

## Teenage Foodservice Workers: Are Schools an Effective Setting for Teaching Food Safety?

**Tami J. Cline, MS, RD, FADA, SFNS; Jeannie Sneed, PhD, RD, SFNS, CFSP; and Julie Skolmowski, MPH, RD, SFNS**

*Please note that this study was published before the implementation of Healthy, Hunger-Free Kids Act of 2010, which went into effect during the 2012-13 school year, and its provision for Smart Snacks Nutrition Standards for Competitive Food in Schools, implemented during the 2014-15 school year. As such, certain research may not be relevant today.*

### ABSTRACT

Teenagers are frequently employed in foodservice settings. Approximately one-third of all employed 15- to 17-year-olds work in eating and drinking establishments, and the percent of youth employed in the foodservice industry has increased steadily since 1977 (National Restaurant Association [NRA], 2004).

Schools are a natural setting for the delivery of vocational job training. Food safety is taught in a variety of courses in high schools, and teachers have varying levels of food safety training (Child Nutrition Foundation [CNF], 2003). Foodservice managers working in school kitchens are knowledgeable about food safety and can assist in food safety training (CNF, 2003).

A need exists to establish school-based partnerships and facilitate coordinated program and training creation efforts involving educators, school foodservice managers, and the general foodservice industry to provide food safety education and training for teenagers. Supplying educators and school foodservice managers with food safety training and proven teaching tools are logical steps for encouraging more schools to include food safety in their curricula. Ultimately, teenagers should be better equipped to enter the foodservice workforce, and to prepare and serve food safely at home.

### Background Information

The foodservice industry relies heavily on teenage workers to fill after-school and summer jobs. According to the *Report on Youth Labor Force* (U.S. Department of Labor, 2000), 2.9 million teenagers (15- to 17-years-old) worked during the school months, and four million worked during the summer months between 1996 and 1998. In this study, 31% of males and 33% of females reported working in eating and drinking establishments.

Consumer food-handling practices raise concerns about what children learn about food safety at home. Observational studies suggest that a substantial number of consumers frequently do not follow safe food-handling practices (Altekruse et al., 1996; Anderson et al., 2004; Redmond & Griffith, 2003). Furthermore, a recent study of high school students' perceptions of food safety in Iowa found that self-reported knowledge of food safety was moderate; many students were unaware of several common pathogens (Ellis, 2003).

A needs assessment, which included samples of teenagers, teachers, and industry professionals, was conducted in California and Iowa to determine the demand and support for food safety training and certification for teenagers. Specifically, these three samples included 39 teenage foodservice workers employed in restaurants or mall foodservice operations, 367 family and consumer sciences and culinary arts teachers in high schools; and 18 industry professionals representing quick service restaurants and supermarket chains. Questionnaires were developed for each group, with the teenage foodservice workers and teachers responding to a written survey and the industry representatives responding to a face-to-face or telephone interview (CNF, 2003).

Teenagers expressed an interest in food safety education, as more than half responded that they would like to be certified in food safety. Most teenage foodservice workers surveyed received some food safety training on the job, such as guidance related to hand washing, general cleaning and sanitation, temperature control, food handling, and bare hand contact with food. Teenagers also were asked to rank the rewards they hoped to receive in support of their work performance or decision to work in foodservice. This sample placed the most value on supervisor recognition as a reward, followed by higher wages (CNF, 2003).

The teacher sample reported an interest in receiving food safety certification in order to better teach students (CNF, 2003). These teachers taught a wide variety of courses and incorporated food safety topics into many different courses, however, only a small percentage (22%) reported having a food safety certification. These teachers were unaware of food safety certification courses and were unsure of where to locate current food safety scholastic materials. They also indicated that they required many resources in order to teach food safety, including videos, other audiovisual aids, curricula, teaching activities, supplies, and facilities/equipment.

In a study conducted by Kendall et al. (2001), foodservice managers reported they were more likely to hire workers trained in food safety, and one-half indicated they would be willing to pay higher wages to those trained in food safety. In a CNF study (2003), quick service restaurant and grocery store managers confirmed they would be more likely to hire teenagers who had received basic food safety training, although they would continue to provide food safety training using corporate-developed materials and methods. Most managers used videos for training, and the time allotted for food safety training ranged from 30 minutes to 12 hours. As none of the managers interviewed in this CNF study could estimate actual costs associated with food safety training in their establishments, the cost-benefit of providing teenagers with school-based versus job-based food safety training could not be compared.

