Mustafa Daskin

The role of job satisfaction and intrinsic motivation on hygienic attitudes and behaviours in fast-food restaurants

Abstract

This study was carried out to examine the effect of job satisfaction and intrinsic motivation as potential antecedents towards hygienic attitudes and behaviours in fast-food restaurants in a Turkish context. In this survey, a total number of 240 usable questionnaires were personally retrieved from food-handlers in the research location, Turkey. The hypothesized relationships were tested using hierarchical regression analysis. According to the findings, job satisfaction and intrinsic motivation had positive impact on hygienic attitudes and behaviours. Significantly, there is a significant gender-based difference in the perception of hygienic attitudes and behaviours. This result shows that female employees show more tendencies towards hygienic attitudes and behaviours compared to males. This paper provides implications for managers in terms of minimizing foodborne diseases and maximizing the hygienic attitudes and behaviours among food-handlers. Theoretically, the current study by examining the untried effects and relationships lends further contribution to the related literature.

Key words: hygiene; foodborne disease; intrinsic motivation; job satisfaction; food and beverage operations; hygienic attitudes and behaviours; Turkey

Introduction

The socio-cultural, economic and political effects that have created tourism today have important consequences for all the countries of the world (Giritlioglu & Avcikurt, 2010). In this regard, the developed or developing countries try to understand the importance of this industry and make very high investments to get more benefits of it (Ceken, Atesoglu, Dalgin & Karadag, 2008). Parallel to the increasing interest in tourism, spending on hotel lounges/restaurants has also risen over time. The expenditures of the total households in the hotel restaurant increased from 4.4% in 2008 to 5.2% in 2009 (Akin, 2012). In addition, food plays an important role on destination preferences by tourists (Hu & Ritchie, 1993). As Lacy and Douglass (2002) mentioned "every tourist is a — voyeuring gourmand". Food was the fourth one among the motivational elements for tourists' preferences to Turkey. According to Enright and Newton (2005), food was reported as the second motivational factor in Hong Kong, the fourth in Bangkok and the fifth in Singapore.

Food does not only play an important role in selecting destination by tourists, but also it has a highly effective place in the tourist expenditure rates. According to World Travel and Tourism Organization (WTTO, 2010), food consumption constitutes more than 25% of the total tourist expenses and this percentage is expected to rise recently. However, this positive progress calls for superior administration of foodservice operations in every destination. The rising rate of food and beverage consumption in the world requires authorities and food operators to take necessary steps for superior food hygiene and safety control mechanism than it is before. As World Health Organization (WHO, 2000) emphasizes

Mustafa Daskin, PhD, Senior Lecturer and Head of Food & Beverage Management Programme, School of Tourism and Hospitality Management, Sinop University, Sinop, Turkey; E-mail: daskinmus@hotmail.com

that the food safety takes place a vital role in the health and economic welfare of countries by assuring the nation's health, procurement and consumption of reliable foods, developing tourism and international trade.

Food safety and hygiene is a vital matter of the foodservice sectors. Realizing and applying superior food safety system to block any prospective elements that induce foodborne disease is necessary for every food and beverage operators. Hereof, food safety can only be ensured by employees who possess knowledge, skills and motivation to follow appropriate methods together with effective management that constantly monitor employees' efforts (Cohen, Reichel & Schwartz, 2001). In this respect, the role of food-handlers on preventing and controlling outbreaks of foodborne disease is critical.

Hygiene and sanitation are very important in food and beverage businesses in order to prevent the deterioration of the foods served to the consumers and the diseases from the first degree. In this direction, hygiene and sanitation are two complementary concepts. Hygiene is compatible with the health and cleanliness principles of the activities, the working environment and the working system shown in the catering businesses (Gokdemir, 2003, p. 52). Sanitation is the process of removing disease-causing pathogenic microorganisms from the environment as much as possible (Bulduk, 2003, p. 2). From this point of view hygiene and sanitation are indispensable for food and beverage management.

The aim in business hygiene, which is an important part of quality in a catering business, is to produce foods harmless to health, durable and unaffected by a variety of bacterial microorganisms and to find best way to respond to consumer expectations. From this approach, all employees, mainly managers who are responsible for a food and beverage business, suppliers, intermediaries, and public health experts should work in collaboration in creating more hygienic environment.

