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Student Perceptions of Their Student-Operated Restaurant Experience and Confidence with Foodservice Management Competencies

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ABSTRACT

Student-operated restaurants (SORs) are used by hospitality and dietetics programs to meet curriculum standards. However, research regarding students' perceptions of their SOR experience is limited. The purpose of this study was to explore student perceptions of their SOR experience. Students completed an electronic survey with questions regarding their interpersonal interactions, the use of foodservice and management skills, and the application of nutrition principles during their SOR experience. Students reported that the skills they learned in the SOR would help them in their future careers (M=4.18) and that they gained leadership skills from their SOR experience (M=4.31). Students disagreed with the statement that their SOR experience was negative (M=1.86). Overall, students appreciated their SOR experience and learned valuable skills that they believed would help them in their future careers. Student-Operated Restaurants can be an effective experiential learning tool to be used in both hospitality and dietetics program.

Keywords: experiential learning; hospitality education; foodservice management; student-operated restaurant

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INTRODUCTION

According to the U.S. Bureau of Labor Statistics (2022), job opportunities for foodservice managers are expected to grow by 10% from 2021-2031. There is a growing need for well-trained and educated foodservice managers to fill these positions. When formally trained, these managers often complete undergraduate hospitality management or dietetics programs. Hospitality programs can be accredited by the Accreditation Commission for Programs in Hospitality Administration (ACPHA), and dietetics programs are required to be accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND). Hospitality program curricula typically emphasize foodservice and management skills and include courses to teach these topics (Bartlett et al., 1998; Nies, 1993; Szende et al., 2019). Likewise, dietetics program curricula also require that foodservice and management skills be taught (ACEND, 2022). In both disciplines, these skills and topics may be taught using various educational formats including lectures, laboratory courses, group projects, and presentations.

One educational method, often used in both hospitality and dietetics programs to teach required curriculum skills, is experiential learning. Experiential Learning Theory (ELT), as described by David

Kolb, is based on the works of several scholars and "is a holistic theory that defines learning as the major process of human adaptation involving the whole person" (Kolb & Kolb, 2017, p. 11). ELT emphasizes the role of experience, perception, cognition, and behavior in learning (Kolb, 1984, p. 21). Kolb also describes the experiential learning cycle which includes four learning modes: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984, p. 30). ELT and participating in the experiential learning cycle allows learners to practice real-world applications of their education. Skills essential to effective management such as communication, teamwork, adaptability, and thinking outside the box can all be taught through experiential learning (Yeadon-Lee & Hall, 2013).

Due to the effectiveness of experiential learning, it is often used in both hospitality and dietetics programs to help train future foodservice managers. Kiser and Partlow (1999) surveyed hospitality program directors, deans, and department chairs for the prevalence and use of experiential learning in their programs and, of the 40 programs included in the final analysis, all used experiential learning in some form including industry work experience, internships, practicums, and field projects. Gustafson et al. (2005) reviewed 44 hospitality programs and found that they provided a variety of experiential learning opportunities including foodservice laboratories (n=43) and fine dining courses (n=14) to teach hands-on skills as well as to help students develop critical thinking skills. These results are similar to those of Bartlett et al. (1998) who reported the frequent inclusion of laboratory credits in the curricula of 16 top hospitality programs. In a survey of undergraduate dietetics programs by Short and Chittooran (2004), 87% of respondents indicated using experiential learning methods including having students conduct nutrition education sessions, needs assessments, and educational evaluations.

One form of experiential learning utilized in some hospitality and dietetics programs is the student-operated restaurant (SOR). A SOR is an on-campus restaurant where students can gain hands-on experience in quantity food production and other foodservice management skills while receiving course credit (Josiam et al., 2014; Mathews et al., 2021; Nies, 1993; [blinded for review]). The accrediting bodies for hospitality (ACPHA) and dietetics (ACEND) programs require that foodservice and management principles be taught but do not provide guidelines regarding the use of SORs as an experiential learning tool. These labs are a unique experiential learning tool not utilized by all programs often due to the expense of operating them (Cook et al., 2018). Programs that choose to utilize SORs benefit by being able to manage the teaching and training of students first-hand. This controlled environment allows programs to ensure that required competencies are being properly taught by faculty and met by students (Stokes et al. 2022).