School foodservice professionals believe that food safety is important. Ninety percent of school foodservice directors reported that food safety was an important part of their job, and 82% indicated that learning about food safety was important for them and their employees (Youn, & Sneed, 2003). Roberts and Sneed (2003) reported that 42% of school foodservice managers were certified in food safety, nearly twice the percentage reported by teachers in the CNF study. The importance of best practices in food safety education and training in school foodservice is documented in the School Nutrition Association's (SNA) Keys to Excellence in School Foodservice and Nutrition (2003). This document provides guidance for the establishment of basic educational concepts and job competencies required for teenage foodservice workers.

There is little information on the best methods and formats for food safety training. Foodservice managers working in school kitchens reported that seminars, demonstrations, and inclusion of practical information in a seminar were the most preferred training methods, while the Internet and interactive teleconferences were least preferred (Sullivan et al., 2002). The most effective

and preferred teaching methods for teenagers will likely vary from school foodservice site managers due to differences in age, motivation levels, and technical skills.

Food safety education is an important first step in increasing knowledge. Students, between 11- and 18-years-old, who completed a food safety course scored significantly better on a validated food safety test than those who had not completed a course (Courville et al., 2004). However, training and education must translate into changes in behavior in order to justify higher wages. Haapala and Probart (2004) found a disconnection between middle school students' food safety knowledge, perceptions, and behaviors. They concluded that, in order to prove its effectiveness, there is a need for relevant and motivating food safety education for middle school students and school-based methods of delivery should take this into account. Also, focused training for teachers and school foodservice managers may improve the education programs' effectiveness.

### **Conclusions And Recommendations**

The foodservice industry relies heavily on teenage workers to fill after-school and summer jobs. As a result, there is a need to market and deliver integrated food safety training and certification programs for teenagers. High schools are a natural setting for the delivery of these programs and teachers or school foodservice managers should deliver food safety education. While teachers have varying levels of food safety training, school foodservice managers are more likely to be knowledgeable about food safety. Ideally, a collaborative partnership among educators, school foodservice managers, and the foodservice industry would be developed and coordinated to facilitate a training a successful training and certification program.

The following specific recommendations are based on the results of the CNF (2003) needs assessment study and are designed to provide direction for further research and outreach initiatives:

- Establish school district foodservice directors as the food safety experts in the school environment. In light of the focus on food safety, including new requirements for Hazard Analysis and Critical Control Point program implementation in schools, foodservice directors should position themselves as the food safety experts in their school district and provide leadership for food safety policies. This could be included as part of a successful marketing and implementation of a food safety educational program for teachers and students in their district. Food safety principles could be emphasized in the school dining environment through posters, special events and activities, and parent education materials.
- Develop minimum competencies for food safety training and certification for teenage foodservice workers. Standards should be developed based on current research literature and input from various stakeholders, including representatives from the School Nutrition Association (SNA), CNF, NRA, American Culinary Federation, American Association of Family and Consumer Sciences, National School Boards Association, National Association of Secondary School Administrators, the state departments of health and education, and state and local boards of education.
- Evaluate existing food safety training materials used in schools and within the foodservice industry for effectiveness, determine the merit of existing on-site training

programs in the form of CD-ROMs, video, and textbook instruction versus interactive Web-based materials, and establish the value of using school kitchens as hand-on learning laboratories. Furthermore, recommendations for the use of existing cost-effective and time-efficient programs, settings, and gaps in materials should be addressed. Appropriate professional organizations, including SNA, could help summarize or make this information available.

- Develop a plan for marketing existing food safety training materials to family and consumer sciences and culinary arts teachers. Marketing existing food safety materials would supplement teacher's' current efforts to include food safety education and certification in the curricula. Effective training programs for teachers could be developed and delivered at the state level, either as stand-alone training or as a component of existing annual training sessions, without duplicating resources. There may be opportunities to include teachers in local training conducted for foodservice employees.
- Develop a plan for marketing teen food safety training and certification to the general foodservice industry, particularly the quick service restaurant industry. This plan should promote the use of existing training and certification programs and encourage cost-effect incentives for teenagers who have completed food safety training and certification programs that meet industry standards. Evaluating true costs and benefits could greatly enhance marketing efforts. Such evaluations, including cost-benefit analysis, could serve as concrete support for future funding and collaboration.
- Develop a plan for consistently tracking the cost-effectiveness and return on investment of food safety training and certification programs that meet industry standards and are delivered to teenage foodservice workers via schools. Measurements to track and compare should include training costs, turnover rates, and performance indicators, such as absenteeism, tardiness, and motivation.

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## **BIOGRAPHY**

**Cline** is school foodservice consultant with Cline Consulting in Marina del Rey, CA. **Sneed** is a professor at Iowa State University in Ames, IA. **Skolmowski** is a program manager with the Child Nutrition Foundation in Alexandria, VA.