From the Editor

The second issue of the Journal of Foodservice Research & Education would not be possible without the work of the editorial board. The board members are:

Janice Boyce
Mary Gregoire
Mary Molt
Jeannie Sneed
Robin Fellers
Pat Luoto
Barbara Scheule

The current issue reflects the diversity of foodservice topics. The Journal welcomes high quality manuscripts from foodservice professionals, researchers, and educators. Please check the Author Guidelines for submission information.

Many thanks to Duane Langshaw of Survnet.com, our webmaster.

Prevalence of Fully Online Courses in Dietetics Education Programs

Denise M. Brown, PhD, RD, LD
Associate Professor
Department of Nutrition and Food Systems
The University of Southern Mississippi

Susan K. Davidson
Graduate Assistant
Department of Nutrition and Food Systems
The University of Southern Mississippi

Abstract:

In this descriptive study, Didactic Programs and Dietetic Technician programs offered a larger percentage of coursework in a fully online format as compared to Internships and Coordinated Programs. Introductory nutrition classes were identified most frequently. Few foodservice systems, food management, or other management courses were offered fully online. Frequent use of electronic mail communication and electronic submission of assignments was reported. Video streaming, chat sessions, and synchronized lectures with slides were used least frequently. Dietetics educators, especially those in the food systems and food management areas, have numerous opportunities to expand online course delivery within all dietetics education program types.

Key Words: online learning, distance learning, technology in dietetics education

Prevalence of Fully Online Courses in Dietetics Education Programs

Introduction

Developing the maximum potential of technology to meet the lifelong learning requirements of dietetics professionals is prudent in an environment of limited resources, global competition and information accessibility. Online delivery of course content is recognized as a possible delivery mechanism to meet the needs of individual students who are unable to attend college and university programs in residence. College and university based courses offer an alternative for practicing professionals, especially those individuals practicing in rural areas, which often have limited access to workshops and professional meetings. Klevans and Parrett (1990) described interest by dietetics professionals in Pennsylvania. Distance education options may range from communication mechanisms such as electronic mail or listservs to fully executed online courses for academic credit. Barbrow, Jeong, and Parks (1996) evaluated student and preceptor attitudes concerning online course delivery. Gaetke, Forsythe, and Wesley (2002) studied the utility of a listserv for information sharing. A relationship between learning styles and the utility of online course delivery was reported by Schrader, Gould, Lohse, and Shanklin (2004). Brown (1999) and Manning (2004) assessed the intricacies of course development using an online environment. Kihato and Bedner (2004) assessed the evaluation of various components within an online course by students and instructors. A description of the course content currently available and suitable for online delivery methods in dietetics education is lacking.

Methods

The objective of this study was to identify the extent to which online courses are available in the various types of dietetics education programs. A descriptive study design was used to conduct this study. The assessment included identification of specific numbers and types of courses offered in an online format, individual software tools and course management tools used by programs, and specific materials used within an online course.

The subjects of this study were identified from a listing of dietetics education programs available from the Commission on Accreditation for Dietetics Education. The programs selected for survey administration included all programs that indicated that a distance learning component was a part of the respective program structure. The project was reviewed and approved by the university Human Subjects Protection Review Committee.

A telephone survey methodology was used following the Dilman (2000) total survey design method. Individuals were notified by mail that they had been selected to participate in a telephone survey. A draft survey instrument was developed based upon a previously designed telephone survey format used by the university. The instrument was modified to reflect questions specific to online course format and dietetics education program options. The survey instrument was reviewed by dietetics education faculty for clarity and relevance to dietetics education programs. In addition to the dietetics faculty, university faculty with responsibility for online course delivery participated in the initial instrument review. Based on the feedback from these two reviewer groups, the initial instrument was revised.

A total of 113 institutions with dietetics education programs were identified that met the selection criteria to be contacted. Of those 113 programs, 12 programs were randomly selected for pilot testing of the initial instrument. Pilot testing was conducted during August 2005. The pilot test programs were initially contacted by mail with a follow-up telephone call approximately two weeks following the date of the letter. Nine programs of the 12 randomly selected completed the survey instrument and provided comments to improve the quality and overall content of the instrument. Unclear questions were identified and participant comments were used to revise the instrument for final survey administration.

The revised telephone survey was administered from September 27 – October 17, 2005 by a graduate assistant trained to administer the telephone survey. One individual conducted all survey telephone calls. Notification letters were mailed. Calls were initiated two weeks following the mail notification letter to permit time for mail delivery.

Participant responses were recorded individual survey instruments and subsequently coded for data entry for statistical analysis. A double data entry method was used. Data sets were compared for similarities and differences. Where differences existed, survey instruments were reviewed to identify the source of discrepancy. Any necessary corrections were made to one data set which was used for subsequent statistical analysis. The finalized data set was analyzed using SPSS version 13.0 (August, 2004). Descriptive statistics were calculated on all data. Counts, means, and standard deviations were calculated where appropriate. Comments were grouped and summarized in a text document.

Results and Discussion

Eighty institutions participated of the possible 101 institutions identified for the project, a 79% response rate. Of the 21 institutions that did not participate in the study, 20 program directors did not respond to phone messages or electronic mail contacts requesting a convenient time to participate in the study. One program director began the telephone survey but was unable to complete the survey. Further attempts to contact this program director were unsuccessful. From the 80 institutions that participated in the study, 110 individual programs were evaluated. A number of institutions included multiple types of dietetics programs.

Of the 599 Dietetics Education Programs that existed at the time of the study, approximately 18% identified distance education components that were available to students. The distribution of accredited dietetics education programs nationwide was: 38% DPD programs, 43% DI programs, 9.5% DT programs, and 8.5% CPs. The distribution of the respondent group in this study was 43% DPD programs, 33% DI programs, 16% DT programs, and 8% CPs. The slightly higher percentage of DPD and DT programs reporting distance education options was not surprising since community colleges and four year colleges and universities are more likely to have access to the financial and technological resources needed. Software and training needed to support a fully online course environment is also generally more available in higher education settings.

Dietetic program enrollment varied by program type. The highest enrollments were noted in DPD programs (Mean enrollment = 81.33 ± 67.78 students) followed by DT programs (Mean

enrollment = 29.72 ± 24.28 students). Graduate CPs reported lowest enrollment (Mean enrollment = 6 ± .71 students) while DIs program and undergraduate CPs reporting similar mean enrollment levels (DI Mean enrollment = 15.7 ± 8.07 students; undergraduate CP Mean enrollment = 17.14 ± 6.07 students).

Dietetics programs that include supervised practice (DI and CP) are required to offer at least one emphasis area and may offer several if adequate resources are available. A number of supervised practice programs included in this study offered multiple emphasis areas. The 36 DIs responding to this survey offered a total of 42 emphasis areas; 32 programs offered 1 emphasis area, 2 programs offered 2 emphasis areas, and 2 programs offered 3 emphasis areas. The 7 undergraduate CPs offered 12 emphasis areas; 4 programs offered 1 emphasis area, 2 programs offered 2 emphasis areas, and 1 program offered 4 emphasis areas. Both graduate CPs offered one emphasis area.

The General emphasis was offered in 49% of the supervised practice programs (28 of 57). The second most prevalent emphasis area was Nutrition Therapy for both DIs and CPs (11 of 57), followed by a Community emphasis (8 of 57). Only 5 of the 57 supervised practice programs offered a Foodservice Systems Management emphasis area and only one Business/Entrepreneur emphasis area was reported in this study population. A Special (uniquely defined) emphasis area was reported for two DI programs.

Program directors were asked to estimate the percentage of courses offered fully online. Thirty-eight of the 46 didactic programs surveyed (83%) indicated that at least 10% or more coursework was available in a fully online format. The majority of the programs indicated that 25% or less of the coursework was available fully online. Three DPD programs indicated that 100% of coursework could be completed online.

Four of the 9 undergraduate and graduate CP directors (44%) indicated some coursework was available fully online. Similar to DPD programs, the majority of CP directors indicated that 25% or less of the coursework could be completed online. One CP director indicated that 100% of the coursework could be completed online. Eleven of 18 DT programs (61%) indicated coursework was offered in a fully online format. Slightly more than one-half (55%) of the DT programs offered 50% or less of the coursework online while slightly under one-half (46%) indicated more that 50% of the coursework could be completed online. Three DT programs reported 100% of the academic coursework was available in this format.

Program types that included supervised practice (DI, CP, and DT programs) were asked a similar question concerning availability of any courses related to supervised practice. Nineteen of the possible 63 programs with supervised practice components indicated that some portion of the supervised practice coursework could be completed online. Of these 19 programs, 12 programs indicated 100% of the didactic coursework associated with supervised practice could be completed online.

Program directors were asked to identify the general types of classes most frequently offered in a fully online format. Differences were noted between online offerings of didactic coursework and supervised practice coursework. Table 1 shows the typical coursework offered

in decreasing frequency for DPD, CP, and DT programs. Table 2 depicts typical coursework offered for the supervised practice component of those programs with a supervised practice requirement (excludes DPD programs).

Nutritional science courses were offered by over 90% of all the programs. An introductory or foundational nutrition class required of all majors was mentioned most frequently. Program directors commented that an introductory nutrition course was also frequently required for other majors in the college or university. Community nutrition, advanced nutrition, and maternal and child nutrition courses were mentioned by three programs.

Table 1
Typical Courses Offered in a Fully Online Format for Didactic Portions of Dietetics Education Programs

Course Type	**Number of Programs Offering (n=53)***
Nutrition Science Courses	49 (92%)
General Education Classes	46 (87%)
Supporting Social Science Classes	40 (75%)
Supporting Business Classes	39 (74%)
Foodservice Systems/ Foodservice Management	23 (43%)
Supporting Science Classes	22 (42%)
Other courses related to dietetics	21 (40%)
Labs in Support of Lecture Courses	15 (28%)
Supervised Practicum Courses	12 (23%)

* More than one response was permitted for this question.

Table 2
Typical Courses Offered in a Fully Online Format for Supervised Practice Components of Dietetics Education Programs

Course Type	Number of Programs Offering (n=19)*
Supervised Practice Courses	16 (84%)
Nutritional Science Courses	15 (80%)
Foodservice Systems/ Foodservice Management	11 (58%)
Simulated Registration Exam	10 (53%)

* More than one response was permitted for this question.

General education classes such as English composition, history, psychology, and sociology were the next most frequently offered fully online courses. These courses were typically offered in support of general degree requirements across the institution and were required of a majority of students at that institution as part of the institution's educational core requirements.

Less than 50% of survey respondents reported offering foodservice systems or foodservice management courses in a fully online format. Food preparation, food science, and quantity foods were mentioned by only two programs. No didactic courses in food production, food management, experimental foods, or financial management were mentioned.

A small number of dietetics education programs used fully online coursework to support supervised practice components. Only 19 (30%) of the subset of 63 programs using fully online courses reported using a fully online format to deliver supervised practice content. The distribution of these 19 programs by program type were 12 DI programs, 3 CPs (all undergraduate), and 4 DT programs. The supervised practice online course was used to manage supervised practice experiences and introductory nutrition content. Few programs reported using fully online courses to deliver foodservice systems or foodservice management content. Ten of the 19 programs in this category reported that the online technology provided was used as a mechanism to simulate the registration examination for dietetics professionals. Tools already present in course management software made development of simulated exams possible.

Course management software most often reported by program directors to support online course delivery included Blackboard (Blackboard, Inc., Washington, D.C.; 34 responses; 45%) and WebCT (WebCT, Peabody, MA; 30 responses; 40%). These two course management systems predominate in the academic market. Program directors identified specific tools within the course management software that were utilized within the course structure (Table 3). Electronic mail communication and electronic submission of course assignments were most frequently reported. Since both electronic mail and transmission information files through electronic mail are widely used in both academic and business settings, a high preference for electronic mail and submission of assignments was expected. The technology to support both of

these features is more universally available and less expensive to implement and maintain as compared to course management software such as Blackboard and WebCT.

Least used features included: video streaming, chat rooms, calendar systems, and synchronized audio and slide presentations to simulate lectures. These findings are consistent with similar findings reported by Kihato and Bedner (2004) who reported that students rated video streaming of lectures, chat rooms, and telephone communication as “not useful” in their learning experience in a fully online class. These features were the least developed activities reported in this study. Only DI program directors reported synchronized slides and audio tapes as a teaching technique used in online coursework. Development of synchronized slides with audio lecture overlay requires specialized software and technology support. Although instructors may believe students would benefit from a lecture type format that mimics classroom lecture settings, Kihato and Bedner concluded students did not find these approaches useful and investing in the development of these specific features may not be necessary.

Table 3
Software Tools Used to Deliver Fully Online Course Content Reported by Dietetics Education Program Directors

Software Support Tools	Number of Didactic Programs with Fully Online Courses Using Tools (n=53)*	Number of Supervised Practice Programs With Online Coursework Using Tools (n= 19)*
Email communication within the course	49 (92%)	19 (100%)
Electronic submission of coursework assignments	47 (89%)	19 (100%)
Course management tools (such as student tracking features)	46 (87%)	17 (89%)
Links to external web sites	46 (87%)	18 (95%)
Power Point presentations	46 (87%)	18 (95%)
Student accessible grade book	45 (85%)	17 (89%)
Bulletin boards/discussion boards	44 (83%)	17 (89%)
On-line exams or quizzes	44 (83%)	18 (95%)
Electronic grading of coursework assignments	43 (81%)	18 (95%)
Links to web sites within the institution	42 (79%)	19 (100%)
Video streaming (such as short video clips, animated presentations)	29 (55%)	15 (79%)
Chat sessions	28 (53%)	14 (74%)
Software supported calendar systems	24 (45%)	14 (74%)
Student presentation tools	19 (36%)	12 (73%)
Audio lectures synchronized with lecture slides	15 (28%)	10 (53%)

* More than one response was permitted for this question.

Conclusions and Applications

The use of technology and availability of widespread any-time-of-day access to educational offerings is attractive. Improving the availability and accessibility of educational offerings to support entry-level and continuing professional development of dietetics professionals is essential to advancement of the profession. Online educational tools can be useful in meeting competing demands for adult learners' time and financial resources. The learner centered nature of online courses is particularly attractive to 21st century students. An online educational environment will become more important as we explore adopting advanced level degrees for entry level dietetics practice. The online delivery mechanism may be equally attractive to practicing professionals who must balance job and family responsibilities.

High school graduates attending college for the first time as well as adult learners either starting or returning to college will seek efficient and effective education methods to achieve their personal educational goals. Online courses provide the delivery mechanism attractive to both of these populations. Younger technology savvy students will demand additional offerings and those less technology savvy individuals restricted by geography, family, or financial limitations will continue to consider distance courses a suitable alternative. Dietetics education programs do not yet realize the potential of online course delivery to these expanded markets. Only 18% of dietetics education programs in this study offered fully online coursework. Courses are limited in both number and content, particularly in the foodservice systems management area.

The definition of distance learning in dietetics programs as described for accreditation requirements was reported by respondents as confusing to students. The distance learning definition must be refined to clearly and accurately communicate the range of program options available. Student expectations of distance education (van Schaik, Barker, & Beckstrand, 2003) are based on either infrequent or no required face-to-face meetings during the course instructional period. Dietetics educators need to be proactive in developing courses and educational programs that match this student expectation. Didactic course instructional methods need to be developed to support content that is independent of a traditional classroom lecture delivery. Similarly, supervised practice programs or supervised practice coursework components in coordinated programs have not implemented online course delivery mechanisms to any great extent. Infrastructure challenges in non-academic settings and developmental costs may preclude extensive development of fully online courses in these settings. However, partnerships between institutions providing supervised practice settings with academic institutions could provide the needed technology and instructional design support. Such partnerships are already proposed as alternatives to implement proposed changes to entry-level dietetics preparation.

Many dietetics educators have already adopted the use of electronic mail and electronic submission of coursework assignments (Litchefield, Okaland, & Anderson, 2000). Although commendable, these actions are merely keeping pace with what is already occurring in most business environments. A number of opportunities for dietetic program educators are evident. Development of coursework to support foodservice systems and foodservice management content as well as more general management coursework is needed. Creative approaches are necessary to develop foodservice systems assignments and materials suitable for online delivery.

Similarly, expanding the nutritional science and community course offerings is also recommended.

Dietetics educators must consider the use of course management tools, especially presentation tools, quizzes and exams, and discussion boards to enhance student learning and further promote communication among students and between students and instructors. These tools reinforce the student centered learning aspect of the online delivery format. A few programs in this study reported use of the online exam tools to simulate the registration examination for dietitians and dietetic technicians. Both major vendors of course management software, Blackboard and WebCT, include a capability to construct exams. Features within the course management software permit design of exams where questions are delivered in a way that mimics the registration exam for both dietitians and dietetic technicians. This exam delivery feature could be particularly helpful to assess student knowledge and to provide a setting where students can practice computer based test taking skills.

Further research is needed to identify assignments, learning activities, and appropriate methods for content delivery suitable for an online format. Although educators may believe simulating course lectures would be the next logical step in content development, this may not be the best use of limited resources. Closed book examinations common in a face-to-face class setting may not be sufficient to assess individual learning in online courses where students are located worldwide. Research is needed to identify or develop assessment methods to measure student learning. Our colleagues in education and psychology can inform research in this area. Dietetic educators need to develop expertise in adult learning styles or collaborate with instructional design professionals with adult learning expertise to ensure sufficient depth and mastery of the knowledge and skills central to dietetics practice.

A major limitation in this study must be acknowledged. Dietetics education programs were assumed to have adequate access to the technology and infrastructure to deliver fully online courses (Ricci, 2002). This assumption may not be accurate for a number of DIs located in institutions such as hospitals and medical centers. Dietetics education programs require sufficient access to the financial and technology infrastructure necessary to make fully online course delivery feasible. Instructors require significant technical and instructional design support to develop content appropriate for online delivery. Instructors also required sufficient time for course development and management. Not all students or instructors find online delivery suited to their preferred learning or teaching styles. Administrators faced with enrollment requirements and a large number of students requiring coursework may not be supportive of the additional resources required to deliver online courses with smaller enrollments. However, despite these many challenges, a serious examination of online course delivery as a mechanism to develop a diverse dietetic professional base is warranted.

Acknowledgment: This project was partially funded by the Foodservice Systems Management Education Council. Graduate assistant support was provided by the College of Health, The University of Southern Mississippi, Hattiesburg, MS 39406-0001

References:

Barbrow, E., Jeong, M. & Parks, S. (1996). Computer experiences and attitudes of students and preceptors in distance education. *Journal of the American Dietetic Association, 96*(12), 1280-1281.

