

CONSUMPTIVE ATTITUDES AND CUSTOMER SERVICE PERCEPTIONS AMONG NEW ENGLAND ANGLERS

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Abstract: This study explores the nature of the relationship between consumptive attitudes towards fishing; twelve individual customer service items; satisfaction with facilities, services, information, and the recreation experience; and overall quality of experience for a diverse group of anglers at New England lakes. Recent attention to customers and their experiences and attitudes has increased interest of both managers and researchers in issues related to customer satisfaction. This study builds on previous research by continuing exploration of satisfaction's role in furthering a better experience for people engaging in recreation. Data for this investigation were collected as part of a larger project focusing on anglers in the New England District of the U.S. Army Corps of Engineers. Regression analysis was used to examine relationships between anglers' consumptive attitudes and several dependent variables (multiple customer service items representing facilities, services, information, and recreation experiences). The results of the study showed several positive and significant relationships between anglers' consumptive attitudes and visitor satisfaction items and domains. Notably, attitudes toward catch and release fishing were related to satisfaction with the availability of the type of fish one wants to catch and catching the number of fish one should be able to catch.

Introduction

For over three decades researchers have been trying to determine what represents quality in outdoor recreation and how satisfied recreation customers are with their experiences. The first researcher to examine what constitutes quality in outdoor recreation was Wagar (1966). Quality is an issue of perception, and because individuals have varying past experiences, satisfaction will generally deviate across different customers in different situations. Because of this variability, it is desirable for management to offer a wide variety of activities and to manage for as many different experiences as possible (Wagar, 1966). By managing for a variety of experiences, parks and recreation managers are more likely to provide the unique experiences that people are looking for in their recreation activities.

Consumer behaviorists have also conducted research related to service quality and customer satisfaction. Parasuraman, Zeithaml, and Berry (1985, 1988) have played a leading role in this area of research. Probably one of the most influential pieces of service quality research came when Parasuraman et al. (1988) developed a 22-item instrument named SERVQUAL. Mackay and Crompton (1988, 1990) adapted SERVQUAL in the recreation field to help researchers and managers better understand how people engaging in recreation activities evaluate quality of service from recreation providers. Mackay and Crompton referred to their satisfaction construct as RECQUAL and used the original customer service domains of tangibles, reliability, responsiveness, assurance and empathy.

Burns, Graefe, Absher and Titre (1999a, 1999b) created a customer satisfaction model with four domains (facilities, services, information, and recreation experience) in order to make satisfaction measurement more tangible for recreation researchers and managers. This customer satisfaction model was intended to be more easily understood by recreation researchers and managers because the items within the domains are more relevant and tangible. The domains used are flexible in nature and may be adapted to meet the needs of the specific recreation area under study.

Consumptive propensity is a term representing an angler's attitude towards catching or harvesting fish. This topic has been of some interest and

importance in the field of human dimensions of fisheries management for some time. Relevant studies have examined the relationship between consumptive (catch-related) motives and non-consumptive motives (such as stress release, escape, nature appreciation, and social interaction) in the overall angling experience (Driver & Knopf, 1976), as well as differences in consumptiveness or catch orientation among various segments of anglers (Fedler & Ditton, 1986; Fisher, 1997). Aas and Viterso (2000) investigated the multiple dimensions of consumptiveness using confirmatory factor analysis. Their results confirmed a general consumptiveness factor along with three sub-dimensions including “eagerness to catch large fish,” “importance of catching something,” and “willingness to release fish.” Other researchers have suggested that additional dimensions of consumptive propensity might include the number of fish caught and the ability to catch the type of fish an angler believes he or she should be able to catch while fishing (Fedler & Ditton, 1986; Graefe, 1980).

The purpose of this study was to explore the nature of the relationship between consumptive attitudes and customer satisfaction. Specifically, this study examined the variables of consumptive attitudes, twelve individual customer service items, satisfaction with four customer service domains (facilities, services, information, and recreation experience), and overall quality of experience for a diverse group of anglers at lakes in the New England region. This study builds on Graefe and Fedler’s (1986) analysis of the determinants of satisfaction in marine recreational fishing.

