Changing Food Safety Behavior Among Latino(a) Food Service Employees: The Food Safety Belief Model

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CHANGING FOOD SAFETY BEHAVIOR AMONG LATINO(A) FOOD SERVICE EMPLOYEES: THE FOOD SAFETY BELIEF MODEL

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ABSTRACT

Reducing the risk and occurrence of foodborne illness is a priority for the foodservice industry. Despite the large presence of Latino(a)s in the foodservice workforce, there is little research on attitudes toward food safety and related behavior among this group. This study employed the Health Belief Model to investigate Latino(a) foodservice employees attitudes towards food safety and antecedents of food safety behavior. Results showed that food safety knowledge did not affect self-reported food safety behavior but did significantly predict ‘perceived susceptibility’, ‘severity’, and ‘barriers’. The analysis also indicated that ‘perceived benefits’ and ‘cues to action’ have a direct impact on food safety behavior.

INTRODUCTION

The Center for Disease Control and Prevention (CDC) estimated 76 million illnesses, 325,000 hospitalizations, and 5,000 deaths due to foodborne illnesses in the United States each year (Mead, Slutsker, Dietz, McCaig, Bressee, Shapiro, Griffin, & Tauxe, 1999). According to the foodborne outbreak database published by CDC, 37% of the foodborne disease outbreaks reported in 2007 were associated with restaurants (Center for Disease Control, 2009). The FoodNet working group found that eating in restaurants was a significant risk factor for foodborne illness (Jones et al., 2002). Despite the high foodborne illness risk associated with eating out, Americans continue to enjoy eating at foodservice facilities. It is estimated that 130 million people eat out each day and that restaurants served more than 70 billion meals and snacks in the United States (US) in 2009. Approximately 48% of the money that consumers spend on food is spent in restaurants (National Restaurant Association, 2009).

The restaurant industry currently employs 13 million persons, more than 9% of all persons employed in the US. This workforce makes the restaurant industry the largest employer after the government (National Restaurant Association, 2009). Of these 13 million persons, approximately 22% are Latino(a)s (United States Equal, 2003). According to a study by the National Restaurant Association (NRA) in 2006, Latino(a) employees held 29% of all dishwasher positions, 26% of all cooks positions, 25% of all front-of-house positions, and 22% of all chefs and head cooks positions. Despite the large presence of Latino(a) employees in the restaurant industry, their attitude toward
food safety and their practice of food safety behavior on-the-job have not been studied. While Spanish language food safety training programs are available in the marketplace, a training process incorporating culturally sensitive procedures and tools which reflect Latino employees’ learning styles and their health beliefs has not been developed. This study tested a model of food safety behaviors among Latino restaurant employees. Results of this research could inform food safety training and interventions aimed at increasing food safety practices among Latinos.

LITERATURE REVIEW

Food Safety Behavior among Restaurant Employees

Almost 75% of foodborne illness outbreaks are assumed to be related to improper food handling practices by employees in restaurants (“Practical Stuff,” 2004). Researchers have attributed these food safety handling errors to a lack of adequate food safety knowledge (Jenkins-McLean, Skilton, & Sellers, 2004; Ravel-Nelson & Smith, 1999). Thus, educating restaurant employees who handle food about proper food safety practices is crucial in preventing foodborne illness outbreaks. However, as of 2007, only 21 states require food service establishment employees to be certified in food safety. Many of these states use the ServSafe® program developed by the NRA to train and certify managers and employees in food safety. Many studies have shown that food safety training could improve food service employees’ knowledge. For example, Ravel-Nelson and Smith (1999), Finch and Daniel (2005), and Hertzman, Stefanelli, and Farrish (2008) found that food safety certification had a positive impact on food handlers’ knowledge of food safety. However, enhanced food safety knowledge does not necessarily translate to behavioral change.

Despite state and nationwide efforts to provide public education about food safety, it is reported that food service employees still lack food safety knowledge and follow improper food safety practices. A study (Green, Selman, Banerjee, Marcus, Medus, Angulo, Radke, Buchanan, & EHS-working group, 2005) showed that 25% of food service workers do not always wash their hands, and 22% of them said they do not change gloves between touching raw meat or poultry and ready to eat (RTE) food. More striking findings were that 33% of food service workers never wear gloves when touching RTE food, and only 47% of them use a thermometer to check the doneness of cooked food. Three main food safety areas where improvements are needed were identified as: 1) correct internal temperature for cooked foods, 2) personal hygiene, and 3) storage of potentially hazardous foods (Bryan, 1988; Collins, 2001; Green et al., 2005).