Brown, K. (1999). On track with online education. *Journal of the American Dietetic Association, 99*(9) Suppl., A-10.

Dillman, D. (2000). *Mail and internet surveys. The tailored design method.* New York: John Wiley & Sons, Inc.

Gaetke, L., Forsythe, H. & Wesley, M. (2002). Dietetics interns at geographically remote supervised practice sites find a listserv to be a useful information-sharing tool that fosters independent learning. *Journal of the American Dietetic Association, 102*(6), 851-853.

Kihato, M. & Bednar, C. (2004). Importance of online course components: A survey of instructors and students [Abstract]. *Journal of the American Dietetic Association, 104,* (Suppl. 2), A-40.

Klevans, D. & Parrett, J. (1990). Continuing professional education needs of clinical dietitians in Pennsylvania. *Journal of the American Dietetic Association, 90,*(2), 282-286.

Litchefield, R.E., Okaland, J.J., & Anderson, J.A. (2000). Improving dietetics education with interactive communication technology. *Journal of the American Dietetic Association, 100*(10), 1191-1194.

Manning, C. (2004). WebCT discussions in problem based learning (PBL): Analysis of use by representative groups in an introductory food science course [Abstract]. *Journal of the American Dietetic Association, 104*, (Suppl. 2), A-40.

Ricci, G.A. (2002). *System infrastructure needs for web course delivery: A survey of online courses in Florida Community Colleges*. Retrieved March 15, 2006 from http://www.eric.ed.gov/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/28/06/b0.pdf.

Schrader, M., Gould, R., Lohse, B., & Shanklin, C. (2004). Evaluation of learning style and cognitive behaviors of students enrolled in a distance dietetic program. *Journal of the American Dietetic Association, 104*(8), Suppl 2, A-40.

van Schaik, P., Barker, P., & Beckstrand S. (2003). *A comparison of on-campus and online course delivery methods in southern Nevada*. Innovations in Education and Teaching International. Retrieved March 14, 2006 from http://www.tandf.co.uk/journals.

Designing purposeful educational interventions and assessments in collegiate dining environments: The Great Plate program

Michael Zabriskie, Ph.D.
Director, Housing Information Office
University Housing
University of Michigan

Ruth Blackburn, MPH, RD
Nutrition Specialist
Residential Dining Services
University Housing
University of Michigan

Abstract

This study explored the interaction between a passive food-based education program and food selection behaviors such as the criteria employed by undergraduate college students when choosing food in an all-you-care-to-eat dining environment, the nutritional information weighed when making choices, rationales for food selection, and consumption of different food groups. Utilizing a pretest-posttest design with a treatment and stratified random control group, the study found a lower incidence level in three food selection strategies in the treatment group at the conclusion of the intervention.

Keywords: Food selection, behavior, educational programs

Designing purposeful educational interventions and assessments in collegiate dining environments: The Great Plate program

Introduction

Anecdotal observations and comments from students utilizing our community dining facilities suggested that many lacked the knowledge and tools to make healthy food choices in an all-you-care-to-eat environment. Our educational mission, coupled with a desire to empirically measure the impact of programs introduced into our daily dining operations, prompted an exploration of the literature with the ultimate goal of implementing a program that would target these deficiencies.

Recent research indicates that college students are likely to have misconceptions about nutrition, utilizing socially-acquired stereotypes that label foods either healthy or unhealthy regardless of their actual nutritional value (Oakes, 2004). This population also is likely to have difficulty estimating appropriate portion sizes, especially in self-serve settings (Bryant & Dundes, 2005). These challenges, coupled with reports of an increasingly overweight adolescent population (Gordon-Larsen, Adair, Nelson, & Popkin, 2004; Kohn et al., 2006), suggest an unwelcome convergence of factors that may increase the prevalence of the traditional "freshman 15."

The aforementioned lack of knowledge is reflected in reports of low fruit and vegetable intake, as shown in the National College Health Assessment. Data from their fall 2004 and spring 2005 reference groups indicated a mere 5.9% and 7% of college students ate five or more servings of vegetables and fruits every day, respectively (American College Health Association, 2005, 2006).

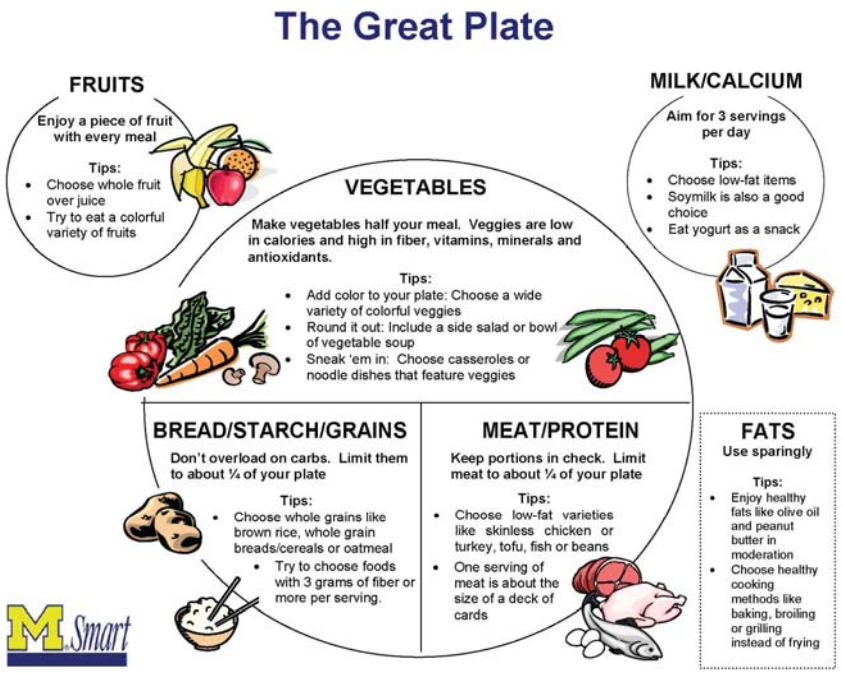
A number of interventions have been introduced to the college-going population in order to increase nutritional knowledge and promote healthier eating behaviors. Studies have explored the impact of a course in nutrition on students' perception of healthy eating (Matvienko, Lewis, & Schafer, 2001), the use of menu labels in a campus restaurant setting (Almanza, Mason, Widdows, & Girard, 1993), and the effectiveness of point-of-choice nutrition information (Aaron et. al, 1995; Bowman et al., 1995). As our dining operations currently use point-of-choice nutrition information, we sought to add an additional programmatic layer to our nutrition education efforts.

Utilizing goals for college student health based on the *Healthy People 2010 Goals* (American College Health Association, 2004; U.S. Department of Health and Human Services, 2005) and the *New American Plate* (American Institute of Cancer Research [AICR], 2000), the Great Plate program was designed and launched with an accompanying assessment program to measure its effectiveness. The Great Plate (Figure 1) is based on the concept of a sample plate, which is a common way to show diners what is available in a food service operation.

Heavily influenced by the *New American Plate* (AICR, 2000), the Great Plate encouraged a proportionally lower consumption of starches and meats in favor of vegetables. Dietetic program interns were introduced to the *New American Plate* and tasked to develop a set of criteria and guidelines that could serve as a framework for healthy eating within our university

dining context. As the primary purpose of this project was to provide undergraduates with a broader and less technical tool to make healthy food choices, interns were directed to avoid using nutrient amounts in their guidelines.

Figure 1. Great Plate Model



Methodology

Research Design

This study focused on an intervention within one dining hall of a residence hall system housing over 10,000 students. This residence hall housed only female students, but any student with a meal plan could access the dining facility during meal hours. The treatment sample consisted of all female and male students who had a meal plan and ate three or more lunches in the target dining hall every week. A control group composed of a random stratified sample of students who had meal plans that had not eaten in the target dining hall was created to provide a group to which the treatment sample could be compared at the end of the study. This sample was stratified to match demographic characteristics of the treatment group and consisted of students residing in every residence hall housing a dining facility within our system (excluding the residence hall where the intervention was presented). A third sample of students was comprised of all building residents (excluding those who previously included in the treatment group) in which the target dining hall was housed. This project had institutional review board approval and all students were required to e-sign a consent form prior to entering the study.

The Great Plate was designed as a passive educational intervention during weekday lunch periods. As such, it was essential that students be exposed to the program materials immediately upon entering the dining hall. The display area was located directly inside the entrance near the immediately adjacent to the area where students obtained trays and silverware. The exhibit consisted of a large poster and a display of actual food items that modeled a healthy meal based on the offerings of the day (Figure 1). Each lunch, dining staff created a sample plate for the display area. Additional printed materials were sporadically used within the display to highlight certain foods or share additional nutritional information. The educational materials were deliberately limited to this location; no advertising, separate programs, or individual table displays were utilized.

The assessment employed a pretest-posttest design with the purpose of determining if there were any measurable change effects that could be attributed to the treatment. In other words, did treatment group food selection or eating behaviors differ from the control group when taking into account the initial start and end points of each respective respondent? The pretest (Wave 1) was administered during the third week of January and the posttest (Wave 2) was given during the third week of April 2006.

The treatment and control groups were invited to participate utilizing a multistage recruitment process to increase involvement. Each student in the treatment and control groups first received a postcard in their residence hall mailbox informing them they had been selected to participate in a study. The text of the postcard outlined the nature of the research and highlighted the brevity of the survey and their expected time commitment. The title of the forthcoming invitation e-mail was included within this text as well, given our past experience with students deleting e-mails that they would otherwise characterize as spam. The ensuing e-mail invitation provided a link to a web survey designed to capture their nutritional knowledge, food selection criteria, eating behaviors, and outside factors that influenced their food choices. Nonrespondents received two reminder e-mails requesting their participation.

A second questionnaire was developed to capture the perspectives of the building residents at the conclusion of the intervention period. This instrument explored their knowledge of the program, if they used the information to govern their food choices, and what they would change to make it more attractive and useful for themselves and their friends.

Data Analyses

SPSS (v. 11.01) was utilized for all statistical analyses within this study. Descriptive statistics including frequencies, means, and percentages; paired sample t-tests; and chi-square analyses were employed at different stages of this study to examine and evaluate the data.

Sample Composition

Table 1 displays sample size and response rate data. Approximately one third of the sample responded to the first wave. The second wave survey was sent to only the first wave respondents, resulting in an overall response rate of 20.9%. The sample was predominantly female, which was not surprising considering the all-female nature of the building where the

intervention was implemented (Table 2). The race and class year distribution was consistent with our system-wide residence hall population. We also asked students for their academic affiliation, noting that some majors and disciplines include coursework that may influence lifestyle (e.g., Kinesiology, Nursing). Utilizing chi-square analyses, these affiliations were not found to have a significant influence on survey responses.

Table 1. Response Rates

	Number Responding			Response Rate (percent)		
	Treatment	Control	Overall	Treatment	Control	Overall
Initial Sample	246	246	492	---	---	---
Wave 1 Responses	79	81	160	32.1	32.9	32.5
Wave 2 Responses	49	54	103	19.9	22.0	20.9

Table 2. Student Demographics

	Treatment (n=49)	Control (n=54)	Overall (n=103)
Gender			
Female	91.8%	87.0%	89.3%
Male	8.2%	13.0%	10.7%
Class Year			
Freshman	44.9%	44.4%	44.7%
Sophomore	34.7%	31.5%	33.0%
Junior	12.2%	20.4%	16.5%
Senior	8.2%	3.7%	5.8%
Race/Ethnicity			
African-American/Black	8.2%	3.7%	5.8%
American Indian/Alaskan Native	2.0%	1.9%	1.9%
Asian/Pacific Islander	8.2%	11.1%	9.7%
Hispanic/Latino/a	2.0%	---	1.0%
Other	6.1%	14.8%	10.7%
Caucasian/White	73.5%	68.5%	70.9%
Academic Affiliation			
Art	---	1.9%	1.0%
Engineering	16.3%	18.5%	17.5%
Kinesiology	4.1%	3.7%	3.9%
Literature, Science, Arts[1]	77.6%	75.9%	59.2%
Music	2.0%	0.0%	1.0%
Nursing	---	3.7%	1.9%

[1]Largest academic unit housing many of the liberal arts and natural sciences

Food Selection Criteria and Consumption Behaviors

Respondents in the treatment and control groups were asked a number of questions that explored the basic criteria they utilized when choosing food in the dining hall, the nutritional information they weighed when making their choices, the rationales for selecting the foods they did, and reporting how often they consumed food from the different food groups.

Appearance and taste/palatability were the visible criteria most often utilized by survey respondents in both samples (Table 3). The cue most infrequently used was texture, with no more than a third of either sample reporting its use. Nutritional criteria most utilized included information pertaining to calories, portion size, and fat.

Table 3. Food Selection Criteria

	Treatment Group		Control Group	
Criteria	Wave 1	Wave 2	Wave 1	Wave 2
Basic Selection Criteria				
Color	44.9%	49.0%	37.0%	46.3%
Texture	32.7%	30.6%	25.9%	33.3%
Taste/Palatability	85.7%	81.6%	85.2%	90.7%
Appearance	87.8%	77.6%	77.8%	83.3%
Smell	44.9%	42.9%	48.1%	50.0%
Variety	55.1%	34.7%	48.1%	44.4%
Familiarity	63.3%	46.9%*	40.7%	42.6%
Nutritional Value	57.1%	61.2%	75.9%	74.1%
Nutritional Criteria				
Calories	51.0%	49.0%	74.1%	68.5%
Fat	46.9%	44.9%	64.8%	53.7%
Protein	34.7%	42.9%	33.3%	37.0%
Carbohydrates	22.4%	22.4%	24.1%	31.5%
Vitamins and minerals	26.5%	20.4%	33.3%	37.0%
Portion size	49.0%	53.1%	57.4%	53.7%
None of the above	12.2%	16.3%	9.3%	7.4%

Note: Treatment group n=49, Control group n=54.
* Mann-Whitney U test indicated a statistically significant change between waves at the $p<.05$ level.

Mann-Whitney U tests were run within each sample to determine if there were significant differences between waves. Only one item across both samples was shown to be statistically different as a result of these tests: familiarity of foods/entrees for the treatment sample (p=.041). Fewer treatment group respondents utilized these cues as criteria for food selection, opting to use nutritional value and color at higher frequencies.

Table 4 shows food selection strategies utilized by the students. Two of the top three behaviors are shared by the treatment and control groups: selecting food based on personal habits/preferences and choosing one of the entrees from the cafeteria line. Least utilized strategies reported by both groups during both data collection waves were trying to balance

color, texture and variety from all the food groups, returning for seconds, and attempting to put as much food on the tray as possible during the first time through the line. Only one behavior (choosing foods based on cravings or mood) was found to be statistically significant between waves when comparing treatment and control groups.

Table 4. Food Consumption Behaviors

Behavior	Treatment Group		Control Group	
	Wave 1	Wave 2	Wave 1	Wave 2
I look at all the options before choosing what foods I want	40.8%	42.9%	66.7%	59.3%
I pick whatever looks good	65.3%	63.3%	40.7%	40.7%
I select foods based on my personal habits and preferences	79.6%	81.6%	83.3%	77.8%
I usually eat one of the entrees from the cafeteria line	65.3%	67.3%	59.3%	53.7%
I choose foods based on my cravings or mood[1]	49.0%	42.9%	40.7%	48.1%
I read the nutrition signs and pay attention to portion sizes	34.7%	36.7%	44.4%	46.3%
I typically try to select at least one food from each food group	32.7%	32.7%	37.0%	40.7%
I put as much food on my tray as I can during my first time through the line	10.2%	4.1%	3.7%	3.7%
I try to balance my plate with color, texture and variety from all the food groups	22.4%	26.5%	25.9%	31.5%
I typically go back for seconds	16.3%	18.4%	7.4%	9.3%
I choose dessert on most days	30.6%	36.7%	31.5%	35.2%

Note: Treatment group n=49, Control group n=54.

[1]Chi Square testing indicated a statistically significant difference in the change between waves when comparing samples: X^2 (2)=6.03, $p<.05$.

Several items in Table 4 are worthy of note. Food choices governed by cravings dipped significantly in the treatment group when compared to the control sample; 18% of the treatment group reported using this strategy in the first wave but not in the second wave, compared to 4% of the control group. While not significant, there was a 6% drop in treatment group respondents who "put as much food on my tray as I can during my first time through the line," versus no change in the control sample.

Students also were asked to document their actual behavior by sharing the number of days per week that various food groupings were selected (Table 5). While no statistically significant differences were discovered during our examination of the data, some trends were apparent. With the exception of one food group (dairy), the frequency of selection for each groups' lunch trays increased. These increases were most pronounced among the treatment sample respondents, who reported large increases in their daily selection of dairy and fruits. Conversely, the control sample reported a larger increase in their fat consumption from wave one to wave two.

Beyond the Treatment and Control Samples

The remainder of the population that resided in the building housing the treatment dining hall received an invitation to take a short survey about their awareness and use of the Great Plate program. Slightly over one third of the women in the all-female residence hall responded (122 of 358 students, 34.1% response rate). As noted earlier, this sample did not include any students in the treatment sample. The results were encouraging: 75.4% of respondents were familiar with the program in their dining hall. Over 1/3 of the respondents reported using the Great Plate guidelines occasionally (37.8%) and frequently (3.7%) during their lunches. When asked if they employed the guidelines during other meals, 29.6% indicated occasional (29.6%) and frequent (3.7%) use. A substantial number of these respondents took the time to write in comments, most of which provided constructive feedback.

Limitations

As with any study, there are a number of limitations that should be kept in mind while reviewing and evaluating the results. First, this pilot study utilized a single site; the clientele, staff, and dining hall layout all have the potential of influencing the treatment sample results in a way that a multiple site study would prevent. Second, the final response rate for this study was slightly over 20%, a relatively small percentage even by social science standards; this limits the generalizability of the results. Third, the research methodology utilized electronic data gathering techniques; such methods have the potential of excluding students who either chose not to use their university e-mail accounts or were unable to access their e-mail during the study period. Fourth, the timing and duration of the intervention may have artificially curtailed the impact of the intervention. This study occurred during the second semester of the school year, meaning students had the prior semester to develop eating habits prior to being exposed to the intervention, and the short (eight week) duration of the program may have likewise limited the effects of the educational materials.

