Dealing with food safety concerns among urban poor when eating out: social practices in Dhaka, Bangladesh

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The article explores eating-out practices among poor urban consumers in Bangladesh and their strategies to cope with food safety concerns. Using social practice theory, we implemented interviews and a household survey to analyse the eating-out practices of adult slum dwellers in Dhaka, Bangladesh and their food safety coping strategies. We identified two different dominant eating out practices: 'snacking' and 'having a complete meal'. By reviewing the food safety concerns and coping strategies, we found that despite varying concerns, coping strategies are broadly similar across these two practices. The concerns include food presentation, unhygienic conditions, and unknown processing, while searching for information, using heuristic tools, and avoidance are the main coping strategies. These strategies are applied in both practices and do not exhibit significant differences in socioeconomic considerations and safety concerns. This indicates that the urban poor lack the resource and competencies to manage their concerns. The conclusion section presents a conceptual framework for future research on food safety coping strategies in urban eating-out practices. We also underline the need for context-specific policy interventions to ensure food safety in the urban food system of the global south.

KEYWORDS

coping strategies, eating out practices, food safety concerns, urban lifestyle, urban poor

1 Introduction

Worldwide, consumers are concerned about their food safety. However, this is particularly the case in the global south, where food contamination is widespread and underreported, equitable access to safe food remains challenging, and urbanization is accelerating (Grace, 2015a,b). Despite these risks, global south urban food consumers are forced to rely largely on street vendors and other food outlets (Esohe, 2014; Reddy et al., 2020; FAO, 2022). International agencies such as the World Health Organization (WHO) have recognized the need for comprehensive measures to address these challenges and have developed the Framework for Action on Food Safety in the Southeast Asia Region (WHO, 2020). Despite such efforts, the urban poor have to compromise food safety for convenient and affordable meals at these outlets (Al Mamun et al., 2013; Pingali and Sunder, 2017; Mostafa et al., 2018; Tull, 2018; Abrahale et al., 2019; Ha et al., 2019; Hasan et al., 2021; Reardon et al., 2021). For example, Bangladesh's urban consumers have been concerned about eating out due to harmful food additives, stale items, and

dirty utensils and outlets (Ishra et al., 2022). In addition to these concerns, due to their limited resources and unfavorable living conditions, low-income people cannot prepare all meals at home and are forced to rely on eating out. Consequently, they must develop strategies to cope with food safety concerns while eating out.

Eating out practices and food safety coping strategies have received considerable attention in nutrition, public health and social science studies. Various results have emerged from these studies. For instance, some studies concluded that food safety concerns affect consumers' consumption patterns, purchasing preferences, and affordability (Krukowski et al., 2012; Kilders et al., 2021; Liguori et al., 2022). Others reported that consumers' socioeconomic status and cultural background influence eating-out behaviors and risk perception about food safety (Dosman et al., 2001; Hu et al., 2017). Furthermore, consumers were found to scrutinize the restaurant's cleanliness and reputation, learn from experience, and limit their purchases at night to reduce their concerns (Rheinländer et al., 2008; Tach and Amorim, 2015). Critical aspects for food safety while eating out include food storage, cooking and processing, hygiene, and costs (Harvey et al., 2004; Domaneschi, 2012; Adam et al., 2014; Naidoo et al., 2017; Hannah et al., 2022). Most studies have tried to identify critical factors explaining food risk perception and behavior. However, they have paid less attention to eating out as an embedded practice in the everyday lives of the urban poor. In this context, the current paper investigates the eating-out practice of the urban poor and their coping strategies with food safety concerns from a sociological perspective.

Rapid urbanization in developing countries challenges maintaining food safety as part of the broader food security (HLPE and FAO, 2020). Urbanization accelerates eating outside the home. This is particularly visible in the daily life of South Asian urban consumers (Gaiha et al., 2013; Bren d'Amour et al., 2020). An interesting case in this respect is the capital city of Bangladesh, Dhaka. The city is densely populated with 3,400 slum areas which accommodate 40% of its population. These poor urban lead busy lives with multiple jobs and the requirement to leave their homes for 8–12 h every day. As a result, eating out has become a part of their daily routine and lifestyle pattern (Olsen et al., 2000; Pfeiffer et al., 2017). Hereby, they face various challenges, including low education and income, unhealthy living conditions, and limited access to sanitation facilities. Microbiological food safety risks research has significantly improved in Bangladesh, but other food safety-related concerns have yet to receive much attention. The limited number of studies on the urban poor's daily eating habits, routines and challenges for food safety is alarming considering their demographic vulnerability and their prone to food-related illnesses. As a result, it is critical to understand their daily eating habits to design and build strategies and implementation to improve the inclusive urban food system and alleviate the risks of foodborne illnesses (Wilcock et al., 2004). This leads us to formulate the following questions for this study: What do the urban poor's eating-out practices look like? Why do they continue eating out despite food safety concerns? How do they cope with food safety concerns in their daily lives? These questions are crucial because poor consumers have very little choice in the food outlets they frequently visit and because they are unable to access expensive eating outlets where comparatively safer food can be obtained but for a higher price.