Past studies have shown mixed results when examining whether increased knowledge leads to better food safety attitudes, practices, and behaviors. For example, Jenkins-McLean, Skilton, and Sellers (2004) and Lin and Sneed (2005) found that enhancing knowledge can change behaviors and practices while McKenzie-Mohr and Smith (1999) argued that improving knowledge through training alone may not result in behavioral changes. Haapala and Probart (2004) and Meer and Misner (2000) also found significant discrepancies between reported food safety knowledge and food safety practices. Green and Selman (2005) identified a number of factors including time pressure, equipment and resource availability, management and co-workers’ attitude to food safety, and food safety education and training, which affected employees’ food safety behavior. Green et al. (2005) argued that food safety improvement requires more than food safety training and that training should be multidimensional. However, research analyzing other factors affecting foodservice employees’ food safety behavior is scarce. Moreover, no studies have investigated factors to enhance Latino restaurant employees’ food safety behavior. Therefore, the research objective of this study is to identify possible factors that impact Latino restaurant employees’ food safety behavior.

Development of the Food Safety Belief Model

Since there is no established food safety behavior model, the health behavior change model was identified to be suitable and was adopted for this study. A variety of models have been proposed and implemented in health behavior change research. These include, but are not limited to: learning theory, social-cognitive theory, the Transtheoretical Model of Behavior Change, the Health Belief Model, the Health Action Model, and community-
based participatory research (Neuwenhuijsen, Zemper, Miner, & Epstein, 2006; Rhodes et al., 2006). The research team chose the Health Belief Model as the most appropriate for the present investigation, as it has been used successfully in the past to predict the health behaviors of Latinos (Newcomb, Romero, Wayment, Wyatt, Tucker, Carmona et al., 1998).

The Health Belief Model (HBM) asserts that four principles guide individuals’ attitudes regarding health behavior. These include: perceived susceptibility, perceived severity of a condition, perceived benefits of treatment, and perceived barriers to treatment. The model also includes internal (e.g., pain) and external cues (e.g., psychoeducation) for action, which are thought to influence individual’s health behaviors. Finally, self-efficacy, an individuals’ belief in their ability to overcome perceived barriers to a target behavior was more recently added to the HBM (Neuwenhuijsen et al., 2006; Tones & Tilford, 1994). HBM theorists added self-efficacy to the model due to the difficulties of adopting healthy behaviors such as exercise, safe sex, good nutrition, and smoking cessation (Neuwenhuijsen, Zemper, Miner, & Epstein, 2006). Rosenstock (1990) argued that a person must believe in his or her ability to overcome the perceived barriers in order to address the problem. Haapala and Probart (2004) found that self-efficacy was positively correlated to food safety behavior, thus providing additional evidence that the HBM is a useful framework from which to conceptualize food safety behavior.

How does HBM apply to food safety behavior? A relevant example would be to imagine a Latino restaurant worker who is experiencing nausea, vomiting, crampy diarrhea, and headaches. These symptoms make him concerned (perceived susceptibility). He visits a doctor and is diagnosed with food poisoning from Salmonella. The symptoms of the illness start to limit his daily life activities and force him to take days off work (perceived severity). After the recovery, he learns that Salmonella can cause a life-threatening illness, and that it is transmitted by undercooked foods such as eggs, poultry, dairy products, and seafood. Further, he learns that it can be prevented by properly cooking foods (perceived benefits of food safety behavior). Yet, he hesitates to follow proper food handling practices because his manager and co-workers do not support him in taking the time to measure temperature of cooked poultry (perceived barriers).

