

EFFECT OF EXPECTATIONS ON USER SATISFACTION WITH A REMODELED UNIVERSITY DINING FACILITY

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ABSTRACT

The effect of user expectations on satisfaction with the interior of a recently remodeled student owned dining facility was explored. The dependent variable was overall satisfaction. The independent variable, expectations, was operationalized as whether or not users had seen the facility prior to the time it was closed for remodeling. An analysis of covariance was conducted using major as a covariable. As suggested by disconfirmation theory, expectations were found to have had a significant effect on satisfaction. The users who had seen the facility prior to the remodel reported significantly lower overall satisfaction with the remodeled facility than those who had not.

INTRODUCTION

The theoretical framework for the present study was based on disconfirmation of expectations. Research on satisfaction using disconfirmation of expectations suggests that satisfaction is the result of a comparison of that which was expected with that which was received (Woodruff, Cadotte, & Jenkins, 1983). An underlying premise of disconfirmation of expectations is that expectations are related to satisfaction. Postpurchase evaluation of a product can be explained, at least in part, by a comparison of the prepurchase expectations and the evaluation of the postpurchase performance (Erevelles & Leavitt, 1992). In a recent study Spreng, MacKenzie and Olshavsky (1996) extended the disconfirmation of expectations theory to include desires by proposing a new model which integrates desires and expectations. Tse and Wilton (1988) suggested that, in addition to the influences from expected performance and subjective disconfirmation, "perceived performance exerts direct influence on satisfaction (p. 204)."

Although the dominant paradigm guiding recent research on satisfaction has been disconfirmation of expectations, some consumer researchers have been challenging and expanding

the disconfirmation paradigm and suggesting that many other determinants also affect satisfaction (Erevelles & Leavitt, 1992; Woodruff, *et al.*, 1983). Attributions about causes of performance (Folkes, 1984; Weiner, 1980) and the effects of amount of involvement (Zaichkowsky, 1985), for example, have also been shown to affect or modify satisfaction.

Most studies to date on consumer satisfaction have been limited to exploration of dimensions of consumer behavior regarding goods and services and have only occasionally focused on elements of the physical environment (Cadotte & Turgeon, 1988; Pate, 1993; Bitner, 1990; Donovan & Rossiter, 1982). Bitner (1990) stated that "Research in consumer behavior has tended to focus on the role of core attributes of products/services in determining customer responses. Relatively little empirical work has been done to examine the role of what might be considered peripheral variables, such as the physical surroundings in which the product/service is consumed. . ." (p.79-80). Although Bitner referred to physical surroundings as "peripheral," in this study the researchers considered them to be the focus.

A study by Caughey, Nafis and Francis (1995) examined the effect of involvement upon satisfaction with a university dining facility. Of four items measuring various aspects of involvement, only whether or not the subjects studied in the facility was useful in explaining satisfaction. Studies of retail environments have suggested that pleasant store atmosphere may influence purchasing behavior, or purchase intentions. Donovan and Rossiter (1982) suggested that store atmosphere can affect the pleasure and arousal states of consumers within the store. They contended that, "Whereas cognitive factors may largely account for store selection and for most of the planned purchases within the store, the emotional responses induced by the environment within the store are primary determinants of the extent to which the individual spends beyond his or her original expectations (p.54)."

Satisfaction with the built environment on university campuses is an important research area because of the recent tendency by some observers to view the university in a business/corporate model and thus to regard students as consumers of education (Levine, 1997). Those in the hospitality industry have long been aware that the environment in which they offer their goods and services has an important effect upon the attraction of customers and upon their purchasing behavior. Because of this awareness, they usually operate within a remodeling cycle of 3 to 5 years rather than the much longer cycle in the professions such as law and higher education. In recent years some professionals too have begun to refurbish their offices and facilities because it has become evident to them that the appearance of care about their near environment increases client confidence in their services. In the highly competitive field of the design of long-term healthcare facilities, owners of these facilities have emphasized a homey, comfortable ambience because they have observed that the families of the elderly potential clients are attracted to such amenities.

