

Sociocultural Contexts and Worker Safety and Health

Findings of a Study With Chinese Immigrant Restaurant Workers

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RESEARCH ABSTRACT

More immigrants are seeking employment in restaurants. Drawing data from an ethnographic study, this article discusses what and how sociocultural contexts shape the safety and health of immigrant restaurant workers. Eighteen Chinese immigrants from China, Hong Kong, and Taiwan participated in the study. Data generation methods included a questionnaire, individual and focus group interviews, and participant observations. Ethnographic analysis revealed that immigration mechanisms, demands of English proficiency for employment, and existence of networks and ethnic communities shaped the participants' employment choices. Working hours and schedules, interpersonal relationships at work, job design and training, occupational safety and health training, and national events and economy further influenced the participants' occupational experiences and well-being. Issues were noted with job security, mental health, family relationships, and risks for occupational injuries and illnesses. Implications for occupational health nursing research and practice to reduce immigrant workers' vulnerability to poor safety and health outcomes conclude this article.

Foreign-born workers, including legal and undocumented immigrants and temporary workers, constitute a significant labor force in the U.S. economy. They are, however, disproportionately represented in low-wage and lower-skilled jobs (Capps, Fortuny, & Fix, 2007), many of which are undesirable and dangerous, increasing workers' risks for adverse health outcomes (American Federation of Labor-Congress of Industrial Organizations, 2005; McCauley, 2005). A substantial number of these low-wage and lower-skilled positions are in the restaurant industry (Bureau of Labor Statistics, 2005).

The purpose of this article is to draw data from a larger ethnographic study of Chinese immigrant restaurant workers to describe the sociocultural contexts that shape the safety and health of this worker population and to discuss how these contexts influence immigrant workers' vulnerability to poor safety and health outcomes.

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Implications for occupational health nurses to reduce immigrant restaurant workers' vulnerability in the United States conclude this article.

BACKGROUND

The restaurant industry is one of the major U.S. industries with growing numbers of foreign-born workers. In 2000, 67.5% of restaurant workers in New York City were immigrants, representing a 19.5% increase from 1980 (The Restaurant Opportunities Center of New York, 2003). The National Restaurant Association (2006) reports that 26% of food and drinking establishment employees speak a language other than English at home, and there is a trend of hiring more immigrant workers in the U.S. restaurant industry.

The literature has documented an array of workplace hazards in restaurants that result in a multitude of injuries, including burns, falls, sprains, cuts, and contusions (Chang, Li, Huang, Filiaggi, & Courtney, 2004; Hendricks & Layne, 1999; Horwitz & McCall, 2005; Islam et al., 2000; Tsai & Salazar, 2007). Respiratory symptoms and cancers have been associated with environmental tobacco

Applying Research to Practice

Immigrant restaurant workers' occupational safety and health and well-being are closely influenced by the sociocultural contexts in which they live. Occupational health nurses and primary care providers in clinical settings can identify and address the unique susceptibilities, occupational exposures, and psychosocial concerns of immigrant restaurant workers. Through research, programs, and policies, occupational health nurse clinicians and researchers can work with other occupational safety and health professionals to change the multiple sociocultural contexts that affect immigrant workers' vulnerability to adverse health outcomes. Occupational health nurses can also advocate for immigrant restaurant workers and lead the development of comprehensive research about small enterprises to guide future risk reduction policies and practices in those settings.

smoke and cooking fumes (Ko et al., 2000; Siegel, 1993; Svendsen, Sjaastad, & Sivertsen, 2003; Wu et al., 2004). In addition, musculoskeletal pain or disorders have commonly resulted from repetitive motions, lifting, or food serving (Dempsey & Filiaggi, 2006; Tsai & Salazar). Mental health is also an occupational concern associated with organizational practices and social relationships at work (Alexander, Franklin, & Wolf, 1994; Bureau of Labor Statistics, 2005; Tsai & Salazar). Of these workplace injuries and illnesses, restaurant workers' mental health is the least studied.

LIMITATIONS OF CURRENT LITERATURE

Various sources of data indicate a trend of demographic changes in the restaurant industry with more foreign-born workers. Because formal credentials are generally not required to work in restaurant positions, which are classified lower skilled (Bureau of Labor Statistics, 2005), these positions continue to attract limited English-speaking immigrant workers. Despite the many hazards associated with the restaurant industry, few studies have focused on the occupational safety and health of this segment of restaurant workers.

