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Abstract

A growing body of literature explores the relationship between organizational behavior and food safety in restaurants, but most findings are based on two participant observation studies which, while rich with insights, limit the generalizability of the results. This study attempts to overcome this limitation by surveying a sample of student-cooks enrolled in three South Florida culinary schools. Results indicate that restaurant managers must realize that the practice of food safety involves more than microbiology and HACCF!

Keywords

David Walczak, Food and Beverage

Relationships: Food safety and organizational behavior

by David Walczak and
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A growing body of literature explores the relationship between organizational behavior and food safety in restaurants, but most findings are based on two participant observation studies which, while rich with in-sights, limit the generalizability of the results. This study attempts to overcome this limitation by surveying a sample of student-cooks enrolled in three South Florida culinary schools. Results indicate that restaurant managers must realize that the practice of food safety involves more than microbiology and HACCP.

The relationship between organizational behavior and food safety is spelled out in several articles published by David Walczak, although Ronald Cichy and Gary Alan Fine offer additional insights.¹ Walczak's basic argument is that while current efforts at stopping the spread of foodborne illness in restaurants is important, necessary, and effective, they are limited in scope. These efforts, based on the microbiology of food and disease, have produced a very safe food supply, yet millions of people still

get sick, thousands require hospitalization, and hundreds die from food-related illnesses every year.²

Of course, not all food poisoning results from food eaten in restaurants.³ Unfortunately, restaurant customers do get sick and, according to Walczak, one reason for this is the narrow microbiological base upon which preventive efforts are based. Time and temperature controls, safe food-handling procedures, good employee hygiene, cleaning and sanitizing techniques, and a Hazard Analysis and Critical Control Point plan are proven and effective.

In addition, concepts relevant to the discipline of organizational behavior can be helpful in understanding how and why food safety violations occur and could, therefore, help reduce the incidence of foodborne illnesses in restaurants.

Personal experience cited

Based on participant observations made while working as a

Table 1
Research hypotheses in literature by author
and finding in current study

Hypothesis in literature	Author	Hypothesis in current study
Food safety violations are positively related to the amount of work.	Cichy, Walczak	Supported
Food safety violations are inversely related to the amount of time cooks have to clean and sanitize	Cichy, Walczak	Supported
Food safety violations are inversely related to the availability of supplies.	Cichy, Walczak	Not supported
Time and work pressures on kitchen supervisors result in their failure to enforce established food safety rules.	Walczak.	Not tested
Cooks who do not get lunch or breaks are more likely to eat at their workstation than those who do.	Walczak.	Supported
Food safety violations are more likely to occur when training is poorly organized.	Walczak.	Not tested
Antagonistic relationships between cooks and customers can lead to food safety violations.	Cichy, Fine	Supported
Cooks pressure other cooks not to take breaks	Walczak.	Supported
Cooks who work in restaurants that place a high value on food safety are less likely to violate food safety rules and regulations.	Walczak.	Not tested

garde manger cook in a major hotel in South Florida, Walczak identifies four relevant categories of organizational behaviors. These include work-related stress, the functions of management, inter-personal relationships, and organizational culture. See Table 1 for a summary of the major research hypotheses described.

It is common knowledge that cooks working in restaurant kitchens face extraordinary demands. What is less well known is how work stress in the kitchen affects food safety. Both Walczak and Cichy recognize that food safety is related to sufficient resources of time, staff, and supplies.⁴ For example, the food slicer can become a veritable swamp of bacteria simply because cooks have too much work or do not have enough time to clean and sanitize it properly.

