



Leading by example: a three-wave sequential mixed method food safety study

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Introduction



- In 2016, restaurants were still the most commonly reported location of foodborne diseases outbreaks (469, 52%) and associated illnesses (4,757, 31%)¹.
- It has been suggested that 97% of outbreaks traced to non-manufacturing food businesses involved food handler error or malpractice².
- To effectively reduce foodborne illnesses, foodservice managers and food handlers must perform essential food safety behaviors³.



1. Angulo, Nisler, Hall, Brown, & Gould, 2017; CDC, 2017
 2. Howes et al., 1996; Griffith, Livesey, & Clayton, 2010
 3. DeBess et al., 2009; Green et al., 2007; Green & Selman, 2005

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Literature Review

- Health inspections within the public sector¹ and audit reports from the private sector² have identified significant degrees of non-conformity of food safety behavior.
- Qualitative research emphasis on the meaning of the data within the context of social environments, has gain popularity³.
- By conducting food safety research on the short longitudinal period, our study used waves of data collection process and provided a significant degree of reflexivity⁴.



1. CDC, 2016; 2. Egan et al., 2007; Valente et al., 2008
 3. Arnett et al., 2019; Kivimäki, 2019
 4. Patten, 1990

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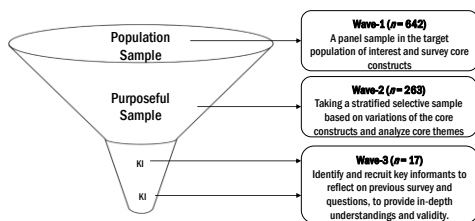
Purpose

The purpose of this study was to explore managerial practices that influence individuals' food safety behaviors - using a sequential mixed method approach.



Research Design

Nest-purposeful sampling and key informants¹



Data Analysis and Rigor

- Qualitative narrative analysis techniques were used to analyze the interview data¹.
- ATLAS.ti (Version 7.5) was used to facilitate organization and maintenance of the data.
- Initial themes were labeled and defined by consensus and agreed among reviewers. Consensus was reached when kappa agreements for coding and themes were >0.80 (2).
- Member checks were conducted by having two food safety experts review and comment on the audit trail to establish credibility³.



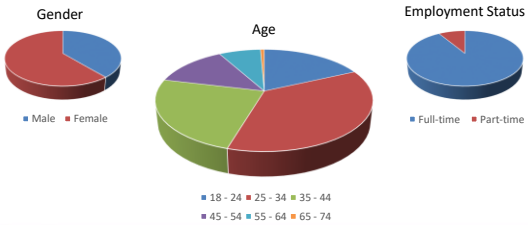


Results



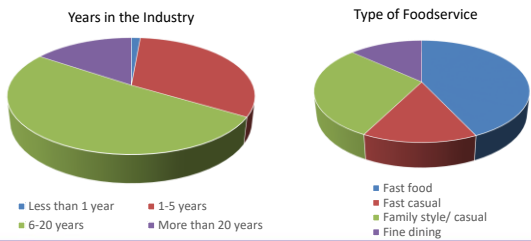
Five horizontal lines for notes.

Wave 1 Sample Demographics



Five horizontal lines for notes.

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Five horizontal lines for notes.

Wave 2 and Wave 3

- A total of 263 participants were invited for Wave-2 data collection
- 20 participants responded (7%), after cleaning the data, 17 useable questionnaires were used for the wave-2 thematic analyses
- After coding, two participants were purposefully selected for an in-depth interview
 - To facilitate comparison both participants were selected from casual dining restaurants, with proximity geographic location, with more than ten years of working experience.
 - However, gender, education background, and job position were different



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Starting the Story



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Main Results

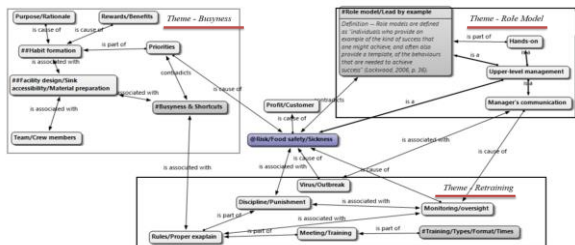


Figure 2. An abstract view of codes relationship and tree display.



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Theme one – Busyness: The danger of taking shortcuts and ‘customer-first.’

- As one of our key informant stated:
 - *“Every once in a while, it gets so busy that we are tempted to cut corners and do things fast instead of right.”*
- A concerning interpretation
 - *“I think sometimes we’re very busy, and we’re expected to take care of customers first. Customers don’t like waiting for you to wash your hands first.” [Female, 36]*

Theme two – Role model: Managers should also walk the walk.

- As one of our key informant stated:
 - *“Managers should be following all procedures and lead by example. If managers do not follow the procedures employees will not be as efficient to follow them either.”*
- A female server at casual dining stated:
 - *“if a manager is not following those practices and that would be confusing to employees and make them not follow instructions.”*

Theme three – Retraining: The importance of following through

- One of the biggest challenges to food safety is training, and how to motivate behaviors after training :
 - *“Any training has a period; we should follow them after training, and retrain them through work, even the supervisor.” [KI]*
- A concerning statement
 - *“Honestly, we didn’t receive any official training; we could use official training. All of us tends to get thrown into our positions, and since there is no standard for training, everyone does things differently.” [Female, Fast-casual]*



Discussion and Limitations

Implications

- The results noted the urgent needs to improve food safety practices during rush hours or when the restaurant is bustling. Two reasons were identified:
 - not enough staff scheduled for the shift
 - the need to serve the customers promptly, which contrast to the 'speed over safety'
- Participants (wave-2) noted that a restaurant who puts food safety first often makes happy customers thus brings long-term profits.
- Factors for successful food safety management included:
 - Managers being the role model and taking account of their actions.
 - Open communication and adequate on-site monitoring and retraining

Implications

- Comparing our findings with previous studies¹, our results indicate that:
 1. Improving food safety management might require managers to be the role model for the success.
 2. Managers must be willing to engage in activities that display skills, techniques, commitment toward professional behaviors.
 3. More hands-on training, and actively follow with employees after they return to work.
 4. Being able to monitor practices at work, is one of the critical elements needed to improve the current food safety training programs and subject to future research.

Limitations

- Circular analysis¹
- Common method bias
- Not true longitudinal design
- Social desirability



1. Nichols & Maner, 2008

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Questions?

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