Specific methods of SOR management and use can vary from one program to another. However, Stokes et al. (2022) interviewed managers of SORs and found that there are some similarities in the way that SORs are managed. For example, SORs are typically managed by only one or two academic departments, all programs have a faculty/staff member assigned to oversee the daily operations, and the days and times that SORs are open almost always align with academic schedules. Finally, the overall purpose of SOR's (gain hands-on experience in quantity food production and other foodservice management skills while receiving course credit) is similar across all programs (Stokes et al. 2022).

Some research has been conducted regarding the use of SORs in hospitality and dietetics programs. One of the first studies that focused specifically on the use of SORs in Hospitality Programs, was conducted by Nies and published in 1993. Nies surveyed hospitality program directors regarding their use of SORs and found that half of the programs reported utilizing an SOR. The number of student hours spent in these SORs ranged from 2 to 12 per week, and the majority utilized student management teams. Nies also reported differences between programs with SORs and those without SORs; for example, programs with SORs had fewer academic major options, and their graduates were more likely to be employed in foodservice post-graduation. Cook et al. (2018) surveyed directors of Didactic Programs in Dietetics

(DPDs); a third of the responding directors reported that their students participate in SORs. Programs without SORs taught quantity food production in other ways including restaurant or dining facilities on campus or catering events. The greatest barriers to future SOR use, as rated by DPD directors without SORs, were upfront costs, lack of faculty, and lack of university funding (Cook et al., 2018).

While SORs are a form of experiential learning used in both dietetics and hospitality programs, research regarding SOR use is limited and has focused mainly on customer and management perspectives. Josiam et al. (2014) surveyed customers dining at a SOR run by a university's hospitality management program. Customers ranked various factors of the SOR including food and service quality and motivators or barriers to patronage. Overall, the food and service quality of the SOR were perceived favorably, and customers were generally motivated to eat at the SOR for its perceived value and because they want to support the school and the students who run the restaurant. In a similar study, [blinded for review] (2018) surveyed customers of a SOR run by the university's dietetics program. Quality of food, quality of service, the overall experience, and value for price were all factors rated highly by customers. Customers also valued healthy choices, and the majority (86.6%) reported an expectation that the SOR should "probably" or "definitely" serve foods that meet nutritional guidelines.

Stokes et al. (2022) interviewed SOR managers about the use and operation of SORs, their own experiences with the SOR and how they viewed the experiences of their students and customers. A central objective identified by the SORs managers was developing students' kitchen and management skills. They also described the initial student experience as emotional (anxiety, stress, or anger), but after their SOR experience students typically reported that they had learned valuable career skills.

When assessing the development of skills through an experiential learning tool such as SORs, it is important to consider students confidence/self-efficacy. Bandura's theory of self-efficacy indicates that a person's belief in their ability affects the production of specific outcomes (Bandura, 1997). Similarly, Lorsbach & Jinks (1999) summarized theorist's definitions of the theory of self-efficacy as "a sense of confidence regarding the performance of specific tasks." Research has explored self-efficacy and its relationship with learning outcomes. For example, Huang et al. (2020) found that simulation learning improved nursing students' self-efficacy. Specific to learning foodservice learning environments, Sim (1994) explored meal management students' self-perceived foodservice management competencies and found that there was a high correlation between students' actual knowledge and their self-perceived competencies. Niu (2010) similarly found that foodservice employees with high self-efficacy were more committed to their foodservice career. However, at the time of this study, there was no known research related to the perceived confidence/self-efficacy of students participating in SORs.