Harmful agents in foods have potential to threat human health in various ways; especially food contaminated with pathogenic bacteria, mould, and viruses can cause foodborne illness (Heperkan, 2003). According to Atasever (2000), cross contamination, time-temperature mistakes and inadequate employee hygiene were found to be the main cause of the outbreaks of food borne disease in restaurants. Along with this, personal handling faults are shown as the basic reasons that results in outbreaks of food poisoning. In 2007, the Center for Disease Control recorded 1097 food borne illness outbreaks that caused 18 deaths and 21,244 food borne illness cases. These bacterial and viral cases resulted in Salmonella; Listeria monocytogenes, E.coli O157:H7, Norovirus, Clostridium botulinum, or mushroom toxin (Liu, 2010). Fielding, Aguirre and Palaiologos (2001) stressed that sanitary practices should be well-designed in food preparation environments, as such, poor handling and food storage can create an environment in which bacteria such as camphylobacter, salmonella, and other infectious agents are more easily transmitted. Ignoring these reasons can increase the food borne illness at the different levels of population, specifically, the young children, people taking medication, and pregnant women who are highly susceptible to get infection from unsafe food. Today's working conditions such as spending long hours at work make people to go outside for dining and thus the popularity of take away and dining out has dramatically increased (Mitchell, Fraser & Bearon, 2007). While this new trend make changes on both people's eating habits, on the other hand, hygiene and sanitation process by food businesses must be improved and more effort needed to ensure food safety because the indicators signal the increase in food borne illness outbreaks that generate potential threat for human health (Bas, Ersun & Kivanc, 2006). As a case in point, every year in the United States an estimated of 48 million illnesses, 128,000 hospitalizations, and 3,000 deaths are the consequence of foodborne illnesses (National Centre for Health Statistics, 2011).

Therefore, the process and procedures in food business operations should be revised and applied based on food safety standards. Furthermore, training related food safety and sanitation rules can't be underestimated and should be provided to both service personnel and food-handlers in restaurants. As McCabe-Sellers and Beattie (2004) stated that "food will remain safe as long as critical attitudes and behaviours are observed in food handling". For this reason, all food-handlers and managers serving food &beverages must be trained in hygiene and the necessary support should be given to employees. The antecedents which can make them to exhibit more hygienic attitudes and behaviours remains critical for fast-food restaurant operators.

Against this backdrop, hygiene and food safety issues can't be underestimated and more empirical studies needed to generate awareness. Therefore, in an effort, this study aims to examine the effect of job satisfaction and intrinsic motivation as potential antecedents towards hygienic attitudes and behaviours in fast-food restaurants in a Turkish context. Tourism industry is one of the locomotive industries in Turkey and as a candidate country spends big effort to engage in European Union (Tokuc, Ekuklu, Berberoglu, Bilge & Dedeler, 2009). In this regard, Turkey tries to adopt European legislations in various industries such as food industry where the organizations are required to improve their food hygiene conditions and adopt the Hazard Analysis and Critical Control Points (HACCP) system. The increasing number of restaurants parallel to tourism growth and parental work life in Turkey also created a trend for dining out. But this occasion results in new challenges in terms of managing the hygiene and food safety matters. Bas et al. (2006) states that many problems are waiting for solutions on food safety in Turkey due to mass production, emergence of more complex food chains, fast-food consumption, street vendors and growing international trade and tourism.

Literature review

Definition and importance of food and beverage establishments

Food and beverage operations are defined as establishments that produce goods and services in order to meet consumers' eating and drinking needs by satisfying the consumers (Sokmen, 2003). In this regard, the food and beverage sector has several businesses that provide food and beverage services within its own context. As Lawson (1973) defines it as "A heterogeneous group consisting of various areas providing food and beverages outside the home, from hotel restaurants to banquet rooms, bars to canteens".

The increase in the education and income levels of people, especially the sociocultural changes that take place in society, the more places women get in business life increase the demand for more restaurants, cafeterias, canteens etc. that offer catering services (Bulduk, Aytekin & Demircioglu, 2003). From this point of view, the food and beverage enterprises intensively compete with another to meet the needs of consumers in the market. In this competition, the World Health Organization has developed an internationally recognized risk management system by the Codex Alimentarius commission to create awareness among other competitors. In other words, it is hygiene that food and beverage companies should have first in attaining competitive edge or profitability in the market. In parallel with the development of food and beverage enterprises, the consumption of food and drink also increases. The volume of business created for these expenditures in the food and beverage sector is 100 billion euros in 1996 throughout the European Union and is rising by 3-5% annually (Soriano, 2001). From this point of view, food and beverage business can be an important source of income for a country and it can provide great economic contributions to the development of the country.

Importance of hygiene

The goddess known as Hygieia in Greek mythology; is known as a goddess of moon that provides spiritual healing energy for people to attain their physical, mental and spiritual health. The concept of hygiene (hygieia) originating here is the name given to the scientific community working to maintain health (Tayar, 2013). Hygiene is a science complex that applies in a synthesis of health-related information to protect and develop human health in terms of hygiene, individual and societal, to ensure a long-term survival in a healthy dimension (Yumuturug & Sungur, 1980). In a more general sense, hygiene is the whole of the information created for the protection of the healthy environment and for the elimination of all kinds of disease agents (Bulduk, 2003). Food poisoning is inevitable due to the preparation of foods, careless storage and inadequate hygiene conditions. Food producers should make certain progress in this regard with a correct understanding of hygiene, and there may be a reduction in the incidence of food poisoning caused by this progression (Lucca & Torres, 2006). In this direction, hygiene means that many infectious diseases occur in societies can be prevented and the risk of death that can occur as a result of these diseases is reduced to the minimum level.