Methodology

A multiple-method data collection approach was used to obtain a diverse sample of anglers from the New England region. U.S. Army Corps of Engineers project offices provided names of individuals, groups, and club representatives for the researchers to contact by phone. A total of eight groups out of fifteen contacted agreed to provide the names and addresses of their members for a mail-out survey. As a means of increasing the sample size for the study, a stratified random sample of users was contacted on-site at four lakes (Hopkinton-Everett Lake, East Brimfield Lake, Buffumville Lake, and West Thompson Lake). Upon the completion of a brief on-site interview,

each respondent was asked if he/she was willing to provide his/her name and address for a follow-up mail-back survey.

In total, 433 addresses were collected for the survey. A modified implementation of Dillman’s (1978) multiple mailing process was used (four instead of five mailings). A total of 123 usable surveys were returned from the address database for a response rate of about 33%. Surveys were also sent to two large state bass fishing organizations. By combining the surveys returned from the mail-out portion of the study and the surveys distributed to the state bass organizations, the total sample size for this study increased to 176.

A telephone survey of non-respondents was conducted to determine if there was a significant difference between non-respondents and respondents in the study. Thirty interviews were completed and the sample means of 13 items were compared with the results in the original mail survey. The comparison between respondents and non-respondents showed little significant difference between the groups.

Measurement

Customer service was measured using a list of 12 items patterned after scales developed by Parasuraman et al. (1985), Mackay and Crompton (1990) and Burns et al. (1999a). The domains used in this study include facilities, services, information, and the recreation experience. Respondents rated each statement using a five-point Likert-type scale ranging from “not at all satisfied” to “extremely satisfied.”

Respondents were also asked to rate their satisfaction with each of the customer satisfaction domains (facilities, services, information, and recreation experience) and their overall satisfaction with their fishing experience at the lake they fish most frequently. Similar to the customer service items, respondents rated their satisfaction with each domain using a five-point scale ranging from “not at all satisfied” to “extremely satisfied.” The respondents were allowed to respond “not applicable” if the item or domain did not apply at the lake that they fished most frequently. For overall satisfaction with their fishing experience, anglers were asked to rate their overall quality of experience on a scale of 1-10, with one being the

Table 1. — Reliability Analysis for Consumptive Propensity Indices

	Item-Total Correlation	Alpha if Item Deleted
Size of Fish (alpha = .76)		
I would rather catch one or two big fish than five smaller fish	.74	.50
I would rather catch one or two big fish than ten smaller fish	.65	.60
The bigger the fish I catch, the better the fishing trip	.40	.89
Number of Fish (alpha = .67)		
The more fish I catch the happier I am	.51	N.A.
A successful fishing trip is one in which many fish are caught	.51	N.A.
Catch is not Success (alpha = .69)		
A fishing trip can be successful even if no fish are caught	.45	.63
When I go fishing I'm just as happy if I don't catch a fish	.51	.58
It doesn't matter to me what type of fish I catch	.40	.66
I must catch fish for the fishing trip to be successful*	.52	.60
Catch and Release (alpha = .58)		
I am just as happy if I don't keep the fish I catch	.37	.52
I'm just as happy if I release the fish I catch	.46	.37
I must keep the fish I catch for the trip to be successful*	.34	.53

* Item reverse coded for inclusion in index

least and ten being most satisfied. To measure consumptive propensity, anglers responded to several items representing various dimensions of attitudes towards catching fish. The 12 consumptive propensity items were measured with a 5-point Likert scale ranging from “strongly disagree” to “strongly agree.”

Results

Factor analysis was used to examine the dimensions of customer satisfaction and consumptive propensity. One of the most important characteristics of factor analysis is its data reduction capability. Results of the factor analysis revealed inconsistent factor loadings for the individual items representing the customer service domains. Therefore, no composite indices were created for these variables. The individual items were examined in relation to the consumptive attitudes.

Factor analysis of the consumptive propensity items produced four factors (Table 1). The first factor included three items related to the size of the fish caught (alpha=.76). Agreement with this dimension indicated the importance to the angler of catching bigger fish. Although the reliability analysis showed that the factor reliability could be increased substantially by deleting the third item (the bigger the fish I catch, the better the fishing trip), this item was retained due to its conceptual relevance to the factor theme. The second factor featured two items related to the number of fish caught (alpha=.67). Endorsement of this factor reflected a desire to catch a large number of fish. The third factor included four items describing the role of catching fish in the evaluation of fishing success. The underlying theme of this factor was the idea that catch does not equal (or is not necessary for) success (alpha=.69). The final factor included three items representing the concept of catch and release fishing (alpha=.58). Agreement with this dimension of consumptive propensity reflected acceptance of catch and release fishing, or lack of interest in keeping the fish one catches.

