western urban contexts. This underscores the importance of localized food production in enhancing food security and FWB.

Dietary restrictions are often a direct consequence of economic hardship. This suggests a perceived trade-off between affordability and nutritional quality, leading individuals to consciously forgo certain food items.

5. Conclusion and Limitations

The present framework advances the understanding of food well-being by foregrounding the interactive dynamics of three core constituents.

The construct of "perceived quality, safety and accessibility" moves beyond objective measures of food availability, focusing instead on how individuals subjectively evaluate these attributes. For example, one informant's emphasis on expiration dates and sensory evaluations ("*looks good*") suggests a reliance on heuristics to assess quality and safety, particularly in the absence of detailed product information.

The second element, "subjective valuation of prices and associated coping mechanisms", recognizes that price is not simply an objective economic parameter but is mediated by individual perceptions and adaptive strategies. The data reveals a spectrum of coping mechanisms, ranging from strategic shopping for discounted items, to foregoing desired food items altogether. The informant's acknowledgment that the desire for "good products" is constrained by a lack of financial means, further emphasizes the connection between this category and financial security.

The third element, "self-imposed limitations on food consumption", acknowledges that food choices are not solely determined by external factors but are also shaped by individual values, beliefs and health considerations. This highlights a degree of agency, even within constrained circumstances, where individuals actively shape their food environment through self-regulation.

It is imperative to recognize that these three elements operate in dynamic interaction. For example, perceptions of food safety directly influence price valuations. The understanding that "*more expensive means better*", leads to purchasing behavior that prioritizes perceived quality at a potentially higher cost. Similarly, resource limitations may necessitate acceptance of perceived lower quality to assure access to some sustenance: "*Pension is not very good. Therefore, I try to choose products cheaper*" (*man, 65 years, pensioner, Nizhny Novgorod*). This can cause the consumer to weigh the value of affordability with the safety of a product. This creates a complicated dynamic for the consumer. Even within these constraints, individuals actively negotiate these trade-offs, seeking to optimize their FWB within their specific circumstances.

The empirical findings cited herein serve primarily to illustrate the application of the framework, demonstrating how individual experiences can be understood through the lens of these three interacting elements. The primary contribution of this framework lies in its conceptual structure, offering a nuanced and holistic perspective on the factors shaping individual food-related experiences.

While this framework offers a valuable contribution to understanding FWB, it is important to acknowledge certain limitations. The study's focus on specific urban areas in Russia limits the generalizability of the findings to other contexts. Further research is needed to explore the transferability of this conceptual model to different cultural and socioeconomic settings. Moreover, the qualitative nature of the data, while providing rich insights into individual experiences, does not allow for statistical analysis or broader population-level inferences. Future studies could benefit from integrating quantitative measures to complement the qualitative findings and provide a more comprehensive assessment of FWB. Despite these limitations, this framework offers a valuable starting point for further exploration of food well-being and its multifaceted dimensions, especially within vulnerable populations navigating the complexities of the urban food landscape.

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