Keeping Up Appearances: Perceptions of Street Food Safety in Urban Kumasi, Ghana

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ABSTRACT *The growing street food sector in low-income countries offers easy access to inexpensive food as well as new job opportunities for urban residents. While this development is positive in many ways, it also presents new public health challenges for the urban population. Safe food hygiene is difficult to practice at street level, and outbreaks of diarrheal diseases have been linked to street food. This study investigates local perceptions of food safety among street food vendors and their consumers in Kumasi, Ghana in order to identify the most important aspects to be included in future public health interventions concerning street food safety. This qualitative study includes data from a triangulation of various qualitative methods. Observations at several markets and street food vending sites in Kumasi were performed. Fourteen street food vendors were chosen for in-depth studies, and extensive participant observations and several interviews were carried out with case vendors. In addition, street interviews and Focus Group Discussions were carried out with street food customers. The study found that although vendors and consumers demonstrated basic knowledge of food safety, the criteria did not emphasize basic hygiene practices such as hand washing, cleaning of utensils, washing of raw vegetables, and quality of ingredients. Instead, four main food selection criteria could be identified and were related to (1) aesthetic appearance of food and food stand, (2) appearance of the food vendor, (3) interpersonal trust in the vendor, and (4) consumers often chose to prioritize price and accessibility of food—not putting much stress on food safety. Hence, consumers relied on risk avoidance strategies by assessing neatness, appearance, and trustworthiness of vendor. Vendors were also found to emphasize appearance while vending and to ignore core food safety practices while preparing food. These findings are discussed in this paper using social and anthropological theoretical concepts such as ‘purity’, ‘contamination’, ‘hygiene puzzles’, and ‘impression behaviors’ from Douglas, Van Der Geest, and Goffman. The findings indicate that educating vendors in safe food handling is evidently insufficient. Future public health interventions within the street food sector should give emphasis to the importance of appearance and neatness when designing communication strategies. Neglected aspects of food safety, such as good hand hygiene and cleanliness of kitchen facilities, should be emphasized. Local vendor networks can be an effective point of entry for future food hygiene promotion initiatives.*

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INTRODUCTION

During the last few decades, the street food sector has expanded rapidly in urban areas of low- and middle-income societies, both in terms of providing access to a diversity of inexpensive foods for low-income households¹ and in offering job opportunities for many urban residents. The street food sector also contributes to the economy of an urban and peri-urban agricultural sector.²

Street food is a public health concern, since safe food hygiene can be difficult to practice at street level in settings where resources are scarce and surroundings are of low environmental and sanitary standards. Diarrheal diseases due to contaminated and unhygienic food are among the leading causes of illness and deaths in low-income countries,³ and several outbreaks of disease have been attributed to the consumption of street food.⁴ Research among 160 street food stalls in the Ga district in Ghana showed that only three (1.8%) of the proprietors met the requirements for basic hygiene based on a five-point checklist.⁵ Research among 117 street vendors in Accra showed that all vendors exhibited good food hygiene, but none of the vendors associated dirty hands with the transmission of diarrheal pathogens. Most of the food samples collected in this study had acceptable limits of contamination, but samples of salads, macaroni, fufu, omo tuo, and red pepper had unacceptable levels of pathogens. *Shigella sonnei* and enteroaggregative *Escherichia coli* were isolated from macaroni, rice, and tomato stew, and *Salmonella arizonae* from light soup.⁶ Recent research has highlighted the low quality of vegetables sold in urban markets in Ghana, including Kumasi, which are bought and prepared by many street vendors. Of a total of 180 vegetable samples (lettuce, cabbage, and spring onion) from major markets in three major Ghanaian cities, most samples had pesticide residue levels exceeding the maximum limit for consumption, and all were fecally contaminated.²

Several European-based studies have focused on non-expert perceptions and acknowledgement of food risks, such as food hygiene and contamination. These studies have found that people tend to express optimistic bias toward food risks, underestimating or ignoring risks of encountering harmful effects from foods.⁷ Other studies have highlighted peoples' tendencies to express illusion of control over food-related risks.⁸ Trust has also been found to compensate for knowledge of food risks.⁹ These studies all indicate that food risks are dealt with by using a variety of strategies and acknowledging that food risks are often not the core dimension of food quality assessments. Other food-related studies have underlined the importance of looking at perceptions of food quality, including the wider social and cultural practices, symbolic meanings of food as well as food and its role in everyday life.¹⁰⁻¹²

However, very little is known about how street food vendors themselves perceive and prioritize food safety. The objective of this study was therefore to explore local perceptions of food safety and hygiene among vendors and consumers in urban Kumasi, Ghana. With this study, we seek not only to understand health-related aspects of food safety but aim at gaining in-depth understanding of peoples' values and prioritizations when preparing, choosing, and consuming street foods.