This study focuses on the challenging conditions faced by Dhaka slum residents through the lens of social practice theory (SPT). This theory allows us to analyse their eating-out practices and how these practices are continually (re)produced (Burger Chakraborty et al., 2016; Torkkeli et al., 2020). The main focus is on revealing the urban poor's food safety coping strategies and how they are embedded in daily routines and urban lifestyles. We expect our findings to be of interest to policymakers, national and international non-governmental organizations (INGOs), and the food industry in developing practical plans to assist underprivileged consumers and retailers in reducing food safety concerns.

In the following sections, we first discuss how we use social practice theory to analyse eating-out practices and to understand the urban poor's food safety concerns and coping strategies. We then present our mixed-methods data collection tools and analysis for the investigation and the findings. We proceed with a section that discusses the main findings and concludes with a final section discussing our findings and presenting a conceptual framework that may guide future research.

2 Practice theory lens on eating out practices

The Social Practice Theory (SPT) is employed in this study to examine food safety coping strategies in the daily eating out practices of the urban poor in Dhaka. This perspective was selected because it allows to integrate social, cultural, and material dimensions (Spaargaren et al., 2016; Burningham and Venn, 2020). When analyzing a practice, SPT prioritizes socially rooted behaviors and routinised habits over individuals' rational decisions (Oosterveer et al., 2012; Southerton, 2013). This lens suits our ambition to study eating out at outlets in Dhaka, where numerous interactions occur with food vendors while selecting, purchasing, and consuming foods. These activities are generally unintentional as they are highly routinised and include the local cultural context, consumers' concerns about food safety, and wider urban lifestyle.

In this study, eating-out practices are understood in two ways: practice as performance and practice as an entity. Performing a particular practice occurs at a specific time and place, whereby three practice elements (meanings, materials, and competencies) are connected in a particular way (Reckwitz, 2002; Shove and Pantzar, 2005; Shove et al., 2012). Practice as an entity entails comprehending practices as identifiable, reproducible, describable and routinised, thereby distinguishing a particular everyday activity from others, such as eating out, grocery shopping, taking a shower, cycling, and other actions (Wertheim-Heck and Spaargaren, 2016). In social practice, meanings comprise practitioners' emotions, motives, beliefs, and engagements with its social and symbolic significance (e.g., necessity, enjoyment, food safety concerns for eating out); materials include financial affordability, outlets for eating out, time allocation; and competences consist of actions, knowledge, and practitioners' psychological capacity to carry out their practice (e.g., knowledge about outlets locations and coping strategies). Additionally, eating out interacts with other practices in various ways, creating a bundle of practices in the daily life of the urban poor (Gram-Hanssen, 2011; Heidenstrøm, 2022). For instance, eating out is connected to livelihoods, commuting to work from home, and spending time with friends and family. As a result, understanding eating out necessitates comprehension of these related practices.

In performing eating out practices, food safety concerns can significantly affect people's regular eating habits. Consumers may use a variety of coping strategies to overcome food safety concerns. These strategies include skills gained through training, mobilizing existing resources, experience from others, and scheduling or choosing a specific eating place (Wills et al., 2015).

Thus, concerns about food safety may disrupt daily out-of-home food consumption practices. However, the urban poor in Dhaka may manage their concerns by using different practice elements (such as knowledge, material resources and social networks) in various ways.

3 Materials and methods

3.1 Study area

The study was carried out in Dhaka, Bangladesh, a heavily populated metropolis with an estimated 22 million residents, over 30% of whom live in impoverished neighborhoods. Bangladesh's capital and largest city, Dhaka, is a center of politics, culture, and the economy for the area. The study focused on low-income urban slum dwellers, who were selected due to their higher susceptibility to food safety hazards when eating out of home. Four Dhaka slum areas: Dholpur, Korail, Mirpur, and Shyampur were chosen. These slum areas are encompassed under two city corporations—Dhaka North City Corporation (DNCC) and Dhaka South City Corporation (DSCC). These regions were picked to offer a representative urban poor sampling from Dhaka. The following photos show the food environment in different eating-out outlets in Dhaka slums (see Figure 1).

3.2 Research design and data collection

This study follows an exploratory sequential mixed-methods approach. It collected data by applying three research methods: Focus Group Discussions (FGD), Semi-structured Interviews (SSI), and a household survey on practice elements, relevant food safety concerns, and coping strategies. Qualitative methods were applied to create a survey questionnaire, thereby pursuing an exploratory sequential mixed-methods approach. The study included individuals who eat out regularly and those who do not, to cover a larger spectrum of food safety issues. In addition to analyzing qualitative data thematically, we employed descriptive statistics and regression analysis from the survey to triangulate the findings. Combining multiple data sources, we comprehensively understand eating-out practices, food safety concerns, and coping strategies (see Figure 2).