Worker safety and health can be best understood if viewed in context (Salazar & Beaton, 2000). The "context" that has been most often examined is the physical (e.g., hot oil), enviromechanical (e.g., environmental tobacco smoke), and chemical (e.g., cooking fumes) environments. Little is known about the psychosocial aspects of restaurants (e.g., job design and schedules, management, or organizational culture) and sociocultural contexts beyond restaurants. Clearly, better understanding is needed of the work experience of foreign-born workers

and factors associated with their safety and health outcomes in this industry. Qualitative research can provide rich data to bridge gaps in the literature.

DESCRIPTION OF THE STUDY

Sample and Setting

The research from which this article draws data was an ethnographic study conducted in the northwest region of the United States from 2004 to 2006. Purposeful sampling was used to recruit a community-based sample meeting the following criteria: foreign-born Chinese, 18 years or older, Chinese or English speaking, and with a minimum of 6 months of work experience (Tsai, 2001) in restaurants. To achieve representative coverage and inclusion in qualitative research, gender, age, occupation, types of restaurants, length of time working in restaurants, and geographic locations of the restaurants were also considered in sampling.

The final sample included 18 participants who emigrated to the United States from China ($n = 9$), Hong Kong ($n = 4$), and Taiwan ($n = 5$) between 1970 and 2002. The mean age of the participants was 48.8 years ($SD = 13.5$ years; range = 23 to 70 years). Two thirds of the sample ($n = 12$) had at least a high school education in their home countries. Each participant had worked in restaurants, mostly full-service Chinese restaurants, for 10 months to 25 years ($M = 6.3$ years, $SD = 7.6$ years) at the time of the interview. Demographics are summarized in the Table.

Data Generation

The principal investigator, proficient in Chinese and English, and the research coordinator, proficient in Chinese, Cantonese, and English, were responsible for data collection. The protocol was approved by the internal review board and conducted under the auspices of the principal investigator's university.

Questionnaire. All of the participants completed a 28-item Demographic and Immigration Questionnaire (DIQ) at the beginning of individual interviews. The DIQ was developed in Chinese for the study. The purpose of the DIQ was to gain general understanding of the sample's demographic and immigration background.

Individual and Focus Group Interviews. After completing the DIQ, participants were interviewed in Chinese or Cantonese for 1.5 to 2 hours at a location of their choice. The interview questions focused on participants' work experiences in restaurants, including ways to find a job, job design and training, injuries and illnesses, and relationships at work. To obtain a range of experiences and the domain of the phenomena beyond a single participant's personal experience, participants were probed to give examples from their own experiences and those of others (Morse, 2000). Informational redundancy (Sandelowski, 1995) was reached after 21 interviews, including more than one interview with three participants.

Through information exchange among group members, a focus group provides an opportunity to further validate research findings derived from the analysis of individual interview data (Agar & MacDonald, 1995).

Table
Demographics of the Participants
(N = 18)

	<i>n</i>
Gender	
Female	9
Male	9
Age (yr)	
≤ 29	2
30 to 40	3
41 to 50	3
51 to 60	6
61 to 70	3
Missing	1
Immigration sponsorship	
Sibling sponsored	7
Spouse sponsored	4
Parent sponsored	4
Child sponsored	1
Other	1
Missing	1
U.S. citizenship	
Yes	12
No	6
Highest education at home	
< 7th grade	1
Junior high school or 9th grade	2
High school	8
Vocational school	2
University	4
Missing	1
Occupation held in restaurants ^a	
Waitstaff	9
Dishwasher	5
Food preparation assistant	4
Owner	4
Cashier	3
Chef's assistant	3
Cook	3
Bus staff	1

Monthly earnings from restaurant work

≤ \$499	1
\$500 to \$999	8
\$1,000 to \$1,499	2
\$1,500 to \$1,999	4
\$2,000 to \$2,499	1
Missing	3

^aThe total number is more than 18 because most of the participants had been in more than one occupation.

Thus, on completion of the individual interview data analysis, four focus groups were conducted with 10 of the 18 participants to validate and refine data interpretation. The principal investigator (facilitator) and the coordinator (moderator) summarized the interview findings for each focus group and asked participants how consistent the findings were with their experiences. Most examples provided to focus groups were deemed consistent with what had been presented in individual interviews; occasionally participants would think of new examples to add to the list after listening to others' feedback in the group.