The evaluation of service encounters related to consumer satisfaction has been undertaken in several studies such as those of Bitner (1990, 1992) and Pate (1993). Pate (1993) noted that the recent paradigm of student satisfaction with universities views education as a service purchased by the consumer and that satisfaction in education "can be defined generally as satisfaction with the service(s) provided by the university or college" (p. 103). Bitner's later study (1992) explored factors which influence customer evaluations of service encounters including employee responses to complaints and the effects of the physical surroundings on customer satisfaction with the service encounter. Bitner (1990) suggested that research should be done to explore the measurement of the likely impact of changes in the physical design of a facility and how frequently the physical environment should be upgraded and what the benefits of remodeling would be (p. 80).

The present objective was to examine the effect of user expectations on their satisfaction with an interior space. The preliminary proposition explored was that the subjects' expectations about the dining facility would be related to their satisfaction with it.

METHOD

The focus of the study was a recently remodeled student-owned cafeteria in the student union building of a west coast university. The original facility, built in 1959, featured a vaulted, beamed ceiling, low levels of artificial lighting, an inadequate ventilation system which dispersed deep-fat fryer odors throughout the dining facility, a congested scramble area where users selected food, traffic bottlenecks at the cashier's stands, limited natural light, virtually no seating availability at peak dining hours, broken furniture, and stained carpet.

In 1994 the dining facility was closed for a \$2.5 million refurbishing, designed by a regional architecture firm with the aid of input from users of the facility. The seating capacity was increased from 300 to 500 customers, the amount of natural and artificial lighting was increased, more small tables were used, the scramble area was better planned and included a vaulted skylight, the ventilation system was upgraded, new furniture was purchased, and the food service format was changed to include national fast food franchises.

The dependent variable in the study was user satisfaction with the facility (Appendix 1, item #10). Overall satisfaction with the facility was measured on a 5-point scale (1 = not satisfied; 5 = very satisfied). It should be noted that the focus of this study was satisfaction with the built environment rather than satisfaction with food quality which some may consider to be the dominant influence in satisfaction with a dining facility. For our analysis, questions on the survey which referred to the physical appearance of the dining facility were used (items # 1, 1a, 8, and most of the items in #9). However, item #10 which asked subjects to indicate their overall satisfaction with the facility did not instruct subjects necessarily to consider only the physical environment. Therefore, it is possible that subjects' responses included their assessments of food quality, service quality, and so forth, as well as their assessments of the physical environment.

The independent variable was users' expectations. Expectations were assumed to vary depending on whether or not a user had seen the facility prior to the remodel. Expectations were operationalized as whether or not users had seen

the facility prior to the remodel. A questionnaire was developed (See Appendix 1) in which subjects were asked whether or not they had seen the facility prior to the recent remodeling (item #1).

Because expectations (i.e., whether or not one had seen the original facility) occurred naturally rather than as a result of experimental manipulation and because random assignment could not be employed, the design is considered pre-experimental. Because the facility was in such poor condition prior to remodeling, it was believed that users who had seen the facility before the remodel would have higher expectations regarding the new facility than would those who had not seen it. It was therefore expected that those who had seen the original facility would report higher satisfaction with the newly remodeled facility than those who had not seen it. The major threat to internal validity associated with this type of design is selection (Campbell & Stanley, 1963). That is, the researcher cannot assess the extent to which the subjects would have varied in their satisfaction with the facility regardless of their expectations. However, the value of independent variables in this realistic field setting was believed to outweigh this disadvantage. The effect of expectations on user satisfaction was analyzed using analysis of covariance and correlation coefficients.

Finally, subjects who indicated that they had seen the facility prior to the remodeling were asked to indicate to what extent they expected the newly remodeled one to look different (1 = look the same; 5 = look totally different) (Appendix 1, item #1a). They were also asked if they thought it actually looked better (1 = doesn't look better; 5 = looks better) (item #8). A correlation coefficient was calculated to assess the relationship between these two variables.