There were 444 participants in the sample, representing both qualitative and quantitative research. The self-reported adult shoppers in the Korail slum made up the purposively selected qualitative sample. The shoppers originate from low-income urban homes and their varied professions have different daily patterns, so we included them in the sample. We chose the sample households from the Urban Health and Demographic Surveillance System Survey (UHDSS) by the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b, 2019). Each of the two Focus Group Discussions (FGD) included eight shoppers and 25 semi-structured interviews (SSI) had 27 shoppers. We contacted FGD and SSI interviewees through a local community leader of Korail Slum in Dhaka. The interview guidelines for both methods were developed based on the literature on eating-out

practices and consumers' food safety concerns. The FGD provided general information about the aspects of food safety that need to be explored, while SSIs gathered detailed data on the food items consumed, eating-out outlets, consumers' daily routines, the relevant concerns and coping strategies. In February–March 2020, before the outbreak of the COVID-19 pandemic in Dhaka, all FGDs and 12 SSIs were held face-to-face in one participant's home. The remaining 13 SSIs were conducted over the phone in August 2020. The sample selection was based on the question, 'Who (adult) does most food shopping in your household?'

In our research, the household phone survey included 401 (57% of called) primary adult shoppers from Dhaka slums: Dholpur, Korail, Mirpur, and Shyampur. The remaining 43% either declined or were unreachable during the survey. It was held from 30 October to 14 November 2020 to collect data on socio-demographics (age, gender, occupation, year of schooling), eating out practices at various outlets, reasons for not eating out, concerns about outlets and food, and strategies to alleviate the concerns. The survey was conducted with a random sampling frame of the 'Urban Health and Demographic Surveillance System (UHDSS)' which consisted of the phone number of the respondent households. We adopted a two-stage sampling approach. First, using a random sample calculator, we determined that a minimum of 392 respondents were required to achieve a precision level of 5%. Subsequently, Probability Proportional to Size (PPS) sampling was employed to determine the number of sample households in each slum (see Table 1). It is worth noting that there are five slums in total in UHDSS, but one is located outside Dhaka. Therefore, this one was not included in the sampling process. This approach enabled us to obtain a representative sample of urban slums in Dhaka to estimate the prevalence of food safety concerns among this population. The study used Open Data Kit (ODK) — a mobile data collection platform—to store responses digitally. By gathering data through a phone survey, the study reached a larger sample size and gained insights into food safety practices among the selected population.

3.3 Data analysis

The analysis process includes a triangulation of results from both qualitative and quantitative data. The qualitative data collected from the interviews were transcribed, translated, and coded using ATLAS Ti_9 software. Through an iterative process for thematic analysis, emerging themes were identified, guided by the three integrated elements of meanings, materials, and competencies. Two distinct practices emerged from this process: snacking and eating a complete meal; with variations in the level of food safety concerns observed between these practices. We then compared and contrasted these two practices' concerns and coping strategies. The decision to compare two practices—snacking and eating complete meals—was made in light of their practical importance, range of potential implications, and capacity to influence policy. These techniques provide a thorough understanding of the food safety environment by covering a wide range of concerns and coping mechanisms around these practices. For quantitative analysis, STATA version 13.1 was used to analyse the survey data. Based on the qualitative data analysis, we hypothesized that the influence of socioeconomic and concern variables on the coping strategies for the two practices would differ. A logistic regression analysis was used to test whether the difference could

FIGURE 1
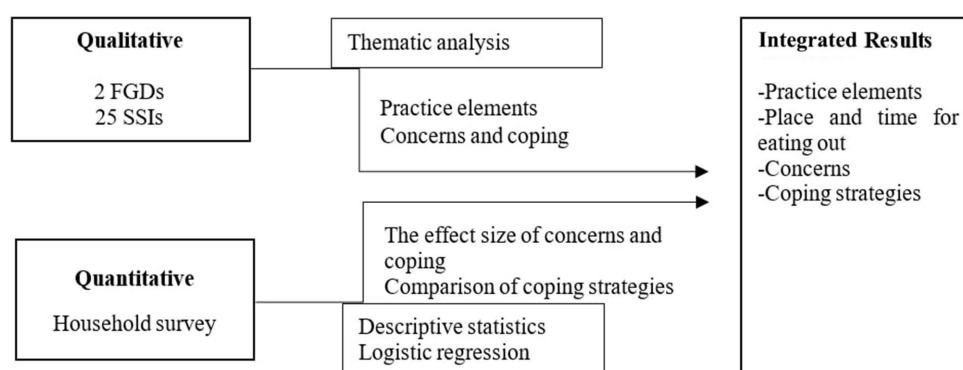Urban poor's everyday eating out environment in Dhaka slums.