In this study, we named the food safety behavior change model the Food Safety Belief Model (FSBM) since we adapted the HBM to investigate antecedents of food safety related behavior among restaurant employees. Figure 1 presents the proposed food safety belief model.
METHODOLOGY

Sample and Data Collection

Following approval by the appropriate Institutional Review Boards, the data were collected in two states. We used several methods to recruit survey participants for this study. First, we mailed recruitment letters to restaurant managers to seek permission to visit their establishment to conduct a survey with Latino(a) employees. In the first location, this method did not yield much support. Thus, we sought assistance from a local Latino organization to recruit participants for this study. Three Latinas working at this local Latino(a) organization personally visited restaurants to conduct the survey. The three Latinas were given a two-hour training session on how to administer the survey. In another state, the recruitment letters yielded positive results and the researchers visited the restaurants that volunteered to participate in the study. The members of the research team administered the survey during the pre- and post-shift hours of employees. A bilingual team member was present at each occasion to address questions of participants. These data collection methods yielded a total of 272 responses. Of the 272 responses, 30 responses were from chefs, managers, and supervisors and ten respondents were not Latino(a)s. Thus, a total of 237 were included for the analysis.

Measurement

Since there was no established questionnaire to measure the health belief model for food safety, we used several previous studies to identify appropriate measurements which were modified for the purposes of this study. After revision by the research team, including one bilingual researcher, the questionnaire was revised and modified by a Latino who is not in the foodservice industry. The final version of the questionnaire was again reviewed by five Latino(a)s working in restaurants. There were ten sections in the questionnaire.
Perceived Severity (PSV). Perceived severity was measured with six items. The six items were adapted from studies by Hanson and Benedict (2002), Haapala and Probart (2004), and Sung, Choi, and Chan (2008). Employees were asked to indicate the extent of their agreement on the statements on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). A sample item is “Foodborne illness can be life threatening.”

Perceived Susceptibility (PSC). Five items were used to measure perceived susceptibility. The items were adapted from studies by Hanson and Benedict (2002) and Haapala and Probart (2004). We used a 5-point Likert scale to measure employees’ extent of their agreement (1 = strongly disagree, 5 = strongly agree). A sample item is “The odds of developing a foodborne illness are very small”.

Perceived Benefit (PBN). Perceived benefits were measured with five items. Participants indicated their extent of agreement on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). We adapted items for perceived benefits from a study of Clayton et al., (2002). A sample item is stated as “Proper food safety practices reduce food poisoning.”

Perceived Barriers (PBR). We used six items to measure perceived benefits. The items were adapted from two studies by Clayton et al. (2002) and Ng, Kankanahali, and Xu (2009). A 5-point Likert scale was used for these items (1 = strongly disagree, 5 = strongly agree). A sample item is “I am too busy to practice proper food safety behavior.”

Cues to Action (CAC). Cues to action was measured with six items on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). We adapted the six items from studies by McClanahan et al. (2007), Ng, Kankanahali, and Xu (2009), and Hanson and Benedict (2002). A sample question is “Personal experience with a foodborne illness motivates me to follow food safety practices.”

Self-Efficacy (SEC). Self efficacy was measured with five items. We adapted a questioning format (e.g., I feel confident ……) from a study by Vassalo et al. (2009). Questions about participants’ confidence of cooking food to safe temperatures, storing food at safe temperatures, cleaning and sanitizing equipment and utensils properly, talking about proper food handling practices, and learning proper food safety practices were asked. A sample item is “I feel confident in my ability to cook food to safe temperatures.”

Food Safety Knowledge (FSK). We measured Latino(a) employees’ food safety knowledge on 18 areas. We identified the 18 areas based on the five risk factors announced by the United States Food and Drug Administration (USFDA) in 2000. Of the five risk factors, we chose four factors (inadequate cooking, improper holding temperatures, contaminated equipment, and poor personal hygiene). Food from unsafe sources was not included since employees do not have control over food sources. Participants were asked to answer if a statement is true or false. A sample item is “Chicken must be cooked to 150°F to be served safely.”

Food Safety Behavior (FSB). Self-report was used to assess Latino(a) employees’ food safety behavior. We asked participants to indicate their frequency of engaging in 15 specific behaviors when handling food. Four frequencies were used (0 = never, 1 = sometimes, 2 = often, 3 = always). A sample item is “I wash my hands with soap and warm water before handling food.”