Multiple regression was used to examine the relationship between the consumptive indices and the measures of satisfaction (Table 2). Among the consumptive indices, the attitude toward “catch and release” was a predictor of two satisfaction items within the recreation experience domain (availability of the type of fish I want to catch and catching the number of fish I should be able to). Anglers with attitudes favorable to catch and release fishing were more satisfied with the opportunities to catch the type and number of fish that they wish to catch. The catch and release dimension was not related to any of the other customer service items.

Table 2. — Significant Relationships between Satisfaction Items and Consumptive Indices

Independent Variables - Consumptive Propensity Indices	Dependent Variables - Satisfaction with Customer Service Items							
	Cleanliness of Toilets		Staff Knowledge and Ability to Answer Questions		Availability of the Type of Fish I Want to Catch		Catching the Number of Fish I Should be Able to	
	Pearson r	Beta	Pearson r	Beta	Pearson r	Beta	Pearson r	Beta
Size of Fish	.135	.189	.189*	.234*	.080	.078	.029	-.019
Number of Fish	-.025	.004	.008	-.031	.028	-.005	.160	.149
Catch is not Success	.175*	.211*	.086	.135	-.049	-.050	-.093	-.060
Catch and Release	.083	.091	-.019	-.016	.213**	.220**	.242**	.250**
R ²		.070		.056		.055		.089

* p < .05

** p < .01

Table 3. — Significant Relationships between Satisfaction Domains and Consumptive Indices

Independent Variables - Consumptive Propensity Indices	Dependent Variables - Satisfaction with Customer Service Domains			
	Satisfaction with Services		Satisfaction with Recreation Experience	
	Pearson r	Beta	Pearson r	Beta
Size of Fish	.210	.275**	-.035	.002
Number of Fish	-.062	-.111	-.129*	-.147
Catch is not Success	.115	.133	.012	-.055
Catch and Release	.039	.049	.160*	.161*
R ²		.082		.044

* p < .05 ** p < .01

Two other significant relationships were found between consumptive propensity dimensions and customer service items (Table 2). The “catch is not success” dimension was significantly related to satisfaction with the cleanliness of toilet facilities. The “size of fish” dimension was significantly related to satisfaction with staff knowledge and ability to answer questions. There were no significant relationships between the consumptive indices and the other eight individual customer service items (appearance of area, water quality, water safety information, staff friendliness, roadside signs and directions, parking availability, ranger patrols, and recreation information).

When consumptive attitudes were tested against satisfaction with the four customer service domains (facilities, services, information, and recreation experience), significant relationships were found for two of the four domains (Table 3). In each case, only one of the consumptive dimensions was directly related to domain satisfaction. The “size of fish” dimension was significantly related to satisfaction with the services domain. The “catch and release” dimension was significantly related to the recreation experience domain.

The consumptive attitude dimensions were also examined in relation to overall fishing satisfaction at the lake fished most frequently. There were no significant relationships between the consumptive indices and overall satisfaction with the fishing experience.

Conclusions

Four consumptive propensity indices were created from factor analysis using twelve individual items. These dimensions are consistent with previous research and demonstrate that consumptiveness is a multi-dimensional attitude. Different aspects of consumptive propensity showed different relationships with the customer service measures, reinforcing the importance of considering specific attitudes in recreation user studies.

Building on previous research, results showed some significant relationships between the dimensions of consumptive attitudes and anglers’ customer service perceptions. The most logical of these relationships was the connection between the attitudes towards catch and release fishing and satisfaction with the number and type of fish caught. It makes sense that anglers who are less

concerned with keeping fish would be more easily satisfied with the number and type of fish caught. The meaning of the other two significant relationships regarding customer service items is less transparent. The relationship between the "size of fish" dimension and satisfaction with staff knowledge and ability to answer questions is plausible in that anglers who are more concerned with catching large fish may place more value on access to information about fishing quality. There is no apparent explanation of the relationship between the "catch is not success" dimension and satisfaction with cleanliness of toilet facilities.