FIGURE 2
A mixed-method approach to understanding the practice and coping strategies.

be generalized. The proportion of variance explained by the model was calculated using Pseudo R^2. For each level of the variables, odds ratios (OR) and p values are reported.

FGD and SSI participants will be called interviewees for the rest of the paper. Those who continued responding to the survey questionnaire will be called respondents. The aggregate sample will be referred to as participants.

4 Findings

4.1 Participants' profile

Table 2 presents participants' demographic information across the three methods in this study. The age ranged from 18 to 65 years, with the majority falling in the 18–30 years category,

TABLE 1 Comparison of elements in snacking and eating a complete meal.

Elements			Practice as entity	
			Snacking	Complete meal
Practice as performance	Materials	- Food items	- Mostly one item	- Multiple items
		- Eating out outlets	- All seven outlets	- Primarily three outlets
		- Affordability	- Affordable	- Relatively costly
		- Time constraints	- Quick to eat	- More time for searching and eating
	Meaning	- Surviving	- Snacking replaces a complete meal to suppress hunger	-The actual eating of a proper meal
		- Pleasure	-Sharing a meal with familiar others	-Social dining (e.g., enjoying in the company of friends and family)
		- Children's request	- Children enjoy eating out	- Weekend outing with children
	Competence	- Knowledge of food availability	- Limited availability of hot snacks during specific times	- Locations of complete meal outlets
		- Selecting the outlets	- Know where to find hot, fresh foods	- Aware of desired meal locations

TABLE 2 Sample profile.

Characteristics	2 Focus group discussion (n = 16)	25 Semi-structured interviews (n = 27)*	Shoppers' in household survey (n = 401)
Age group [n, (%)]			
18–30	9 (56)	12 (44)	205 (51)
31–40	5 (31)	8 (30)	124 (31)
41–50	2 (13)	3 (11)	48 (12)
51–65	0	4 (14)	24 (6)
Gender			
Male	8 (50)	13 (48)	217 (54)
Female	8 (50)	14 (52)	184 (46)
Profession			
Private sector employee	8 (50)	14 (52)	221 (55)
Housewife	3 (19)	6 (22)	88 (22)
Business	0	3 (11)	48 (12)
Self-employment	4 (25)	4 (15)	32 (8)
Other	1 (6)	0	8 (2)
Government employee	0	0	4 (1)
Years of schooling			
No education/can only sign	5 (31)	13 (48)	112 (28)
1–5	7 (44)	5 (19)	162 (41)
6–10	2 (13)	6 (22)	114 (28)
10+	2 (12)	3 (11)	13 (3)

*In only two SSIs, we included two interviewees per SSI; the households reported equitable food shopping responsibilities between the two members.

and gender was almost equally distributed among the methods. Participants worked in a variety of professions, with three-fourths either employed in the private sector or being housewives, and the remaining participants worked in private jobs such as readymade garment workers, small businesses, self-employment (e.g., day laborers, housemaids, shop workers, office peons, rickshaw poolers or street vendors) or public administrative jobs. More than two-thirds of participants had less than 5 years of education to no education at all (e.g., could only provide their signature).

4.2 Eating out practices of urban poor in Dhaka

Eating out practices of Dhaka's poor are influenced by economic, social, and cultural factors beyond simply fulfilling basic hunger needs. This subsection presents empirical findings that outline two distinct eating practices and explores the meaning, materials, and competencies required to sustain these practices. The section begins with an overview of the practices and then delves deeper into the reasons that influence eating-out practices in the daily lives of the urban poor.

Based on the interviews, four types of eating-out practitioners were identified: non-eaters, snackers, complete meal eaters, and snack and complete meal eaters. Nevertheless, this classification was partially distinctive because individuals can engage in multiple practices. 22 SSI interviewees and 44% of survey respondents ate outside their homes. Among the 22 SSIs, 16 were primarily snackers, and 6 were complete meal eaters. Nonetheless, some respondents avoid eating out due to being accustomed to home-cooked meals, being concerned about unhygienic environments, disliking eating out alone and being housewives.

The findings suggest that gender plays a vital role in shaping eating-out practices among the poor urban in Dhaka. Men tend to eat out more than women, comprising 85% of the survey respondents who ate out. Many women were housewives and part-time workers who assisted nearby households and ate their lunch at home. Moreover, several female interviewees expressed avoiding eating out due to food safety concerns.

Most visited outlets include cafes with sheds, restaurants, and open-air street cafes (see Appendix Figure A and Appendix Table B). Proximity, affordability, time efficiency, and food safety were critical for choosing outlets. Breakfast was the meal most respondents ate out due to starting work early in the morning. For instance, an interviewee who works as a personal driver began his job at 8:00 in the morning, had to travel throughout the city and therefore had to eat breakfast and lunch away from home.