METHODS

Study Area

The study took place in Kumasi, the second largest city in Ghana, with a fast-growing population of 1.2 million inhabitants according to the latest census.¹³ The Kumasi Metropolitan Assembly (KMA) estimates that approximately 10,000 registered food vendors operated within the Kumasi suburbs by the end of 2005 (according to KMA director for Sanitation and Environmental Health, Mr. A. L. Antwi, personal communication, Oct. 2005). In addition, there are substantial numbers of vendors who operate without official licenses. The vendors of Kumasi operate from busy spots all over the city, lining streets, markets, and traffic junctions. Most street food vendors operate their food stands alone and generate sufficient income to provide for their daily lives.¹ A smaller segment of vendors operate larger-scale businesses with multiple stands and hired staff. Few vendors are organized in professional associations. In Kumasi, approximately 130 street vendors are presently organized in the association for street food vendors of the Ashanti region, which is supported by the multi-national company Nestlé Corporation (personal communication, Nestlé/Maggi local manager, Kumasi branch, May 2006).

Most vendors cook at very basic cooking facilities: in private homes, in courtyards, in rented facilities near vending sites, or on-site at their food stands. Street food kitchens are often small, congested, and habitually situated next to open gutters along streets with heavy traffic. Vending stands are typically simple booths or sheds with no access to running water, sanitation, and garbage disposal facilities.

In accordance with other street food studies, street food consumers in Kumasi are found in all population groups.^{1,14,15} However, the most frequent groups of consumers are young, male, single workers or students, or men with a working wife, and of low to middle socio-economic status (Table 1).

Data Collection

Data were collected between October–December 2005 and March–June 2006 by two field workers with public health backgrounds and training in qualitative field methods. Four types of qualitative data collection methods were used: participant observation, case studies, interviews, and Focus Group discussions (see Table 1 for an overview of methods).

Participant Observations

Exploratory and general observations were carried out at major markets and junctions in Kumasi to get an insight into the structures and types of street food vendors at these locations. One of the field workers attended two street food safety inspection rounds carried out by the Health Department of Kumasi. For further in-depth studies, 14 typical case vendors were selected from low-, middle-, and high-income areas. They ranged from small scale one-man vending sites to larger establishments with multiple employees. Table 2 presents the characteristics of these vendors and premises. Field notes from observations were compiled using a semi-structured observation guide (Table 3).

Interviews

The KMA was initially consulted to gain knowledge of procedures and challenges of food safety control in Kumasi, and informal interviews were conducted with directors and ground level staff from the KMA Environmental Health Department.

TABLE 1 Field methods and data sources

Methods	Data sources
Interviews	Consumers 40 semi-structured street interviews Consumers aged between 16 and 48 years Majority of which were students, unskilled workers, or workers of low educational levels Vendors Several informal interviews with all 14 case vendors Formal recorded interviews with 8 of the 14 case vendors Resource persons KMA official KMA environmental health inspectors MAGGI/Nestlé manager, Kumasi MAFFAG manager
Focus group discussions	Consumers Four FGDs (2 male and 2 female consumers) Total of 27 participants between 16 and 35 years of age Majority were students, unskilled workers, or workers of low educational levels Vendors FGDs with 5 vendors selected from among the members of the street vendor organization
Participant observations	General observations At urban vegetable farms: observing the daily routine of farmers supplying vegetables to the street food sector At vegetable markets: observing daily routine at wholesale and daily markets At the central market in Kumasi: observing a variety of stands and shops, including meat, vegetable, and other food item At central traffic junctions around town: observing many street food vendor stands Focused observations At all 14 case vendors: observations of kitchens, stands, water, and sanitation facilities Between 3 and 9 observation sessions of a minimum of 3 h each conducted at each vendor
Workshop	A 3-h workshop in the MAFFAG, with 50 street food vendors, all members of the organization Discussions on barriers and driving forces for maintaining hygiene and food safety in the street food sector