Fine found that the focus on efficient production creates time pressure on cooks, which leads them to seek sanitation trade-offs and shortcuts.⁵ An example is the saucier who chooses "steel wool to clean large floor kettles because the chances of making someone sick from steel wool residue are much lower than those of being written up for not having the soups and sauces ready on time."⁶

The pressure to produce large quantities of high quality food in short cycles while standing on one's feet for eight hours without a break, together with mandatory overtime, as well as infrequent and irregular days off, means that cooks are often

too tired to clean and sanitize their work stations at the end of the shift. Even if cooks wanted to operate in a sanitary fashion, they are hard put to do so when the necessary supplies and equipment are not on hand. Examples include nonexistent single-use tasting spoons and insufficient quantities of polyethylene cutting boards, spray bottles, bleach, latex gloves, hand soap, and disposable towels.

Management plays role

Management functions such as control, organizing, planning, and leadership all play a role in the production of safe food. Kitchen supervisors do not always organize their kitchens to provide sufficient time, staff, and equipment to produce food safely. One implication of having too much work or not enough time or help to do the job is that cooks often do not take breaks or lunch, which can result in eating at one's work station—a major violation of safe food-handling procedures.

Of course, all supervisors would need to do is enforce procedures designed to prevent this type of behavior. However, kitchen supervisors usually find themselves under the same pressure as cooks and often fail to enforce sanitation rules and regulations. Walczak found that cooks were allowed to work while they were sick and not re-routed to non food-related jobs. Seldom did supervisors insist that the food slicers be cleaned and sanitized properly. Finally, the management team

never tested kitchen personnel on food safety knowledge, even though the training manual stated this was to happen every six months.

Walczak's study shows that food safety training was poorly planned. Training sessions were given at inconvenient times, delivered by inept personnel and not very thorough. Nor did the management team lead by example. After preparing food for customers, the executive and sous chefs would not clean and sanitize their work stations. They would leave this responsibility to someone else.

Cooks have influence

The cook's interpersonal relationship with service personnel and customers is also related to food safety. Cichy discusses the antagonistic relationship that exists between cooks and servers. He argues this conflict "creates an atmosphere of hostility which is not conducive to achieving the (sanitation) goals of the organization."⁷

Fine found that food safety violations were most likely to occur when a disgruntled customer sends a meal back to an even more disgruntled cook. Fine says, "When a request that is perceived as unreasonable is coupled with a hectic, frustrating evening, sabotage is possible." He continues, "The narrative... in which a customer's sausage was supposedly dipped in urine is an extreme instance of backstage revenge. Spitting in a customer's soup is not unknown."⁸

Debra Ginsberg, a waitress with more than 20 years experience,

describes a similar incident. "Tip-challenged customers who frequent the same spot get not only the worst service but leftover bread, dirty glasses, and plates that have been prodded at and sometimes eaten off.... And yes, I have seen servers spit in food and drinks."⁹

Cooks often have too much work or not enough time to take breaks or lunch, which results in eating at one's work station. Additional pressure not to rest during work hours comes from the cooks themselves. "An informal group norm was that the entire prep and presentation work had to be complete before one could eat lunch. By the time the work was completed, the shift was so nearly done that most cooks finished their shift before taking their lunch break."¹⁰

Organizational culture also plays a role in food safety. Walczak found that management did not place a high value on sanitation nor did it clearly identify normative behavior or consistently sanction important violations. Basically, it paid little more than lip service to sanitation.

Student chefs respond

During winter 2001, 338 cooks filled out a 60-item questionnaire designed to explore the relationship between organizational behavior and food safety. The respondents were students enrolled in three of South Florida's premier culinary schools: the Art Institute of Fort Lauderdale, Florida Culinary Institute, and Johnson and Wales. The convenience sample consisted of

Table 2
Summary of statistically significant findings

	Chi square significance
Cooks who work in family, casual, or theme full-service restaurants are more likely to indicate that they have too much work to sanitize their cutting board than cooks who work in fine dining, institutional, or fast food restaurants.05
Full-time cooks are more likely to eat at their work station than part-time cooks.01
Cooks are more likely to eat at their work station than chefs.05
Cooks who get neither lunch nor breaks are more likely to eat at their work station than those who get both.001
Of the cooks employed in family, casual, or theme type full-service restaurants, those without sick leave are more likely to prepare food while they are sick, than those with sick leave benefits.05
In fine dining restaurants, cooks pressure other cooks not to take breaks.01
In fine dining restaurants cooks pressure other cooks not to take lunch.05
Full-time cooks are more likely to be pressured by their supervisor not to take breaks than part-time cooks.05

students who were employed as either full or part-time cooks and who attended class during the week in February or March when their instructor administered the survey in the classroom. The students were given a questionnaire and told to circle the appropriate answers, or write their answers in the space provided.