Factors that threaten food safety

Food and beverage companies have significant and quite dangerous points in all processes, from the purchase of food to the production and servicing of food (Adams & Cockett, 1988). In this regard, food poisoning incidents will continue unless the working conditions, the personal hygiene of the personnel, and the equipment used are hygienically adequate (Cakiroglu & Ucar, 2008). The factors that can lead to food poisoning can be chemical substances such as bacteria, other microorganisms or parasitic species such as small organisms, cleaning detergents, preventive drugs used against animals such as insects and mice, and residues and corrosive metals (Bryan, 1992). For this reason, the manager responsible for the food operation and the occupations working in all activities should take precautions against any harmful foreign substances which may be present in the food.

According to Kocak (2010), in order to prevent foodborne poisoning or infectious diseases, it is necessary to know the hazards that will threaten food safety. In this case, the risks that may arise in terms of food safety are;

- Microbiological hazards: bacteria, virus, mould and parasites.
- Physical hazards: glass, wood, bone fragments, hairy, staple, etc.
- Chemical hazards: allergens, pesticides, veterinary drug residues, toxin minerals, detergents and disinfectant residues.

In line with the above information, it is important for the employees working in food enterprises to receive trainings on food safety issues and to raise awareness about these possible hazards.

Conditions required for hygiene in food and beverage businesses

Foodborne illnesses or poisonings may occur in many ways. One of these reasons is the lack of personnel hygiene. The fact that the personnel in the food enterprises do not pass the porter control at certain intervals and the hygiene rules in the personal and uniform cleanings may lead to foodborne microbiological contaminations leading to diseases in consumers (Walker, Pritchard & Forstyle, 2003). In this regard, the first condition of providing reliable food to consumers is hygienic, so business managers have great responsibilities on this. Also, the managers' awareness and knowledge about personnel hygiene is very critical in terms of giving the necessary importance to hygiene and providing necessary

trainings to their staff (Bas, 2006). When the food and beverage business manager establishes hygiene awareness among organizational employees, this will make the organization to have a good reputation as a reliable business in society.

The second necessary condition for providing hygiene in food and beverage enterprises is to give the required hygiene to the food hygiene. Otherwise, the occurrence of foodborne illnesses may cause. According to Atasever (2000), the factors leading to the formation of foodborne diseases are:

- Errors in the process of food chilling,
- A long work-life in food preparation,
- Incorrect heat applications,
- Contamination caused by the coexistence of raw and cooked foods,
- No longer eating

Taking these factors into consideration is necessary for all the personnel working in the operation to work according to the rules for ensuring necessary food hygiene so as not to threaten consumer health. In addition, training of staff about food safety can lead to an increase in the quality level of food& beverages served to consumers. One of the conditions necessary for a reliable food to be supplied to consumers is the hygiene of the tools and utensils used in the kitchens. The use of easily cleanable equipment in place of tools or tables containing wooden texture in food and beverage enterprises will greatly contribute to the formation of a hygienic environment (Fidan & Agaoglu, 2004).

In order to disinfect the work benches and equipment in a good way, it is necessary to lighten the sufficient kitchen area (Kilicalp, 2011). Accordingly, the quality of the equipment to be used in the construction of the equipment hygiene, the selection of the appropriate materials to be used in the disinfection process, the lighting systems used in the kitchens, and the disinfection process and the duration of the disinfection can be accepted as highly important factors. Based on the Regulation (EC) No. 852/2004 (European Union, 2004), every food business organization must adopt a documentary food safety procedure-based HACCP policies. Higher working network with regional health offices should be constructed. Cooperating with them to improve a HACCP plan for the business process of fast-food restaurants stays vital. Accordingly, HACCP system should be adopted in order to provide quality service level expected by consumers and all food and beverage enterprises should show the necessary sensitivity to these 3 hygiene factors required.

Intrinsic motivation and job satisfaction on hygienic attitudes and behaviours

Keaveney (1992, p. 151) defines intrinsic motivation as "an individual's feeling of challenge or competence derived from performing a job". According to Amabile, Hill, Hennessey andTighe (1994), it is kind of self-motivation comes from inside to complete a task successfully for its own sake. The results in feelings of accomplishment, self-fulfilment, and activity-itself matter. Katz (2005) stressed that the intrinsic elements are the main reason for personal dedication and motivation. Intrinsic motivation is critical for open-ended cognitive progress (Ryan & Deci, 2000a) and has been reported as making a significant impact on employee attitudes and behaviours.

Babin and Boles (1998) defines job satisfaction as "an employee's overall affective state resulting from an appraisal of all aspects of his or her job". Specifically, organizational performance can't be considered without job satisfaction and it is critical to find ways for superior employee satisfaction in organizations. According to Heskett, Sasser andSchlesinger (1997), the quality of work and productivity are

attained by employee satisfaction which in turn brings organizational success and growth. According to Reichheld (1996), there are three criteria assessing employee productivity; they spend the best effort when (1) they have job pride, (2) when they feel that their job make sense, and (3) when they feel recognized by their organization and get a gain from the job performance spent.