Multiple informal interviews with vendors were conducted with all 14 case vendors and their staffs throughout the period of field work. In addition, formal semi-structured interviews were conducted with eight of the vendors. Interviews focused on gaining knowledge on vendors’ perceptions and attitudes toward food safety, hygiene, health-related risks, and sources of knowledge on food safety. Informal interviews were recorded simultaneously in field notes and later compiled and organized in word documents according to the overall interview questions listed above. All formal interviews were audio-recorded and transcribed ad verbatim into word documents.

TABLE 2 Characteristics of case vendors and street food vending premises

Characteristics
14 case vendors
Age between 18 and 60 years
7 men and 7 women, with more men managing fast food stands (8 men and 3 women) and more women managing stands selling traditional dishes (all 5 sites included)
Vendors had been involved in selling street food from a few months up to 30 years
11 vendors had basic education (up to secondary school), and 3 had participated catering or cooking courses
3 vendors had no employees but were occasionally helped out by a family member
6 vendors had a single helper such as a school aged child, a young uneducated man, or woman during the sale or preparation of food. 5 vendors had larger scale and well-established outlets with several fulltime hired staff to cook and sell for them
4 fast food vendors were members of vendors' associations. 13 vendors were licensed by KMA, but most of the staff and vendors held expired licenses (exact number unknown because of rotating staff and licenses not presented to us)
Cooking and vending facilities
12 of the vendors operated from stands on the street close to market or residential areas. Only 1 vendor had access to indoor facilities as she operated from rented rooms in a small restaurant
13 vendors cooked in kitchens that were completely or partly situated outdoors, either on the ground or the streetside or in private backyards. 1 vendor cooked inside the vending stand, which was large enough to contain all kitchen facilities
Most vendors (11) served dishes of fried rice and chicken, with side dishes of salads and sauces—locally referred to as <i>fast food</i> . 5 of these served traditional dishes of yam, stews, meat dishes, sauces, and side dishes of salads as well—locally referred to as <i>chop bars</i>
None of the vendors had potable water available at either the cooking area or vending site
None of the vendors had an authorized garbage disposal system at the cooking or vending facilities
None of the vendors had access to cooled storage facilities for leftovers or uncooked meat and vegetables

Forty short street-based semi-structured interviews were conducted with consumers during their purchase of street foods. Interviews focused on customers' perceptions of street food safety, their criteria for choosing a street food vendor, and their knowledge and attitudes toward health-related risks, food safety, and hygiene. Responses were recorded in field notes during interviews and later compiled and organized in word documents according to the overall interview questions listed above. All interviews were conducted in English by the field worker or in the local language, *Twi*, involving a native speaking research assistant when necessary.

Focus Group Discussions

Initially, one Focus Group Discussion (FGD) was conducted with five owners of street food stands to gain insights into the formal set up of the street food sector in Kumasi, the general business challenges to vendors in interacting with customers, authorities, and suppliers.

Based on the data from the individual interviews, four FGDs with a total of 27 street food consumers were later carried out in two different areas of town, with high concentrations of street food vendors (two with males and two with females). Participants were regular street food consumers and recruited from the street