Table 1 compares the elements in two practices: snacking and eating a complete meal, as a performance and as an entity. Regarding materials, snacking involves consuming a single food item from the seven outlet categories identified. In contrast, a complete meal consists of multiple food items, including rice, typically sourced from one of three different outlets: restaurants, open-air street cafes without shade, and work canteens where complete meals are offered. Rice dominates the practice of eating a complete meal. Interviewees revealed eating a complete meal as eating boiled rice with vegetables or fish curry, hotchpotch (Khichuri), Biriyani, or Roti with one or two meat, fish, or vegetable curries. The street café without a shed was found to be a frequently visited place for eating a complete meal. For instance, an interviewee mentioned,*"…I eat street food. Eating in a restaurant is expensive… Many people sell food in bowls sitting on the sidewalk and from the tricycle"* (SSI 14, age 54, professional cook).

Interviewees who preferred snacking mentioned that it was inexpensive, easy to obtain, and quickly consumed. FGD interviewees expressed that eating complete meals is expensive. They choose between snacking and a full meal largely on the basis of time and financial constraints. An interviewee discussed, *"…It is not that I do not want to eat out… I also prefer to eat in nice, well-mannered*

outlets…*I spend approximately 60 to 70 taka per day on food while working. I doubt I could afford rice with that… To eat rice, I must leave my workplace; this will take some time. Also, I do not feel well after eating rice at noon"* (SSI 06, age 30, construction wage labourer).

According to the participants, snacking means serving and suppressing hunger, whereas eating a complete meal means enjoying eating out with family and friends. A request from co-workers also plays a role in snacking, while children's request to eat out complete meals played a role in choosing that option. Interviewees ate small meals as snacks to substitute for a complete meal and ate a complete meal to substitute for home cooking. Snacking was commonly (mis) interpreted as eating nothing, whereas eating rice with curries was regarded as a complete meal. On the one hand, snacking is seen as satisfying hunger while having fun; on the other hand, it may waste home-cooked food and cause a loss of appetite for a complete meal. One interviewee put enjoying particular cuisine from a specific outlet as follows, *"…Halim and Nan-roti are two of my favourite foods… I have tried Halim in a few outlets in Dhaka, but on the best taste I have found at Wireless Gate"* (SSI 11, age 43, Housewife).

Regarding competence, information is critical. For instance, snacking requires knowledge of available food, especially as some foods are only available in hot form during specific times; in contrast, selecting outlets for complete meals needs knowing places where a hot, fresh complete meal is available.

Overall, snacking and eating a complete meal are the everyday practices of Dhaka's urban poor. These practices differ regarding the food items, locations, affordability, time constraints, meaning and purpose. Snacking is seen as a survival strategy considering financial and time limitations, and eating a complete meal is performed to enjoy the company. The competencies of interviewees for the two practices were mostly similar.

Interviewees linked eating out to their livelihoods, mobility, cooking, and shared living. This highlights the intricate interplay among a bundle of practices and circumstances that shape eating habits in urban environments. For example, one interviewee who works as a retailer began snacking by replacing eating a complete meal because the morning was the most crucial time for selling. Some interviewees must switch from the self-provisioning practice of takeaway or eating at home to eating out at commercial outlets. Given Dhaka's traffic, moving through the city takes a long time; for example, an interviewee commuted 20 km from home to work which took 4 hours. Due to the lengthy hours, interviewees often had to eat dinner at work. Only a few interviewees reported consuming employer-provided meals for overtime work. Moreover, snacking is commonly associated with a casual walk in the evening when warm snacks are readily available in restaurants and other sidewalk outlets.

The gas shortage and shared kitchen facilities hindered home cooking, leading slum dwellers to have breakfast outside of the home: *"…Yes, we do leave early in the morning. Children go to school, and we all have to rush to get to work. I buy a banana, some bread, or a cake on my way to work"* (SSI 08, age 35, readymade garments worker). Furthermore, shared living of male co-tenants in a rented house or room contributes to eating out because cooking at home is considered a highly gendered practice—females were thought to be the primary performers: *"…No. I am a single man. We, four co-tenants live in a room …We cook only at night and eat other meals outside"* (FGD 1- R2, age 30, private driver).

4.3 Food safety concerns for eating out practices

"… I may have to eat If I go out and am starving, but not intentionally" (SSI 09, age 24, school teacher).

This statement emphasizes that food safety is a major concern for the urban poor in Dhaka when eating out. Other studies confirmed that food safety in Bangladesh is a broad concern, and a high percentage of our respondents (96% of those who eat out) expressed concerns. The principal concerns are exposure to food safety issues, such as becoming sick from eating out and experiencing diarrhea. Males showed higher levels of anxiety about food safety, which may be related to their propensity for eating out more frequently. Furthermore, the qualitative inquiries revealed that a considerable number of snackers avoid eating a complete meal due to food safety concerns.