Consequently, in attaining success for the industrial goals, the food businesses are required to generate healthy working conditions for their members by adopting policies that lead to motivation and commitment. To the authors' best knowledge, there is no past research proof depicts the influence of intrinsic motivation and job satisfaction on restaurant' employees hygienic attitudes&behaviours. But, depending on the aforementioned discussion, it would be logical to assume that employees who are intrinsically motivated and satisfied with their jobs show more tendency towards hygienic attitudes&behaviours. Thus, the current study suggested the hypotheses below:

H1: Intrinsically motivated employees show more tendency towards hygienic attitudes and behaviours in restaurants.

H2: Satisfied employees show more tendency towards hygienic attitudes& behaviours in restaurants.

Methodology

Sampling and data collection

Kitchen personnel in fast-food restaurants in Samsun Province/Turkey was selected as the sampling in the current study. The restaurants were clustered into groups based on regions and selection criterions. The restaurants which could not meet the selection criteria were excluded from the survey. The research team did not include the restaurants which do not meet the selection criteria. First of all, each selected organization was visited to assess the number of kitchen staff and have permission for conducting the research. The 32 fast-food restaurant establishments in the city center were aimed to collect data, however the 26 of them were included in the survey bacause of challenges to access data. Data collection was performed between February and June 2017.

In the present research, non-probability convenience sampling was performed. Before starting to collect data, a pilot test was performed with 10 representative workers in order to see adequacy of the questionnaire content. Based on this test, there was no any serious problem to revise the survey instrument. Furthermore, the survey team distributed 260 questionnaires together with a notice that guarantees participants' confidentiality. In order to increase the participation rate, most of the questionnaires were gathered on a face to face basis. For the unreturned questionnaires, the survey team tried to contact with the rest of the respondents again and requested them to fill out the questionnaires as soon as possible. As a result, of the 283 questionnaires, 240 were completed and usable for further data analysis, yielding a response rate of 84.8%.

Questionnaire development and measures

The measures for the current study were selected from the existing literature. Initially, the questionnaire items were prepared in English and then interpreted to Turkish through the back-translation method (McGorry, 2000). The survey instrument used in the current study was composed of two parts. The first part consisted of 26 questions that related to the hygienical attitudes and behaviours, intrinsic motivation and job satisfaction.

The first part consist of a sixteen (16) items scale adopted by Baser, Abubakirova, Sanlier andCil (2016) was used to measure the food safety and hygienical attitudes and behaviours. Questions were designed

to obtain information about food handlers and servers' personal hygiene, temperature control, cross contamination and knowledge on foodborne diseases. Sample item from this scale is "Thoroughly wash chicken, fish, pieces of meat and egg before cooking ".

Intrinsic motivation was measured using a four-item scale developed by Low, Cravens, Grant and-Moncrief (2001). Sample item from this scale is "When I perform my job well, it contributes to my personal growth and development". An empirical study conducted by Karatepe and Uludag (2007) provides highly satisfactory psychometric properties for this scale. Job satisfaction (JSAT) was measured using six items adopted from Babin and Boles (1998). Sample item from this scale is "I am very excited about my work". There is empirical support in the hospitality literature that this scale had coefficient alphas of 0.92 (Arasli, Bavik & Ekiz, 2006).

All measures used a five-point Likert-type scale that ranged from "5"="strongly agree" to "1"="strongly disagree". The second part of the survey was composed of four demographic items: gender, age, education, and organizational tenure. Age, education, and tenure were measured using a four-point scale. Gender was coded as dichotomous variables (0=male and 1=female).

Data analysis

The Statistical Package for Social Sciences Version 23 was applied to analyze the data in the current survey. As the fist approach in statistical analysis, reliability (Cronbach's alpha) and validity tests were performed. Second, the mean values were checked in order to assess average responses. Third, for the dimensionality and convergent validity issues, exporatory factor test was performed. Then, the correlation and regression analyses were performed in order to explore any association among the constructs. Finally, the independent samples t-test was conducted to see the gender-based differences on the hygienical attitudes and behaviours.

Results

Descriptive statistics

Table 1 depicts that the majority of participants in this research are males with 58.7%.

Three quarters of the participants (75.5%) were highly young under 30 years old. More than half of the participants had no vocational and/or university degrees (41.3%). This shows the need for more education in this context. Organizational tenure column in the Table 1 depicts that 32.1% of the respondents had work experience less than 1 year. This shows an increase in young generation employment in fast-food restaurant sector. This is the indicator of improvement in young generation employment in restaurant sector.