TABLE 3 Vendor observation guide

	Observation guide
Practical information	
For each observation session, the following data were recorded	Location, time interval, app. number and types of customers, main events, topics, and content of discussions with staff, vendors, and customers
Stand facilities	Water source (availability, distance, cost)
For each observation session, observations were carried out on all of the below topics	Toilet facilities (availability, distance, cost, hand washing facility, soap)
	Presence of dirt, dust, ants, flies, animals, children, garbage
	Condition and presentation of stand (materials, flooring, cleanliness, dirt, refuse, flies, ants, utensils, decoration etc.)
	Presentation of foods (covered or openly presented, decoration etc.)
Vicinity facilities	Condition of immediate environment (open gutters, dirt, dust, refuse, flies, animals, traffic etc.)
	General description of area: shops, streets, cleanliness, social standards, public or private sanitation facilities, relations with other shop owners
Food hygiene practices	Preparation of dishes (how, when, by who)
	Treatment of lettuce/other raw vegetables (washing and drying method, use of salt, vinegar etc.)
	Storage of food/vegetables (where, how long, app. temp, covering)
	Handling of food (use of utensils, bare hands, plastic cover)
	Practice of reheating food before sale (time, app. temp)
	Separation of raw and cooked food
	Handling of leftover food (what is kept and disposed)
	Serving of meals (packing, utensils)
	Washing of utensils (how often, in which water, warm/cold/soap)
	Quality of water and raw materials used (source of water used for cooking/washing, quality of meat, vegetables, and other food items)
Vendor's personal hygiene	Hand washing (when, how often, in which water, soap)
	Toilet visits (hand washing?)
	Cleanliness of clothes, hands, fingernails
	Open wounds, health of vendor, health license?
	Use of apron, head cover, plastic gloves
	Unhygienic behaviors while vending food (nose blowing, child care, coughing, touching food, cross contamination from meat to veg.)
Customers	Types of customers (age, sex, occupation, education)
	Regular customers, new customers
	Customers enquiring about food, questions/concerns about the food (production of raw materials, handling, preparation)
	General vendor–customer interactions
	Vendors gestures/behaviors with customer

immediately before the FGD. All FGDs were conducted using a local interpreter as facilitator, recorded, and transcribed verbatim for analysis. These FGDs focused on elaborating consumers' perceptions of street food safety, how they choose a vendor, and what they perceive as safe or hygienic street foods.

All participants in interviews and FGDs were assured anonymity and gave their consent to participate in the research project and agreed to the interviews or discussions being recorded or written down.

Analysis of Data

Transcriptions of all formal interviews and all FGDs were translated from Twi into English with the assistance of three qualified interpreters. All texts were analyzed using content analysis by organizing data by overall thematic trends. Themes were further developed in subanalyses, drawing upon theoretical concepts from Douglas, Goffman, and Van Der Geest. Findings are presented according to these themes and later discussed, drawing upon core theoretical concepts.

FINDINGS

Twelve vendors served fast food meals consisting of fried rice with meat, and four served traditional Ghanaian meals (two vendors served both types of food) made of staple foods (rice, beans, banku made of fermented maize dough, and fufu made of boiled and pounded starchy root vegetables) with side dishes of stews or vegetables sauces. All vendors also served side dishes of salads of raw vegetables such as lettuce, cabbage, and spring onions. From observations, consumer interviews, and interviews with vendors, we found that typical street food customers are (1) young unskilled workers, (2) petty traders who bought street food on a daily basis, (3) students who do not have cooking facilities, or (4) school children who get money from their parents to buy food during school days.

Our participant observations at vending places and preparation sites revealed that the overall hygiene practices of vendors were insufficient to ensure biomedically safe food. Unsafe practices were especially related to inadequate storage and reheating of food before sale, insufficient hand washing, inappropriate cleaning of cooking utensils, and inadequate rinsing of vegetables.

Knowledge of Food-Borne Diseases

During interviews, the majority of vendors and consumers demonstrated concerns about the conditions of food preparations. One consumer said: "We don't know where they prepare the food...You don't even know whether it is leftover food or not... You won't know..." (three female consumers, FGD), and vendors often expressed similar concerns about other vendors' food preparation standards. Most vendors and consumers also expressed basic biomedical knowledge and awareness of disease transmission by describing the presence of dirt at the vending site that pose health risks: "She (the vendor) has to remove anything associated with dirt from the selling place before she serves. This will ensure that you will not get any sickness." and "First I will observe the immediate surroundings and appearance. Doing this prevents the danger or probability of contracting any diseases." (two male consumers, FGD) and "Food is very delicate since it could be the cause of a lot of diseases" (female vendor). The pathways of disease transmission most often mentioned were flies, garbage, bodily liquids (such as saliva), and gutter and fecal materials. Knowledge of severe food-borne diseases such as typhoid and cholera and

their ways of transmission were also mentioned by all vendors and many customers, who thereby demonstrated basic knowledge on disease transmission via food and water.