Participant Observations. While individual interviews were in progress, the principal investigator also conducted participant observations during lunch or dinner hours in eight Chinese-owned restaurants of which none of the participants were employees. The purpose was to collect context information to generate new interview questions and to later cross-validate with other data (Jorgensen, 1989). Workers' behaviors may change when they know that they are being observed. Thus, a covert approach was used (i.e., the owners and workers were not informed of the observation). The Human Subject Division at the principal investigator's university confirmed that this approach was within the realm of human subjects guidelines because the data were not recorded in an identifiable way. Information from the principal investigator's observations, listening, and natural conversations regarding the size and physical features of the restaurant, characteristics of the workers and customers, job processes and content, and interactions among workers, managers, and customers was recorded in field notes.

Data Analysis and Trustworthiness

Interview data were recorded with permission and transcribed (in Chinese) by the coordinator. ATLAS.ti, a software program that reads multilingual texts (Muhr & Friese, 2004), was used for data management. Questionnaire data were managed and analyzed using SPSS software.

Interview data were analyzed through an iterative process with each transcript, from reading through the transcript to identifying quotes and codes (e.g., manager's attitude, injury, and worker's knowledge) relevant to the study aims to integrating relevant and significant codes into higher-level analytical concepts or themes

(Hammersley & Atkinson, 1995). Through comparisons within and between interviews, the principal investigator explored similarities and differences, identified overlap or duplications of codes, and assured that no significant codes were overlooked. Field notes about the participant observations were reviewed along with the analysis of interview data. This step allowed the principal investigator to identify potential explanations for questions derived from, or interesting patterns observed in, the interview data. Discussions were conducted among the principal investigator, the coordinator, and the co-principal investigator (an English-speaking occupational health nursing researcher) to ensure that alternative interpretations of the data were considered.

RESULTS

Sociocultural Factors Shaping Participants' Employment Choices

Among the 18 participants, only participant 7 had worked in restaurants prior to immigration. However, the first job of 14 participants (including participant 7) in the United States was in a restaurant. The analysis suggested that these immigrants' employment choice was shaped by several critical sociocultural factors, including immigration mechanism, demands of English proficiency for employment, and existence of networks and ethnic communities.

Immigration Mechanism. In the study sample, family sponsorship was the primary immigration mechanism for the participants' entry into the United States. Unlike employment-sponsored immigrants, these individuals did not have a job when they arrived in America. The participants felt pressured to find a job in a timely manner so they could be economically independent and begin their lives in the new country. Participant 3's response speaks to this sentiment. He had heard about immigrants working in restaurants before his family emigrated; however, he had never thought that he would be one of them. "After you exchange your money to American dollars, you don't have much left. So you have to find a job," he stated.

Demands of English Proficiency for Employment. Limited English proficiency was considered a barrier to employment. "When you don't know English, you don't need to think of anything. As long as it's a job, do it," said participant 4, who was a retired manager in China. For this reason, restaurants, Chinese restaurants in particular, were appealing to most of the participants. Participants who were less comfortable with English tended to work in the kitchen, where they did not have to use English for their jobs. According to participants 1 and 3, because of language barriers, many Chinese immigrants they knew got stuck in Chinese restaurants and could not look for other jobs. This suggests that lack of English proficiency not only affects immigrants' initial employment selection but also has long-term effects on their occupational mobility.

Existence of Networks and Ethnic Communities. Among the 18 participants, 10 of them had relatives or friends who had worked or were working in local res-

taurants, mainly Chinese restaurants. These networks became a vital referral source for jobs, especially when the participants had just arrived and were still learning about the area. "Kitchen people go around [to different restaurants] a lot. If I know you, I will recommend you to the restaurant where I work Personal connections are very important," said participant 15. Four participants actually started in their relatives' restaurants. Moreover, Seattle, where the study was conducted, has a Chinatown developed by Chinese immigrants in the 1860s; it later became an economic center for all Asians (Davila, 2000). Many job opportunities, including Chinese restaurant work, are in this neighborhood. As participant 15 commented, "It's very easy to find a job in Chinatown [in English] because that's a place where tang-jen (Chinese) gather." Also, with the increasing Chinese population in the area, more Chinese restaurants have opened outside of Chinatown. Through local Chinese newspapers, readily available at Asian grocery stores throughout the city, a few participants found jobs in Chinese restaurants, both inside and outside Chinatown. Chinese communities have provided a variety of work options to these participants in contrast to Chinese immigrants in cities without well-established Chinese communities.

Work Organization and Participants' Safety and Health at Work

Work organization refers to how work is structured, performed, and managed. It includes work context (job demands and conditions in the workplace), organizational context (organizational-level structure and process), and external context (national- and international-level forces) (Sauter et al., 2002). Five elements had particular implications for participants' safety and health: working hours and schedules, interpersonal relationships at work, job design and training, occupational safety and health training, and national events and economy.