Table 1
Demographic profile

Demographic variable	Sample composition	Percentage
Gender	Female	41,2
	Male	58,7
Age	Less than 20	18,5
	20-29	58,0
	30-39	20,1
	40-49	3,4

Table 1 **Continued**

Demographic variable	Sample composition	Percentage
Education	Primary/Secondary school	55,0
	Vocational school	20,3
	Undergraduate degree	21,0
	Masters degree and over	3,7
Organizational tenure	Less than 1 year	32,1
	1-5 yr	47,5
	6-10 yr	14,7
	11-15 yr	5,7

Psychometric properties of the measures

As demonstrated in Table 2, the reliability of each construct exceeded the acceptable cut-off value of 0.70, as suggested by Nunnally (1978), signaling the adequacy of internal consistency and items are free from random error (Fornell & Larcker, 1981). For further analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling was checked if the distribution of values was adequate for each construct and as a result each of them exceeded the threshold value of 0.50 (job satisfaction=0.811, intrinsic motivation=0.766, hygenical attitudes&behaviours=0.683) as suggested by Field (2000). Moreover, based on the Bartlett's test of sphericity measure, the multivariate normality of the set of distributions was normal for the each study variable, indicating a significant value, $p = 0.000$ (< 0.05). Consequently, the data was proper for employ the factor analysis (Hair, Anderson, Tatham & Black, 1998). In examining the factor loadings, each item load was found to be meaningful depending on the threshold valeu of 0.50 suggested by Barclay, Thompson and Higgins (1995).

Table 2
Scale items, reliabilities, and exploratory factor analysis results

Scale items	Factor loadings	a
Job satisfaction		0.74
JSAT1 My job is very pleasant.	0.60	
JSAT2 I am highly satisfied with my job.	0.77	
JSAT3 I am very enthusiastic about my work.	0.65	
JSAT4 I find real enjoyment in my work.	0.64	
JSAT5 I definitely dislike my job.	0.75	
JSAT6 My job is very worthwhile.	0.74	
Intrinsic motivation		0.78
INT7 When I do work well, it gives me a feeling of accomplishment.	0.61	
INT8 I feel a great sense of personal satisfaction when I do my job well.	0.64	
INT9 When I perform my job well, it contributes to my personal growth and development.	0.73	
INT10 My job increases my feeling of self-esteem.	0.65	
Hygienical attitudes and behaviours		0.72
HAB11 When preparing the food, I take care of packaging that is robust.	0.76	
HAB12 I follow the instructions on package when storing or baking products.	0.67	
HAB13 I think the health of the additives used in food production is harmful.	0.59	
HAB14 When preparing the food, I do not allow smoking.	0.76	
HAB15 I prefer suppliers with quality certificates when shopping.	0.67	
HAB16 I use different chopping boards for each item like meat, fish, chicken and vegetables.	0.78	
HAB17 I thoroughly wash my hands after each toilet usage.	0.64	
HAB18 After each handling of raw foods, I thoroughly clean my hands.	0.58	

Table 2 **Continued**

Scale items	Factor loadings	a
HAB19 I use paper towels to dry my hands.	0.70	
HAB20 I do not chew gum while preparing food.	0.63	
HAB21 I Keep pots closed while they are full of foods.	0.65	
HAB22 I thoroughly wash the fruits and vegetables before food preparation.	0.75	
HAB23 I thoroughly wash chicken, fish, meat and egg before cooking.	0.78	
HAB24 Before cooking, I test the taste of the foods whether is spoiled or not.	0.63	
HAB25 I think the foods sold in the open environments are hygienic and healthy.	0.59	
HAB26 Before buying, I take care of the meat if it has veterinary check mark.	0.65	

Notes: All items are measured on five-point Likert scales ranging from 1 = strongly disagree to 5 = strongly agree.
All loadings are significant at the 0.01 level or better. All internal reliability estimates are above the .070 cut off value.

Correlation analysis results

The mean value ranged from 1.31 to 3.93 and the standard deviation from 1.33 to 1.15. Job satisfaction was found to be positively correlated with hygienic attitudes and behaviours ($r = 0.35$, $p < 0.01$). Similarly, intrinsic motivation had positive association with hygienic attitudes and behaviours ($r = 0.26$, $p < 0.05$). These values are indicator for discriminant validity since there were no values higher than 0.90 (Tabachnick & Fidell, 1996). Means and standard deviations of the composite scores are demonstrated in Table 3.

Table 3
Correlations, means, and standard deviations results

Scale	1	2	3
1. Job satisfaction	1.00		
2. Intrinsic motivation	0.23*	1.00	
3. Hygienic attitudes and behaviours	0.35**	0.26*	1.00
Mean	3.31	3.69	3.93
Standard deviation	1.33	1.12	1.15

**Correlation is significant at the 0.01 level.
*Correlation is significant at the 0.05 level. Correlation without any asterisk is insignificant.

Hypothesis Testing and Independent Samples t-test

Prior to analysis, pairwise and multiple variable collinearity was checked in SPSS. It was examined that the tolerance values were over the threshold value of 0.10 (Hair et al., 2005) and none of the variance inflation factor (VIF) scores were above 10. Further, hierarchical regression test was performed for the hypothetical relationships. Table 4 depicts the details of the findings.

Table 4
Regression analysis results

Variables	Path coefficient	t-values	Sig.	Results
I. Impact on hygienic attitudes & behaviours				
H1 INT HAB	0.17	4.56*	0.002	Supported
Explained variance *R* square = 0.34%				
H2 JSAT HAB	0.26	6.13*	0.000	Supported
Explained variance *R* square = 0.42%				

Notes: * The *t*-values demonstrate statistically significant relationship at the 0.05 level or better.