Educational level seemed to influence vendors' level of knowledge of food safety to some extent. Vendors with formal hygiene education expressed more exact and elaborate hygiene knowledge, such as knowing the pathways of bacteria from fecal material to food, compared to vendors without any formal hygiene education. However, our findings do not suggest an effect from education on actual safer food handling *practices*, such as frequent hand washing, rinsing vegetables more carefully, or making an effort to keep the cooking surroundings cleaner.

Social and Normative Notions of Food Safety

Although interviews with vendors and customers revealed knowledge on basic food safety and awareness of biomedical food safety, they also frequently verbalized food safety using social and normative notions of food safety. The analysis of data from all interviews showed that four overall criteria seem to guide both vendors and customers when describing food safety and choosing food: (1) All customers and vendors mentioned their choice of a stand was influenced by its physical appearance and presentation, which they verbalized as "neatness;" (2) they also stressed the need for a vendor himself or herself to appear "neat" and "orderly", meaning being a tidy person; (3) most consumers also expressed that trust in the vendor was important when choosing a safe place to eat—this trust was built on previous positive experiences or social/family relationships and not on food safety assessments; and (4) all consumers mentioned that street food should be cheap and easily accessible. The first three main criteria, which are all strongly associated with assessment of street food safety, are described thoroughly below. The fourth criterion is related to logistics and the practicalities of street food and will not be further addressed in this paper.

Assessing Neatness of Vending Surroundings

To cope with the uncertainty of food safety, several risk avoidance strategies were expressed. A few customers expressed more fatalistic attitudes toward the potential dangers of consuming street foods: "Yes, I am afraid of getting sick from food but I can do nothing. I have to eat because I have no time to cook" (female consumer in FGD). The Ghanaian proverb "Ani ahu a, enyetan" meaning "If you can't see it, it does not hurt you" was also frequently heard from customers describing their reaction to being unable to monitor cooking premises and identifying sources of contamination.

All consumers mentioned the importance of assessing the neatness and visible appearance of the vendor and the surroundings of the vending site: "Some (vendors) cook the food somewhere else and bring it to the stand. What we do then is to look at the vendor. If she is neat ... the food will also be neat" (FGD, female consumers).

Despite basic knowledge of risks of food-borne diseases, observations showed that consumers do not request for more hygienic behaviors from vendors. Consumers were never heard inquiring about hand washing or whether the vegetables had been washed sufficiently. Similarly, in FGDs, consumers emphasized that they did not wish to influence the practices of vendors even though they were highly concerned about food safety: "In fact you can't tell the owner of the place if the vendor or the place is not neat. You will feel too shy to stand in her face and tell her" (FGD, female costumers).

Observations during the KMA inspection rounds made clear that the same focus is applied by authorities. Focus of vendor control was on promoting clean environments and vending premises, and basic personal hygiene of vendors and basic food hygiene was not systematically assessed by food inspectors and was not a part of the inspection format used by authorities. Emphasis was, for example, paid to drainage and garbage disposal, which ensures that gutter water and garbage does not accumulate at the cooking and vending sites. However, hand washing facilities and methods for rinsing vegetables were not assessed.

Hence, it seems that, consumers' and control authorities' notions of food safety rarely comprise aspects that are not observable immediately at the point of purchase. Rather, it focuses on the immediate surroundings of the vending areas.

The Notion of Neatness

One particular finding of this study was the much verbalized and observed emphasis on *neatness* in many connotations. In focus group discussions and interviews with consumers, neatness was often described and associated with aesthetic appearance of the vending site and an all inclusive state of *order* and *correctness*: "When a seller has everything correct in place" and "when there is no dirt to be seen" (FGD, female customers) and "the person must be in order, everything must be in order. Because if you go and buy and realize things are not neat, you won't buy from that place again" (FGD, male customers). The observations at vending places confirmed that most vendors spent quite some time lining up pots, jars, and bottles in an artistic manner, arranging salads and other colorful foods on display, and decorating their stands to create an atmosphere of neatness. Hence, neatness and eliminating dirt was often a purpose per se for vendors and customers, without them reflecting the related health benefits. This finding suggests that hygiene is not always indicated as a health concern or motivated by health risks but rather as intuitively correct and orderly behavior.