Conclusions and Applications

This study shared the results of an educational intervention housed within one dining facility of a large residence hall system. A pretest-posttest research design discovered several differences between the treatment group and the stratified control group, most notably the diminished use of cravings as a food selection strategy in the treatment group. Other findings indicated students in the treatment group utilized familiarity with foods and entrees at a significantly lower level at the end of the program ($p<.05$).

We learned several lessons that will influence our future use of this educational program. First, our experiment occurred during the second semester, when many food habits and selection patterns had already been set by at least one prior semester in our dining environment. We may achieve greater behavior modification if this intervention is in place when students first arrive at the beginning of the school year. Secondly, the food in the display did not hold up well over the course of the meal. High traffic levels inhibited periodic adjustment of the sample food plates placed next to the educational materials; consequently, we will be more deliberate with our monitoring frequency and replacement of food displays in the future. Additionally, some

students were unhappy with what they perceived as a waste of food by using real entrees in the display plates. Third, students suggested add-ons to the program, such as information on each table in the dining halls for more leisurely reading, seminars, and additional advertising.

The college student population comes to us primed for growth in so many areas; developing healthy eating habits and behaviors is a powerful way in which food service professionals can be involved in the education of the student body. Programs such as the Great Plate can be effective tools at raising awareness of food choices and encouraging more healthful eating behaviors in a group that may be coming to college with a higher prevalence of poor eating habits and obesity.

References

Aaron, J. I., Evans, R. E., & Mela, D. J. (1995). Paradoxical effect of a nutrition labeling scheme in a student cafeteria. *Nutrition Research 15*(9), 1251-1261.

Almanza, B. A., Mason, A. C., Widdows, R., & Girard, F. J. (1993). Consumer responses to nutrition guidelines labeling in a university restaurant. *Journal of the American Dietetic Association, 93*(5), 580-581.

American College Health Association (2004). *Healthy Campus 2010 Manual*. Baltimore, MD: American College Health Association.

American College Health Association (2005). *American College Health Association National College Health Assessment: Reference Group Data Report Fall 2004*. Baltimore, MD: American College Health Association. Retrieved August 25, 2006, from http://www.acha.org/projects_programs/NCHA_docs/ACHA-NCHA_Reference_Group_Report_Fall2004.pdf

American College Health Association (2006). *American College Health Association National College Health Assessment (ACHA-NCHA) Spring 2005 Reference Group Data Report* (Abridged). *Journal of American College Health 55*(1), 5-12.

American Institute for Cancer Research (2000). *The new American plate.* Retrieved March 23, 2006, from http://www.aicr.org/site/PageServer?pagename=pub_nap_proportion

Bowman, M.K., McProud, L.M., Usiewicz, R.A., Gendreau, M, & Mitchler, J.B. (1995). Evaluation of the effectiveness of point-of-choice nutrition information on consumer perceptions of food quality and value in a university food service. *Journal of the National Association of College and University Food Services 17*. Retrieved November 17, 2004, from http://www.nacufs.org/resources/publications/journal/old/evaluation.asp

Bryant, R., & Dundes, L. (2005) Portion distortion: A study of college students. *Journal of Consumer Affairs 39*(2), 399-408.

Gordon-Larsen, P., Adair, L. S., Nelson, M. C., & Popkin, B. M. (2004). Five-year obesity incidence in the transition period between adolescence and adulthood: the National Longitudinal Study of Adolescent Health. *American Journal of Clinical Nutrition 80*(3), 569-575. Retrieved August 25, 2006, from http://www.ajcn.org/cgi/content/full/80/3/569

Kohn, M., Rees, J. M., Brill, S., Fonseca, H., Jacobson, M., Katzman, D. K., et al. (2006). Preventing and treating adolescent obesity: A position paper of the Society for Adolescent Medicine. *Journal of Adolescent Health 38*(6), 784-787. Retrieved August 25, 2006, from http://www.sciencedirect.com/science/article/B6T80-4K21XJ3-12/2/fe5a387fb13cf91b07d51ba473dd7b32

Malinauskas, B. M., Raedeke, T. D., Aeby,V. G., Smith, J. L., & Dallas, M. B. (2006). Dieting practices, weight perceptions, and body composition: A comparison of normal weight, overweight, and obese college females. *Nutrition Journal 5*(11). Retrieved August 25, 2006, from http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1456978 &blobtype=pdf

Matvienko, O., Lewis, D.S., & Schafer, E. (2001). A college nutrition science course as an intervention to prevent weight gain in female college freshman. *Journal of Nutrition Education 33*(2), 95-101.

Oakes, M. E. (2004). Good foods gone bad: 'infamous' nutrients diminish perceived vitamin and mineral content of foods. *Appetite 42*(3), 273-278.

United States Department of Health and Human Services. *Healthy People 2010*. Retrieved November 28, 2005, from www.healthypeople.gov

University Students' Perceptions of Brand Name Foodservices

Seung Suk Lee, M.S.
Doctoral Student
Iowa State University
Hotel, Restaurant, and Institutional Management

Kim, Hyeon-Cheol, Ph.D.
College of Social Sciences
Department of Tourism Management
Soonchunhyang University
Asan, South Korea

Mary B.Gregoire, Ph.D, RD
Professor and Chair
Apparel, Educational Studies, and Hospitality Management
Iowa State University

Abstract

The purpose of this study was to explore university students' perceptions of brand name foodservice operations. Data were collected using an online survey of 2400 randomly chosen students enrolled at each of the universities in the NCAA Big 12 conference (200 from each school). A total of 210 students responded; 205 usable questionnaires were obtained. Student ratings suggested that brand name foodservices were perceived to have easily readable menus, tasty food, a variety of food choices, and a clean dining area; brand name foodservices were perceived to be less likely to have a selection of healthful food items and provide nutritional information. Factor analysis results suggested students' perceptions of brand name foodservices could be described in four dimensions: (1) dining environment/food quality (2) competency of employees (3) menu/variety (4) price/nutritional information. Multiple regression analysis was used to examine the relative importance of each of these factors in explaining the students' overall satisfaction. The factor, dining environment/food quality, was the most influential dimension in overall satisfaction. Cleanliness and quality of food were rated as the most important attributes in a student's selection of a brand name foodservice operation. Results of this study emphasize the importance of the dining environment and cleanliness in addition to food quality as attributes important to university students.

Keywords: Brand Name Foodservices, Service Quality, University Dining Service, College Students' perception

University Students' Perceptions of Brand Name Foodservices

Introduction

The growth of the university student market has become significant in influencing the expansion of college and university foodservice operations (Sutherlin & Badinelli, 1993; Hurst, 1997). The spending power of university students is estimated to be more than $90 billion, with full-time, four-year students spending $30 billion ("College", 2003).

University foodservice operations have been expanding the variety of food options offered to students beyond the traditional dining centers to include food courts, convenience stores, and brand name foodservices operations such as Burger King, Subway, Starbucks, etc. Studies have suggested that brand name foodservice operations are preferred by customers because of their reputation, consistency, quality, and profitability (Bernstein, 1991; Green, 1994; Muller, 1998). According to a survey by *Restaurant & Institutions*, 59 % of university operators offered self-created foodservice brands, while 41 % have national foodservice brands (Matsumoto, 2002).

To be a competitive and successful in the campus dining business, university foodservice managers must understand how students perceive and recognize brand name foodservice quality attributes when they choose their dining options. Most customer satisfaction research to date has focused on commercial foodservice establishments, such as fast food, upscale restaurants, and chain restaurants (Galvin, 1987; Zeithaml, Berry, & Parasuraman, 1988; Bojanic & Rosen, 1994; Dube, Renaghan, & Miller, 1994; Stevens, Knutson, & Patton, 1995; Mei, Dean, & White, 1999; Knuston, 2000; Yuksel, 2002). Research is limited on the perceptions and preferences of university students toward brand name foodservice operations. The purpose of this study is to examine university students' perceptions of brand name foodservice operations, examine the underlying dimensions of these perceptions, and explore attributes important to students when selecting a brand name foodservice operation.

Methodology

Sample

The population for this study was students enrolled at all universities in the National Collegiate Athletic Association (NCAA) Big 12 conference (Baylor, Colorado, Iowa State, Kansas, Kansas State, Missouri, Nebraska, Oklahoma, Oklahoma State, Texas, Texas A&M, and Texas Tech University). A random sample of 2,400 students (200 from each school) was selected from the student directory on each university's Web site. Email addresses for each student were obtained from the online directories at each university.

Survey Instrument

A questionnaire, which could be distributed online, was developed for the study. The General Perceptions section of the questionnaire included a list of 19 foodservice attributes selected from those used by Stevens, Knutson, and Patton (1995) to measure service quality in restaurant operations. Students were asked to rate their perceptions of their brand name foodservice dining experiences using a six-point Likert scale ranging from 1= Strongly Disagree to 6= Strongly Agree. The Importance section of the questionnaire asked students to rate the importance of a list of 13 foodservice attributes in their selection of brand name

foodservice operations. A five-point Likert scale ranging from 1= Least important to 5=Extremely important was used to rate the attributes. Demographic characteristics of participants and their campus dining behaviors also were collected.

The questionnaire was designed using Microsoft Front Page and was posted online on the researcher's university's server. The research project was reviewed and approved by the Institutional Review Board at the researcher's university prior to data collection.

Data Collection

Students in the research sample were sent an e-mail message inviting their participation in the online survey. The e-mail invitation included the link to the questionnaire Web site where students could enter their responses in an automatic data entry process. Prize drawings for several monetary awards were used to help encourage student participation in the study. No follow-up emails were sent.

Data Analysis

SPSS (version 10.0) was used for all data analyses. Descriptive statistics were calculated for all variables. The factor analysis procedure was employed to identify the underlying dimensions of the students' perceptions relative to brand name foodservices. Cronbach's alpha was calculated to test the reliability of variables retained in each factor, and coefficients greater than or equal to 0.50 were considered acceptable and a good indication of construct reliability. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) and the Bartlett Test of Sphericity were used to determine the appropriateness of applying factor analysis. Scores were created for each factor by averaging the ratings given to the attributes included in that factor. Regression analysis was used to measure the relative impact of the factors on students' overall satisfaction and likelihood of revisiting the brand name foodservice in the future. Analysis of variance (ANONA) and Tukey's post- hoc test were used to examine differences in ratings based on demographic and behavioral characteristics of students.

Results

Characteristics of Respondents

A total of 205 students (8.5% response) completed the questionnaire. As shown in Table 1, the sample contained an almost equal number of females (49%) and males (51%). The majority of respondents were Caucasian, non Hispanic (60%), freshmen or sophomores (62%), enrolled full-time (90%) and living on campus (74%). As might be expected of university students, the majority of students were age 18 to 23 (90%).

Nearly half of the respondents spent an average of $6.00 to $10.00 per day on food. Nearly all were eating in the campus foodservice operations at least once per week; many were using the foodservice operations 5-8 (31%) or 9-12 (23%) times per week.

Table 1. Student demographic profile

Variable	Frequency	Percentage (%)
Gender		
Male	104	50.7
Female	101	49.3
Ethnicity		
Caucasian-Non-Hispanic	123	60.0
Asian/Pacific Islander	44	21.5
African American	15	7.3
Hispanic	4	2.3
Native American	15	7.3
Others	4	2.0
Classification		
Freshman	88	42.9
Sophomore	39	19.0
Junior	32	15.6
Senior	23	11.2
Graduate	23	11.2
Status		
Full-time student	198	96.6
Part-time student	7	3.4
Living status		
On campus	151	73.7
Off campus	54	26.3
Age		
18-20	141	68.8
21-23	50	24.4
24-26	7	3.4
27-29	4	1.5
Over 30	3	1.5
Meal expenditure a day		
Less than $5.00	33	16.1
$6.00-$10.00	98	47.8
$11.00-$15.00	58	28.3
$16.00-$20.00	14	6.8
More than $20.00	2	1.0
Number of use campus foodservice per week		
1-4 times	55	26.8
5-8 times	64	31.2
9-12 times	47	22.9
13-16 times	28	13.7
17-20 times	6	2.9
Over 20 times	3	1.5
None	2	1.0

Student's Perceptions

Table 2 indicates university students' perceptions related to brand name foodservice operations. The highest ratings were for the attributes 'easily readable menu' (μ=4.28), 'tasty food' (μ=4.27), 'variety of food options' (μ=4.11), 'visually attractive menu that reflects the dining image' (μ=4.10), and 'clean dining area' (μ=4.10). 'Selection of healthy food items' (μ=3.09) and 'provision of nutritional information' (μ=3.16) received the lowest rating.

Students appeared to be satisfied with the brand name foodservice on their campus. The overall satisfaction rating was μ=4.05 on a 6.0 scale and 93% indicated they were willing to revisit the brand name foodservice operations on their campus.

Table 2. University Students' (N=205) Perception of Brand Name Foodservices

Attributes	Mean[a]	Standard Deviation
Brand name foodservice in university dining…		
…has a easily readable menu	4.28	1.16
…has tasty food	4.27	1.27
…has a variety of food options	4.11	1.19
…has a visually attractive menu that reflects the dining image	4.10	1.16
…has a clean dining area	4.10	1.19
…has comfortable seats	4.05	1.17
…has a dining area that is comfortable and easy to move around in	4.02	1.24
…has a décor in keeping with its image and price range	3.97	1.04
…serves food exactly as ordered	3.96	1.07
…has a visually attractive building exterior	3.94	1.09
… provides prompt and quick service	3.93	1.09
…corrects quickly anything that is wrong	3.89	1.21
…has a visually attractive dining area	3.82	1.21
…has well trained staff members	3.74	1.18
…has employees who are knowledgeable about menu items, ingredients, and methods of preparation	3.71	1.27
…has reasonable prices	3.59	1.21
…offers excellent food quality every order	3.54	1.24
…offers nutritional information about the food	3.16	1.30
…has a very healthy food selection	3.09	1.42

Scale: 1, Strongly Disagree to 6, Strongly Agree

Underlying Dimensions of Students' Perceptions of Brand Name Foodservices

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) and the Bartlett Test of Sphericity were used to determine the appropriateness of applying factor analysis to student ratings. The value of MSA found in the study was .913, which was very strong (Kaiser, 1974) and verified that the use of factor analysis was appropriate in the study. Bartlett's Test of Sphericity value ($\chi 2$) was 1745.015, with the overall significance of the correlation matrix of .000. This test showed that the data used in this study did not produce an identity matrix and thus were multivariate normal and acceptable for applying factor analysis.

Factor analysis with a VARIMAX rotation procedure was employed to identify underlying dimensions of the students' perceptions of brand name foodservices. Four factors, with eigenvalues greater than 1.0 and accounting for 61.13% of the total variance were identified (Table 3). All attributes with factor loadings of .40 or greater were retained in the analysis. The factors identified were titled 'Dining Environment/Food Quality', 'Competency of Employees', 'Menu/Variety', and 'Price/Nutritional Information'.

Table 3. Factor Analysis Results with VARIMAX Rotation of College Students' Perception of Brand Name Foodservices

Factors and Variables	Factor Loading	EV[a]	% V[b]	RC[c]	CM[d]
Factor 1: Dining Environment/Food Quality		7.54	39.65	.868	
Clean dining area	.780				.710
Visually attractive dining area	.756				.705
Comfortable seats	.725				.702
Dining area that is comfortable and easy to move around in	.705				.671
Selection of healthy food items	.623				.518
Visually attractive building exteriors	.484				.506
High quality of food	.475				.410
Factor 2: Competency of Employees		1.75	9.03	.856	
Knowledge of employees regarding menu items, ingredients, and methods of preparation	.851				.750
Quick correction of anything wrong	.770				.680
Promptness of service	.681				.632
Well trained employees	.667				.594
Service of food as exactly ordered	.657				.750
Factor 3: Menu/variety		1.32	7.06	.768	
Tasty food	.787				.644
Variety of food options	.769				.739
Visually attractive menu that reflects the dining image	.657				.680
Easily readable menu	.603				.529
Factor 4: Price/Nutritional Information		1.03	5.38	.579	
Reasonable prices	.727				.598
Provision of nutritional information	.696				.521
Décor in keeping with its image and price range	.433				.454
Total Variance Explained (%)			61.13		

[a]Eigen Value
[b]% Variance
[c]Reliability Coefficient
[d]Communality
Note: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA): .913
Bartlett's Test of Sphericity: χ^2=1745.015, significance at p=.000

One-way Analysis of Variance (ANOVA) with Tukey post hoc analysis were used to determine whether significant differences existed in factor scores based on demographic or behavior of characteristics of the students and whether they would revisit the brand name foodservice. Few significant differences were found. Of importance were the findings that as average meal expenditure increased, satisfaction ratings decreased for the Dining Environment/Food Quality factor and those who indicated a willingness to return to the brand name foodservice gave higher factors scores for Dining Environment/Food Quality,

Competency of Employees, and Menu/Variety than did students who indicated they would not return.

Determinants of the College Students' Overall Satisfaction Level

After identifying the four loading factors, a multiple regression analysis was performed to investigate to what extent the four factors exerted significant influence on students' overall satisfaction with brand name foodservices. Table 4 reports the results of the regression analysis. Two factors: "dining environment/food quality" and "price/nutritional information", were found to be significant variables in the model (at $p< 0.05$); "dining environment/food quality" had the greatest effect (standardized β=. 432, $p\leq .000$.) A variance inflation factor (VIF) less than 10 indicated that collinearity among the independent variables was sufficiently low and would not affect the stability of the regression analysis.

Table 4. Results of Multiple Regressions Analysis of Determinants of Overall Satisfaction with Brand Name Foodservices by NCAA Big 12 Conference Students (n=205)

Dependent variable: Students' overall satisfaction with brand-name foodservices					
Independent variables: Four orthogonal factors representing the components of students' perceptions of brand-name foodservices					
Independent variables	β	Standardized Beta	t	p-value	VIF
F1: Dining environment/food quality	.541	.432	5.141	.000*	2.272
F2: Competency of employees	.186	.152	1.954	.052	1.936
F3: Menu/variety	-.068	-.055	-.795	.428	1.511
F4: Price/nutritional information	.210	.160	2.389	.018*	1.447
Constant	.811		2.290	.023	
Multiple R = .614	R^2 = .377		Adjusted R^2 = .365		
Standard Error = .916	F = 30.267		Significant F = .000		

*$p<0.05$

Important Elements in Brand Name Foodservice Selection

Table 5 indicates importance ratings by students of elements considered when selecting a brand name foodservice. All items had ratings greater than 3 suggesting all were of at least some importance. Cleanliness (μ=4.40) was rated as most important followed by quality of food (μ=4.36), prompt handling of complaints (μ=3.99), and competent wait staff (μ=3.99).