As demonstrated in table 4, hierarchical regression was employed for testing the study hypotheses. Hypothesis 1 proposed that intrinsic motivation (INT) is positively related with hygienic attitudes and behaviours (HAB). The current study finding confirms this relationship (0.17, $p < 0.01$). Hypothesis 1 was therefore approved. INT explained 34% of the variance in perceptions of HAB. Hypothesis 2 predicted that job satisfaction (JSAT) makes a meaningful positive influence on employees' HAB. The effect JSAT on HAB was both significant and positive (0.26, $p < 0.01$). Thus, hypothesis 2 was also approved. JSAT explained 42% of the variance in perceptions of HAB.

In comparing of the mean values of HAB, the present work employed the independent samples *t*-test. As shown in table 5, there is a revealing gender-based difference in the perception of HAB (0.001, $p < 0.005$). This outcome indicates that female employees show more tendencies towards HAB compared to males.

Table 5
Independent sample t-test result

	Gender	N	Mean	Std. deviation	Std. error mean
TOTAL HAB	Female	99	27.4323	7.59543	0.74189
	Male	141	25.4048	7.32693	0.52028

		Levene's test for equality of variances		t-test for equality of means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean difference
TOTAL HAB	Equal variances assumed	0.168	0.713	2.836	435	0.002	2.0275

Conclusions and ımplications

In the research conducted, the degree of effectiveness of intrinsic motivation and job satisfaction, which affect the behavior of employees working in food and beverage enterprises related to hygiene and sanitary rules, was measured. In this context, the sample of the personnel in fast-food enterprises operating in Samsun province were analyzed.

Analyzes of the hypotheses put forward in the research have resulted in the following results: Job satisfaction that can be generated on occupations related to hygiene and sanitation rules in food and beverage enterprises is reached as a result of having an effect on the behaviors that the staff showed in terms of food safety awareness (0.000, p <0.01). The intrinsic motivation that can be formed on the occupations related to the hygiene and sanitation rules in the food and beverage enterprises has been reached as a result of not having an effect on the behaviors that the staff showed in terms of food safety awareness (p> 0.01).

In this respect, food and beverage enterprises will contribute to the creation of hygiene and sanitation environment by preparing a business environment that will satisfy their employees and providing the necessary support. It is also important to remember that each operator needs to train their staff about hygiene and sanitation in order to create a good image.

The current results also depict that female participants were more knowledgeable of sanitation and their commitment to accurate food handling attitudes and behaviours was superior than male counterparts. This was conconrdant with that of Carbas, Cardoso and Coelho (2013). However their research reveal that females had more complete information on how to abstain cross-contamination. According

to Karabudak, Bas and Kiziltan (2008), females in most of the communities are more educated on applying accurate procedures of food processing and storage. The reason of this might be the both familycare and job responsibilities of females simultanously that improve them to accurately handle kitchen works at job and home. In this regard, managers may generate working teams and place a female good perfomer in each team as a role model that the male co-workers will likely to learn more from that of role models. Importantly, during recruitment process, organizations should specifically examine the distinctive abilities of prospective job candidates and make sure they can efficiently meet the requirements of food safety and sanitation for specific tasks in the kitchen.

The most important factor that will cause the deterioration of the food prepared in the kitchen in food and beverage enterprises is the bacteria. Transfer of this bacteria to foods from other foods, utensils, cutting boards is called cross-contamination that particularly occurs while processing raw chicken, meat, and seafood which should be kept away from any cooked products and/or fresh foodstuff. Although legitimate requirements for the application of superior hygiene implementations and HACCP, cross-contamination still stays as an effective conducive element in outbreaks that happens in fast-food places and restaurants (Severi, Booth, Johnson, Cleary, Rimington & Saunders, 2012) and accentuates the ongoing magnitude of superior hygiene applications with appropriate training of food handlers. In this respect, all the food and beverage enterprises have great responsibilities for the workshops in all processes, from producing, preparing, storing and servicing products that are suitable for hygiene and sanitation conditions. For this reason, Procurement of safe food to people is the liability of business organizations at every stage of the food producing process. Motivational means are important to stimulate staff to adopt for the HACCP application. Besides, suppliers should also adopt a HACCP plan in place. Food operators that succeed to procure superior hygienic quality at the standard level should be awarded. It is necessary to establish a working environment based on the HACCP, which is able to operate according to the hygiene conditions in the first place by the managers or business owners. Otherwise, a business that does not operate in accordance with hygiene and sanitation conditions will pose a risk for food safety. This can lead to food poisoning, contagious epidemics and even deaths in consumers. Food and beverage companies in order to avoid such hazards to create customer satisfaction on the way to create food and beverages to be presented to customers is a reliable and hygienic effect. Food safety in this context will ensure that food and beverage businesses have a long life span and profit on the average.