In summary, accredited hospitality and dietetics programs need to meet foodservice and management competencies delineated by their respective accreditors and both program types use SORs as a form of experiential learning to do so. Self-efficacy and its relationship to student's ability to meet specific competencies is also important to consider. While research on SORs currently includes the perspectives of customers and management, there is no research yet on student's perceptions of their SOR experience or their confidence/self-efficacy related to foodservice and management skills. The purpose of this study was to explore and better understand student perceptions of SORs and their confidence/self-efficacy related to foodservice and management skills through an online survey. The research questions and hypotheses are included below:

Research Question: Do students perceive themselves to be confident in their foodservice and management skills?

Hypothesis 1:

Null: Students do not perceive themselves to be confident in their foodservice and management skills.

Alternate: Students will perceive themselves to be confident in their foodservice and management skills.

Research Question: Will students have a positive perception of their overall SOR experience including their interpersonal interactions, the development and use of skills in the SOR and in the future, and the nutrition focus in SORs?

Hypothesis 2:

Null: Students will have a negative perception of their overall SOR experience including their interpersonal interactions, the development and use of skills in the SOR and in the future, and the nutrition focus in SORs

Alternate: Student will have a positive perception of their overall SOR experience including their interpersonal interactions, the development and use of skills in the SOR and in the future, and the nutrition focus in SORs

Research Question: Will there be differences in students' confidence (with foodservice and management skills) and perceptions related to their SOR experience based on demographic factors (SOR participation status [current, future, or past participation], hours of non-SOR foodservice experience, and other basic demographic factors [major, age, gender, race, ethnicity, or income]).

Hypothesis 3:

Null: There will be no difference in students' confidence (with foodservice and management skills) and perceptions related to their SOR experience based on demographic factors (SOR participation status [current, future, or past participation], hours of non-SOR foodservice experience, and other basic demographic factors [major, age, gender, race, ethnicity, or income]).

Alternate: There will be differences in students' confidence (with foodservice and management skills) and perceptions related to their SOR experience based on demographic factors (SOR participation status [current, future, or past participation], hours of non-SOR foodservice experience, and other basic demographic factors [major, age, gender, race, ethnicity, or income]).

METHODS

Design and materials

Prior to this study, the research team conducted a thorough review of previous studies related to the use of SORs in hospitality and dietetics education (Clark et al. 2023, Cook et al. 2018, Josiam et al. 2014, Kiser & Partlow, 1999, Matthews et al. 2021, Nies, 1993, Stokes et al. 2018). At that time, there were no known studies that had looked at student perspectives of SORs. Because there was no previous study or measure to adapt for this project, the research team needed to develop and validate a new measure that would be appropriate for assessing student perceptions of their SOR experience. The process used to develop and validate the measure for this study is described below.

The research team first conducted a qualitative study where they interviewed multiple students regarding their perspectives of their SOR experience (Clark et al. 2023). Qualitative data from that study served as the basis for developing the survey instrument that was used for this current study. Three researchers independently read the interview transcripts from the qualitative study and identified three themes. Two research assistants then developed survey questions and lists of foodservice and management skills based on the themes identified in the interview transcripts. The survey questions were then entered and formatted in Qualtrics to build the survey. Next, an expert review was conducted to test

the content validity of the survey. Four experts with foodservice management and/or SOR experience rated each survey question on a scale from 1-10 on appropriateness, importance, and phrasing (Mackison et al., 2010). Any items that averaged less than 8, for both appropriateness and importance, were removed. Some survey items removed were: "The SOR customers were dissatisfied with the menu options," "There was too much information already in class for professors to focus too heavily on the nutritious aspect of menu items," and "The SOR did not prepare me to be a better leader in the future."