The major themes in food safety concerns when eating out, including presentation, ingredients, hygiene, and processing, were compared between the two practices and are presented in Appendix Table A. Two prominent themes emerged during the discussion on concerns about the materials: food presentation and ingredients. Interviewees who described themselves as snackers showed deep concern over uncovered snack items, indicating the need for the appropriate packaging and covering to guarantee food safety. The concerns include dust, human hair, and germs from mosquitoes and fly: *"Healthy! Not at all; many times, mosquitoes fly and sit on there" (SSI 14, age 54, professional cook).* Conversely, those who eat a complete meal emphasized the importance of keeping the outlets clean, including the tables and cutlery. Restaurants and cafés with sheds were identified as the most alarming outlets for this practice (see Appendix Table B). One interviewee referred to the dirty place, *"Cleanliness is crucial for me when choosing a place/shop to eat. If it appears dirty and the vendor does not prepare or serve food hygienically, I do not eat there" (SSI 09, age 24, school teacher).* Additionally, a sizable percentage of respondents (26%) expressed concerns about stale food, demonstrating a focus on the quality of the food ingredients served at the outlets they visit. An interviewee reported, *"…If a restaurant cooks 10 pieces of fish, three are sold, and the remaining seven are sold for the next two or three days" (SSI 12, age 40, street shoe seller).* Further, some interviewees emphasized the significance of ingredient quality were references to the discovery of unpleasant smells in specific snacks. Repeated use of frying oil also raised concerns about the food smell and the staleness of the snacks. As a snacker referred, *"… The main problem is the oil. The restaurateur keeps the oil for several days and uses it repeatedly to fry" (SSI 12, age 40, street shoe seller).*

When discussing concerns about hygiene practices and the unknown processing methods, the interviewees drew connections between these factors and their meanings and competence. Poor hygiene of food handlers meant to them the risk of indigestion from eating out. Food handlers' handwashing and sweating while making food were the other concerns of the interviewees. In addition, the unclear idea of food processing creates further concerns while eating out. Other concerns were about unknown processing for a complete meal. An interviewee detailed, *"This food is prepared at the seller's home. I did not see how it was made. How can you claim that this is safe…" (SSI 06, 30, construction wage labourer).*

Overall, concerns about unhygienic practices were common for both practices but more significant for snacking than for complete meals. While interviewees were concerned primarily about unclean outlets and stale food for complete meals, the snackers had concerns about unexpected odors from the snacks. These poor hygiene practices inhibited many respondents from continuing to eat out.

4.4 Coping strategies in eating out practice

We distilled 13 different coping strategies from the interviewees to manage the urban poor's concerns about food safety when eating out (see Appendix Table C). These strategies can be differentiated into three groups: searching for information, using heuristic tools, and avoiding. Most respondents used multiple of these 13 coping strategies. The interviewees applied the strategies primarily for snacking rather than eating a complete meal. By contrast, the logit regression analysis of the survey results revealed no noticeable differences between those who snack and those who eat a complete meal regarding their socioeconomic characteristics and concerns about food safety when implementing these three coping mechanisms (see Appendix Tables D, E).

4.4.1 Searching information

Under the theme of searching for information, interviewees discussed various sensor-based approaches, including observing food items, smelling them before purchasing, verifying expiration dates, arguing with vendors, and touching or pressing food items. Observing was the most applied strategy among the survey respondents (97%). Some interviewees claimed that observing the food item reduces the risk of becoming ill. For instance, observing food items before buying was important: *"Suppose buying and eating rotten things will make me sick; I will need a doctor, and it will cost a lot. That is why if I buy through observation, it will not be a problem (SSI 24, age 45, loan instalment collector)."* Whereas observing and smelling did not require additional materials or competencies, other strategies did. Some illiterate interviewees, for example, indicated that checking expiry dates on food labels is difficult for them. They relied on shopkeepers for assistance in dealing with this situation. Additionally, interviewees argued with familiar vendors and questioned them about unusual food status or hygiene standards; while this could sometimes be a successful strategy, it was not always practical. According to several respondents, taking action against unknown vendors might cause humiliation because other consumers also buy from them: *"No, I do not take action against vendors. Because other consumers also buy from them. If I tell the seller anything about food adulteration, he will give an example of other buyers" (SSI-13, 28 years, housewife).* These strategies primarily build on essential competencies for purchasing decisions for safer food consumption.

4.4.2 Using heuristic tools

Some coping strategies were revealed as applying heuristic tools, such as only trusting familiar vendors and purchasing more expensive items. Trusting familiar vendors was the most employed heuristic tool, applied by 43% of the respondents. As interviewees often base their decisions on social and cultural norms and beliefs, these coping strategies reflect the meanings associated with purchasing food and consumption at outlets. Interviewees defined eating-out practices

differently to ensure food safety. Interviewees dealt with their concerns by posing self-defined meanings about the safety of food items and outlets. Several respondents felt safer when they were familiar with the vendors. One interviewee reported, '*There is a tea stall near my office; I go there if I wish to have a cup of tea. The person who prepares tea there (near to office) is also clean. I often like to eat from such a shop. I would not eat anything unless there is a good environment (SSI 24, age 45, loan instalment collector).*' Others paid higher prices to ensure food safety, "*Even if the price is high, there is nothing else to do but purchase these…for my child's safety; I must pay a higher price*" (SSI 25, age 28, recycle labour). On the other hand, most interviewees questioned their ability to influence the current provision of food at various outlets. The lack of appropriate materials, such as a specific point for complaining, demonstrated their vulnerability. Moreover, effectively identifying safe food necessitates skills that interviewees lack. They gained competencies through their experiences in selecting the right shop, perceived as a provider of safer food.