Table 5. Elements Important in the Selection of Brand Name Foodservices by University Students

Elements	Mean [a]	Standard Deviation
Cleanliness	4.40	.88
Quality of Food	4.36	.97
Prompt Handling of Complaints	3.99	.95
Competent Waiting Staff	3.99	.92
Friendliness of Waiting Staff	3.95	1.02
Type of Food	3.94	.90
Comfort Level	3.84	.92
Cost of Food	3.83	1.03
Speed of Service	3.76	1.03
Restaurant Atmosphere	3.67	1.06
Menu Item Variety	3.67	1.01
Prestige	3.17	1.19
New Experience	3.10	1.02

[a] Scale: 1, Least Important to 5, Extremely Important

Limitations

Several factors limit the generalizability of results from this study. The response rate was low and only included students at universities that are part of the NCAA Big 12 conference. Although monetary incentives were used, their effectiveness appears limited. A low response rate has been reported in other foodservice-related research using online surveys (Mills & Clay, 2001) and several authors (Granello & Wheaton, 2004; Kaplowits, Hadlock, & Levine, 2004) have suggested technical difficulties, measurement errors, anonymity, and internet security as concerns that participants might have with online survey.

This research asked students to evaluate "brand name" foodservices in general rather than evaluating specific foodservice name brands or categories. Future research could expand the sample size and explore students' perceptions of specified brand name foodservice operations.

Conclusions and Recommendations

The objective of this research was to identify college students' perceptions of brand name foodservices. The results provide useful information to managers, administrators, and operators of university dining services. Four underlying factors were identified as being used by university students to evaluate brand name foodservice operations. The dining environment/food quality factor best predicted students' overall satisfaction with brand name foodservice operations. Cleanliness and food quality were rated as the most important attributes in selection of a foodservice operation. University foodservice operators should evaluate these dimensions of their operations and if necessary develop employee training programs to target the importance of serving high quality food and having a clean and attractive dining area.

References

Anonymous (2003). College Market Expansion. *On-Campus Hospitality,* Westbury, NY.

Bernstein, C. (1991, June 17). Mufso pioneer: chick-fil-a founder Cathy. *Nation's Restaurant News,* p.1.

Bojanic, D.C., & Rosen, L.D. (1994). Measuring service quality in restaurants: An application of the SERVQUAL instrument. *Hospitality Research Journal*, 18 (1), 3-14.

Dube, L., Renaghan, L., & Miller, J.M. (1994). Measuring customer satisfaction for strategic management. *Cornell Hotel and Restaurant Administration Quarterly*, 35 (1), 39-47

Garvin, D.A. (1987). Competing on the eight dimensions of quality. *Harvard Business Review*, November-December, 43-52.

Granello, D., & Wheaton, J. (2004). Online data collection: strategies for research. *Journal of Counseling & Development,* 82, 387-393.

Green, C.G. (1994). Nutrition Awareness and Branding in College/University Food Services: What Motives These Trends? *Journal of College & University Food Service*, 2(1), 39-58.

Hurst, A. (1997). Emerging trades in college and university foodservice. *Journal of College and University Foodservice*, 3 (3), 17-32.

Kaplowitz, M., Hadlock, T., & Levine, R. (2004). A comparison of web and mail survey response rates. *Public Opinion Quarterly,* 68 (1), 94-101.

Knutson, B.J. (2000). College Students and Fast Food- How students Perceive Restaurant Brands. *Cornell Hotel and Restaurant Administration Quarterly,* 41(4), 68-74.

Matsumoto, J. (2002, January 15). Big brand on campus, *Restaurant & Institutions*, 112 (2), 55-59.

Mei, A. W., Dean, A. M., & White, C.J. (1999). Analyzing service quality in the hospitality industry. *Managing Service Quality*, 9 (2), 136.

Mills, J., & Clay, J. (2001). The truth-in-menu law and restaurant consumers. *Foodservice Research International,* 13 (2), 147-162.

Muller, C. (1998). Endorsed Branding. *Cornell Hotel and Restaurant Administration Quarterly*, 39(3), 90-96.

Stevens, P., Knutson, B., & Patton, M. (1995). Dineserv: A tool for measuring service quality in restaurants. *Cornell Hotel and Restaurant Administration Quarterly*, 36 (2), 56-60.

Sutherlin, D. H., & Bandinelli, K.A. (1993). The future of college and university foodservice: an environmental perspective. *Journal of College and University Foodservice*, 1 (1), 45-53.

Yuksel, A., & Yuksel, F. (2002). Measurement of tourist satisfaction with restaurant service: A segment-based approach. *Journal of Vacation Marketing*, 9 (1), 52-64.

Zeithaml, V.A., Berry, L., & Parasuraman, A. (1988). Communication and control processes in the delivery of service quality, *Journal of Marketing*, 53 (April), 35-48.

Factors Related to Job Satisfaction and Intent to Turnover for Part-Time Student Employees in University Dining Services

Woo-Sik Choi, MS[1] and Jeannie Sneed, PhD, RD, SFNS, CFSP[2]
[1]Former Graduate Student and [2]Professor
Iowa State University
Foodservice & Lodging Management Program
Iowa State University

Jeannie Sneed, PhD, RD, SFNS, CFSP
Professor, Hotel, Restaurant, and Institution Management
Iowa State University

Abstract
Job satisfaction in the hospitality industry is important for retaining employees. The purpose of this study was to determine the relationship between work-related factors and job satisfaction, and between job satisfaction and intent to turnover for part-time student employees in university dining services.

A written questionnaire was developed to determine perceptions related to work-related characteristics (orientation and training, supervision, and feedback), job satisfaction, intent to turnover, and demographic characteristics. The questionnaire was administered to part-time student employees at three universities in a Midwestern state.

A regression model was used to determine relationships among variables. These results suggest that there is a significant relationship between work-related factors and demographic variables and job satisfaction, and between job satisfaction and intent to turnover. The regression model showed that two work-related factors (supervision quality and orientation and training) were related to job satisfaction. Two demographic variables (gender and nationality) were related to job satisfaction. Female students were more satisfied than males; U.S. students were more satisfied than international students. Job satisfaction was shown to be inversely related to intent to turnover. Improved supervision and well-developed training and orientation programs are necessary to overcome labor shortages and high turnover.

Keywords: job satisfaction, turnover, employee retention, supervision, training

Factors Related to Job Satisfaction and Intent to Turnover for Part-Time Student Employees in University Dining Services

Introduction

Labor shortages have been accepted as a general phenomenon in the U.S. hospitality industry since 1992 when the present level of economic prosperity began. The number of available jobs in the U.S. is projected to increase by 22 million by 2010. However, the labor force is anticipated to increase by only 17 million. The U.S. hospitality industry is expected to increase by 2.1 million jobs between 2002 and 2012 (17.8%), representing a faster increase than the 14.8% job growth for all industries (Coy, 2006). The foodservice industry employs 10.2 million people, representing 8% of the total workforce. It is projected that by 2014 the restaurant business alone will need an additional 1.8 million more workers including 45,000 foodservice managers and 112,000 front-line supervisors (Berta, 2004). In this situation, many restaurant operators have been struggling to solve the labor shortage problem, for example, by focusing on training to improve employee retention (Martin, 1998).

Decreasing employee turnover can be a solution to alleviate the severity of the labor shortage. Tenure and job satisfaction have been shown to be positively related for university foodservice employees (Duke & Sneed, 1989a).

Because job satisfaction is one factor affecting the tenure of employees (Fernsten & Brenner, 1987), consideration of employee job satisfaction is important in establishing an employee retention plan. From that point of view, job satisfaction must be considered important in managing student part-time employees in college and university dining services. Therefore, the relationship between job satisfaction and turnover needs to be determined for that employee group.

There are several definitions of job satisfaction. Locke (1976) defined job satisfaction in terms of a discrepancy between the actual needs and wants of employees and how they are fulfilled. If there is a gap between an employee's needs and wants, and the employee's perceived levels of job satisfaction, dissatisfaction results. If there is not, satisfaction results. Lawler and Suttle (1973) proposed that the level of job satisfaction is based on an employee's comparison of 'what is believed to be received' (input) and 'what actually is received' (output). Based on the difference between input and output, job satisfaction or dissatisfaction can occur. Landy (1985) defined job satisfaction as a "human mind to keep the neutral state" (Berry, 1998, p.273). At first, an employee has instant emotional reactions to his or her job. Secondly, a counter emotional reaction occurs after the employee has had many emotional responses to the job. When it is considered that employee job satisfaction is based on employee job perceptions, job satisfaction is defined as a job attitude or morale. An attitude can be defined as a cognitive and emotional process that results in an intention and a specific pattern of behavior. Morale also can be defined as an emotional outcome to produce a certain pattern of behavior (Bagozzi, 1992). Consequently, employee job satisfaction can be defined as an affective and emotional state that can result in a particular pattern of behavior depending on the employee's job situation.

Most studies done in college and university dining services have focused on the relationship between job characteristics and job satisfaction. Previous studies found that job characteristics and age were positively related to employee job satisfaction and negatively related to employee intention of turnover (Jaffe', Almanza, & Chen, 1994). Gray, Niehoff, and Miller (2000) found a positive relationship between student employee job characteristics and job satisfaction. In another study of student employee job satisfaction and job characteristics, feedback, which is one of the job characteristics, was shown to be related to job satisfaction (Bartlett, Probber, & Scerbo, 1999). However, all of these studies were limited to the relationship between job characteristics and job satisfaction and intent to turnover. In a study of the relationship of job characteristics and organizational commitment with job satisfaction, it was shown that organizational commitment is positively related to employee job satisfaction (Sneed & Herman, 1990). Specifically, age has a positive relationship with employees' organizational commitment. Considering the relationship of age with employee job satisfaction, demographic factors need to be evaluated in this study.

One study measured the relationship between job satisfaction and intent to turnover. Gray et al. (2000) showed that student employee job satisfaction has a negative relationship with intent to turnover. Jaffe' et al. (1994) found that entry-level employees are the least satisfied of all employees and higher-paid employees are more satisfied than those earning lower pay. Student employee jobs exhibit both of these characteristics (entry-level and low pay).

Employee job satisfaction may be affected by many factors, and there are numerous consequences of employee job satisfaction. Factors related to job satisfaction can be divided into work-related characteristics and demographic variables. Supervision quality, orientation and training, job characteristics, and demographic variables are factors that have been shown to be related to employee job satisfaction in some job settings (Blank & Slipp, 1994; Duke & Sneed, 1989b; Eberhardt & Shani, 1984; Fernsten & Brenner, 1987; Roehl & Swerdlow, 1999; Sims, Szilagyi, & Keller, 1976; Tayeb, 1996). Employee job performance (Vroom, 1964), customer orientation (Hawkins & Lee, 1991; Hoffman & Ingram, 1992), customer perception of service quality (Schneider & Bowen, 1985), employee attitude (Schmit & Allscheid, 1995), and intent to turnover (Porter & Steer, 1973; Vroom, 1964) have been shown to be affected by job satisfaction. This study will focus on intent to turnover.

In this study, work-related characteristics (supervision quality, orientation and training, and feedback) and demographic variables (gender, age, nationality, student status, and length of work) were proposed antecedents to job satisfaction. Employee intention to turnover was proposed as a consequence of job satisfaction because of this study's focus on the labor shortage issue. The purpose of this study was to determine the job satisfaction of part-time student employees in dining services and to examine the relationship between supervision quality, orientation and training, feedback, and demographic variables and job satisfaction. In addition, the relationship between job satisfaction and intent to turnover was examined.

Methodology

Study Sample

The research sample consisted of part-time student employees working in dining services in three universities in Iowa: Iowa State University, the University of Iowa, and the University of Northern Iowa. Questionnaires were distributed to part-time student employees currently working in dining services, including student managers and all student workers. At Iowa State University, a total of 182 student employees in two dining venues were given questionnaires. At the University of Iowa, which had 190 student employees, 190 questionnaires were distributed. At the University of Northern Iowa, which employed about 300 students, 285 questionnaires were distributed.

Research Instrument

The research instrument, developed to collect data related to five variables, was developed based on previous research. Work-related variables were measured: orientation and training, supervision, and feedback. Orientation was composed of one item adopted from a study conducted by Puckett (1982) and training was measured using three items. A 10-item supervision quality scale was used. Questions for the training and supervision quality scales were adapted from the research of Roehl and Swerdlow (1999). The feedback scale consisted of the 3-item feedback subscale from the Job Characteristics Inventory (JCI) (Sims, Szilagyi, & Keller, 1976). Job satisfaction was measured using six items adapted from the Job Diagnostic Survey (JDS) developed by Smith, Kendall, and Hulin (1969). The employee intent to turnover was composed of four questions adapted from Lee (1990). Respondents answered all questions on a 5-point scale: strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). Demographic items (gender, age, student status, nationality, length of work, and job category) were included. The research protocol and questionnaire were approved by the Iowa State University Institutional Review Board for the Protection of Human Subjects. They were approved prior to data collection.

Pilot Test

The questionnaire was pilot tested at Iowa State University by six graduate students in Hotel, Restaurant, and Institution Management. Two were employed at dining services and three others had worked previously for dining services. Four of the six were international students. Comments about the questionnaire were used to modify and improve the clarity of each item and determine the time required to complete the questionnaire.

Data Collection

Personal telephone calls were made and e-mails were sent to the three dining service directors to request their participation in the study and obtain permission to distribute questionnaires. A request also was made to obtain the number of part-time student employees currently working in their university dining services. Before distribution of questionnaires, each unit's dining service manager was informed about the survey. Each dining service manager was contacted by e-mail

to schedule a day for questionnaire distribution.

A questionnaire packet was composed of a cover letter, a questionnaire, and a postage-paid return envelope. The 4-page questionnaire was printed on 11x17" paper and folded in half. Three different colors were used to differentiate the universities. No code numbers were used on individual questionnaires to ensure anonymity of responses. The cover letter, printed on university letterhead, explained the purpose of the study, ensured participants' anonymity, and offered to all participants a chance to be included in a drawing for $50 to encourage participation. A questionnaire packet was attached to each student employee's time card.

Data Analysis

Data were analyzed using SPSS 9.0 for Windows. Descriptive statistics (means ± standard deviation) were calculated for job satisfaction and intent to turnover. Cronbach's alpha was used to determine the reliability of all scales. Multiple regression models were used to determine relationships between work-related characteristics and demographic variables and job satisfaction, and between job satisfaction and intent to turnover. A probability level of $p \leq 0.05$ was used for all tests of significance.

Results and Discussion

Demographic Profile of Sample

A total of 657 questionnaires was distributed to part-time student employees in dining services at three universities in Iowa. The total response rate was 20% (133 of 657). Response rates were 16.4% from Iowa State University, 15.8% from the University of Iowa, and 25.6% from the University of Northern Iowa. The low response rate may be related to the fact that the researcher did not contact each respondent individually, but rather surveys were distributed by managers at each cafeteria. No follow up was used due to procedural difficulty for anonymity, which also could contribute to low response rates. Table 1 summarizes demographic characteristics of the study respondents.

Table 1. Demographic characteristics of the study sample (N=133)

Characteristics	Frequency (n)	%[a]
Gender		
Male	43	32.3
Female	90	67.7
Student Status		
Undergraduate	125	94.0
Graduate	6	4.5
Age		
Less than 20	56	42.1
20-29	76	57.1
30 or older	1	.8

Nationality		
U.S.	115	86.5
International	18	13.5
Country Location		
Asia	7	5.3
Europe	3	2.3
Africa	2	1.5
Americas[b]	119	89.5
Other	2	1.5
Job Category[c]		
Preparation	41	22.9
Dish Room	44	24.6
Office Work	2	1.1
Service	70	39.1
Student Manager	22	12.3
Hourly Pay		
$5.15-6.25	10	7.5
$6.26-7.50	106	79.7
$7.51 or higher	17	12.8
Length of Work		
Less than 1 month	2	1.5
1 month- 6 months	33	24.8
7-12 months	47	35.3
13-24 months	23	17.3
More than 24 months	28	21.1

[a] The percentage may not be 100% due to missing data.
[b] Four students were from South America.
[c] Total is 179 due to multiple responses.

Job Satisfaction and Intent to Turnover

The Cronbach's alpha for the 6-item job satisfaction scale was 0.80. Item-total statistics indicated that all items should remain in the scale. A 4-item scale was used for intent to turnover. The Cronbach's alpha for the intent to turnover scale was 0.88. Student ratings for items related to job satisfaction and intent to turnover are shown in Table 2.

Table 2. Student employees' ratings of job satisfaction and intent to turnover (N=133)

Items	Mean ± SD[a]
Job Satisfaction[b] (n=133; α = 0.80)	
I like the people that I work with.	4.4± 0.8
Dining service is a good place to work because it offers flexibility in work scheduling.	4.3±0.8
I am satisfied with the supervision I receive on my job.	4.1±0.8
I am satisfied that I can be promoted to a student manager.	3.8±0.9
I feel that I am being paid a fair amount for the work I do.	3.8±0.9
I enjoy the work that I do.	3.6±1.0
Intent to Turnover[b] (n=116; α = 0.88)[c]	
If I had my preference, I would work for dining service again next semester.	3.6±1.2
I plan to work for dining service again next semester.	3.4±1.3
If I had my preference, I would leave dining service and find another job for next semester	2.9±1.3
I plan to leave dining service and find another job next semester.	2.7±1.3

[a] Standard deviation
[b] A five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) was used.
[c] Student employees scheduled to graduate at the end of semester were excluded.

Relationship Between Job Satisfaction and Intent to Turnover

There were two conditions in implementing the regression model. First, the reverse set was applied to "If I had my preference, I would work for dining service again next semester" and "I plan to work for dining service again next semester" to measure the intention to turnover. Second, students who marked "yes" for the question of "Will you graduate this semester?" were excluded from the analysis because they could not be student employees during the next semester. Multiple regression analysis showed that job satisfaction was related to employee turnover intention. Table 3 shows the model with the individual job satisfaction dimensions. The results were significant and the R^2=0.41, indicating that 41% of the variance in intent to turnover was explained by dimensions of job satisfaction (F=12.64, $p < 0.000$). Among the dimensions of

job satisfaction, satisfaction with supervision ($p \leq 0.032$) and the work itself ($p < 0.000$) were the significant predictors of student employee intent to turnover.