Following the expert review, cognitive interviews were conducted with five students, who had participated in a SOR, to assess the survey's face validity. The students were female undergraduate students from three different universities; four were majoring in dietetics and one was majoring in hospitality. Feedback from cognitive interviews indicated the need for only minor editorial changes to some items. These changes were made, and the survey was prepared for distribution. The final survey included 32 likert scale items related to student's confidence (1= "Not confident at all" to 5= "Extremely confident") in foodservice (13 items) and management (19 items) skills and 60 likert scale items related to perceptions of their SOR experience (1= "Strongly disagree" to 5= "Strongly agree"). The 60 items were categorized in the following categories; student interactions (4 items), professor interactions (7 items), leadership experiences (4 items), future implications (3 items), positive and negative experiences (21 items), nutrition (7 items), food production skills (6 items), and SOR management skills (8 items). Students were also asked for demographic information including SOR participation status (current, future, or past participation), university, major, career path, age, gender, race, ethnicity, income, and total hours of non-SOR foodservice experience. One free response question invited students to describe their overall SOR experience. With the use of skip logic, future SOR participants were only presented the Likert scale items related to their confidence in foodservice and management skills and demographic questions. Because they had not yet participated in an SOR they did not answer questions pertaining to their perceptions of their SOR experience.

Participants

Students from hospitality and dietetics programs from across the United States were recruited via email. Any students who had participated, were participating, or were planning to participate in a SOR were eligible to complete the survey. However, due to the low number of students who were planning to participate in the future (n=6), after data collection they were removed from all data analysis.

Procedure

First, contact information for program directors was gathered from the following sources: the DPD director list from the ACEND website and a list of hospitality program directors from the International Council on Hotel, Restaurant, and Institutional Education (ICHRIE) website. An email was sent to the directors on these lists and also to a listserv from the Food Service Management Education Council (FSMEC). Directors were asked to forward the email to the relevant SOR manager. SOR managers were asked to complete a short survey regarding the characteristics of their SOR and to distribute the student survey to students in their program via email. As an incentive to participate, SOR managers were offered a $50 Amazon gift card and students were given the opportunity to enter a drawing for one of 50 $25 Amazon gift cards. Approval was obtained from the [blinded for review] Institutional Review Board prior to recruiting participants.

Analytic Strategy

The Statistical Package for the Social Sciences (SPSS) Version 28 was used to analyze the data collected from this survey. Basic frequencies were calculated for demographic factors. Means and standard deviations were calculated for each Likert scale question. Lehr's rule of thumb was used to conduct a

power analysis. Using an estimated population variance of 1.5, N=24 was found to be the minimum response necessary for each comparison group in a two-way Independent Samples T-test. The power analysis for ANOVA calculated with SPSS showed a minimum group size of 12 given a conservatively estimated pooled population standard deviation of 1.5 and group means of 2, 3, and 4. These power analyses showed that ANOVA and Independent Samples T-tests would not be appropriate for most demographic factors. For comparison purposes, hours of pre-SOR foodservice experience were grouped into "more than 500 hours" and "500 hours or less." To adjust for multiple comparisons bias, a p-value of 0.001 was used.

RESULTS

A total of 122 students responded to the survey from 12 different universities across 12 states. Responses with less than 25% of the survey completed (n=10) and those who had not participated in an SOR (n=11) were excluded from the analysis. Of the 101 usable responses, 66 had participated in a SOR and 35 were currently participating in a SOR. Participants were majority female (89.9%) and White (83.1%). Other demographic data are presented in Table 1. Students also indicated their anticipated career path, with the plurality of hospitality students indicating event planning (40.0%), and the plurality of dietetics students indicating clinical nutrition (29.3%), as seen in Table 2.

Testing of hypothesis 1

To test the first null hypothesis (students do not perceive themselves to be confident in their foodservice and management skills), students were asked to rate their confidence (1= not at all confident to 5= extremely confident) in both foodservice and management skills. Results indicated that students had a high level of confidence in both foodservice (mean score range of 3.46 – 4.44) and management skills (mean score range of 3.31 – 4.48) with all scores being above "Moderately Confident." Current and past SOR students were most confident in their ability to "follow standardized recipes" and "*mise en place* food preparation", and least confident in recipe conversion and knife skills. In terms of management skills, current and past SOR students were most confident in "teamwork" and "food safety practices," and least confident in "forecasting," "recipe development," and "financial calculations". Table 3 includes all mean scores for foodservice and management skills by SOR participation (past and current). Based on these results, the first null hypothesis is rejected indicating that students perceived themselves to be confident in their foodservice and management skills.