4.4.3 Avoidance

We discovered avoidance strategies such as altering or avoiding outlets, avoiding particular foods, and purchasing only packaged goods. These coping techniques focussed on the physical food environment to prevent potential risks and hazards associated with eating out. Rather than taking action, avoiding eating out became a way of dealing with the situation. The majority (56%) of the survey respondents did not eat out. Strategies, for avoiding unsafe or stale food, included bringing food from home or eating at home: "*…No, I have my lunch at home. If I eat out, I have to eat stale food at restaurants. It is better to eat at home. (SSI 12, age 40, street shoe seller).*" However, cooked rice meals spoiled quickly in Dhaka's warm weather so bringing food from home may be risky in itself. However, most eating out occurs due to necessity, so not all respondents could avoidance as a strategy to address their concerns. Despite concerns about the hygiene of the outlet, one interviewee explained why he could not avoid eating out, "*I saved my stomach…There were no alternatives. Awful place and odor. I ate despite the lousy ambience*" (SSI 14, age 54, professional cook).

5 Discussion and conclusion

In this study, we sought to identify coping strategies for food safety concerns of the urban poor by exploring eating-out practices in Bangladesh's capital, Dhaka. We applied social practice theory to study eating out among the urban poor and tried to uncover how food safety concerns are handled in this practice. Our findings shed light on the variety of enabling and impeding resources and skills that influence the urban poor's choice of eating out and how they manage their concerns. Overall, the study provides a comprehensive understanding of the eating-out practices of the urban poor in the context of food safety concerns and urban lifestyles.

Firstly, we identified two distinct variations of eating out: 'snacking' and 'eating a complete meal'. We found similarities among the different practice elements in both, which demonstrates the adaptability of elements in social practices. At the same time, different elements may be part of the same social practice. By comparing different (variations of) practices, we can gain a more holistic

understanding of the practice, which enables us to zoom in and learn more about its details. While the locations and times of the two variants differ, the meaning of engaging in them is similar: necessity and pleasure (Fine et al., 2001; Southerton, 2013). Satisfying hunger is essential, but this practice demonstrates significant social value (Warde et al., 2020). Eating out often becomes an obligation to maintain social connections. However, affordability, location, and time requirements lead to snacking dominating over eating a complete meal. Our findings differ from the observation by Warde et al. (1998) who found that financial constraints are not primary concerns for UK consumers in choosing of eating-out practice. In contrast, our study suggests that financial limitation plays an important role for Dhaka's poor in continuing the practice. This finding shows that snacking requires more attention from policymakers and food industries to make them safe. It is critical to empirically compare and contrast the two variations when determining appropriate policy responses.

Secondly, Several food safety concerns related to eating out practices by the Dhaka poor are identified, consistent with the study in other Asian cities, but the concerns vary in nature (De Filippo et al., 2021). The concerns in this study are mostly associated with materials and competencies and vary between snacking and having a complete meal, highlighting the need for practice-specific considerations in the urban food policy process. While snacking and complete meals involve non-food materials, such as covering food and outlet environments, the main food-related concerns are linked to eating a complete meal. The inability to identify food processing indicates consumers' lack of competence. Despite the serious concerns about snacking, it is predicted to persist due to its role in satisfying hunger at work, driven by convenience and cost. In addition, outlet-related concerns for restaurants and café with sheds are easily visible and need more exploration to take appropriate measures (Adam et al., 2014). Fewer practitioners' engagement in eating out indicates deeper concerns. This signifies that people from slum households are aware of the food they consume. One possible explanation is that existing policy instruments or their implementations may not alleviate concerns and impact provisioning practice in the informal context of Dhaka slums (Smit, 2016).

Thirdly, poor consumers in this study adopt coping mechanisms based on their perception of the food environment and available resources in urban areas. These mechanisms are generally non-scientific. Nevertheless, they incorporate different practice elements. Especially the poor are limited in their resources and expertise to cope with these risks. Coping strategies in eating out practices need to comprehensively connect the different practice elements (i.e., meaning, materials and competencies) to ensure safe food. So far, however, only single elements are often used to manage the risk. The embeddedness of eating out in other everyday activities as part of urban lifestyles should be considered when trying to improve the circumstances surrounding eating out in an urban food system (Adeosun et al., 2022). The urban lifestyle of these poor means it may be impossible to avoid daily eating out by them (Wertheim-Heck et al., 2015).