Demographic information was also collected. Subjects were 132 university students selected by a modified snowball sampling technique. Students in a sophomore-level interior design course filled out one questionnaire themselves, then asked two other students to fill out questionnaires. All were current users of the student dining facility. Because the instrument was based on recall, students were asked not to administer the instrument while in the facility. As a result of the sampling procedure, 33% of the sample were either interior design or housing design majors; the remaining 67% were

other majors. To check for any possible effects of major, preliminary analyses were performed. Students' majors were recoded into two categories: a) interiors/housing and b) all other majors. No significant differences between the two categories of majors were found for either the extent to which they expected the newly remodeled facility to look different (Chi square = 0.58, $df=3$, $p=0.90$) or the extent to which they thought it actually looked better (Chi square = 6.18, $df=4$, $p=.19$). However, a significant difference between majors was found for overall satisfaction with the remodeled facility (Chi square = 11.30, $df=4$, $p<.05$). Therefore, major was taken into account in the subsequent analysis of overall satisfaction.

Forty-nine percent of the subjects had seen the facility before the remodel. Women comprised the majority of users (62%). Users' ages ranged from 18 to 42 years, with a mean of 21.5 years. Academic majors represented eight of the ten undergraduate colleges. Ninety percent of the subjects were American citizens. Seventy-four percent of the subjects who were American citizens were Caucasian, 21% Asian, and the remainder comprised several ethnic/racial minorities. Class ranks were 13% freshmen, 23% sophomores, 33% juniors, 27% seniors; and the remaining 4% were graduate and unclassified students.

RESULTS

Subjects were asked to report their level of overall satisfaction on a scale of 1-5 (Appendix 1, item #10). As the means for each of the two groups were above 3.5, it should be noted that neither group reported general dissatisfaction with the newly remodeled dining facility. To examine the proposition that users' expectations would have an effect on satisfaction with the dining facility, an analysis of covariance was conducted. The dependent variable was overall satisfaction. The independent variable (main effect), expectations, had been operationalized as whether or not users had seen the facility prior to the time it was closed for remodeling. Major was used as a covariate. Results are displayed in Table 1. Expectations had a significant effect on overall satisfaction with the facility ($F=4.66$ $df=1, 122$; $p<.05$) with prior differences due to the effect of major ($F=12.52$

$p < .001$) removed.

Table 1
Analysis of covariance for Satisfaction
by Expectation

Source	Sums of Squares	d.f.	Mean Square	F	p
Covariate					
Major	9.77	1	9.77	12.52	.0006
Main Effect					
Expectations	3.63	1	3.63	4.66	.0329
Residual	95.21	122	0.78		
Total	110.27	124			

The overall satisfaction mean for the group of users who had seen the dining facility prior to remodeling was 3.59 ($n=61$). For those who had not seen the facility prior to remodeling, the satisfaction mean was 3.94 ($n=64$). That is, those who had not seen the dining facility prior to the time when it was closed for remodeling reported significantly higher overall satisfaction with the remodeled facility than did those who had seen the unremodeled facility.

To look more specifically at the direct relationship between expectations and satisfaction, the correlation between the extent to which users expected that the remodeled facility would look different and the extent to which users considered the remodeled facility actually to look different was calculated. For this analysis, only those users who reported that they had seen the facility prior to the remodeling were included. A significant positive correlation was found between expectations and satisfaction ($r=.25$, $p < .05$). As the extent to which it was expected that the remodeled facility would look better increased, the extent to which the remodeled facility was assessed as actually looking better also increased.

DISCUSSION

As suggested by disconfirmation theory, in the present study expectations had an effect on satisfaction.

According to Woodruff, Cadotte, & Jenkins (1983) and others, satisfaction occurs based on a comparison of that which is expected with that

which is received. In the current study, users who had seen the facility in its previous state were considered to have had more information than those who had seen only the newly-remodeled facility. That is, their previous exposure and concomitant greater amount of information logically should have influenced their satisfaction with the newly remodeled facility, as was found to be the case. Specifically, users who had seen the facility before remodeling had been expected to be more satisfied with the newly remodeled facility than those who had not. However, the reverse was found. Users who had seen the facility prior to the remodeling were less satisfied with the newly remodeled facility than were those who had not.