Table 3. Relationship between job satisfaction and intent to turnover (n=116)

DV[a]	IV[b]	F	*β*	*p*
IT[c]	**Job Satisfaction[d]**	12.635		0.000
	I am satisfied with the supervision I receive on my job.		-0.203	0.032*
	I like the people I work with.		0.095	0.367
	I enjoy the work that I do.		-0.530	0.000*
	I am satisfied that I can be promoted to a student manager.		-0.062	0.540
	I feel that I am being paid a fair amount for the work I do.		0.097	0.267
	Dining service is a good place to work because it offers flexibility in work schedule.		-0.092	0.328

[a] DV= Dependent Variable
[b] IV= Independent Variable
[c] IT= Intent to turnover
[d] $R^2 = 0.41$
*Variables showing significance, $p \leq .05$

Significant job satisfaction dimensions were shown to be negatively related to student employee intent to turnover. Specifically, satisfaction with the work itself ($\beta = -0.530$) was more negatively related to intent to turnover than supervision ($\beta = -0.203$). Consequently, supervisors in university dining services need to be concerned about the satisfaction of work itself in managing student employees.

Relationship of Work-Related Characteristics and Demographic Variables to Job Satisfaction

A multiple linear regression model was applied to determine the relationship of work-related characteristics (supervision quality, orientation and training, and feedback) and demographic variables (gender, student status, age, nationality, pay, and length of work) to job satisfaction. Cronbach's alpha was used to determine the reliability of the scales measuring work-related characteristics. The Cronbach's alpha coefficients for the scales were as follows: 0.90 for supervision quality, 0.86 for orientation and training, and 0.79 for feedback. Mean scores for each item in the four scales are presented in Table 4.

Table 4. Mean ratings of student dining services employees for items in the supervision quality, orientation and training, and feedback scales[a] (n=116)

Attributes	Mean ± SD[b]
Supervision Quality (α = 0.90)	**3.8 ± 0.7**
The managers, including student managers, in dining service treat me fairly.	4.2 ± 0.8
My supervisor is able to solve problems efficiently.	4.1 ± 0.8
My supervisor is able to make good decisions.	4.1 ± 0.8
The managers in our dining service treat me and other workers fairly.	4.0 ± 1.0
My supervisor allows me to respond to appraisals of me.	3.9 ± 0.9
My supervisor tells me when I do a good job.	3.8 ± 1.0
I feel that I can bring complaints about working conditions to my dining service manager.	3.7 ± 1.1
Managers in my dining service are interested in the working conditions of student employees.	3.7 ± 0.9
Managers of the dining service that I work for tell me when I need to improve my performance.	3.6 ± 0.9
I am well informed about the dining service that I work for and changes that take place.	3.5 ± 1.1
Orientation and Training (α = 0.86)	**3.7 ± 0.9**
I am confident in performing my job responsibility because of the training I received.	3.9 ± 1.0
I feel that I received thorough training after I was hired in dining service.	3.7 ± 1.0
I feel I received a thorough review of any policies or procedures related to my job during the first week.	3.6 ± 1.1
I feel that I received a thorough orientation when I was hired.	3.5 ± 1.2

Feedback (α = 0.79)	**3.4 ± 0.9**
I can find how well I am performing as I work.	3.6 ± 0.9
I perceive that I receive feedback regularly about my performance.	3.3 ± 1.1
I receive the feedback about my work from the individuals other than my supervisors.	3.3 ± 1.0

[a] A five-point rating scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) was used.
[b] Standard Deviation

Work-related characteristics and demographic variables were shown to be significant predictors of student employee job satisfaction. Table 5 shows the relationship between work-related characteristics and demographic variables, and job satisfaction. The results were significant with an R^2=0.62, indicating that 62% of the variance in job satisfaction was explained by work-related characteristics and demographic variables (F=13.702, $p < 0.000$).

Among work-related characteristics, supervision quality ($p < 0.001$) and orientation and training ($p \leq 0.002$) were significant. Among demographic variables, gender ($p \leq 0.001$) and nationality ($p \leq 0.002$) were shown to be related to student employee job satisfaction. Supervision quality was shown to be more related to job satisfaction than other variables ($\beta = 0.377$). Orientation and training ($\beta = 0.262$) and gender ($\beta = 0.209$) were shown to be positively related to job satisfaction. Nationality was shown to be negatively related to job satisfaction (B= -0.193), meaning that international students were less satisfied than U.S. student employees. Female students were more satisfied than male student employees.

Pearson correlation

In the test of the relationships among work-related characteristics, it was shown that all variables were significantly related to each other. Table 6 shows the relationship among work-related characteristics. Specifically, supervision quality was shown to be more positively related to orientation and training (0.642) and feedback (0.626) than the relationship between training and orientation and feedback (0.429). Though, feedback was not significant in the multiple regression model, feedback may be important as a variable affecting student employee job satisfaction because of the relationship with supervision quality and orientation and training. Consequently, supervision quality is important for student employee orientation and training and for feedback.

Table 5. Relationship between work-related characteristics and demographic variables and

job satisfaction (n=125)

DV[a]	IV[b]	F	β	*p*
JS[c]	**Work-related characteristics[d] and demographic variables**		13.702	0.000
	Supervision Quality		0.377	0.000*
	Orientation and Training		0.262	0.002*
	Feedback		0.096	0.231
	Gender		0.209	0.001*
	Student Status		0.083	0.240
	Age		0.049	0.482
	Nationality		-0.193	0.002*
	Pay		0.099	0.123
	Length of Work		0.053	0.465

[a] DV= Dependent Variable
[b] IV= Independent Variables
[c] JS= Job Satisfaction
[d] R^2=0.62
*Significant Variables

Table 6. Relationship among work-related characteristics (n=130)

Work-related characteristics	SQ[a]	O&T[b]	FB[c]
SQ[a]			
O&T[b]	0.642		
FB[c]	0.626	0.429	

*All correlations are significant at 0.01 level.
[a]SQ= Supervision Quality
[b]O&T= Orientation and Training
[c]FB= Feedback

Conclusions and Recommendations

Several conclusions and recommendations can be made based on findings of this research:

- Student employees were less satisfied with work, promotion opportunities, and pay than with supervision, people with whom they work, and flexible schedule. Supervisors may want to examine the work of student employees to determine if there are strategies to make the work more interesting (such as job rotation). Supervisors should consider developing opportunities for promotion, which could lead to pay increases. Providing incentives for student employees based on their performance also may increase their satisfaction.

- Work-related characteristics such as supervision quality and orientation and training were significant in the regression model and are significantly related to job satisfaction. Top-level managers need to consider implementing a supervisor training program in an effort to improve the quality of supervision given to employees. Further, they should establish and implement well-structured orientation and training programs.

- Gender and nationality were significant in the regression model and are significantly related to job satisfaction. Females have higher levels of job satisfaction, as do domestic students. Supervisors should be aware that these differences exist. Research is needed to determine why these differences exist and strategies for improving job satisfaction of males and international employees.

- Job satisfaction was shown to be a predictor of student employees' intent to turnover. Work itself and supervision were the significant individual job satisfaction attributes most useful for predicting intent to turnover. Thus, improvements in job assignments for student employees and quality of supervision may reduce turnover, which could reduce training costs and improve customer service

References

Bagozzi, R. P. (1992). The self-regulation of attitudes, intentions, and behavior. *Social Psychology Quarterly, 55*, 178-204.

Bartlett, A. L., Probber, J. K., & Scerbo, F. B. (1999). Student employees in university foodservice: Job design, job characteristics, and job satisfaction. *The Journal of the National Association of College and University Foodservices, 21*, 14-29.

Berry, L. M. (1998). *Psychology at work*. New York: McGraw-Hill Company.

Berta, D. (2004, October 4). Industry labor supply may be revived as culinary school enrollment climbs, pp. 8, 208.

Blank, R., & Slipp, S. (1994). *Voices of diversity*. New York: Amacom.

Coy, J. (2006, January 3). Shrinking labor force is top challenge for global hospitality, tourism & service industries. Retrieved July 13, 2006, from http://www.hotel-online.com/News/PR2006_1st/Jan06_LaborForce.html

Duke, K. M., & Sneed J. (1989a). A research model for relating job characteristics to job satisfaction of university food service employees. *Journal of the American Dietetic Association, 89*, 1087-1091.

Duke, K. M., & Sneed J. (1989b). Administering an employee attitude survey in a university foodservice department. *NACUFS Journal , 14*, 12-15.

Eberhardt, B. J., & Shani, A. B. (1984). The effect of full-time versus part-time employment status on attitudes toward specific organizational characteristics and overall job satisfaction. *Academy of Management Journal, 27*, 893-900.

Fernsten, J. A., & Brenner, O. C. (1987). Coping with turnover: A strategic approach. *Hospitality Education and Research Journal, 11*, 85-94.

Gray, R. A., Niehoff, B. P., & Miller, J. L. (2000). The effect of job characteristics on student employee job satisfaction and intent to turnover in college and university foodservice. *NACUFS Journal, 22*, 44-57.

Hawkins, D. E., & Lee, Y. T. (1991). An empirical analysis of organizational commitment among American hotel sales and marketing professional. *Hospitality Research Journal, 14*, 103-112.

Hoffman, K. D., & Ingram, T. N. (1992). Service provider job satisfaction and customer-oriented performance. *Journal of Service Marketing, 6*(2), 68-78.

Jaffe', W. F., Almanza, B. A., & Chen, C. C. (1994). A study of factors affecting job

satisfaction among university foodservice employees. *Journal of College & University Foodservice, 2*(2), 35-49.

Landy, F. J. (1985). *Psychology of work behavior*. Homewood, IL: Dorsey.

Lawler, E. E., & Suttle, J. L. (1973). Expectancy theory and job behavior. *Organizational Behavior and Human Performance, 9*, 482-503.

Lee, S. J. (1990). *Part-time college workers*. Unpublished master's thesis, Kansas State University.

Locke, E. A. (1976). The nature and causes of job satisfaction. *Handbook of Industrial and Organizational Psychology*. Chicago: Rand McNally.

Martin, R. (1998, May 18). Operators: Retain to fight labor deficit; target retention. *Nation's Restaurant News,* pp. 1,8,279.

Porter, L W., & Steers, R. M. (1973). Organizational work and personal factors in employee turnover and absenteeism. *Psychological Bulletin, 80*, 151-176.

Puckett, R. P. (1982). Making or breaking the new employee. *Contemporary Administrator, 5*(10), 14.

Roehl W. S., & Swerdlow, S. (1999). Training and its impact on organizational commitment among lodging employees. *Journal of Hospitality & Tourism Research, 23*, 176-194.

Schmit, M. J., & Allscheid, S. P. (1995). Employee attitude and customer satisfaction: Making theoretical and empirical connections. *Personnel Psychology, 48*, 521-536.

Schneider, B., & Bowen, D. E. (1985). Employee and customer perception of service in banks: Perception and extension. *Journal of Applied Psychology, 70*, 423-433.

Sims, H. P., Szilagyi, A. D., & Keller, R. T. (1976). The measurement of job characteristics. *Academy of Management Journal, 19*, 195-212.

Smith, P., Kendall, L., & Hulin, C. (1969). *The measurement of satisfaction in work and retirement*. Chicago: Rand McNally.

Sneed, J., & Herman, C. M. (1990). Influence of job characteristics and organizational commitment on job satisfaction. *Journal of American Dietetic Association, 90*, 1072-1076.

Tayeb, M. H. (1996). *The management of a multicultural workforce*. New York: Wiley.

Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.

Job satisfaction of hotel-style room service employees

Lisa Sheehan-Smith, EdD, RD, LDN
Assistant Professor, Department of Human Sciences
Middle Tennessee State University

Abstract: Quantitative and qualitative research methodologies were used to determine the job satisfaction and level of service orientation of hotel-style room service employees (n = 55). The study took place in four heterogeneous hospitals. The Job Satisfaction Survey and semi-structured interviews were used to gather data about room service employees' satisfaction with their job. The Hogan Personality Inventory was used to gather data about their level of service orientation. Results indicate that participants in this study had a high level of job satisfaction and a moderate to high level of service orientation.

Keywords: Hotel-style room service, job satisfaction, service orientation

Job satisfaction of hotel-style room service employees

According to Arnett, Laverie and McLane (2002), "job satisfaction refers to an employee's general affective evaluation of his or her job" (p. 89). Spector (1997) defines the concept more simply as "how people feel about their jobs and different aspects of their jobs" (p. 2). He also considers it as a "related constellation of attitudes about various aspects or facets of the job" (p. 2). Spector believes that employees can feel very differently about the various aspects of their jobs; therefore, he is a proponent of the facet approach for determining job satisfaction. He argues that it provides a more complete illustration of an employee's job satisfaction.

Why should organizations be concerned about their employees' level of job satisfaction? Employee satisfaction increases employee retention (Arnett, Laverie & McLane, 2002; Heskett, Sasser, & Schlesinger, 1997; Press, 2002; Weaver, 1994). Press reports the results from three hospital studies evaluating the effects of employee satisfaction on retention. The findings in each study indicated a significant relationship between employee satisfaction and retention. Weaver reports that the Guest Quarters Hotel chain program to improve employee satisfaction has yielded an employee turnover rate of 45 percent, which is half the industry rate. Retaining employees can play a critical role in an organization's financial health because replacing employees can cost 150 percent or more of an employee's annual salary (Bliss, 2001).

Satisfied employees are also more productive (Heskett, Sasser, & Schlesinger, 1997; Weaver, 1994). Productivity results from how hard employees work plus how smart they work (Reichheld, 1996). According to Reichheld, three criteria drive how hard employees work. They work the hardest when: (1) they have job pride, (2) when they find their jobs interesting and meaningful, and (3) when they are recognized for their work and benefit from the work they have accomplished. He states that employees work smart when they are adequately trained and have been on the job long enough to reap the benefits from their training.

Satisfied employees provide a higher level of external service quality, the service experience that customers receive and evaluate, which leads to increased customer satisfaction (Arnett, Laverie & McLane, 2002; Griffith, 2001; Heskett, Sasser, & Schlesinger, 1997; Johnson, 1996; Ryan, Schmit & Johnson, 1996; Spinelli & Canavos, 2000). Arnett, Laverie and McLane found that employee satisfaction is linked to positive employee behavior such as having a customer orientation. A preliminary study by Press, Ganey Associates in 2001 (Press, 2002) of 76 hospitals found a statistically significant relationship between employee and patient satisfaction ($r = .46$; $p < .001$).

Several studies exist examining the relationship between patient satisfaction and food service quality (Belanger & Dube, 1996; DeLuco & Cremer, 1990; Dube, Trudeau & Belanger, 1994; Folio, O'Sullivan-Maillet & Touger-Decker, 2002; Gregoire, 1994; Gregoire, 1997; Lambert, Boudreaux, Conklin & Yadrick, 1999; Lau & Gregoire, 1998; O'Hara, Harper, Kangas, Dubeau, Borsutzky & Lemire, 1997; Press, 2002; Woodside, Frey & Daly, 1989). However, the research addressing job satisfaction of food service employees is scant. Therefore, in light of the important benefits that can be obtained from employees who are satisfied with their jobs, this study used quantitative and qualitative research methodologies to address: (1) how satisfied hotel-style room service employees are with their jobs, and (2) their level of service orientation.

Methods

The study took place in four heterogeneous hospitals in the United States that had the commonality of using hotel-style room service as its meal delivery process for at least one year. Table 1 provides profiles of each of the research settings. Site visits lasted three days and a sample size of 55 participants was obtained.

Table 1. Descriptive characteristics of hospitals using hotel-style room service

Hospital, Location	Licensed Beds	Type of Ownership	Food Service Management	Room Service Implementation Date
Kid Central[a], lower midwest	373	Private, nonprofit	Contract	November, 2000
Sun Tree[a], southeast	687	Community owned	Self-operated	November 2001-June 2002
St. Bay[a], upper midwest	158	Private, nonprofit Catholic	Self-operated	January, 2002
North Key[a], northeast	134	Private, nonprofit Unionized	Self-operated	September, 2002

[a]The names of the hospitals are fictitious to protect the identity of the research settings and the participants

To obtain potential research sites foodservice consultants and management companies were contacted. I sought out hospitals that were providing excellent room service processes in different geographical regions of the United States. Next, foodservice directors were sent information detailing the study's purposes and the expectations of participants. After securing verbal agreement from each study site, the Institutional Review Board (IRB) committees at each hospital submitted letters of cooperation to the Vanderbilt University IRB prior to the actual site visits. In addition, signed consent was obtained from each study participant.

The study used the purposeful sampling technique of maximum variation sampling for obtaining hospitals that were homogeneous in their meal delivery process, yet heterogeneous in hospital type and participant mix. According to Patton (1980), this sampling method increases the confidence in the commonalities that are found across different programs. It also identifies unique program variations that have been made in adaptation to different contextual situations.

Two quantitative data collection methods were used in this study. First, Spector's Job Satisfaction Survey (1994) was used to assess employee satisfaction. This instrument is a 36 item, nine-facet scale, which assesses employee attitudes about the job and aspects of the job. It provides a summated rating to represent an employee's total job satisfaction. Room service employees who had been on the job at least six months were asked to rate their level of agreement or disagreement with 36 statements using a six-point Likert scale (1 = Disagree very much - 6 = Agree very much).

The internal consistent reliabilities for the nine facets were: (1) contingent rewards = .83, (2) pay = .73, (3) nature of work = .73, (4) coworkers = .69, (5) supervision = .60, (6) promotion = .56, (7) fringe benefits = .51, (8) operating procedures = .48, (9) communication = .47. The coefficient alpha for the total of all the facets is .89. The low reliabilities for some of the scales may be due to the lower reading level of the group and the potential problem of understanding the negatively worded items (P.E.

Spector, personal communication, December 17, 2003). The survey instrument also included a section to obtain demographic data about the participants. It was designed to ensure participant anonymity.