This study's innovative approach has led to developed a new framework that can serve as a guideline for future research in the area of coping with food safety concerns among the urban poor in the global south (see Figure 3). This framework begins with examining the core practices while considering additional associated practices,
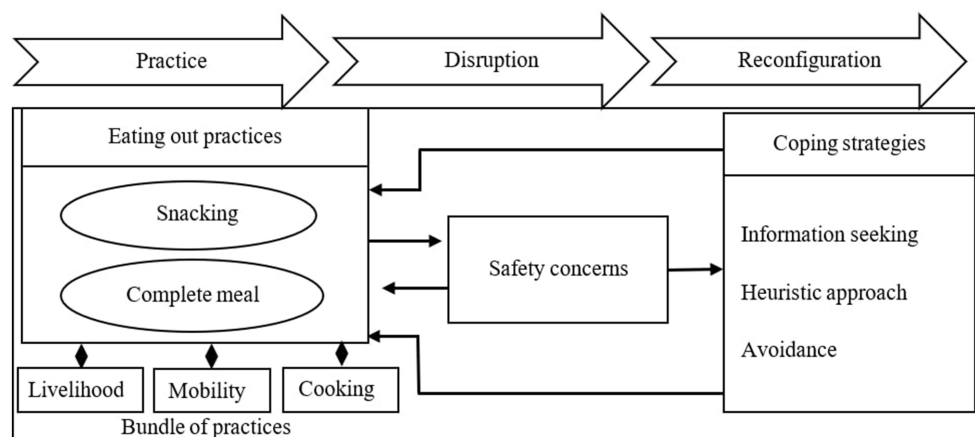
FIGURE 3
A conceptual framework connecting eating out and food safety coping strategies.

referred to as the bundle of practices. A search for similarities and differences among the practice elements can assist in separating the two practices. A careful review of the strategies for coping employed in established practices can discover how they adapt or alter in response to issues raised by food safety concerns. This helps us figure out the reconfiguration procedures to address the disruptions caused by these concerns.

Exploring a practice with mixed methods gave us substantial results about the actual practice among large groups, concerns and strategies. While the study's findings are interesting and valuable for the food industry and policymakers, there are some limitations to consider. First, forthcoming studies could investigate the influence of home cooking facilities on food safety management for eating out, potentially revealing distinctions in experiences between households with and without such equipment. Second, analyzing the effect of time constraints on the decisions and concerns regarding food safety made by the urban impoverished can provide insight into the nexus between urban lifestyles and safety measures for eating out. Third, Because the study was conducted in a South Asian city with distinct cultural and contextual dimensions, the findings may not be generalisable to other cities worldwide. Fourth, surprisingly, concerns about chemicals related to food safety concerns were not raised by the respondents which can be another aspect for further research. Finally, the sample only includes poor urban populations, which may also limit the findings' broader applicability. Further exploration of the other socio-economic groups and locations can be recommended with the help of the conceptual framework presented above. Using this framework, researchers can better understand the complex interplay between the different elements of coping strategies and how they shape everyday practices.

Food quality and safety are critical to any food security strategy (King et al., 2017). This case study demonstrated how food safety concerns disrupt the urban poor's eating out practice. It also demonstrates that low-and middle-income countries yet have to implement appropriate policy instruments to reduce these concerns (Rheinländer et al., 2008; Tach and Amorim, 2015; Mohammed Abdus Satter et al., 2016; Omari and Frempong,

2016; Van Den Berg and Brouwer, 2019; Giroux et al., 2021). Global South countries may require capacity-building support as they currently lack them. Food safety for the urban poor cannot be left to the market alone; researchers, government and civil society should work together to support urban planning, retailers and public health sectors. To do this effectively, it is crucial that everyone involved in the food system, specifically from the farm to the retail outlet, understands how and why consumers perceive food safety dangers and how they react to them.

This study not only offers practical insights for food consumers, retailers, industry stakeholders, and policymakers but also introduces a novel tool for future studies examining food safety concerns among the urban poor in global contexts. Our conceptual framework facilitates a more profound comprehension of the interplay between various coping mechanisms within the larger context of the urban poor's out-of-home food consumption. Ultimately, our findings demonstrate the significance of understanding eating out from the viewpoints of social practice, non-scientific methodologies used in the practices, and collaboration among academics, governments, and civil society in resolving food safety concerns in urban food systems. The study underscores the importance of food safety for low-income urban populations when eating out, stressing the need for context-specific interventions in low-and middle-income countries in the Global South.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The study has been approved by the Institutional Review Board of icddr, b (# PR-19129). It was approved by both Research Review Board and Ethical Review Committee. All study respondents were interviewed with informed consent obtained.

Author contributions

MH, RV, SR, and PO conceived, designed, and wrote the paper. MH collected and analysed the data. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fsufs.2023.1248638/full#supplementary-material

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