Both observations and interviews with vendors and consumers made it clear that there is a strong focus on the personal neatness and appearance of the vendor. Vendors are conscious of changing stained clothes to clean ones, putting on colorful dresses and jewellery, and putting on aprons before presenting themselves to customers at their vending sites. One consumer said: "You will have to be careful by being selective (...) you take the hygiene of the vendor into consideration. That is, how the person looks. Her appearance is important to me" (FGD, female consumers). Consumers and vendors referred to neatness as personal *pureness* and positive personal qualities such as *neat manners*, being *friendly*, and *polite*. Also, 'cleanliness' seemed to have a moral connotation and was associated with having a *good moral attitude*. Thus, neatness is comprised of normative values of aesthetic, social, and moral pureness. Furthermore, it was clear from the participant observations that while many efforts were made to keep the vending premises neat and the appearance of the vendors neat, the food preparation sites were often disorganized and fairly dirty.

Local perceptions of food safety and hygiene thus seem to be highly influenced by values of neatness and appearance among both vendors and consumers.

Consumers' Trust in Vendors

All interviews and FGDs with consumers clearly revealed that street food is generally mistrusted by consumers and regarded as being of low quality compared to home cooked food—even by regular customers: "In fact the quality of food bought outside

the homes can never be compared to food prepared at home. I only buy food from outside my home when and only when I fail to cook at home” (FGD, male consumers). Street food consumers also generally mistrust the vendors and their efforts to ensure food safety. Comments like: “The vendors don’t care much about the food; they just serve it and want to make money” (Interview, male consumer) were frequently heard in interviews with consumers.

Interviews with vendors and a discussion workshop conducted in the vendor’s network in Kumasi revealed that members of this network are concerned with this issue of mistrust in street foods. The network is therefore engaged in promoting a positive image of the street food sector, i.e., by enhancing food hygiene and vendors’ appearance.

In spite of the general skeptic attitude toward street food vendors, *trust* in known vendors was identified as a decisive factor for consumers when choosing a vendor to purchase food from. Many consumers stated that they often purchase street foods from the same vendor, in whom they had developed trust. The two mentioned criteria for developing trust were (1) the reputation of a vendor, heard from friends or relatives or gained from own experiences: “I know the vendor from a restaurant, where I eat... I know he is safe” (interview, male consumer); or (2) the consumer had a personal relationship with the vendor through family relations or close friendship: “she (the vendor) knows how to cook well and because she is my friend I will go and buy it all the time” (interview, female consumer). Hence, consumers seem to tackle the dilemma of general mistrust in food safety of the street food sector by establishing trusted relationships with known vendors. For this reason, we conclude that consumers’ trust in vendors does not seem to develop based on consumers’ knowledge of safe food handling practices by the vendor; rather, trust in food and vendor is built on interpersonal factors.

DISCUSSION

Our study found that many vendors do in fact have sufficient knowledge to ensure hygienic handling of food, such as the knowledge of the dangers of fecal contamination and serious food-borne diseases. However, knowledge was not turned into safe practices, not even by those vendors who had obtained formal training in cooking. This resonates well with Mwangi’s study from Nairobi,¹⁶ which found neither the sex of vendors nor vendors’ knowledge about health and hygiene to be closely related to safe food practices. In accordance with the previously referred to studies,^{8–11} Mwangi concludes that the wider social, cultural, and everyday context seems to have a greater influence on handling of food risks and hygiene.

Our findings will, therefore, be discussed and reflected upon using theoretical concepts from social and anthropological science, which focuses on the contextual and symbolic meanings of contamination and the interpretation of hygiene.

The Social Construct of Dirt and Hygiene

As described by Anthropologist Mary Douglas, notions of hygiene are socially and culturally determined, and dirt can be categorized as *matter out of place*.¹⁷ For vendors and customers, unsafe food facilities and unsafe food hygiene were described as *incorrectness* and *non-order*, and vendors were thus highly concerned with maintaining order and systematizing (and eradicating) presence of dirt. In accordance with the studies of Curtis,¹⁸ the guiding criterion of hygiene therefore seems to be based on avoiding social as well as physical parasites and germs, when

both vendors and consumers put stress on cleanliness, proper manners, and aesthetic appearances. This is also demonstrated in the local language in which the word for hygiene, *ahote*, refers to morals and respect as well as cleanliness.