The Hogan Personality Inventory (Hogan & Hogan, 1995) was used to assess the service orientation of room service employees. This survey instrument consists of 206 items categorized into seven primary scales (adjustment, ambition, sociability, likeability, prudence, intellectance, and school success), one validity scale, and six occupational scales (service orientation, stress tolerance, reliability, clerical potential, sales potential, and managerial potential). Room service employees were asked to make a choice about how they feel about the 206 statements. If they marked "T", it meant they agreed with the statement. If they marked "F", it meant they disagreed with the statement. Based on 100 validity studies the Hogan Personality Inventory has a test-retest reliability range of .74 to .86 (Hogan & Hogan). The instrument also included a section to capture demographic data about the participants. Similar to the Job Satisfaction Survey, the Hogan Personality Inventory was designed to ensure participant anonymity. Sample items representing the service orientation scale are:

- I do my job as well as I possibly can.
- I am rarely irritated by faults in others.
- I always try to see the other person's point of view.
- I am a relaxed easy-going person.

The qualitative data collection method used in this study was semi-structured interviews, which were conducted informally while I shadowed the room service employees performing their job duties. Employees were asked standardized questions in order to address the same job satisfaction-related issues in all employees at each study site. However, the questions were open-ended to allow for more input by participants. In addition, I was flexible during the interview process to allow for probing and follow-up questions as needed. Due to insufficient time, interviews were conducted with 24 of the 55 employees who completed the Job Satisfaction Survey. See Figure 1 for a list of questions used in the interviews.

The study used inductive analysis to analyze the qualitative data and NVivo for Windows (QSR, 2002) software as a data management tool. NVivo allows researchers to create files called nodes to store data collected from interviews, observations and documents. This serves to organize vast amounts of data that cannot be reduced to numbers as well as to link, synthesize and clarify data points. This study stored the interview data in a free node titled job satisfaction as well as in four case nodes, which represented each study site.

Figure1. Job satisfaction questions

1. Do you like hotel-style room service for meal delivery to patients? Why?
2. How does nursing service feel about you delivering the trays to patients?
3. What type of training did you receive to do your job?
4. Did you encounter any problems in learning how to be a room service employee?
5. Who helped you to learn how to do your job?
6. Are you able to make decisions to help your patients and to make them happy?
7. What don't you like about your job?
8. What do you like about your job?

Upon the conclusion of data collection at each study site the interview transcripts were first visually coded according to the job satisfaction node. Coding, which is "linking passages from a

document to a node" (QSR, 2002, p. 150) helps to search for patterns within the data. The process constructs as well as tests answers to the research questions. Once the visual coding process was completed the transcripts were imported into NVivo. Using the visually coded transcripts as a guide the data contained in each interview document were coded a second time into the job satisfaction node as well as into case nodes in NVivo. During this process the constant comparative method of Glaser and Strauss (1967) was used for comparing the contents of the nodes for similarities and differences.

Quantitative data analysis included the computation of frequencies for all demographic variables. Means for total satisfaction, the nine satisfaction subscales, and service orientation were calculated for each of the four study sites. The SPSS version 11.0 (SPSS, Inc, Chicago, IL; 2001) statistical software was used for analysis of data.

Results

Employee satisfaction

Characteristics of room service employees. Room service employees (n = 55) who took the Job Satisfaction Survey ranged in age from 17 to 62 years; the mean age was 37.5 years. The majority of the employees were female (72.7 %), white (60.0%) and had a high school education or less (73.6%). There was a wide range in the number of years the room service employees had been employed at the hospitals (.5 – 34.2 years; mean years = 8.9). Specifically related to food service experience, the mean number of years participants had been delivering trays to patients was 3.1 years and 1.8 years working in room service.

Descriptive statistics. Descriptive statistics of the items measuring job satisfaction in this study and the Job Satisfaction Survey norms are presented in Tables 2 and 3, respectively. The mean score for each facet and total job satisfaction reveals that room service employees are more satisfied with their jobs than the employees (total American sample and medical sample) in the Job Satisfaction Survey samples.

Table 2.Descriptive Statistics for Job Satisfaction Facets and Total Satisfaction (n = 55)

Facet	Description of Facet	Mean	Standard Deviation
Nature of work	Satisfaction with type of work done	19.7	4.4
Supervision	Satisfaction with the person's immediate supervisor	19.2	4.0
Coworkers	Satisfaction with coworkers	18.0	4.4
Communication	Satisfaction with communication within organization	17.7	3.8
Operating Conditions	Satisfaction with rules and procedures	16.9	3.7
Pay	Satisfaction with pay and pay raises	16.2	4.9
Fringe benefits	Satisfaction with fringe benefits	16.2	4.0
Contingent rewards	Satisfaction with rewards (not necessarily monetary) given for good performance	15.8	5.7
Promotion	Satisfaction with promotion opportunities	15.6	3.9
Total satisfaction		155.3	25.2

Table 3. Job Satisfaction Survey Norms

Facet	Total American Mean (n = 25,321)	Standard Deviation	Medical (n = 2319)*	Standard Deviation
Nature of work	18.9	1.6	18.7	2.3
Supervision	18.6	1.9	17.6	2.6
Coworkers	17.9	1.4	17.0	2.1
Fringe benefits	14.3	2.3	13.5	2.8
Communication	14.2	1.9	14.2	2.2
Operating conditions	13.6	2.0	12.9	2.4
Contingent rewards	13.5	2.0	12.9	2.6
Pay	11.9	2.6	11.8	2.9
Promotion	11.8	1.9	11.3	2.3
Total satisfaction	134.8	12.3	129.8	16.7

*The medical sample consists of mainly nurses and technicians.

Even though the room service employees in this study were more satisfied with their job than the total American and medical samples, the pattern of facet satisfaction between the groups is similar. The top three facets in each sample were nature of work, supervision and coworkers. The bottom three facets differed slightly. Room service employees were least satisfied with pay, fringe benefits and promotion, while the total American and the medical samples were least satisfied with contingent rewards, pay and promotion.

Previous research in job satisfaction indicates that it is related to age. Brush, Moch, and Pooyan (1987) conducted a meta-analysis of 19 studies. They found a mean correlation of .22 between age and job satisfaction. The studies generally indicate that job satisfaction increases with age. The specific nature for this correlation is not clear. The findings in this study do not corroborate previous studies. There was no correlation between age of room service employees and job satisfaction.

The relation between gender and job satisfaction has been somewhat inconsistent across studies. However, results from two meta-analyses (Brush, Moch, & Pooyan, 1987; Witt & Nye, 1992) showed the mean correlations to be almost zero indicating that men and women have the same level of job satisfaction. The results of the current study support the meta-analyses findings. There was no difference in job satisfaction amongst the male and female room service employees.

Similar to the somewhat inconsistent results with gender and job satisfaction, there appears to be some inconsistency when comparing the job satisfaction of black and white Americans. Two studies show blacks are less satisfied than whites (Greenhaus, Parasuraman, & Wormley, 1990; Tuch & Martin, 1991). However, the Brush, Moch, & Pooyan (1987) meta-analysis did not show any differences. Likewise amongst room service employees, there were no racial differences.

Interview Findings. Room service employees were asked, "What do you like about your job?" Based upon interviews with 24 room service employees, four themes emerged. 95.83% of the employees interviewed cited the most common reason for liking their jobs was the interpersonal communication opportunities. Fourteen of those employees (60.95%) stated they enjoyed interacting with patients, while the other nine (39.13%) liked the interaction they had with fellow employees. One

of the employees said, “I like interacting. There’s always someone new.” The second theme is pleasing the customer, which was mentioned by 9 of the 24 interviewed employees (37.50%). Comments made by employees include: “serving the people. I try to make them smile,” and “I get to do a little part in helping someone get well.” The third and fourth themes, getting out of the kitchen and a sense of empowerment, were both mentioned four times or by four employees (16.67%). As one young woman stated, “getting out of the kitchen and up on the floors brought out my customer service skills; I used to be quiet.” At another hospital, a host said, “I find it very rewarding. There is no pressure. Nobody follows you. You can prove yourself and have fun with the employees.” Other factors, which contributed to the room service employees liking their jobs, were the hospital atmosphere, teamwork and the benefits.

Room service employees were also asked, “What don’t you like about your job?” 20.83% (5 out of 24) of the employees interviewed stated that they did not like their jobs when it got too busy. A high patient census and employees not showing up for work were the main causes for feeling too busy. As one employee stated, “When employees don’t show up for work, those on duty have to walk a lot more.”

A second theme that emerged was job-process oriented. Four (16.67%) employees stated specific yet different issues they felt impacted service to the patients. Issues mentioned were diet orders not being put in on a timely basis, isolation trays not delivered in a timely fashion, and inadequate communication of discharged patients. Hosts at Sun Tree felt there needed to be some down time between breakfast and lunch in order to get ready to serve lunch to the patients.

In addition to the first two themes, employees also mentioned compensation, responsibilities being added to their job tasks without added compensation, too much walking and a lack of respect from other hospital employees in response to “what don’t you like about your job?” However, the extent of their presence is weak because they were identified infrequently.

The themes representing what room service employees like about their jobs compare quite remarkably to two of the top three satisfaction facets. The themes of pleasing the customer, getting out of the kitchen and a sense of empowerment relate to the nature of their job, the facet, which had the highest mean score on the Job Satisfaction Survey. Room service employees also expressed that they enjoyed interacting with their fellow employees, which correlates nicely with the facet, satisfaction with coworkers. This facet had the third highest mean score.

In contrast, the themes representing what room service employees did not like about their jobs were not congruent with the bottom three satisfaction facets. One explanation for this discrepancy could be that employees felt comfortable expressing their dissatisfaction with pay, contingent rewards and promotion when it was done anonymously as was the case in completing the Job Satisfaction Survey. However, room service employees may not have felt the same level of comfort during a personal interview where responses to questions were being recorded. Another possible explanation for the “dislike themes”, of not enjoying their job when they are too busy and job process issues may have come out because the interviews took place while the room service employees were doing their job. The actual job tasks they were completing could have served as prompters for job process-related issues. Pay, promotion and contingent rewards were more removed issues. However, two employees did express their dislike of the compensation.

According to numerous authors (Arnett, Laverie & McLane, 2002; Griffith, 2001; Heskett, Sasser, & Schlesinger, 1997; Johnson, 1996; Ryan, Schmit & Johnson, 1996; Spinelli & Canavos, 2000), one of the main reasons organizations should strive for employee satisfaction is the relationship it has with external service quality, the service experience customers receive and evaluate. Patients want to be treated in a healing environment by health care providers who are kind, caring and respectful (Frampton, 2001). Viewing patients as more than just individuals dressed in unbecoming hospital gowns requires a customer or service orientation.

Employee service orientation

Characteristics of room service employees. Room service employees (n = 55) who completed the Hogan Personality Inventory differed slightly from those who completed the Job Satisfaction Survey. All room service employees were eligible to complete it, while employees had to be on the job for at least six months to participate in the Job Satisfaction Survey. This criterion eliminated five employees. Since participation in any part of the study was voluntary, two employees who completed the Job Satisfaction Survey did not want to complete the Hogan Personality Inventory. Finally, three employees who completed the Hogan Personality Inventory had raw validity scores of less than ten. This is an indication that the inventory was completed in such a careless manner that their profiles are invalid. Therefore, these employees were not included in the final sample. Hence sample sizes are the same but include a slightly different participant mix. The participants who completed the Hogan Personality Inventory ranged in age from 17 to 62 years; the mean age was 36.8 years. The majority of the employees were female (74.5 %) and white (63.6%).

Descriptive statistics. The mean of the participants' raw scores representing their service orientation was 10.56; the standard deviation was 2.2 and the percentile was 60. This is comparable to the inventory's norms (n = 30,625) where the mean for service orientation is 10.70, the standard deviation is 2.4 and the percentile is 60. According to the Hogan Personality Inventory Manual (1992), scores on the various scales are considered high when they are above the 65th percentile and low when they are below the 35th percentile. Table 4 shows the degree of service orientation amongst room service employees. The majority (69%) of the room service employees had moderate or high levels of service orientation.

Table 4. Service orientation of room service employees

% of participants	Service orientation	Percentile categories
31 (n = 17)	low	0-34
27 (n = 15)	moderate	35-64
42 (n = 23)	high	≥ 65

There is limited data on the service orientation of health care providers in which to compare that of the room service employees in this study. Two small studies from the Hogan Personality Inventory database provide some information about the service orientation of health care providers. A study conducted in 1997 of certified nursing assistants (n = 10) shows that they had a mean score of 11.08 (SD = 1.95; percentile of 60), a similar finding to the participants in the current study. The other study included licensed practical nurses (n = 16). Their mean score of 9.06 (SD = 2.43; percentile of 31) for service orientation was considerably less than the room service employees' score.

Two studies have examined the service orientation of employees who deliver meals to patients in hospitals. The instrument used in these studies was not the same as the one used in the current study; therefore, a valid comparison of service orientation amongst samples is not possible. Of interest though is Gregoire's (1994) finding that nursing employees were more comfortable interacting with patients, especially during busy workdays. This result is not necessarily surprising because interaction with patients is part of the daily nursing routine, but it is not routine for many food service employees. Therefore, it is of practical significance for managers responsible for hiring room service employees who have not had interaction with patients in prior jobs. If they are fearful or uncomfortable about entering a patient's room, their level of service orientation may be compromised. As noted in an earlier discussion, some of the room service employees who participated in the current study were fearful about entering patients' rooms. Managers may want to consider this issue during the hiring and training of new room service employees.

Finally, according to the peer descriptive validation research (Hogan & Hogan, 1992) used in the development of the Hogan Personality Inventory, adjectival correlates used to describe service-oriented people are calm (.32, $p < .01$), praising (.31, $p < .01$), and soft-hearted (.30, $p < .01$). The observational data and interview data from the current study support the adjectival correlates of calm to a certain degree and are very supportive of soft-hearted. Most employees appeared at ease and not rushed when fulfilling their responsibilities. They took their time with patients, taking care of their food service needs and making sure the appearance of patients' trays was very good. However, when employees had more trays than usual to deliver they did appear to rush and not take as much time with their patients. As presented in an earlier discussion, the words used to describe the room service employees' interactions with patients indicate that they were very emotionally responsive to patients. A host at Sun Tree said she enjoyed, "encouraging and comforting patients, making them smile".

Conclusions and Applications

Despite accumulative research results indicating the importance of job satisfaction for employee retention, increasing productivity, and providing a higher level of external service quality to customers, this study is one of the first to address job satisfaction in hospital-based food service employees. Study participants appear to be happy with their jobs. All of the mean scores for the Job Satisfaction Survey facets and total satisfaction were higher than the survey's norms. Interviews with room service employees identified more reasons why they liked their jobs than disliked them.

This study is subject to three limitations. First, it was conducted in only four hospitals. Consequently, caution is urged in generalizing the findings beyond the context of these hospitals. The second limitation concerns the small sample size and only the use of food service workers employed in hospitals using the room service delivery process. The groups of employees at each hospital were also unequal in number (range = 9-22). This prevented valid comparison of employees' level of job satisfaction and service orientation between hospitals. Third, the study did not obtain employee retention rates. In light of the participants' level of job satisfaction, it would have been valuable to see if it correlated with higher retention rates as earlier research data has indicated. Future studies could add to these initial findings by including more hospitals to obtain a larger sample size. It would also be of interest to include hospitals that use various meal delivery processes to see if differences exist in employee job satisfaction and service orientation. Finally, obtaining employee retention rates would add to the existing data on the relationship between job satisfaction and employee retention.

Hotel-style room service is one of the newest approaches for delivering meals to patients. A synthesis of peer-reviewed (Frankmann, Tekrouri, Croissant, Banamar, & Cherukara, 2002; McLymont, Cox, & Stell, 2003; Rogers, 2002; Schroeder, Lopeman, Mcbeth, & Barale, n.d.; Sheehan-Smith, in press) and trade journal (At Your Request, n.d.; Conley & Schirg, 2003; "The Healing Power", 1999; Malone, 1999; Muchnok & Rakowski, 2002; Norton, 2001; Shockey, 2003; Timing is everything, 1999) articles indicate that when hospitals change to room service patient satisfaction scores increase. This meal delivery process as the name implies has been adapted from the hospitality industry. Room service is very customer-oriented. Patients use a restaurant-style menu to order the foods they want to eat at times that suit their need and desire to eat.

In light of this meal delivery approach, it is not surprising that employees in this study would have a higher level of service orientation. During discussions with the hospitals' food service managers about their room service processes, they informed me that the main criterion used to select employees was customer orientation. However, only one hospital had a specific method to identify this quality. Interview data collected from room service employees indicated that they received intense training not only on their job responsibilities, but also in customer service.

Results of this study have important implications for food service managers whether they are using hotel-style room service for delivering meals to patients or another meal delivery method. First, they might want to assess their current hiring techniques. If they have the goal of improving patient satisfaction of food service, then employees who are service oriented will help them to achieve that goal. It might be wise to ask for advice from their human resource department, to benchmark procedures used by companies known for delivering quality customer service, or to use a tool such as the Hogan Personality Inventory as a component of the selection process.

Once employees are hired, these employees will need continuous training in customer service that is appropriate for the hospital setting. Areas to address might include: (1) telephone etiquette, (2) how to enter a patient's room and present the meal, and (3) how to deal with difficult patients.

The final area food service managers should consider is their reward and recognition practices. Do the current practices appear to motivate and encourage employees to take ownership of their service encounters? Are they tied to patient satisfaction results? Organizations who value employee satisfaction also reward and recognize employees (Burke, 2001; Enz & Siguaw, 2000; Goehring, 2002; Heskett, Sasser & Schlesinger, 1997; Kenagy, Berwick, & Shore, 1999; Press, 2002; Spinelli & Canavos, 2000).

Responsibilities of today's food and nutrition services departments are vast and focus on achieving the hospital's goals, which typically pertain to patient satisfaction, quality outcomes, cost containment and revenue generation (Lafferty & Dowling, 1997). In order to accomplish those goals, hospital management would be wise to first look internally. Who are they choosing to become a part of their health care delivery team? Are these individuals customer oriented? Once service-oriented people are hired is continuous customer service training provided? Finally, how are team members treated? Employees are a hospital's internal customers. Therefore, should we not value employee satisfaction as much as patient satisfaction?

This research was supported in part by the Neige Todhunter Fellowship.

References

Arnett, D.B., Laverie, D.A., & McLane, C. (2002, April). Using job satisfaction and pride as internal-marketing tools. *Cornell Hotel and Restaurant Administration Quarterly*, 87-96.
At Your Request: Room Service Dining. (n.d.). (CD). Avon, CT: Sodexho Health Care Services.

Belanger, M., & Dube, L. (1996). The emotional experience of hospitalization: Its moderators and its role in patient satisfaction with foodservices. *Journal of the American Dietetic Association*, 96(4), 354-360.