Testing of hypothesis 2

To test the second null hypothesis stated above (students will have a negative perception of their overall SOR experience…), students were asked to rate their agreement (1=strongly disagree to 5= strongly agree) to several statements regarding their SOR experience. Students agreed that they were able to engage in interactive learning (M=4.56), learn about food production (M=4.46), and gain a greater understanding of the foodservice system (M=4.38). Students disagreed with that their SOR experience was negative (M=1.86). Additionally, students positively rated their interactions with other students and with their instructors. Students strongly agreed that teamwork was critical to their SOR experience (M=4.74) and disagreed that students did not get along with each other (M=2.02). All statements regarding instructor interaction had mean scores higher than neutral with the highest-rated statements showing that students felt their instructors were engaged in the SOR experience (M=4.36) and that they felt comfortable asking their instructors for help (M=4.34).

Table 1: Demographic characteristics of survey respondents (n=101)		
	(n)[a]	%
Gender		
Male	8	9.0
Female	80	89.9
Prefer not to say	1	1.1
Age		
18-19	5	5.6
20-21	34	38.2
22-23	31	34.8
24-25	13	14.6
≥26	6	6.7
Race		
White	74	83.1
Black or African American	4	4.5
Asian	5	5.6
Other	6	6.7
Hispanic or Latino Origin		
Not Hispanic or Latino	78	87.6
Hispanic or Latino	6	6.7
Prefer not to answer	5	5.6
Major		
Dietetics	65	73.0
Hospitality	24	27.0
Yearly Income		
< $5,000	24	27.6
$5,000 - $10,000	32	36.8
$10,000 - $20,000	19	21.8
$20,000 - $30,000	5	5.7
> $30,000	7	8.0
Pre-Student-Operated Restaurant Hours of Foodservice Experience		
0	6	6.8
Less than 100	13	14.8
101-200	11	12.5
201-300	13	14.8
301-400	11	12.5
401-500	5	5.7
More than 500	29	33.0

[a]Totals may not add up to 101 due to missing data

Table 2: Participant's intended career paths based on their academic major			
Academic Major	Intended Career Path	n[a]	%
Hospitality (n=24)			
	Restaurant Management	7	29.2
	Lodging/Hotels	4	16.7
	Event Planning	11	45.8
	Guest Relations	1	4.2
	Other	1	4.2
Dietetics (N=65)			
	Clinical Nutrition (acute, ambulatory, or long-term care)	19	29.2
	Community and Public Health	14	21.5
	Management, Executive Leadership, and foodservice management	11	17.0
	Consultation, Business & Industry, Entrepreneur	8	12.3
	Education	2	3.1
	Research	1	1.5
	Other	10	15.4

[a]Totals do not add up to 101 due to missing data

Regarding the use and development of skills within the SOR, students' mean scores showed general agreement. Students agreed that they learned leadership skills from their SOR experience (M=4.31) and disagreed that there was a lack of communication between the instructors and students (M=2.07). They also learned how to operate commercial kitchen equipment (M=4.32), how to standardize recipes (M=4.09), and cooking skills (M=3.82). Students felt that they became more competent to work in other food production facilities (M=4.34) and that they improved their teamwork (M=4.34) and people skills (M=4.24) after working in the SOR. Students agreed that the skills learned in the SOR would help in their future career (M=4.18) and help them in their everyday life (M=4.03).

When asked about the level of focus on nutrition in the SOR, students agreed that incorporating more nutrition information into the SOR curriculum would be beneficial (M=3.85). They disagreed that the primary focus was on the taste of food not appearance (M=2.07) and that the instructors focused more on nutrition education than foodservice education (M=1.84). Based on these results, the second null hypothesis is rejected indicating that students had a positive perception of their overall SOR experience.