Working Hours and Schedules. Working hours were generally 9 hours to 12 hours a day for employees. Hours were longer for owners of small restaurants because they would arrive early to prepare and stay late to close the restaurant. Some participants reported that hours were usually longer in Chinese restaurants in Chinatown. "You make more money in Chinatown," said participant 3, "but I think it takes more out of you [increasing tone of voice] and you have to work late They have two shifts. Some people work from 3 or 4 in the afternoon to 2 in the morning." In addition to the physical and psychological demands from long working hours, safety was a concern to those who had to work late. An owner/cook who the researcher met during the participant observation said that she sometimes left the restaurant after midnight and had become a robbery target because robbers thought she had the money from the business.

Working hours may be long. However, hours for waitstaff or bus staff are not guaranteed or static. As participant 1 explained, hours were sometimes cut because business was slow; at other times when the restaurant was filled with people, staying extra hours was necessary. As hours fluctuated, so did their incomes. Thus,

due to the nature of restaurant business, frontline workers face greater uncertainty about their working hours, take home pay, and job security than do salaried kitchen workers.

Interpersonal Relationships at Work. Interpersonal relationships at work describe relationships among supervisors, customers, or coworkers. Several positive, supportive interactions were noted in the data. For example, participant 3 reported that American cooks (sons of the owner) and waitstaff at his workplace helped him study English and do homework. Participant 5 did not have a car. Her coworker who lived close to her home provided transportation to and from work. Participant 2 recalled several customers who always asked to be seated in her section, and that some sent letters to management complimenting her service.

Tension and conflicts were also part of the work. One commonly mentioned cause of tension and conflicts was the power imbalance between chefs/cooks and other workers. Chefs/cooks are on the top of the worker ladder because of the culinary skills they bring to restaurant owners, whereas dishwashers and bus staff are on the bottom of the ladder because these positions are lower skilled and easy to replace. Managers or owners were reported to “not dare make a noise” (i.e., not complain) when problems were related to ill-tempered cooks or their disrespectful behavior toward other workers. Unclear expectations of duties and of coworkers’ failure to complete assigned tasks also led to frustration and even confrontation in some cases. Because the incomes of waitstaff are tied to the number of tables they serve, competition for customers also caused tension. Overall, participants reported not having close relationships with coworkers or bosses, and had limited interactions with them outside of work. Participant 2 was mindful of not taking these unhappy feelings or conflicts home to affect her family. A few other participants reported taking negative emotions home.

Job Design and Training. Job design describes the complexity of tasks, skills, and effort required for a job. Judging by the tasks that participants described, specific skills and knowledge are required to perform each role. These skills can be as basic as calculating the bill or the cut of chicken needed for a particular dish, or as complicated as how to respond to malicious customers or a burglary. Participant 2, who worked at a more upscale non-Chinese restaurant, recalled having a lead person teach her details about how to deliver service (e.g., holding glasses the correct way) and monitor her performance on-site. Other participants, however, received hardly any training before starting work. Being paired with a more experienced worker for a few days was considered the training. The expectation was that they would learn how to do the work through observing coworkers on the job.

The number of employees and their English proficiency appeared to influence the complexity of tasks assigned and the skills and effort required from the participants. With a small number of employees, overlapping roles were inevitable in some restaurants. “I pretty much did everything, answering calls, taking take-out orders,

delivering food, being the cashier [in English], even making [brief pause] drinks at the bar,” recalled participant 1 about her experience with a Chinese restaurant. Having a small crew affects owners as well. As noted in the interview and participant observation data, owners of small restaurants with few employees also worked in various capacities such as cashier, cook, or waitstaff to keep the business running. Different positions are associated with different work hazards and health risks (Tsai & Salazar, 2007); overlapping roles increased workers’ risks for injuries and illnesses.

Limited English proficiency was a major reason the participants chose to work in restaurants, especially in Chinese restaurants. Nevertheless, not all customers and coworkers spoke Chinese. The demands of communicating with customers in English required additional efforts from frontline workers who delivered service. Taking menus home to study and memorize in both Chinese and English was a strategy used by some participants when they started to wait tables. Participant 2 worked in a non-Chinese restaurant that served meals and drinks unfamiliar to her. She ultimately developed a graphical notation system to efficiently take orders and accurately communicate with the kitchen and bartenders. In comparison to their English-speaking counterparts, language proficiency is a unique stressor that limited English proficiency immigrant restaurant workers face on a regular basis.