Bliss, W. (2001). The business cost and impact of employee turnover. Retrieved March 28, 2003 from www.blissassociates.com/html/articles/employee_turnover01.html

Brush, D.H., Moch, M.K., & Pooyan, A. (1987). Individual demographic differences and job satisfaction. *Journal of Occupational Behaviour*, 8, 139-155.

Burke, G. (2001, March/April). From flavor of the month to true behavioral change: Building a customer-focused culture. *The Satisfaction Monitor*, 4-5.

Conley, G.T., & Schirg, G.R. (2003, July). How to supercharge your projects: Successful strategies to getting your programs approved! Symposium conducted at the meeting of the American Society for Healthcare Food Service Administrators, Braselton, Georgia.

Deluco, D., & Cremer, M. (1990). Consumers' perceptions of hospital food and dietary services. *Journal of the American Dietetic Association*, 90(12), 1711-1715.

Dube, L., Trudeau, E., & Belanger, M. (1994). Determining the complexity of patient satisfaction with foodservices. *Journal of the American Dietetic Association*, 94(4), 394-398.

Enz, C.A., & Siguaw, J.A. (2000, October). Best practices in service quality. *Cornell Hotel & Restaurant Administration Quarterly*, 20-29.

Folio, D., O'Sullivan-Maillet, J., & Touger-Decker, R. (2002, April). The spoken menu concept of patient foodservice delivery systems increases overall patient satisfaction, therapeutic and tray accuracy, and is cost neutral for food and labor. *Journal of The American Dietetic Association*, 102(4), 546-548.

Frampton, S.B. (2001, Fall). Planetree patient-centered care and the healing arts. *Complementary Health Practice Review*, 7(1), 17-19.

Frankmann, C.A., Tekrouri, M., Croissant, C.A., Banamar, R., & Cherukara, F. (2002, September). Bringing fine hotel service to patients. *Journal of the American Dietetic Association*, 102(Supplement 2), A-79.

Glaser, B.G., & Strauss, A.L. (1967). *The discovery of grounded theory*. Hawthorne, NY: Aldine.

Goehring, K.S. (2002, July/August). Linking a service culture with patient satisfaction. *Healthcare Executive*, 60-61.

Greenhaus, J.H., Parasuraman, S., & Wormley, W.M. (1990). Effects of race on organizational experiences, job performance evaluations, and career outcomes. *Academy of Management Journal*, 33, 64-86.

Gregoire, M.B. (1994). Quality of patient meal service in hospitals: Delivery of meals by dietary employees vs delivery by nursing employees. *Journal of the American Dietetic Association*, 94(10), 1129-1134.

Gregoire, M.B. (1997). Do inpatients rate hospital food and nutrition services differently than discharged patients? *Journal of Foodservice Systems,* 9*, 245-250.*

Griffith, J. (2001). Do satisfied employees satisfy customers? Support-services staff morale and satisfaction among public school administrators, students, and parents. *Journal of Applied Social Psychology,* 31(8), 1627-1658.

The healing power of food comes to the hospital. (1999, April). *Patient-Focused Care and Satisfaction,* 39-41.

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

Hogan, R., & Hogan, J. (1992). *Hogan personality inventory manual, 2nd ed.* Tulsa, OK: Hogan Assessment Systems.

Hogan, R., & Hogan, J. (1995). *Hogan personality inventory.* Tulsa, OK: Hogan Assessment Systems.

Johnson, J.W. (1996). Linking employee perceptions of service climate to customer satisfaction. *Personnel*

Psychology, 49, 831-851.

Kenagy, J.W., Berwick, D.M., & Shore, M.F. (1999). Service quality in health care. *Journal of the American*

Medical Association, 281(7), 661-665.

Lafferty, L., & Dowling, R.A. (1997, December). Position of the American Dietetic Association: Management of health care food and nutrition services. *Journal of the American Dietetic Association,* 97(12), 1427-1430.

Lambert, L.G., Boudreaux, J. Conklin, M., & Yadrick, K. (1999). Are new meal distribution systems worth the effort for improving patient satisfaction with foodservice? *Journal of the American Dietetic Association,* 99(9), 1112-1114.

Lau, C., & Gregoire, M.B. (1998). Quality ratings of a hospital foodservice department by inpatients and postdischarge patients. *Journal of the American Dietetic Association,* 98(11), 1303-1307.

Malone, M.P. (1999, July/August). Best practices: Food, glorious food! *Satisfaction Monitor.* Retrieved July 17, 2002 from http://www.pressganey.com/research/resources/satmon/text/bin/138.shtm.

McLymont, V., Cox, S., & Stell, F. (2003, January-March). Improving patient meal satisfaction with room service meal delivery. *Journal of Nursing Care Quality*, 18(1), 27-37.

Muchnok, A., & Rakowski, J. (2002, September/October). Turning up the heat: Exceeding the food critics'expectations. *The Satisfaction Monitor,* 4-5.

Norton, C. (2001, May-June). Current patient tray delivery concepts. *Dietitian's Edge,* 50, 53-54.

O'Hara, P.A., Harper, D.W., Kangas, M., Dubeau, J., Borsutzky, C., & Lemire, N. (1997). Taste, temperature, and presentation predict satisfaction with foodservices in a Canadian continuing-care hospital. *Journal of the American Dietetic Association,* 97(4), 401-405.

Patton, M.Q. (1980). *Qualitative evaluation methods.* Beverly Hills, CA: Sage Publications, Inc.

Press, I. (2002). *Patient satisfaction: Defining, measuring, and improving the experience of care*. Chicago, IL:Health Administration Press.

QSR International Pty Ltd. (2002). NVivo® for Windows® [computer software]. Melbourne, Australia: QSR International Pty Ltd.

QSR International Pty Ltd. (2002). *NVivo®: Using NVivo® in Qualitative Research.* Melbourne, Australia: QSR International Pty Ltd.

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

Reidenbach, R.E., & Sandifer-Smallwood, B. (1990, December). Exploring perceptions of hospital operations by a modified SERVQUAL approach. *Journal of Health Care Marketing,* 10(4), 47-55.

Rogers, R. (2002, September). Effects of a hotel-style room service: Patient feeding system on food cost and patient satisfaction. *Journal of the American Dietetic Association,* 102(Suppl. 2), A-33.

Ryan, A.M., Schmit, M.J., & Johnson, R. (1996). Attitudes and effectiveness: Examining relations at an organizational level. *Personnel Psychology,* 49, 853-882.

Schroeder, K., Lopeman, C., McBeth, C., & Barale, K. (n.d.). Reengineering food service: From trayline tohotel-style a la carte dining. *Journal of the American Dietetic Association, (Supple.)*

Sheehan-Smith, L. (in press). The key facilitators and best practices of hotel-style room service in hospitals. *Journal of the American Dietetic Association.*

Shockey, G. (2003, First Quarter). Hospital room service delivers bottom-line results. *The Consultant*, 81-87.

Spector, P.E. (1994). *Job satisfaction survey.* Tampa, FL: University of South Florida, Department of Psychology.

Spector, P.E. (1997). *Job satisfaction: Application, assessment, causes, and consequences.* Thousand Oaks, CA: Sage.

Spinelli, M.A., & Canavos, G.C. (2000, December). Investigating the relationship between employee satisfaction and guest satisfaction. *Cornell Hotel and Restaurant Administration Quarterly,* 29-33.

Timing is everything. (1999, May). *Food Management*, 34(5), 24-27.

Tuch, S.A., & Martin, J.K. (1991). Race in the workplace: Black/white differences in the sources of job satisfaction. *Sociological Quarterly*, 32, 103-116.

Umiker, W. (2000). Front-line training: A health care imperative. *The Health Care Manager*, 18(4), 14-21.

Weaver, J.J. (1994, February). Want customer satisfaction? Satisfy your employees first. *HR Magazine*, 110, 112.

Witt, L.A., & Nye, L.G. (1992). Gender and the relationship between perceived fairness of pay or promotion and job satisfaction. *Journal of Applied Psychology,* 77, 910-917.

Woodside, A.G., Frey, L.L., & Daly, R.T. (1989, December). Linking service quality, customer satisfaction, and behavioral intention. *Journal of Health Care Marketing,* 9 (4), 5-17.

To empower or not to empower: The case of students employed in one Midwestern university's dining services

Swathi Ravichandran, MBA, PhD
Assistant Professor
Hospitality Management
Kent State University

Shirley Gilmore, PhD, RD
Professor
Apparel, Educational Studies, and Hospitality Management
Iowa State University

ABSTRACT

Empowerment research in hospitality is limited. Past researchers suggested that different subject groups in the service industry should be studied to learn more about the concept and practice of empowerment. In an attempt to address this need, the goal of this research was to study the relationship between empowerment and intent to turnover in student employees in university dining services. The moderating roles of job satisfaction and power distance were also studied. Results indicate that empowerment indirectly impacted student employee intent to turnover through job satisfaction. In addition, power distance perceptions had a direct and indirect (through job satisfaction) negative relationship with intent to turnover. Results are compared to past studies conducted in other settings and managerial implications are discussed.

Keywords: empowerment, turnover, job satisfaction

INTRODUCTION

University foodservice managers employ a large number of part-time employees to provide flexibility in staffing (Neumann, Stevens, & Graham, 2001). They rely heavily on student employees to fill hundreds of part-time positions (Gray, Niehoff, & Miller, 2000). However, in a study involving students employed in university dining services (UDS), Bartlett, Probber, and Scerbo (1999) stated that turnover, absenteeism, and lack of motivation were challenges facing managers. Panelists in a videoconference sponsored by the National Association of College & University Food Services stated that recruiting and retaining student employees were common problems in college and foodservice operations (Wright & Kadis, 1998). Lin (2003) found that a high level of turnover was prevalent among students employed in UDS at the university. Employee empowerment has been identified as a predictor of turnover (Hogan, 1992).

Empowerment research in hospitality and tourism is very limited (Erstad, 1997). Managerial interest in employee empowerment in the hospitality industry has been associated with gaining competitive advantage through improvements in service quality (Hubrecht & Teare, 1993). Fulford and Enz (1995) suggested that different subject groups in the service industry should be studied to learn more about the concept and practice of empowerment.

LITERATURE REVIEW

Empowerment has been described as a venue to enable employees make decisions (Bowen & Lawler, 1992) and as a personal experience where individuals take responsibility for their own actions (Pastor, 1996). The first definition puts the onus on management, and the second emphasizes the importance of the individual for successful application of empowerment. Whereas, earlier research focused on empowerment as a set of management practices to delegate authority (discretionary empowerment) (Blau & Alba, 1982), recent research has centered on psychological empowerment, focusing on employee experience (Corsun & Enz, 1999).

Kelley (1993) distinguished among three types of discretionary empowerment: routine, creative, and deviant, available during the service-delivery process. Routine discretion is implemented when employees select an alternative from a list of possible actions to do their jobs. Creative discretion is present when employees develop alternate methods of performing a task. Deviant discretion, which is not preferred by organizations, involves behaviors outside the scope of an employee's formal job description and authority. Thomas and Velthouse (1990) defined psychological empowerment as inherent motivation evident in four cognitions (meaning, competence, self-determination, and impact) reflecting an employee's orientation to his or her work role.

Numerous studies have shown that empowerment increases job satisfaction and reduces role stress (Zeithaml, Berry, & Parasuraman, 1988). Singh (1993) found that customer-contact employees experienced less role ambiguity when their discretionary powers increased. Empowerment led to quicker resolution of customer problems because employees did not waste time referring customer complaints to managers (Rafiq & Ahmed, 1998). The authors stated that empowerment was highly crucial in situations where customer needs are highly variable, in order to enable employees to customize service delivery. Empowerment also increased the scope and opportunity for customization of service products in comparison to manufactured products.

Empowerment and power distance

Individuals in high-power distance societies have allowed inequalities of power and wealth to grow. In contrast, individuals in low-power distance societies deemphasize the differences between a citizen's power and wealth. Past studies (Eylon & Au, 1999; Robert, Probst, Martocchio, Drasgow, & Lawler, 2000) have concluded that individuals from high-power distance cultures performed significantly better in the disempowered situation with respect to productivity than in the empowered situation. Traditionally, U.S. has been classified as a low-power distance culture (Hofstede, 1980).

Rationale for the study

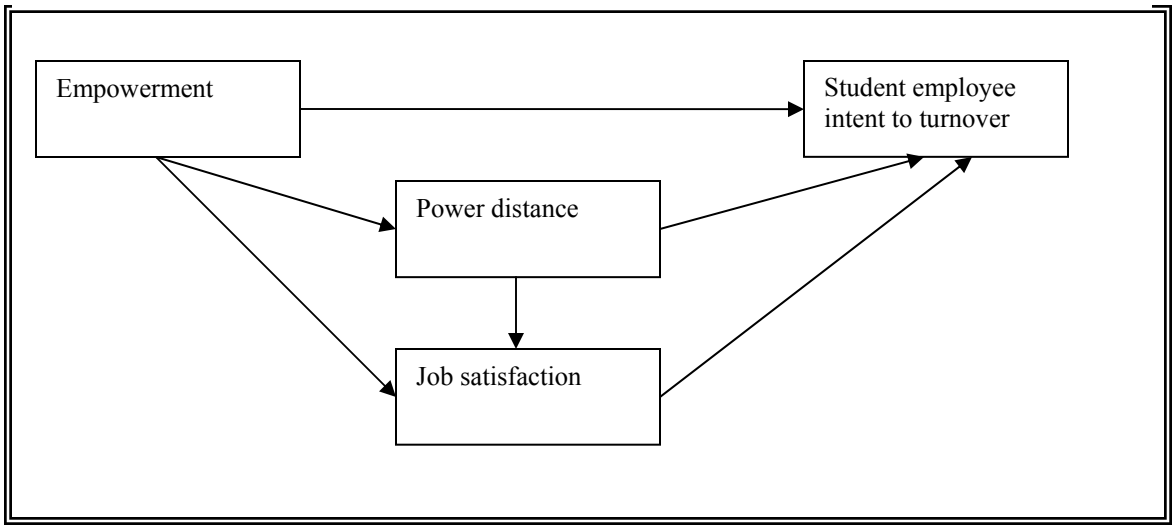
Very few studies have tested the relationship between empowerment and turnover intentions empirically in the hospitality industry. No studies were found that tested the impact of empowerment on job satisfaction and turnover intentions in part-time student employees in the UDS context. In the past, power-distance has been used as a distinguishing characteristic of a country's culture. However, it is not known if power distance perceptions vary from one ethnicity to another within the same country. Because of the increasing representation of ethnic minorities (Lum, 2003; Moore, 2002) and international students (Ginsberg & Ochoa, 2003) in university student population, it is essential to determine the moderating role played by the cultural value of power distance on the effect of empowerment on job satisfaction. Since the academic year 1982-1983, the number of international students has increased by 74% (Institute of International Education, 2003). It also is not known if perceptions of power distances will change for students who originally come from high-power distance societies as a result of working in a society with traditionally low-power distance i.e., U.S.

RESEARCH FRAMEWORK AND PROPOSITIONS

An illustration of the research framework is available in Figure 1. Research propositions are as follows:

1. A negative relationship exists between student employees' perceptions of discretionary empowerment and intent to turnover in UDS.
2. Job satisfaction mediates the relationship between employee perceptions of discretionary empowerment and intent to turnover in UDS.
3. Power distance mediates the relationship between U.S. Caucasian student employees' perceptions of discretionary empowerment and job satisfaction in UDS.

Figure 1. Conceptual framework showing the influence of employee empowerment perceptions on student employee intent to turnover mediated by power distance and job satisfaction



METHODOLOGY

Sample selection

This study focuses on perceptions of students employed in the UDS of a four-year, public, land-grant university in the Midwestern U.S. Study sample included students who only can be employed on a part-time basis (20 hours or less a week when classes are in session) in any of 21 dining locations on-campus and 18 years of age or older as of the date the survey was administered. Dining locations included cafes, bakeries, commissary kitchens, convenience stores, food court, vending, and residence hall dining centers. A most recent list of part-time student hourly employees was obtained from the human resources office of UDS.

Instrument design

Interviews were conducted with senior-level UDS managers to determine the need for and appropriateness of questionnaire items. Statements addressing empowerment and power distance were followed by statements related to respondents' job satisfaction and intent to turnover. Past studies (Brockner et al., 2001; Hackman & Oldham, 1975; Lum, Kervin, Clark, Reid, & Sirola, 1998; Spreitzer, 1995) were used to develop statements measuring constructs of empowerment, power distance, job satisfaction, and intent to turnover. Respondents were asked to indicate how much they agreed or disagreed with each statement using a five-point Likert-type scale with 1=Strongly disagree to 5=Strongly agree. Demographic questions including facility of employment, hours of employment per week, interaction time with co-workers and managers, age, ethnic background, major in college, and reasons for employment were placed at the end of the questionnaire.

Pilot study

Part-time students (n = 10) employed in the Food and Nutrition, and Patient Services departments at a university hospital in Midwestern U.S. volunteered to participate in the pilot study. A paper-version of the questionnaire was mailed to students along with a cover letter

explaining the pilot study. The web version of the questionnaire was pre-tested using students from one class in the Hotel, Restaurant, and Institution Management program at a Midwestern state university. This sample is representative of the student employee population. Participants were asked to complete the questionnaire and provide comments regarding content, clarity of directions, and format. Dillman (2000) identified several advantages of using web surveys including low costs (no printing, postage, and data entry costs), quicker completion time of project, and comparable response rates. Appropriate recommendations from participants were incorporated into the final version of the questionnaire.

Data collection

An email was sent to all eligible student employees (n = 849) obtained from payroll data provided by the human resources office of UDS. A reminder email was sent to participants four days after the first email. The body of the email included a cover letter explaining benefits of the study, voluntary participation, and anonymity. A hyperlink to the survey also was provided. After reading the body of the email, students who chose to participate in the study were taken to the web survey by clicking on the hyperlink. Participants were to click on the submit button upon completion of the survey. Responses were received directly by us. Because responses were not viewed by managers, anonymity was ensured. Students were given one week from first contact to respond. A total of 285 responses were received, a response rate of 33.6%. Approval from the Institutional Review Board allowed for two $50 cash prizes to be given to participants selected in a random drawing in appreciation for participation.