Testing of hypothesis 3

To test the third null hypothesis stated above (there will be no difference in students' perceived confidence with foodservice and management skills and perceptions related to their SOR experience based on demographic factors) comparison of means were calculated. First, Independent Samples T-test and One Way Anova were used to compare mean scores for student's perceived confidence in both foodservice and management skills. Comparisons were calculated based on SOR participation (current and past), age, income, and major (hospitality or dietetics). There were no statistically significant differences based on SOR participation, age, or income. However, there was one statistically significant difference based on academic major (hospitality or dietetics). Hospitality students (M=3.63, SD.970) rated their confidence in recording of temperatures lower than dietetics students (M=4.38, SD=.744, $t(87)=3.93$, $p<0.001$).

Independent Samples T-test and One Way Anova were also used to compare mean scores for student's perceptions related to their SOR experience. Comparisons were calculated for each of the Likert scale items based on SOR participation (current and past), age, income, major (hospitality or dietetics) and hours of non-SOR foodservice experience. Again, there were no statistically significant differences for any of the items based on SOR participation (current and past), age, income, or non-SOR hours of foodservice experience. However, there was one statistically significant difference based on student's major. Dietetic students (M=3.71, SD=1.01) had higher expectations that the SOR would be nutrition focused than hospitality students (M=2.78, SD=.951, $t(86)=3.83$, $p<0.001$).

While not statistically significant, there was a trend towards differences by non-SOR hours of foodservice experience. Students with more than 500 hours of non-SOR foodservice experience tended to have higher confidence in service of food (M=4.38, SD=.728, $t(86)=2.60$, $p=0.011$), recipe conversion (M=3.79, SD=.940, $t(86)=2.24$, $p=0.028$), forecasting (M=3.71, SD=.937, $t(85)=2.55$, $p=0.012$), and understanding of the interaction of foodservice systems (M=4.21, SD=.833, $t(84)=2.36$, $p=0.020$) than students with 500 or less hours of experience. They also tended to agree less to the following statements than those with fewer hours of experience: "I often felt like the students were running the SOR rather than the instructors(s)" (M=2.86, SD=1.13, $t(86)=-2.94$, $p=0.004$), "The SOR helped me learn more about food production" (M=4.21, SD=.978, $t(36.8)=-2.33$, $p=0.025$), "Meeting deadlines in the SOR was often overwhelming" (M=3.52, SD=1.271, $t(86)=-2.67$, $p=0.009$), "I was surprised by the amount of work it took to create a meal" (M=3.41, SD=1.05, $t(86)=-2.16$ $p=0.034$), and "I did not know how to batch cook before I was trained in the SOR" (M=3.14, SD=1.41, $t(47.3)=-2.74$, $p=0.009$). Past SOR participants had lower confidence in implementing and promoting allergy procedures (M=3.58, SD=.925) than current SOR participants (M=3.81, SD=1.05, $t(69.99)=1.10$, $p=0.277$), and past participants had higher confidence in recording of temperatures (M=4.38, SD=.791) than current participants (M=3.74, SD=.891, $t(72.52)=-3.61$, $p=0.001$). Based on these results, the third null hypothesis is also rejected, indicating that there were differences in both student's perceived confidence and their perception of their SOR experience based on a few demographic factors. However, it is noted that the number of statistically significant differences was very few.

DISCUSSION

Overall, students rated their SOR experience highly. Although the respondents indicated a variety of intended career paths (Table 2), students agreed that they learned valuable skills in the SOR and that they used the skills they learned in the SOR in their everyday life. This may show that the management, leadership, and interpersonal skills learned within the experiential learning environment of a SOR can be widely applicable in a variety of life and career settings. This response supports previous studies that show that experiential learning can be used to teach widely applicable skills such as teamwork, communication, and problem-solving (Doyle, 2014; Yeadon-Lee & Hall, 2013). In addition, Ruhanen (2006), found that students who participated in an experiential learning role-play activity rated the assignment highly for "providing skills for future employment."