Occupational Safety and Health Training. Regardless of the restaurants for which they worked, participants reported receiving no formal training about occupational safety and health. Even in the interviews with those who had been owners ($n = 4$), none of them mentioned providing training for their employees regarding safety and health at work. The type of occupational safety and health information noted in the interviews was usually embedded in instructions, if any, given during their informal orientation. For instance, when participant 3 first started dishwashing, his boss instructed him to stop the garbage disposal first if things got stuck inside. Participant 7 was told at each restaurant in which he was employed to watch out for flames and to turn off the stove and electricity. Informality was the nature of the practice when it came to job training, including safety and health.

Most individuals learned how to handle occupational safety and health issues through observation of others. A statement from participant 1 well illustrates this expectation. She said, “You have to take a test about handling food. Other training, basically it’s like apprenticeship [in English]. You just follow them and watch [what they do]. From that, you learn how to handle plates so your hands will not get hurt easily.” All participants reported experiencing minor cuts and burns; some indicated they developed chronic work-related musculoskeletal problems. However, during the interviews, participants did not express any dissatisfaction with owners’ lack of formal training or of a proactive approach to ensure their occupational safety and health. A small fraction of the participants even indicated that such training was unnecessary because using common sense or paying attention would be sufficient to avoid injuries.

National Events and Economy. This study was conducted when the country was experiencing post-9/11 economic hardship. Restaurants were struggling. "When we came, it happened to be 9/11. Timing was not good. Jobs in Chinatown were mostly filled. If [you] do not know anyone, [you] would not be able to get in," said participant 8. Participants 5 and 7, who arrived soon after 9/11, experienced the same challenge.

Owners reportedly implemented a few strategies to decrease costs and to survive the economic downturn. One strategy was to downsize the number of employees. For instance, participant 16's restaurant cut back waitstaff from four to two and kept only two cooks and one dishwasher in the kitchen. As a result, workers' responsibilities evolved and the boundaries of each role became blurred. "Now, you also need to wash dishes and take care of those odds and ends [in the kitchen]," said participant 16.

Another strategy was to cut hourly workers' work time. Participants reported that some owners would ask waitstaff to leave early or, in some cases, cancel their scheduled shifts when they faced or were sensing a customer downturn. Participant 12 stated that, alternatively, some owners offered waitstaff a monthly salary of \$800 that was based on a lower hourly rate. "This alternative pay method had already been used before 9/11. Now, almost every restaurant is using this method to control its expense," said participant 12.

The third strategy was to cut facility costs. Participant 16's restaurant used to rent a commercial boiler to make tea. They only needed to push buttons to boil or refill water. Because of the poor economy and less business, the owner stopped renting the boiler. The staff, in turn, had to boil water and pour hot water into the tank, which increased their risks for burns. Economic instability influenced by national events appears to jeopardize immigrant workers' job opportunities and security, perpetuate exploitation and vulnerability of immigrant workers, and increase risks for injuries and illnesses.

DISCUSSION

Immigrants' employment options, occupational safety and health risks, and vulnerability are closely connected to and influenced by the sociocultural contexts in which these workers live. Drawing on data from an ethnographic study with 18 Chinese immigrant restaurant workers, findings of this research provide new knowledge about sociocultural factors that shape immigrants' employment choices and the impact of work, organizational, and external contexts on immigrant restaurant workers' safety and health. The findings also provide insights into immigrant workers' vulnerability to poor safety and health outcomes.

U.S. immigration is a preference system primarily based on family ties or job skills (employment). Each year, two thirds of those granted immigration status are family sponsored and only about 15% are employment based (Jefferys & Monger, 2008). For non-employment-based immigration, finding a job in a timely manner is essential for regaining financial safety and, ultimately, stability (Tsai, 2003). Findings of this study with 18 le-

gal immigrants show the urgency and pressure that non-employment-based immigrants face during the immigration transition. Discrimination, legal status, and demands of English proficiency are documented barriers that force immigrants from non-English-speaking countries to accept undesirable jobs or jobs that do not match their training. Findings of this study further suggest that immigration policies also play a role in shaping legal immigrants' stress levels, employment choices, and vulnerability resulting from accepting more dangerous and undesirable work.