RESULTS AND DISCUSSION

Statistical Package for the Social Sciences (SPSS) for Windows Release 13.0 (2004) and LISREL 8.5 were used to analyze data. Convergent validity of all scales was determined by calculating Cronbach's alpha. Nunnally's (1978) recommendations were used as a benchmark. Descriptive statistics calculated included frequencies, means, and standard deviations. Negatively-stated items were reverse-coded prior to data analysis. "Exclude cases listwise" option was used in SPSS for data analysis. Path analysis was used to determine whether or not employee perceptions of empowerment were related directly to intent to turnover or if they were mediated by perceptions of power distance and job satisfaction.

Demographic characteristics and descriptive statistics

Demographic characteristics of respondents are in Table 1. Majority of respondents (58.3%) were female, and 97.1% were 23 years of age or younger. Almost half of respondents (47%) stated that the job at UDS was their first job in the foodservice sector; however, 91.5% indicated it was not their first job. Majors and years in college of respondents were fairly evenly distributed. Because majority of respondents (83.5%) were Caucasians, "ethnic background" was coded as "1" for Caucasians and "0" for all other categories.

Table 1. Demographic characteristics of respondents

Characteristics	Number of respondents	Percent (%)
Job Title		
Students w/o supervisory responsibilities	228	80.0
Students w/ supervisory responsibilities	44	15.4
Other	8	2.8
No response	5	1.8
Ethnic Background		
Caucasian	238	83.5
African-American	10	3.5
Hispanic-American	10	3.5
Asian American	7	2.5
American Indian	0	0.0
International	12	4.2
No response	8	2.8
Semesters of employment at UDS		
2 semesters or less	169	59.5
Between 2 and 4 semesters	71	25.1
More than 4 semesters	45	15.4
Semesters of employment with supervisor		
2 semesters or less	196	68.9
Between 2 and 4 semesters	71	25.0
More than 4 semesters	18	6.1
Hours of employment at week at UDS		
< 5	6	2.0
5 - 10	58	20.4
11 - 15	161	56.5
16 – 20	60	21.1
Interaction time with co-workers		
< 25%	50	17.5
25% - 50%	76	26.7
51% - 75%	76	26.7
76% - 100%	75	26.3
No response	8	2.8
Interaction time with managers		
< 25%	162	56.8
25% - 50%	67	23.5
51% - 75%	30	10.5
76% - 100%	16	5.6
No response	10	3.6

Of 21 dining locations on-campus, one location employed 28.1% of respondents. With respect to type of facility (residential dining centers, restaurants, C-stores etc.), majority of respondents (52.6%) worked for various residential dining centers on-campus. Respondents also stated that, on average, they were responsible for 66.3% of their college expenses. Financial

sources to pay for college expenses included job(s), student loans, scholarships and grants, and work study through the financial aid office.

Reasons for employment at UDS are in Table 2. The top three reasons for employment with UDS were "allows for a flexible schedule," "place of residence is close to work," and "hourly rate of pay." The average hourly rate was $10.20 with a range from $6.75 to $13.86. More than a quarter (26.5%, n = 72) of respondents stated that they were considering quitting. Reasons for leaving UDS are in Table 2. The top reason for considering quitting was that students disliked being employed in foodservice.

Table 2. Reasons for employment at UDS and intent to turnover

Reasons	**Number of respondents**	**Percent (%)**
Reasons for employment at UDS*		
Allows for a flexible schedule	246	86.3
Lack of transportation to work off-campus	204	71.6
Place of residence is close to work	176	61.8
Hourly rate of pay	161	56.5
Employment related to major/degree	20	7.0
Can only work on-campus	19	6.7
Reasons for considering quitting UDS*		
Don't like to work in foodservice	30	10.5
Can't keep up with school work-load	18	6.3
Found another job related to major	19	6.7
Don't like work hours	16	5.6
Don't get along with supervisor	5	1.8
Don't get along with co-workers	1	.4

*Students were allowed to check all applicable reasons

Descriptive statistics of all measured constructs appear in Table 3. Cronbach's alpha was 0.61 for the intent to turnover scale. This is below the recommended level of 0.70 (Nunnally, 1978). Hair, Anderson, Tatham, and Black (1998) stated that a Cronbach's alpha of 0.60 was acceptable when most items in these two scales were new and formulated specifically for the research context. Hence, the intent to turnover scale was used for data analysis. The other construct reliabilities were above the recommended 0.70 level.

Table 3. Item-specific descriptive statistics and reliability

Item	Mean	Reliability
Power distance		
People at lower levels in the organization should carry out the requests of people at higher levels without questions	3.00±1.15	
People at higher levels in organizations have a responsibility to make important decisions for people below them	3.69±0.90	
Once a manager makes a decision, people working for the company should not question it.	2.68±1.06	0.74
In work-related matters, managers have a right to expect obedience from their subordinates.	3.83±0.86	
An organization's rules should not be broken, not even when the employee thinks it is in the company's best interest	3.11±0.95	
Item	**Mean**	**Reliability**
Empowerment		
I have significant autonomy in determining how I do my job	3.39±0.89	
I can decide on my own how to go about doing my work	3.43±0.99	0.81
I have considerable opportunity for independence and freedom in how I do my job	3.32±1.04	
Job satisfaction		
Generally speaking, I am very satisfied with my job	3.80±1.00	
I am generally satisfied with the nature of work I do in this job	3.71±1.06	0.86
Generally speaking, I am very satisfied with my manager	3.94±0.95	
Intent to turnover		
I often think about leaving the organization	2.34±1.21	
It is likely that I will look for another job outside foodservice within the next 6 months	2.84±1.53	0.61

*Denotes reverse-coded items
Responses for items ranged from 1=Strongly Disagree to 5=Strongly Agree

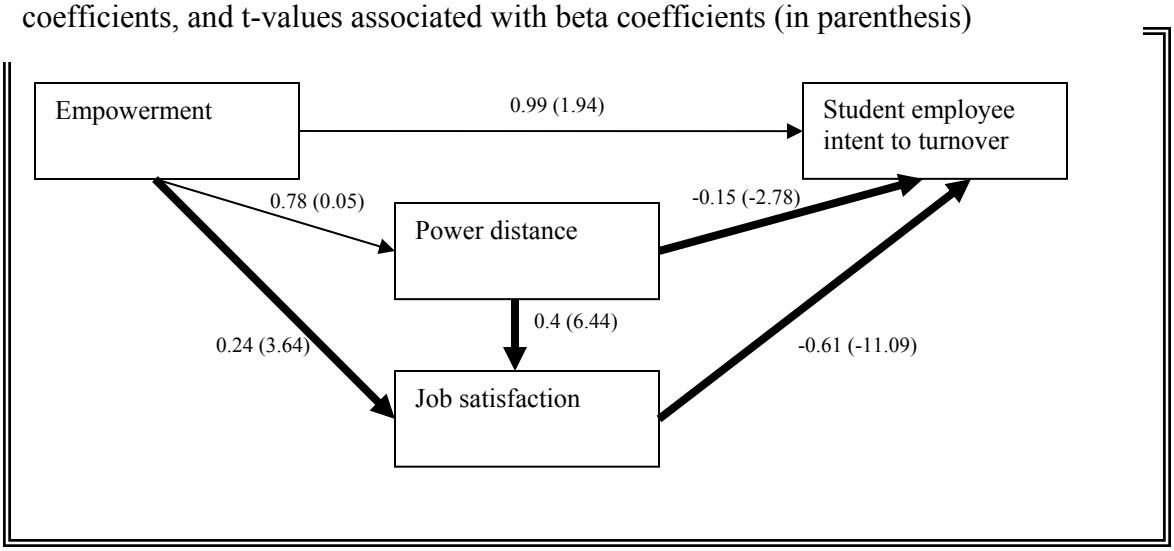
Path analysis

Path analysis (Figure 2) was used to determine whether or not empowerment impacted student employee intent to turnover directly, or if it was mediated by perceptions of job satisfaction and power distance. Path analysis results shown in Figure 2 apply only to Caucasian respondents. The initial intention was to determine if power-distance perceptions varied by ethnic group (within the U.S.) and country of origin. Also of interest was the influence of power-distance scores for members of various ethnic groups and countries on the relationship between empowerment and power distance. However, due to 83.5% of respondents being Caucasians, a meaningful comparison of power-distance scores could not be made. Hence, only Caucasian responses were included in the model to prevent any bias arising from respondents of other ethnic groups and nationalities.

Path analysis results suggest that empowerment perceptions of student employees do not directly impact their intent to turnover. The direct path was not significant ($p < 0.05$) with a t-

value of 1.94. However, the indirect path through job satisfaction was significant as indicated by the bolded arrows in Figure 2.

Figure 2. Fully recursive model showing significant paths, standardized beta coefficients, and t-values associated with beta coefficients (in parenthesis)



Note: Significant paths have been indicated through bolded arrows.

The mean power-distance score for all respondents was 3.26 and for Caucasian respondents, 3.29. It is notable that power distance did not mediate the relationship between student employee perceptions of empowerment and job satisfaction. Empowerment perceptions had a direct impact on job satisfaction (standardized $\beta = 0.24$; $t = 3.64$). These findings are contradictory to those of Hui et al. (2004). Power distance and job satisfaction perceptions also had direct significant impacts on student employee intent to turnover. Job satisfaction (standardized $\beta = -0.61$; $t = -11.09$) had larger impact than power distance. Although, power distance had a direct significant impact (standardized $\beta = -0.15$; $t = -2.78$) on student employee intent to turnover, most of the impact was indirect through job satisfaction (standardized $\beta = 0.4$; $t = 6.44$).

DISCUSSION AND CONCLUSIONS

Thus far, the relationship between empowerment and turnover has been anecdotal in the hospitality industry. The current research empirically tested this relationship using students employed on a part-time basis in UDS. The moderating effects of power distance and job satisfaction for U.S. Caucasian student employees also were tested.

Student employees were asked to share their perceptions of discretionary empowerment as opposed to psychological empowerment for two reasons. First, the focus of this research was to determine the impact of manager and co-worker behaviors on the exhibition of certain work behaviors by student employees. Although psychological empowerment refers to an employee's feelings of being informed, trusted, and in-control; discretionary empowerment includes the management practices of providing employees with latitude to exercise prudent behavior and autonomy. Second, this proposition tested the mediating role of the power-distance construct on U.S. Caucasian student employees. Hui et al. (2004) stated that Eylon and Au (1999) and Robert et al. (2000) failed to obtain support for the mediating role of power distance because

psychological empowerment that deals with internal feelings of employees as opposed to management practices was measured.

The current research found that empowerment did not directly impact intent to turnover for student employees in the sample; the relationship was mediated by job satisfaction. A highly significant negative relationship was found between job satisfaction and intent to turnover. An interesting finding was that power distance scores of U.S. Caucasian student employees did not mediate the relationship between empowerment and job satisfaction as expected. This contrasted findings of Hui et al. (2004) where power distance was found to moderate the relationship between empowerment and job satisfaction. Also, perceptions of power distance had both a direct significant negative relationship and an indirect significant negative relationship through job satisfaction, with student employee intent to turnover. However, by comparing standardized betas it can be concluded that most of the effect is indirect, through job satisfaction. Some of these differences may be explained by unique characteristics of the student population.

Another interesting finding is that the mean power-distance score for U.S. Caucasian student employees was 3.29 on a 5-point scale. A lower score was expected given that traditionally U.S. has been classified as a low-power distance culture (Hofstede, 1980).

MANAGERIAL IMPLICATIONS

Power distance indirectly impacted intent to turnover through job satisfaction for U.S. Caucasian student employees at one UDS in a Midwestern state university. These results imply that managers may want to provide U.S. Caucasian student employees with discretion and autonomy. The higher power-distance mean score for students indicates that student employees may not fit the traditional employee classification. The comparatively high-power distance scores could be due to low familiarity levels with foodservice jobs. Less than half (47%) of all respondents stated that their current job was their first job in foodservice. Another cause could be exposure to high-power distance cultures through interactions with student employees from traditionally high-power distance cultures. Higher power-distance scores also could be a result of changes taking place in societies over time. Another managerial implication could be that with careful initial supervision and guidance, UDS managers could provide student employees with discretion and autonomy. On-the-job and vestibule training methods would be appropriate given the slightly higher power-distance scores for U.S. Caucasian student employees. These methods would provide the initial supervision and guidance needed.

LIMITATIONS AND FUTURE RESEARCH

The original intent of this study was to research differences in attitudes towards empowerment based on whether UDS employees came from traditionally high- and low-power distance cultures. However, due to a relatively small response rate (16.5%) from ethnic minorities and international students, only Caucasian responses were considered when testing the relationship between empowerment and intent to turnover, with moderating roles of power distance and job satisfaction. Because the sample for this study included only part-time student employees from one UDS, results cannot be extended to UDS at other universities, other business contexts, or other types of employees.

With increasing numbers of international students in the U.S. university student population, more employees from high-and low-power distance cultures will form the workforce of UDS. Hence, it is essential to determine if empowerment will result in increased job satisfaction for members of all cultures employed in a UDS in the U.S. It also is essential to determine whether or not perceptions of power distance change for individuals from traditionally high-power distance cultures, after obtaining an education in the U.S. The ramifications of such changes, if any, should be explored to determine if these students decide to return to their home countries upon graduation or to pursue employment in the U.S.

REFERENCES

Bartlett, A. L., Probber, J. K., & Scerbo, F. B. (1999). Student employees in university foodservice: Job design, job characteristics, and job satisfaction. *The Journal of the National Association of College & University Food Services*, *21*, 1-17.

Blau, J.R., & Alba, R.D. (1982). Empowering nets of participation. *Administrative Science Quarterly, 27*(3), 363-379.

Bowen, D.E., & Lawler, E.E. (1992). The empowerment of service workers: What, why, how and when. *Sloan Management Review*, *33*(3), 31-39.

Brockner, J., Ackerman, G., Greenberg, J., Gelfand, M.J., Francesca, A.M.F., Chen, Z.X., et al. (2001). Culture and procedural justice: The influence of power distance on reactions to voice. *Journal of Experimental Social Psychology*, *37,* 300-315.

Corsun, D.L., & Enz, C.A. (1999). Predicting psychological empowerment among service workers: The effect of support-based relationships. *Human Relations, 52*(2), 205-224.

Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method*. New York: John Wiley and Sons, Inc.

Erstad, M. (1997). Empowerment and organizational change. *International Journal of Contemporary Hospitality Management, 9*(7), 325-333.

Eylon, D., & Au, K.Y. (1999). Exploring empowerment cross-cultural differences along the power distance dimension. *International Journal of Intercultural Relations, 23*(3), 373-385.

Fulford, M. D., & Enz, C. A. (1995). The impact of empowerment on service employees. *Journal of Managerial Issues, 7*(2), 161-175.

Ginsberg, T., & Ochoa, P. (2003, November 4). Foreign-student enrollment at U.S. colleges grows nationwide. *Knight Ridder Tribune Business News,* p.1.

Gray, R.A., Niehoff, B.P. & Miller, J.L. (2000). The effect of job characteristics on student employee job satisfaction and intent to turnover in college and university foodservice. *The Journal of the National Association of College & University Food Services*, *22*, 44-57.

Hackman, J. R., & Oldham, G. R. (1975). Development of the Job Diagnostic Survey. *Journal of Applied Psychology, 60*, 159-170.

Hair, J.F., Anderson, R.E., Tatham, R.L., & Black, W.C. (1998). *Multivariate data analysis* (5th ed.). Upper Saddle River, NJ: Prentice Hall.

Hofstede, G. (1980). *Culture's consequences*. Newbury Park: Sage.

Hogan, J.J. (1992). Turnover and what to do about it. *Cornell Hotel and Restaurant Administration Quarterly, 33*(1), 40-45.

Hubrecht, J., & Teare, R. (1993). A strategy for partnership in total quality service. *International Journal of Contemporary Hospitality Management, 5*(3), 1-5.

Hui, M.K., Au, K.Y., & Fock, H. (2004). Empowerment effects across cultures. *Journal of International Business Studies*, *35*(1), 46-60.

Institute of International Education. (2003). *International student enrollment growth slows in 2002/2003, large gains from leading countries offset numerous decreases*. Retrieved November 11, 2004 from http://opendoors.iienetwork.org/?p=36523.

Kelley, S.W. (1993). Discretion and the service employee. *Journal of Retailing, 69*(1), 104-126.

Lin, S. (2003). *University foodservice employees' food safety knowledge, attitudes, practices, and training.* Unpublished master's thesis, Iowa State University, Ames.

Lum, L. (2003). A welcome increase. *Black Issues in Higher Education, 20*(18), 36.

Lum, L., Kervin, J., Clark, K., Reid, F., & Sirola, W. (1998). Explaining nursing turnover intent: Job satisfaction, pay satisfaction, or organizational commitment? *Journal of Organizational Behavior, 19*(3), 305-320.

Moore, D.P. (2002). The new "typical" student. *School Planning and Management, 41*(10), 8.

Neumann, R., Stevens, A.N., & Graham, A. (2001). Student attitudes toward part-time employment while in college. *The Journal of the National Association of College & University Food Service, 23,* 45-50.

Nunnally, J. (1978). *Psychometric theory.* New York City, NY: McGraw-Hill.

Pastor, J. (1996). Empowerment: What it is and what it is not. *Empowerment in Organizations, 4*(2), 5-7.

Rafiq, M., & Ahmed, P.K. (1998). A contingency model for empowering customer-contact services employees. *Management Decision, 36*(10), 686-694.

Robert, C., Probst, T.M., Martocchio, J.J., Drasgow, F., & Lawler, J.J. (2000). Empowerment and continuous improvement in the United States, Mexico, Poland and India: Predicting fit on the basis of the dimensions of power distance and individualism. *Journal of Applied Psychology, 85*(5), 643-658.

Singh, J. (1993). Boundary role ambiguity: facets, determinants, and impacts. *Journal of Marketing, 57*(2), 11-31.

Spreitzer, G.M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation, *Academy of Management Journal, 38*(5), 1442-1465.

Thomas, K., & Velthouse, B. (1990). Cognitive elements of empowerment: An interpretive model of intrinsic task motivation. *Academy of Management Review, 15*(4), 666-681.

Wright, D. (Producer), & Kadis, J. (Director). (1998). *NACUFS Student Videoconference* [Videotape]. East Lansing, MI: NACUFS.

Zeithaml, V.A., Berry, L.L., & Parasuraman, A. (1988). Communication and control processes in the delivery of service quality. *Journal of Marketing, 52*(2), 35-48.