Given the effectiveness of experiential learning in skill development, it follows that SORs as a form of experiential learning should produce similar results. Our research shows that students had high levels of confidence in the foodservice and management skills that they learned during their SOR experience and agreed that the skills learned would be valuable to them in the future. This idea is supported by previous research (Huang et al. 2020 & Niu, 2010) that has indicated that students with high self-efficacy/confidence typically perform better on related tasks. However, this study also found that participation in the SOR and hours of previous foodservice experience did not significantly affect students' confidence in foodservice and management skills. This lack of significance may partly be

Table 3: Students' confidence in specific foodservice and management skills by SOR participation status

	SOR Participation Status			
	Current (n=35)		Past (n=66)	
Foodservice Skills	Mean*	SD	Mean*	SD
Ability to follow standardized recipes	4.41	0.71	4.47	0.75
Avoidance of cross contamination	4.06	0.91	4.22	0.75
Baking techniques	3.81	0.93	4.09	0.82
Cooking techniques	3.78	0.87	4.00	0.86
Food production	3.77	0.92	4.02	0.89
Knife skills	3.69	1.09	3.78	1.01
Mise en place food preparation skills	4.06	0.98	4.26	0.81
Presentation of food	4.06	0.98	4.02	0.83
Recipe conversion	3.66	0.87	3.34	1.07
Recording of temperatures	3.78	0.91	4.38	0.79
Service from the line	4.00	0.92	4.17	0.96
Service of food	4.00	0.76	4.05	0.96
Temperature control	3.87	0.75	4.02	0.81
Management Skills				
Advertising and promotion	3.65	0.92	3.44	1.18
Collaboration	4.23	0.82	4.19	0.74
Financial calculations	3.42	1.03	3.35	1.06
Food safety practices	4.39	0.76	4.39	0.68
Forecasting	3.39	1.09	3.26	1.03
Implementing and promoting allergy procedures	4.00	0.97	3.58	0.93
Interpersonal skills	4.29	0.69	4.28	0.70
Inventory control	3.58	1.09	3.42	1.10
Leadership	4.35	0.80	4.09	0.89
Menu planning	3.65	0.95	3.74	1.08
Organization	4.29	0.82	4.14	0.83
Planning	4.23	0.81	4.07	0.78
Professionalism	4.35	0.71	4.30	0.71
Recipe development	3.48	1.06	3.21	1.32
Scheduling	3.87	1.02	3.75	0.93
Task delegation	4.35	0.71	4.11	0.88
Teamwork	4.52	0.63	4.46	0.66
Time management	4.06	0.76	3.98	0.86
Understanding of the interaction of foodservice systems	3.94	1.00	3.86	0.88

*Scale of 1 to 5 was used as follows: 1= Not Confident at All, 2= Slightly Confident, 3= Moderately Confident, 4= Very Confident, 5= Extremely Confident

explained by the Dunning-Kruger effect, which is the tendency for inexperienced individuals to overestimate their competence (Kruger & Dunning, 1999). Another contributing factor could be that all participants had either already participated or were currently participating in the SOR experience. The lack of significant differences based on previous foodservice experience could also be explained by the fact that only 6.8% of the participants (n=6) had less than 100 hours of previous foodservice experience. Significant previous foodservice experience likely lead to high levels of confidence in foodservice skills.

In addition to practical skills, SORs provide students the opportunity to practice interpersonal or "soft" skills. The relationships that students developed with both instructors and other students within the SOR were rated as a positive aspect of their SOR experience. Teamwork within SORs was valued by the students, and instructors were viewed as an active part of building a safe and comfortable environment for learning. SOR participants were able to get help from fellow students and instructors, showing that SORs allow for the development of mentoring relationships. These relationships are essential for students as mentoring, both formal and informal, has been shown to benefit both the mentor and mentee, resulting in improved academic outcomes; development of critical thinking, organizational, and leadership skills; and improved career advancement (Bynum, 2015; Marshall et al., 202; Schmidt & Faber, 2016).