Networks and ethnic communities are sociocultural factors worthy of further investigation for their impacts on immigrants' employment transitions and occupational safety and health risks. For decades, anthropological and sociological literature has documented coethnic networks' functions in emotional and cultural support, social interactions, ethnic identity, economic survival, and social mobility for immigrants (Chrisman, 1981; Haines, Rutherford, & Thomas, 1981; Portes, 1995; Wong, 1998). Consistent with the literature, friends, relatives, and Chinese communities were study participants' critical employment connections and helped with their economic survival. Yet, as suggested by this study's findings, networks and ethnic communities also function as a determinant of immigrants' employment choices and subsequently their occupational safety and health risks. With the coethnic network mechanism, each immigrant ethnic group ultimately carves out its main employment industries. When newcomers arrive, they would most likely become part of their ethnic group's main employment industries. Because immigrants are more likely than the native born to fill low-wage, lower-skilled, and more dangerous jobs (American Federation of Labor-Congress of Industrial Organizations, 2005; McCauley, 2005), employment referral mechanisms through coethnic networks is a paradox. On one hand, they provide job opportunities for immigrants to survive in the immigration transition; on the other hand, they could further perpetuate immigrant workers' vulnerability to illness and injury and other low-income-related health and health care concerns. The United States currently does not have an adequate national system to monitor employment patterns and occupational safety and health across all ethnic (not "racial") groups and know about each group's occupational safety and health risks. Findings about the coethnic network referral paradox support the call for systematic national investigations and surveillance systems (McCauley) so that a clearer understanding will exist of different immigrant groups' employment patterns and vulnerability to occupational injuries and illnesses.

Moreover, the five elements of work organization identified in the data analysis illustrate the interactions between work, organizational, and external contexts and the impact on restaurant workers' job security, mental health, family relationships, and risks for injury and illness. When workers are limited English proficient immigrants, language barriers add another layer to the complexity of these relationships and increase psychological demands on this worker population.

With growing numbers of immigrant workers in restaurants, the experiences with and attitudes toward job and occupational safety and health training discovered in this study are a concern. The incidence rates of nonfatal and fatal injuries for the Food Services and Drinking Places (F&D) sector in 2007 were 4.1 per 100 full-time workers and 1.5 per 100,000 employed workers, respectively (Bureau of Labor Statistics, 2007). The F&D sector, of which restaurants are a part, has never had the highest injury and illness incidence rates (Bureau of Labor Statistics, 2007; National Institute for Occupational Safety and Health [NIOSH], 1999). Being the largest private employment sector in the United States (Bureau of Labor Statistics, 2005), however, this sector has been leading in the number of reported cases. Thus, occupational injury and illness prevention is critical to restaurants and should be a priority of owners and workers. At the same time, the findings are not surprising. Restaurant positions have been characterized as lower skilled; thus, formal training, including occupational safety and health training, is most likely considered unnecessary. Study participants' lack of concern about receiving little or no job and occupational safety and health training might be a reflection of this perception. Moreover, 72% of restaurant businesses employ fewer than 20 workers (Bureau of Labor Statistics, 2005). Limited human and economic resources, lack of safety staff and formal procedures for occupational safety and health management, lack of ability to identify hazards and conduct surveillance, costs of implementing control measures according to legal requirements, and owners' priorities and risk awareness and perception are common obstacles for small business (< 100 employees at a single site) to address employees' occupational safety and health (Hasle & Limborg, 2006; Larsson, 2003; NIOSH). The management strategies for coping with economic hardship discovered in this study further illustrate the difficulties in gaining restaurant owners' cooperation and support for investing in worker occupational safety and health. To protect restaurant workers, more comprehensive research is needed to identify low-cost solutions and incentives to increase support from restaurant owners. Given coethnic networks' functions (Chrisman, 1981; Haines et al., 1981; Portes, 1995; Wong, 1998), it would also be crucial for ethnic communities to develop culturally and linguistically appropriate strategies to address immigrant restaurant workers' safety and health.

IMPLICATIONS FOR OCCUPATIONAL HEALTH NURSES

Traditionally, occupational safety and health protection or intervention in the food services industry has focused on non-psychosocial factors such as slippery floors, temperature extremes, sharps and mechanical hazards, or environmental tobacco smoke. Psychosocial aspects of the workplace (in this case, restaurants) and sociocultural contexts beyond the workplace have been overlooked; yet, they are critical to addressing immigrant workers' occupational safety and health. Understanding the consequences of limited occupational safety and health training and limited direct occupational safety and health services

and the multidimensional stressors for immigrant workers is a vital and foundational point from which to address the health issues of this select worker population. To this end, occupational health nurses and primary care providers in clinical settings are in a position to identify and address the unique susceptibilities, occupational exposures, and psychosocial concerns of immigrant restaurant workers. Further, occupational health nurses can bring these sociocultural factors identified in this study to the attention of other occupational safety and health professionals and researchers as a means to develop collaborative research and specific recommendations aimed at reducing immigrant restaurant workers' occupational safety and health risks.