While the questions in the survey were developed from propositions found in the literature, there

was no attempt to test any specific organizational behavior theory. The questionnaire included a combination of Likert scale and open-ended questions. It was pre-tested on a small sample of student-cooks enrolled at the Art Institute of Fort Lauderdale during the previous quarter.

Most students were employed as line, prep, and pantry cooks in fine dining or casual, family, and theme full-service restaurant oper-

ations; 80 percent worked full-time. The median age was 22; 73 percent were male, 56 percent Caucasian, 24 percent Hispanic, and 8 percent African-American.

Food safety affected

Eighty percent of the cooks in this survey say that their restaurant places a high priority on food safety, and contrary to a survey cited in *Restaurants and Institutions*, which found that 47 percent of back-of-the-house employees suggested not eating where they work, 90 percent of the respondents to this survey recommended eating at their restaurant.¹¹ The high value placed on food safety is also reflected in the emphasis on training; 50 percent say they receive food safety training daily, weekly, or monthly, while an additional 20 percent are trained yearly. However, this means there is some room for improvement since 30 percent of cooks say they never

receive food safety training.

Cooks say that hand washing equipment and supplies is sufficient; 95 percent indicate that their kitchen has a separate hand washing sink, while 89 percent agree that the hand washing sink is conveniently located, and 92 percent report that they have either disposable towels or a hot-air dryer for drying hands.

Most cooks also say they have the necessary supplies to clean and sanitize their cutting board, work station, and the food slicer. In addition, they report having enough time. Most state that they do not have too much work, nor are they too tired at the end of their shift to clean and sanitize their work station properly.

However, during their shift, cooks do not always have enough time, or they have too much work to clean and sanitize their cutting board or the food slicer properly. One fourth of all cooks report

Table 3
Cooks who eat at their work station by breaks and lunch
(in percentages)

Eat at work station	Get lunch	Get breaks	
		Yes	No
Yes	Yes	31	12
	No	16	41
N=76 Chi square .001			
No	Yes	36	20
	No	20	24
N=178 Chi square .001			

having too much work, and 28 percent say they do not have enough time to sanitize their cutting board.

The type of establishment where cooks work is significant. Cooks who work in family, casual, or theme full-service restaurants are more likely to indicate that they have too much work to sanitize their cutting board than cooks who work in fine dining, institutional, or fast food restaurants (Chi square .05). Additionally, 27 percent of all cooks state they have too much work, and more than one third report not having enough time to sanitize the food slicer. These numbers are especially troubling since proper sanitizing is the key to preventing cross-contamination.

Cooks eat while working

Twenty-six percent of the respondents admit that they eat snacks or lunch at their work station while preparing food for customers. Full-time cooks are more likely to eat at their work stations than part-time cooks (Chi square .01), as are cooks more than chefs (Chi square .05). Among full-time cooks, eating while preparing food for customers is related to whether or not food handlers get breaks or lunch during their eight-hour shift (See Table 3). Of those who say they eat at their work station, 41 percent get neither a break nor lunch compared to 31 percent who get both. Conversely, of those who indicate that they do not eat at their work station, 36 percent get both lunch and breaks, while

only 24 percent get neither.

A major violation of hygiene standards is working while sick; 10 percent of cooks report that they always prepare food for customers while they are sick, and 47 percent answer that they sometimes do. Of these, 72 percent are never rerouted to non food-related jobs and 21 percent are only sometimes re-routed.