It was previously noted that the original facility was in poor condition prior to the remodeling. It may be that users with previous exposure held negative impressions of the facility which led to the formation of negative expectations of the new facility which, in turn, resulted in lower overall satisfaction compared to users without previous exposure. Perhaps negative prior experience generated lower expectations which resulted in lower satisfaction. Some support for this proposition may be found in the Hunts' (1988) study of consumer grudgeholding in which it was reported that consumers did form and retain grudges as the result of negative experiences. These grudges were found on a widespread basis among consumers and were held tenaciously. It would be logical that any subsequent product/service expectations would be correspondingly lower than might otherwise be the case. Perhaps such was the case in the present study.

Another possible explanation for the current findings may be based on the characteristics of the two groups of users. That is, perhaps there were some underlying initial differences between the two groups that may account for the difference in their overall satisfaction.

This raises the question of how expectations about facilities are formed, and whether this formation is different from expectation formation regarding goods and services.

A suggestion for future research would be to conduct a laboratory experiment to study both heightened and lowered expectations to allow

manipulation of the dependent variables. Perhaps heightened expectations affect satisfaction but lowered expectations do not. This proposition is worthy of further investigation. Or, in future studies expectations of potential users could be measured before they see a facility because once they have seen it it may be difficult for them to separate their previous expectations from their actual impressions. A different measure of expectations such as to what extent users expect to be completely satisfied with a newly remodeled facility might be a better measure of expectations than was used in the current study.

The basis for another study also could be the determination of the relative importance of food quality and quality of the built environment in determining satisfaction with dining facilities.

A more general issue is that perhaps interiors and facilities do not generate expectations in the same manner in which products and services do. Studies could explore what aspects of interiors, if any, contribute to overall satisfaction and whether expectations about other aspects of a facility such as food or service quality contribute to satisfaction with interior environments.

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Appendix 1

Questionnaire

1. Did you see the MU Commons before June, 1994, when it was closed for remodeling? (Circle one.)
 - a. no
 - b. yes
- 1a. If yes, to what extent did you expect that the remodeled MU Commons would look better: (Circle one.)

Expected it to	Expected it to look				
look the same	totally different				
1	2	3	4	5	
2. Have you been to the MU Commons since September, 1995? (Circle one.) If no, skip #3-10, and turn to the last page.
 - a. no
 - b. yes
3. On the average, how many hours per week do you spend in the MU Commons: (Circle one.)
 - a. less than one hour a week
 - b. 1-3 hours a week
 - c. 4-6 hours a week
 - d. more than 6 hours a week

4. Do you study in the Commons? (Circle one.)
 a. no
 b. yes
5. Do you ever eat or drink in the Commons? (Circle one.)
 a. no
 b. yes
6. If you purchase food or beverages at the Commons, approximately how much money do you spend each time? (Circle one.)
 a. Under \$1.00
 b. \$1.00 - \$3.00
 c. \$3.01 - \$5.00
 d. Over \$5.00
7. Do you ever socialize in the Commons? (Circle one.)
 a. no
 b. yes

8. To what extent do you think that the remodeled MU Commons actually looks better than the old Commons?

Doesn't look better Looks better
 1 2 3 4 5

9. Think about the MU Commons today. How satisfied are you with these aspects of the Commons? (Circle one number for each.)

	Not satisfied		Very satisfied		
Availability of seating	1	2	3	4	5
lighting	1	2	3	4	5
chair comfort	1	2	3	4	5
cleanliness	1	2	3	4	5
acoustics (noise level)	1	2	3	4	5
floorcovering	1	2	3	4	5
ceiling	1	2	3	4	5
temperature	1	2	3	4	5
arrangement of tables	1	2	3	4	5
cleanliness of restrooms	1	2	3	4	5
walls	1	2	3	4	5
appearance of tables	1	2	3	4	5
air quality	1	2	3	4	5
location of restrooms	1	2	3	4	5
appearance of chairs	1	2	3	4	5
outdoor views	1	2	3	4	5
ambience (mood)	1	2	3	4	5
table sizes	1	2	3	4	5
traffic flow	1	2	3	4	5
other	1	2	3	4	5

10. Overall, how satisfied are you with the Commons today? (Circle one.)

Not satisfied Very satisfied
 1 2 3 4 5

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