The United States is experiencing a deflationary economy. Investment in worker occupational safety and health is unlikely to be high on current owners' agendas, especially in small businesses. Workers who are on the lower end of the ladder are viewed as more dispensable and have greater job insecurity, vulnerability, and potential exploitation. Facing discrimination, language barriers, and limited knowledge about the dominant culture and system, immigrant workers are expected to be more vulnerable to economic difficulties than native-born residents. Occupational health nurses can reduce this vulnerability by being aware of the local to global influences on immigration policies and immigrant workers' contextual environments and translating this awareness into advocacy for these workers in professional and community settings. Immigrant workers are disproportionately represented in low-wage positions (Capps et al., 2007). Occupational health nurses can reduce their vulnerability by advocating for the development of more affordable and accessible health care for low-wage workers. Moreover, occupational health nurses can take the lead in developing comprehensive research about restaurants and other small businesses to guide future practice and policies to reduce occupational safety and health risks in these businesses.

Finally, immigrants from Asia, Mexico, the Caribbean, Central America, South America, Europe, and Africa (Kharbanda & Ritchie, 2005) are all employed throughout the restaurant industry. This study included only 18 Chinese immigrants recruited from a metropolitan area. To promote occupational safety and health among all immigrant restaurant workers, occupational health nurses are called on to conduct additional studies with various samples and sampling techniques. In turn, this expanded effort will provide a comprehensive understanding of immigrant restaurant workers' experiences and guide recommendations for future clinical assessments and interventions as well as occupational programs and policy development.

REFERENCES

- Agar, M., & MacDonald, J. (1995). Focus group and ethnography. *Human Organization, 54*, 78-86.
- Alexander, B. H., Franklin, G. M., & Wolf, M. E. (1994). The sexual assault of women at work in Washington state, 1980 to 1989. *American Journal of Public Health, 84*, 640-642.
- American Federation of Labor-Congress of Industrial Organizations.