Demographic Profile. We measured participants’ gender, age, country of birth, ethnicity, number of years of residency in the United States, education, work experience in the restaurant industry, experience with food safety training, work hours, job position, type of establishment, and type of cuisine served at their establishment.
Data Analysis

We conducted a missing value analysis to find an appropriate approach to handle missing values in the dataset. Each item had missing values from 0.4% (missing 1 response) to 20.6% (missing 49 responses). We used Little’s MCAR test to determine if values were “missing completely at random” and found that the missing values in this study were not completely random (chi-square = 4922.38, df = 4275, p<.001). Thus, we imputed missing values using two recommended methods, the multiple regression and maximum likelihood estimation and compared the estimates from the figures of all observed values. Both methods yielded similar estimates. Thus, we chose maximum likelihood estimation since the multiple regression estimation method has received criticism for “over-correcting” missing data (Garson, 2009). We present values with missing values computed in the result section except demographic characteristics.

We used AMOS 7 to conduct confirmatory factor analysis (CFA) to confirm the measurement model. Then, we averaged variables for each factor and used them in future analyses. Food safety behavior questions were treated as one factor since we did not intend to investigate behavioral dimensions in terms of food safety. Next, we computed an average score for the 15 food safety behavior questions and used it as an observed dependent variable. We also computed an average score for the 18 food safety knowledge questions and used the average score as an observed variable predicting food safety behavior. Finally, we used structural equation modeling to examine the fit of the hypothesized FSBM to the data.

RESULTS

Demographic Profiles of the Participants

There were more male respondents (73%) than female respondents (27%); and more than 80% of respondents were from Mexico. Their average age was 30; while their average work experience in the restaurant industry was 4.98 years. The average residency in the United States was 7.63 years, and the respondents had an average of 9.7 years in school. The respondents worked as a prep cook (31%), line cook (27%), dishwasher (24%), server (22%), and busser or steward (7%). About 55% of the respondents work at family restaurants, followed by fast food restaurants (29%). Half of the respondents work in American cuisine restaurants, followed by Mexican food (38%).

Measurement Model

The first confirmatory factor analysis (CFA) showed a poor model fit according to the goodness of fit indexes, $\chi^2 = 1395.9$, $df = 480$, $p<.001$, GFI = .74, CFI = .77, TLI = .75 and RMSEA = .90. Thus, it was apparent that some modification in specification was needed in order to determine a model that better represents the sample data. The modification indexes showed possible presence of factor cross-loadings. Anderson and Gerbing (1988) suggested four methods to improve model fit: (1) relate the indicator to a different factor, (2) delete the indicator from the model; (3) relate the indicator to a multiple factor; or (4) use correlated measurement error. According to Anderson and Gerbing (1988), the first two methods are preferred because they preserve unidimensional measurement, whereas the second two methods distort unidimensional measurement. Therefore, we decided to delete the indicators showing possible cross-loadings instead of relating them to a different factor because we could not find a theoretical support for that approach. This process resulted in deleting 11 items and improved the model fit, $\chi^2 = 378.6$, $df = 194$, $p<.001$, GFI = .88, CFI = .92, TLI = .90, RMSEA = .06. To make sure that deleting those items did not decrease the reliability and validity of the constructs, we conducted composite reliability and validity tests for the first measurement model (before deleting the items) and the modified measurement model (after deleting the items). Table 1 shows the results of the composite reliabilities and validity for the two models.
Table 1
Results of Composite Reliability and Validity

<table>
<thead>
<tr>
<th>Construct</th>
<th>Number of items</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Model</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Model</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Model</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSV</td>
<td>6</td>
<td>.87</td>
<td>.86</td>
<td>.53</td>
<td>.51</td>
</tr>
<tr>
<td>PSC</td>
<td>5</td>
<td>.67</td>
<td>.60</td>
<td>.30</td>
<td>.34</td>
</tr>
<tr>
<td>PBN</td>
<td>5</td>
<td>.80</td>
<td>.75</td>
<td>.45</td>
<td>.50</td>
</tr>
<tr>
<td>PBR</td>
<td>6</td>
<td>.88</td>
<td>.80</td>
<td>.56</td>
<td>.52</td>
</tr>
<tr>
<td>CAC</td>
<td>6</td>
<td>.75</td>
<td>.75</td>
<td>.34</td>
<td>.51</td>
</tr>
<tr>
<td>SEC</td>
<td>5</td>
<td>.90</td>
<td>.92</td>
<td>.65</td>
<td>.80</td>
</tr>
</tbody>
</table>