As food and beverage enterprises have great responsibilities to employees as trends towards hygiene and sanitation, the business manager needs to create job satisfaction for employees. Because a worker who loves work and voluntarily connects to the business will work for all kinds of hygiene and sanitation applications. This will provide a reliable and high quality service environment for both business and consumers. Although many fast-food businesses have achieved their desired attitudes towards hygiene and sanitation practices, it is very important that these practices be incorporated into the behavior of employees in other food and beverage businesses. Firstly the managers should be trained and then they can convey their knowledge to employees. Also, business enterprises should provide rewards to satisfy their employees who show the necessary care for hygiene and sanitation conditions. So rewarding in various ways will lead to more hygienic environments in the enterprises. Food and beverage businesses should provide the necessary equipment that will enable them to work comfortably and meet hygiene requirements for all functions. This will provide more personnel hygiene conditions. food and beverage businesses should constantly check the hygienic tendencies of the staff and attach great importance to hygiene and sanitation.

References

Akin, F. (2012). The economic characteristics of food products and beverages industry. *Gazi University Administrative Sciences Faculty Journal, 14*(3), 17-70.

Amabile, T. M., Hill, K. G., Hennessey, B. A. & Tighe, E. M. (1994). The work preference inventory: assessing intrinsic and extrinsic motivational orientations. *Journal of Personality and Social Psychology, 66*(5), 950-967.

Arasli, H., Bavik, A. & Ekiz, E. H. (2006). The effects of nepotism on human resource management: the case of three, four and five star hotels in Northern Cyprus. *International Journal of Sociology and Social Policy*, *26*(7/8), 295-308.

Atasever, M. (2000). Hygiene, Food Preparation and Storage in Food Establishments. *Van Veterinary Journal, 11*(2), 117-122.

Babin, B. J. & Boles, J. S. (1998). Employee Behavior in a service Environment: A Model and Test of potential Differences between Man and Woman. *Journal of Marketing, 62*(4), 77-91.

Barclay, J. M. (2001). Improving selection interviews with structure: organization; use of 'behavioral' interview. *Personnel Review, 30*(1), 81-101.

Bas, M., Ersun, A. S. & Kıvanc, G. (2006). The evaluation of food hygiene knowledge,attitudes and practices of food handlers in food businesses in Turkey. *Food Control, 17*, 317-322.

Baser, F., Abubakirova, A., Sanlier, N. & Cil, B. (2016). Food Safety Knowledge, Attitude and Behavior of Service and Kitchen Staffs in 4-5 Star Hotels: A Comparative Study in Turkey and Kazakhstan. *Journal of Travel and Hospitality Management, 13*(3), 23-37.

Bryan, F. I. (1992). *Applied Foodservice Sanitation* (4. Ed.). John Wiley and Sons Inc.

Bulduk, S. (2003). *Food and Personnel Hygiene*. Ankara: Detay Publication.

Bulduk, S., Aytekin, F. & Demircioglu, Y. (2003). Hygienic Evaluation of Kitchen Staff Working in Restaurants, Cafeteries, Hotels, Restaurants and Catering Providers, *Vocational Education Journal. 5*(10), 185-194.

Cakiroglu, F. P. & Ucar, A. (2008). Employees' Perception of Hygiene in the Catering Industry in Ankara (Turkey). *Food Control, 19*, 9-15.

Carbas, B., Cardoso, L. & Coelho, C. (2013). Investigation on the knowledge associated with foodborne diseases in consumers of North Eastern Portugal. *Food Control, 30*, 54-57.

Ceken, H., Atesoglu, L., Dalgin, T. & Karadag, L. (2008). International tourism development that based on tourism demand. *Electronic Journal of Social Sciences. 7*(26), 71-85.

Cohen, E., Reichel, A. & Schwartz, Z. (2001). On the efficacy of an in-house food sanitation training program: Statistical measurements and practical conclusions. *Journal of Hospitality & Tourism Research, 25*(1), 5-16.

Enright, M. & Newton, J. (2005). Determinants of tourism destination competitiveness in Asia Pacific: Comprehensiveness and universality. *Journal of Travel Research, 43*(2), 339-350.

European Union. (2004). Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs. *Official Journal of European Union L139*, 1-54.

Fidan, F. & Agaoglu, S. (2004). The Investigation of Hygiene Status of Restaurants in Ağrı Region. *Van Veterinary Journal, 15*(1-2), 107-114.

Field, A. (2000). *Discovering Statistics using SPSS for Windows*. London – Thousand Oaks – New Delhi: Sage publications.

Fielding, J. E., Aguirre, A. & Palaiologos, E. (2001). Effectiveness of altered incentives in a food safety inspection program. *Preventative Medicine, 32*, 239-244.

Fornell, C. & Larcker, D.F. (1981). Evaluating structural equation models with unobservable and measurement error. *Journal of Marketing Research, 18*(1), 39-50.

Giritlioglu, I. & Avcikurt, C. (2010). Marketing cities as a touristic product, sample cities, and recommendations on cities inTurkey (A Literature Review). *Adiyaman University Social Sciences Institute Journal, 3*, 74-89.

Gokdemir, A. (2003). *Kitchen Services Management*. Ankara: Detay Publication.