- (2005). *Immigrant workers at risk: The urgent need for improved workplace safety and health policies and programs*. Washington, DC: Author.
- Bureau of Labor Statistics. (2005). *Food services and drinking places* (bulletin 2601). Retrieved March 18, 2006, from www.bls.gov/oclo/cg/print/cgs023.htm
- Bureau of Labor Statistics. (2007). *Workplace injuries*. Retrieved November 6, 2008, from www.bls.gov/data/#injuries
- Capps, R., Fortuny, K., & Fix, M. (2007). *Trends in the low-wage immigrant labor force, 2000-2005*. Washington, DC: Urban Institute.
- Chang, W.-R., Li, K. W., Huang, Y.-H., Filiaggi, A., & Courtney, T. K. (2004). Assessing floor slipperiness in fast-food restaurants in Taiwan using objective and subjective measures. *Applied Ergonomics*, 35, 401-408.
- Chrisman, N. J. (1981). Ethnic persistence in an urban setting. *Ethnicity*, 8, 256-292.
- Davila, F. (2000, October 15). The struggle for the soul of Seattle's international district. *The Seattle Times*, pp. A1, A12-A13.
- Dempsey, P. G., & Filiaggi, A. J. (2006). Cross-sectional investigation of task demands and musculoskeletal discomfort among restaurant wait staff. *Ergonomics*, 49, 93-106.
- Haines, D., Rutherford, D., & Thomas, P. (1981). The case for exploratory fieldwork: Understanding the adjustment of Vietnamese refugees in the Washington area. *Anthropological Quarterly*, 54(2), 94-102.
- Hammersley, M., & Atkinson, P. (1995). *Ethnography: Principles in practice* (2nd ed.). London: Routledge.
- Hasle, P., & Limborg, H. J. (2006). A review of the literature on preventive occupational health and safety activities in small enterprises. *Industrial Health*, 44, 6-12.
- Hendricks, K. J., & Layne, L. A. (1999). Adolescent occupational injuries in fast food restaurants: An examination of the problem from a national perspective. *Journal of Occupational and Environmental Medicine*, 41(12), 1146-1153.
- Horwitz, I. B., & McCall, B. P. (2005). An analysis of occupational burn injuries in Rhode Island: Workers' compensation claims, 1998 to 2002. *Journal of Burn Care Rehabilitation*, 26, 505-514.
- Islam, S. S., Nambiar, A. M., Doyle, E. J., Velilla, A. M., Biswas, R. S., & Ducatman, A. M. (2000). Epidemiology of work-related burn injuries: Experience of a state-managed workers' compensation system. *Journal of Trauma*, 49, 1045-1051.
- Jefferys, K., & Monger, R. (2008). *US legal permanent residents: 2007*. Retrieved July 15, 2008, from www.dhs.gov/ximgtn/statistics
- Jorgensen, D. L. (1989). *Participant observation: A methodology for human studies*. Newbury Park, CA: Sage.
- Kharbanda, R., & Ritchie, A. (2005). *Behind the kitchen door: Pervasive inequality in New York City's thriving restaurant industry*. New York City: The Restaurant Opportunities Center of New York and the New York City Restaurant Industry Coalition.
- Ko, Y.-C., Cheng, S.-C., Lee, C.-H., Huang, J.-J., Huang, M.-S., Kao, E.-L., et al. (2000). Chinese food cooking and lung cancer in women nonsmokers. *American Journal of Epidemiology*, 151, 140-147.
- Larsson, T. J. (2003). Is small business a safety problem? *Safety Science Monitor*, 7(1), 1-23.
- McCaughey, L. A. (2005). Immigrant workers in the United States: Recent trends, vulnerable populations, and challenges for occupational health. *AAOHN Journal*, 53, 313-319.
- Morse, J. M. (2000). Determining sample size. *Qualitative Health Research*, 10, 3-5.
- Muhr, T., & Friese, S. (2004). *Users' manual for ATLAS.ti 5.0* (2nd ed.). Berlin: Scientific Software Development.
- National Institute for Occupational Safety and Health. (1999). *Identifying high-risk small business industries: The basis for preventing occupational injury, illness, and fatality* (DHHS no. 99-107). Cincinnati, OH: U.S. Department of Health and Human Services.
- National Restaurant Association. (2006). *Restaurant industry facts*. Retrieved March 27, 2008, from www.restaurant.org/research/ind_glance.cfm
- Portes, A. (Ed.). (1995). *The economic sociology of immigration: Essays on networks, ethnicity, and entrepreneurship*. New York: Russell Sage Foundation.
- Salazar, M. K., & Beaton, R. (2000). Ecological model of occupational stress. *AAOHN Journal*, 48, 470-479.
- Sandelowski, M. (1995). Focus on qualitative methods: Sample size in qualitative research. *Research in Nursing and Health*, 18, 179-183.
- Sauter, S. L., Brightwell, W. S., Colligan, M. J., Hurrell, J. J. J., Katz, T. M., LeGrande, D. E., et al. (2002). *The changing organization of work and the safety and health of working people* (DHHS no. 2002-116). Cincinnati, OH: Department of Health and Human Services.
- Siegel, M. (1993). Involuntary smoking in the restaurant workplace: A review of employee exposure and health effects. *Journal of the American Medical Association*, 270, 490-493.
- Svensden, K., Sjaastad, A. K., & Sivertsen, J. (2003). Respiratory symptoms in kitchen workers. *American Journal of Industrial Medicine*, 43, 436-439.
- The Restaurant Opportunities Center of New York. (2003). *The New York City restaurant industry analysis: The quantitative report*. New York: Author.
- Tsai, J. H.-C. (2001). *One story, two interpretations: The lived experiences of Taiwanese immigrant families in the United States*. Unpublished doctoral dissertation, University of Washington, Seattle.
- Tsai, J. H.-C. (2003). Contextualizing immigrants' lived experience: Story of Taiwanese immigrants in the United States. *Journal of Cultural Diversity*, 10(3), 76-83.
- Tsai, J. H., & Salazar, M. K. (2007). Occupational hazards and risks in restaurants faced by Chinese immigrant workers. *Family and Community Health*, 30(2 Suppl.), S71-S79.
- Wong, B. (1998). *Ethnicity and entrepreneurship: The new Chinese immigrants in the San Francisco Bay area*. Boston: Allyn & Bacon.
- Wu, M.-T., Lee, L.-H., Ho, C.-K., Wu, S.-C., Lin, L.-Y., Cheng, B.-H., et al. (2004). Environmental exposure to cooking oil fumes and cervical intraepithelial neoplasm. *Environmental Research*, 94, 25-32.