Of the skills and topics taught within SORs, students felt that nutrition was not a focus, but that they would like more nutrition education in their SOR experience. Customer perspectives on SORs also support incorporating nutrition information in SORs. The majority (86.6%) of respondents to a survey by [blinded for review] on the perspectives of SOR customers reported that the SOR should "probably" or "definitely" serve foods that meet nutritional guidelines. Additionally, "healthy choices" was one of the highest-ranking factors that influenced where SOR customers chose to eat. Alternatively, some consumers may view eating out as an occasional indulgence, and the healthfulness of the food may not be as important (Allman-Farinelli, 2019). This dichotomy between indulgent menu options and the inclusion of healthy choices is discussed in research by Mathews et al. (2021). They interviewed SOR managers who described their nutrition philosophy as one of two opposing views: nutrition as an important factor in running the SOR, or that nutrition was not a focus.

Despite this dichotomy, there is a potential for students and customers alike to benefit from additional focus on nutrition education within SORs. In the United States, consumers spent almost as much of their disposable personal income on food away from home (FAFH) (5.11%) as food at home (FAH) (5.16%) in 2021 (ERS, 2022). With increased intake of FAFH, diet quality tends to be poorer including lower Healthy Eating Index scores for greens and beans, total fruits, whole fruits, and whole grains (Nagao-Sato & Reicks, 2022). Future foodservice managers need to have an understanding of nutrition guidelines to better provide healthful options for those who eat FAFH frequently.

CONCLUSIONS AND APPLICATIONS

Experiential learning in the form of SORs in hospitality and dietetics education has not been well-studied with previous research mainly focused on customer and manager perspectives of SORs. This study, for the first time, gathers student perspectives of their SOR experience. From their responses, it is clear that students have a positive perspective of their SOR experience, they learn important management, foodservice, and leadership skills, and they agree that increased nutrition education may be beneficial to their experience. Hospitality and dietetics programs with SORs should continue utilizing them as an experiential learning tool and those programs without one should consider adopting this model in the future. Although not significant, participants with more than 500 hours of previous foodservice experience tended to have higher levels of confidence and a more positive perception of the overall SOR experience. Programs could consider requiring students to have increased amounts of previous foodservice experience prior to participating in a SOR, though the benefit of this change would need to be weighed against impacts on enrollment in these programs. This research clearly indicates that this kind of immersive experiential learning opportunity enhances student learning and benefits students overall.

Limitations of the Present Study

Some limitations of this study include the low number of participants of male gender or underrepresented races. These groups may have different perspectives on their SOR experience than white, non-Hispanic, or female participants, but there was insufficient power to make these comparisons.

There was also an unequal distribution of participants across universities, with some SOR programs having more respondents to the survey than others. Program level differences in SOR management could also affect students' responses. Due to the lack of program level data, we were not able to control for these differences amongst participants responses. Only six participants who had not yet participated in a SOR completed the initial survey. Unfortunately, based on the power analysis this number was insufficient to include these participants in comparisons based on SOR participation so these data were not reported in this manuscript. With the heterogeneity of SOR programs, this research may not be representative of students from all programs. However, one strength of this study is that it included student perspectives from 12 different universities and states and not simply one individual university/program.

Future Research

Future research in this area could include prospective studies to better determine skill growth in SORs, interventions to improve student perceptions, or surveys that focus on SOR perceptions of students from underrepresented groups. Repeating surveys of this type in the future could also show how student perceptions of SORs change over time. Gathering perspectives of students who have not yet participated in a SOR would give educators an idea of baseline confidence in skills of incoming students which may improve how SORs are utilized as an experiential education tool. Recruiting more students who had not yet participated in an SOR to identify differences in confidence between those who have participated and those who have not would be important. Having baseline data from students who have not yet participated in a SOR would be invaluable for future longitudinal studies that could identify changes in confidence and perceptions as well as the overall effectiveness of SORs as a beneficial experiential learning opportunity. Lastly, comparisons of practicing foodservice managers who participated in a SOR and those who did not may show the impact of SORs on long-term education outcomes.

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