Hair, J. F., Anderson, R. E., Tatham, R. L. & Black, W. C. (1998). *Multivariate Data Analysis*. Upper Saddle River, NJ: Prentice-Hall.

Hair, J., Black, W., Babin, B. & Anderson, R. (2010). *Multivariate Data Analysis* (7th ed). Upper Saddle River, NJ: Prentice-Hall.

Heperkan, D. (2003). Recovery of Food Quality and Safety in Touristic Businesses. *World Food Journal, 8*(3), 32-35.

Heskett, J. L., Sasser, W. E., Jr. & Schlesinger, L. A. (1997). *The service profit chain*. New York: Free Press.

Hu, Y. & Ritchie, J. (1993). Measuring destination attractiveness. A contextual approach. *Journal of Travel Research, 32*(2), 25-35.

Karabudak, E., Bas, M. & Kiziltan, G. (2008). Food safety in the home consumption of meat in Turkey. *Food Control, 19*, 302-327.

Karatepe, O. M. & Uludag, O. (2007). Conflict, exhaustion and motivation: a study of frontline employees in Northern Cyprus hotels. *International Journal of Hospitality Management, 26*(3), 645-665.

Katz, R. (2005). Motivating technical professionals today. *Research Technology Management, 48*(6), 19-27.

Keaveney, S. M. (1992). An empirical investigation of dysfunctional organizational turnover among chain and non-chain retail store buyers. *Journal of Retailing, 68*(2), 145-173.

Kilicalp, M. (2011). *A Research on Food Security Perceptions of Tourists Visiting Turkey*. Master Thesis. Adnan Menderes University, Social Sciences Institute, Tourism Management Program.

Kocak, N. (2010). *Food and beverage Businesses Food and Staff Hygiene*. Ankara: Detay Publication.

Lacy, J. & Douglass, W. (2002). Beyond Authenticity: The Meaning and Uses of Cultural Tourism. *Tourist Studies, 2*, 9-21.

Liu, D. (2010). *Foodborne illness: What you need to know. Food consumer*. Retrieved from http://www.foodconsumer.org/newsite/Safety/foodborne_illness_15081003 43.html.

Low, G. S., Cravens, D. W., Grant, K. & Moncrief, W. C. (2001). Antecedents and consequences of salesperson burnout. *European Journal of Marketing, 35*(5/6), 587-611.

Lucca, A. & Torres E.A.F.S. (2006). Street Food: The Hygiene Conditions of Hot-Dogs in Sao Paulo, Brazil. *Food Control, 17*(4), 312-316.

McCabe-Sellers, B. J. & Beattie, S. E. (2004). Food safety: Emerging trends in foodborne illness surveillance and prevention. *Journal of the American Dietetic Association, 104*, 1708-1717.

Mitchell, R. E., Fraser, A. M. & Bearon, L. B. (2007). Preventing food-borne illness in food service establishments: Broadening the framework for intervention and research on safe food handing behaviors. *International Journal of Environmental Health Research, 17*(1), 9-24.

National Center for Health Statistics. (2011). *Health, United States: With Special Feature on Death and Dying*. Hyattsville, MD.

Nunnally, J.C. (1978). *Psychometric Theory* (2nd ed). New York: McGraw-Hill.

Reichheld, F. F. (1996). *The loyalty effect: The hidden force behind growth, profits, and lasting value*. Boston: Bain & Company, Inc.

Ryan, R. M. & Deci, E. L. (2000a). Intrinsic and extrinsic motivations: classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54-67.

Severi, E., Booth, L., Johnson, S., Cleary, P., Rimington, M. & Saunders, D. (2012). Large outbreak of Salmonella Enteritidis PT8 in Portsmouth, UK, associated with a restaurant. *Epidemiology and Infection, 140*(10), 1748-1756.

Sokmen, A. (2003). *Food and beverage Management in Hospitality Industry*. Ankara: Detay Publication.

Soriano, R. D. (2001). Customer Expectations Factors in Restaurants. *International Journal of Quality & Reliability Management, 19*(8/9), 1055-1067.

Tayar, M. (2013). *Hygiene and Sanitation* (3.ed.). Eskisehir: Anadolu University.

Tokuc, B., Ekuklu, G., Berberoglu, U., Bilge, E. & Dedeler, H. (2009). Knowledge, attitudes and self-reported practices of food service staff regarding food hygiene in Edirne, Turkey. *Food Control, 20*, 565-568.

Walker, E., Pritchard C. & Forstyle, S. (2003). Food Handler's Hygiene Knowledge in Small Business. *Food Control, 14*(5), 339-343.

World Health Organization. (2000). *Food-borne diseases: A focus on health*. Geneva: WHO.

Yuksel, A. (2001). Managing customer satisfaction and retention: A case of tourist destinations, Turkey. *Journal of Vocational Marketing, 7*(2), 153-168.

Yumuturug, S. & Sungur, T. (1980). *Hygiene Preventive Medicine*. Ankara University Medicine Faculty Publications.

Submitted: 23/09/2018
Accepted: 14/03/2019