Back Stage and Front Stage Behaviors—The Hygiene Puzzle

A puzzling finding of this study was the observed distinction of ensuring neat and aesthetic impressions of the vending sites and, at the same time, ignoring messy and dirty conditions of the kitchen and its facilities at the back. Erving Goffman¹⁹ has described these behavioral patterns with the use of the two metaphors ‘front stage’ and ‘back stage’, which he describes as part of people’s ‘impression management’: When humans are striving to strengthen and present acceptable appearances at visible front stages and keep non-presentable actions veiled back stage. According to this theory, vendors and customers can be seen as social actors presenting themselves at vending sites as ‘front stages’ and working in kitchens as ‘back stages’. Observations showed that at back stages, vendors are occupied with preparations, cooking routines, and practicalities, such as time, space and costs. Hence, at back stages vendors, were not overly concerned with hygienic, neat, and aesthetics foods. On the contrary, extensive efforts were observed at front stages to strengthen the impression of hygienic foods by presenting the prepared food, cooking utensils, and vendors in an aesthetic, neat, and orderly manner. Goffman’s theory thus elucidates how concerns of hygiene are replaced by concerns of neatness and how hygiene behaviors are formed by and are dependent on interactions between vendors and customers.

This distinction was further underlined by observations of consumers uniformly expressing notions of food safety by evaluating *what can be seen* at the time of purchase, while the interest in food handling practices ‘behind the counter’ was almost non-existent. Furthermore, observations from inspection rounds with KMA also showed that the city authorities also placed emphasis mainly on visible neatness, while basic food hygiene practices taking place at the back stages were not strongly emphasized.

This paradoxical dirt-managing behavior has been observed before in the Akan people in Ghana by Van der Geest, who named it *the hygiene puzzle*.²⁰ For example, in his study, he found that health personnel were able to ignore filth and dirt at back stages by not keeping sanitary facilities clean and yet being immensely concerned about showing clean and orderly personal appearances by always wearing white uniforms. The puzzle observed in the present study seems to be that vendors do not prioritize keeping up the hygienic standards of the back stages of their kitchens even though they have basic knowledge of food hygiene.

A Matter of Trust

This study shows that customers’ trust in vendors, to some extent, replaces biomedical food safety concerns. This adds to the importance of social notions of hygiene, since trust in food is also created via trusted social relationships with a known vendor. Such trends of high personal trust in vendors were also found among vendors and consumers in an Ugandan street food study.²¹ Hansen et al.⁹ stress that trust, in some instances, is a coping strategy for consumers’ lack of knowledge about food risks. In this study, consumers’ strong reliance on personal trust in vendors might happen to counter balance the lack of strong official associations to ensure standards and food safety in the street food sector in Ghana today. It seems to be a natural risk avoidance strategy, stemming from the lack of insight into the facilities

of street food production. However, consumers did not seem to put trust in vendors because of certainty of vendors' knowledge of food safety. Rather, trust was exclusively based on social and personal affiliations.

CONCLUSION

This study found that the emphasis on aesthetics, appearances, and presentation of food and personal trust in vendor–consumer interactions were the most important parameters for assessing food safety among consumers and vendors of street food in Kumasi. Also, vendors' biomedical food safety knowledge did not seem to translate into safe food practices. Therefore, notions of food safety are clearly diverted from microbiological notions of hygiene or health risks and biomedical notions of food safety. Instead, they are shaped by strong sensorial, social, and normative dimensions of food quality and rely on individual assessments and perceptions of food safety.

Formal food safety education alone, therefore, will not be adequate to secure safer street food hygiene. Instead, we find it crucial to understand vendors' and consumers' social and normative perceptions of food safety. Public health campaigns must take into account the emphasis on appearance and neatness when designing future communication strategies. Neglected aspects of neatness, such as good hand hygiene and cleanliness of kitchen facilities, especially, should be emphasized. Given the fact that the urban street food sector is ever expanding and a necessary source of food for many urban people, campaigns must also tackle the fact that the sector suffers from an overall low status and is suspected of low food safety. It should be understood that street food is here to stay, and all efforts should be made to develop it as a hygienic source of food.

Many street vendors can be reached through local vendor networks and associations. These groups have the potential to act as entry points for effective public health promotion. Leading members in such associations can act as role models and agents of change for the street food sector.

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