Note: PSV=perceived severity; PSC=perceived susceptibility; PBN=perceived benefits; PBR=perceived barrier; CAC=cues to action; SEC=self-efficacy

Model comparisons yielded mixed results. In model 2, reliability scores for PSC, PBN, and PBR were reduced, but the convergent validity was improved for PSC, PBN, CAC, and SEC. Since model 2 exhibited acceptable reliability and convergent validity levels with the exception of perceived susceptibility and improved the fit index, we decided to use the modified measurement model to examine the food safety belief model. The reliability and convergent validity for PSC were lower than suggested minimum figures; however, we decided to retain this factor because it is considered an important variable within the health belief model. Table 2 shows the means, standard deviations, and correlation coefficients for variables.

Table 2
Correlation Coefficients, Means, and Standard Deviation

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>PSV</th>
<th>PSC</th>
<th>PBN</th>
<th>PBR</th>
<th>CAC</th>
<th>SEC</th>
<th>FSK</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSV</td>
<td>4.44</td>
<td>.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSC</td>
<td>3.64</td>
<td>.85</td>
<td>.34</td>
<td>-17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBN</td>
<td>4.25</td>
<td>.68</td>
<td></td>
<td></td>
<td>-11</td>
<td>-53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBR</td>
<td>2.24</td>
<td>.94</td>
<td>.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAC</td>
<td>4.00</td>
<td>.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEC</td>
<td>4.15</td>
<td>.87</td>
<td>.23</td>
<td></td>
<td>.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FSK</td>
<td>.73</td>
<td>.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FSB</td>
<td>2.68</td>
<td>.34</td>
<td>.00</td>
<td>.15</td>
<td>.14</td>
<td></td>
<td></td>
<td>.22</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05; **p<.01; ***p<.001

Note: PSV=perceived severity; PSC=perceived susceptibility; PBN=perceived benefits; PBR=perceived barrier; CAC=cues to action; SEC=self-efficacy; FSK=food safety knowledge; FSB=food safety behavior

Testing the Food Safety Belief Model

We tested the effects of PSV, PSC, PBN, PBR, CAC, and SEC on food safety behavior with the modified measurement model. As suggested by the HBM, we included food safety knowledge as an antecedent of PSV, PSC, PBN, PBR, SEC, and food safety behavior. The structural model fit was acceptable ($\chi^2 = 406.9$, df = 237 $p<.001$, GFI = .88, CFI = .92, TLI = .91, RMSEA = .06). Table 3 presents the standardized path coefficients and associated t-values for all relationships in the structural model.
Figure 2
Food Safety Belief Model

Note: Paths presented are significant at 0.05 level; PSV=perceived severity; PSC=perceived susceptibility; PBN=perceived benefits; PBR=perceived barrier; CAC=cues to action; SEC=self-efficacy; FSK=food safety knowledge; FSB=food safety behavior

Table 3
Results of Structural Equation Analysis

<table>
<thead>
<tr>
<th>Path</th>
<th>Path Estimate</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food safety knowledge → Perceived severity</td>
<td>.36***</td>
<td>3.75</td>
</tr>
<tr>
<td>Food safety knowledge → Perceived susceptibility</td>
<td>.38***</td>
<td>3.47</td>
</tr>
<tr>
<td>Food safety knowledge → Perceived benefit</td>
<td>.15</td>
<td>1.56</td>
</tr>
<tr>
<td>Food safety knowledge → Perceived barriers</td>
<td>-.31***</td>
<td>-3.54</td>
</tr>
<tr>
<td>Food safety knowledge → Self-efficacy</td>
<td>.02</td>
<td>0.21</td>
</tr>
<tr>
<td>Food safety knowledge → Food safety behavior</td>
<td>.03</td>
<td>0.29</td>
</tr>
<tr>
<td>Perceived severity → Food safety behavior</td>
<td>-.16</td>
<td>-1.82</td>
</tr>
<tr>
<td>Perceived susceptibility → Food safety behavior</td>
<td>.15</td>
<td>0.76</td>
</tr>
<tr>
<td>Perceived benefits → Food safety behavior</td>
<td>.26**</td>
<td>2.98</td>
</tr>
<tr>
<td>Perceived barriers → Food safety behavior</td>
<td>-.10</td>
<td>-0.55</td>
</tr>
<tr>
<td>Self-efficacy → Food safety behavior</td>
<td>-.01</td>
<td>-0.19</td>
</tr>
<tr>
<td>Cues to action → Food safety behavior</td>
<td>.23***</td>
<td>3.00</td>
</tr>
</tbody>
</table>