When there is work to be done, it is difficult to exclude ill or infected employees from work. Furthermore, when the employee is needed and no sick pay or health insurance is provided, the decision becomes even harder. One would assume that since 41 percent of the cook-respondents have no health insurance, and one out of two have no sick leave policy at work, that puts tremendous pressure on both managers and employees to compromise established food safety principles. However, there is little evidence to support this idea. In general, cooks with health insurance and/or sick leave are as likely to come to work sick as those without these benefits.

The only significant pressure to come to work is among cooks employed in family, casual, or theme full-service restaurants. In these establishments, 66 percent of those without sick leave say they sometimes or always prepare food for customers while they are sick, while only 45 percent of those with sick leave do so. Conversely, 55 percent of cooks with sick leave never work while sick, whereas only 34 percent of those without

sick leave report that they never work sick (Chi square .05).

According to this survey, cooks are likely to sabotage food when they are in a rush, have too many orders, do not have enough time, or are trying to control food costs. With reference to retaliation against customers, some cooks observed others intentionally contaminating food because the cook did not like the customer, such as a policeman or former teacher. More often, the cook intentionally contaminated food because of what was perceived as unreasonable complaints from customers.

The results also suggest that an informal norm on work hours does exist among cooks. This survey finds evidence that cooks pressure other cooks not to take breaks (Chi square .01) or lunch (Chi square .05), but this relationship was found to exist only in fine dining restaurants. The authors did not expect to find pressure exerted on cooks by their supervisors. However, among all cooks who get breaks ($n = 162$), 25 percent say they are pressured by their supervisor not to take their breaks. This is most strongly felt by those employed full time (Chi Square .05).

Managers have role

What do these findings mean for food safety in restaurants? Restaurant managers must realize that the practice of food safety involves more than microbiology and HACCP. They need to understand their role in undermining

food safety so they can monitor their own behavior. Violations of safe food handling by cooks can be expected when management assigns too much work or does not allow sufficient time to complete tasks. This can lead to cooks pressuring other cooks not to take breaks or lunch. If supervisors then do not allow cooks to take scheduled breaks and lunch or, worse, pressure them not to, they encourage behavior counterproductive to established safe food standards. Turning a blind eye to a cook's runny nose may satisfy short-term scheduling needs but can also lead to long-term disaster. Re-routing sick food handlers is a must.

The restaurant kitchen is a pressure cooker. When supervisors put the heat on cooks to produce a large quantity of high quality products in a short period of time with insufficient rest, in sickness and in health, they help create the type of food-handling misbehavior that they should try to eliminate. According to microbiology, heat kills most bacteria. How ironic that in a social setting, heat, in the form of pressure to produce, can also create conditions that promote bacterial growth and spread.

If management behavior can circumvent food safety goals, then managers should be required to know how this happens. The relationship between organizational behavior, management practice, and food safety needs to be taught in food safety college courses, workplace training sessions, certification classes, and conference workshops.

Ultimately, this topic needs to be included in food safety certifying exams for restaurant managers.

The results of this survey provide support for some of the propositions found in the hospitality management literature about the relationship between organizational behavior and food safety. Additional propositions still need to be studied. Future research might investigate the relationship between leadership and food safety. How do orientation and informal socialization processes affect food safety on the job? What role do opportunities for promotion and employee turnover play? In this survey, cooks were not asked about paid sick leave, so its impact on pressure to work while sick was not studied. Questions in the survey addressed frequency of food safety training, but not the quality of training.

On January 1, 2001, Florida became the first state to mandate food safety training and certification for all food service workers. As a result, this survey was administered to highly trained and certified food handlers, making the findings biased in favor of educated and well-trained cooks in South Florida. Obviously, future research needs to be based on a more representative sample of restaurant cooks.

These limitations notwithstanding, the results of this survey will hopefully demonstrate an additional way in which managers can reduce their levels of uncertainty and risk and thus make restaurant food safer to eat for everyone.

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