Structural Model Statistics

<table>
<thead>
<tr>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
</tr>
<tr>
<td>d.f.</td>
</tr>
<tr>
<td>GFI</td>
</tr>
<tr>
<td>CFI</td>
</tr>
<tr>
<td>TLI</td>
</tr>
<tr>
<td>RMSEA</td>
</tr>
</tbody>
</table>
As Table 3 shows, food safety knowledge significantly predicted Latino(a) restaurant employees’ perceived severity ($\beta = .36$), perceived susceptibility ($\beta = .38$), and perceived barriers ($\beta = -.31$). This implies that the Latino(a) employees perceived the severity and susceptibility of foodborne illness as high when they had strong food safety knowledge. In addition, when the Latino(a) employees had strong food safety knowledge, they tended to perceive less barriers preventing them from conducting proper food safety practices. However, food safety knowledge did not have a direct impact on self-efficacy or food safety behavior. Conversely, perceived benefits ($\beta = .26$) and cues to action ($\beta = .23$) were significant predictors of food safety behavior. Specifically, when participants reported greater benefits associated with engaging in food safety behaviors, they tended to also report engaging in food safety behaviors with greater frequency. Additionally, increased levels of exposure to media campaigns about food safety and foodborne illness incidents (i.e., cues to action) predicted participants’ reports of engaging in food safety behaviors.

**DISCUSSION**

Overall, the results of this study contribute to the development of a food safety belief model which shows the interaction of food safety knowledge (FSK), perceived severity (PSV), perceived susceptibility (PSC), perceived barriers (PBR), perceived benefits (PBN), self-efficacy (SEC), cues to action (CAC), and food safety behavior (FSB). This study also revealed important implications for the restaurant industry for increasing proper food safety behavior; therefore, decreasing foodborne illness outbreaks. This study investigated potential predictors of Latino(a) restaurant employees’ food safety behavior. The conventional belief regarding food safety behavior is that the more knowledgeable about food safety a person is, the more likely they will be to perform proper food safety behavior. Thus, many food safety studies have focused on increasing food safety knowledge. However, this study revealed that food safety knowledge actually did not affect food safety behavior. Instead, results obtained from this study indicate that FSK predicts PSV, PSC, and PBR, and that PBN and CAC predict food safety behavior. These results imply that Latino(a) restaurant employees became more aware of the serious consequences of foodborne illness and of how easily they could contract foodborne illness when they obtained more FSK. The results also show that FSK minimizes the employees’ perceptions of the barriers preventing them from conducting proper food safety practices. However, the increased PSV and PSC and decreased PBR that result from increased FSK did not affect the employees’ FSB. Instead, the Latino(a) employees’ FSB was increased by PBR and CAC. The results imply that when the Latino(a) restaurant employees think following proper food safety practices could increase customers’ satisfaction, managers’ satisfaction, and the efficiency in kitchen, they tend to demonstrate better food safety behavior. This finding is interesting because it shows that concern about management and customer satisfaction is more of a motivating factor than the perceptions of severity of or susceptibility to foodborne illness.

The above results may be attributed to cultural characteristics of the Latino(a) population. Authors have noted that collectivist cultures, such as those found in Mexico and other Latin American countries tend to focus on the interests of a group, a family, or extended relationships rather than on individual interests (Santiago-Rivera, Arredondo, & Gallardo-Cooper, 2002). This cultural difference could explain why Latino(a) restaurant employees tend to follow more proper food safety practices when it can benefit the community (their restaurant) by increasing customers’ and managers’ satisfaction. This finding has practical implications for training and instructional lesson design on this subject. The results also revealed that when the employees were exposed to current incidents of foodborne illness, they tend to perform more proper food safety behavior. This finding is similar to that of Hanson and Benedict (2002) and confirms the potential for impact when using this aspect as part of a training session.
REFERENCES


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