It is important to note that the consumptive propensity indices were not significantly related to more customer service measures than they were related to. Additionally, those relationships that were significant were relatively weak and accounted for little of the variance in customer service perceptions. This is in contrast with previous analysis showing stronger relationships between customer service items and domains. For example, the customer service items accounted for 29% to 52% of the variance in domain-level satisfaction among these same New England anglers (Wickham, Graefe & Burns, 2003). It appears that the role of consumptive attitudes in the broader model of angler satisfaction is via a relatively small influence on the evaluation of certain aspects of customer service. For example, attitudes towards releasing fish influence satisfaction with the number and type of fish caught, which in turn influences the overall evaluation of the fishing experience. The items and domains that were significantly related to consumptive attitudes (especially satisfaction with the number of fish available and with the services domain) were generally the stronger predictors of overall satisfaction (Wickham et al., 2003), lending further support to this interpretation of the results.

Implications for Further Research

Findings of this study may reflect the fact that the frame of reference for the customer service and satisfaction questions was the lake the angler fishes most often. This differs from the more typical examination of a particular resource or fishing experience. The variation in lakes represented, coupled with the generalized focus on overall experience at a lake rather than a particular fishing outing, may have influenced the strength of

statistical relationships in this study. Likewise, with fishing clubs playing a major role in the sample design for this study, results may not represent all anglers.

Future research should consider using the same variables in different recreation settings. Researchers may also consider modification of the current constructs as they were used in this study. Refinement of the customer service and consumptive attitude measures might provide more information to inform management decisions in various places. Examining the relationship between consumptive attitudes and variables like place attachment, involvement, or human territoriality may assist managers to make important decisions.

References Cited

- Aas, Ø. & Vittersø J. (2000). Re-examining the consumptiveness concept: Some suggestions from a confirmatory factor analysis. *Human Dimensions in Wildlife* 5(4), 1-18.
- Burns, R., Graefe, A., Absher, J. & Titre, J. (1999a). Water-based recreationists' attitudes regarding customer satisfaction: Differences between selected market segments. In H. Vogel song (ed.), *Proceedings of the 1998 Northeastern Recreation Research Symposium*, Gen. Tech. Rep. NE-255, (pp. 166-171). Radnor, PA: USDA Forest Service, Northeastern Research Station..
- Burns, R., Graefe, A., Absher, J., & Titre, J. (1999b). Attributes and domains: Links to visitor satisfaction at U.S. Army Corps of Engineers reservoirs. Paper presented at the International Symposium on Society and Resource Management, Brisbane, Australia, July 7-10, 1999.
- Dillman, D.A. (1978). *Mail and telephone surveys: The total design approach*. New York, NY: John Wiley & Sons.
- Driver, B.L., & Knopf, R.C. (1976). Temporary escape: one product of sport fisheries management. *Fisheries*, 1, 21-29.
- Fedler, A. J., & Ditton, R. B. (1986). A framework for understanding the consumptive orientation of recreational fishermen. *Environmental Management*, 10, 221-227.

- Fisher, M. (1997). Segmentation of the angler population by catch preference, participation, and experience: A management-oriented application of recreation specialization. *North American Journal of Fisheries Management*, 17, 1-10.
- Graefe, A. R. (1980). The relationship between level of participation and selected aspects of specialization in recreational fishing. Unpublished doctoral dissertation, Texas A & M University.
- Graefe, A. R. & Fedler, A. J. (1986). Situational and subjective determinants of satisfaction in marine recreational fishing. *Leisure Sciences* 8 (3), 275-295.
- Mackay, K.J., & Crompton, J.L. (1990). Measuring the quality of recreation services. *Journal of Park and Recreation Administration*, 8 (3), 47-56.
- Mackay, K.J., & Crompton, J.L. (1988). A conceptual model of consumer evaluation of recreation service quality. *Leisure Studies*, 7, 41-49.
- Parasuraman, A., Zeithaml, V.A., & Berry, L. (1985). A conceptual model of service quality and its implications for further research. *Journal of Marketing*, 49, 41-50.
- Parasuraman, A., Zeithaml, V.A., & Berry, L. (1988). SERVQUAL: A multiple item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64, 12-40.
- Wagar, J.A. (1966). Quality in outdoor recreation. *Trends in Parks and Recreation*, 3 (3), 9-12.
- Wickham, T., Graefe, A., Burns, R. (2003). Customer service and overall satisfaction with angling experiences. In Schuster, R. (ed.), *Proceedings of the 2002 Northeastern Recreation Research Symposium*, Gen. Tech. Rep. NE-302, pp. 47-51. Newtown Square, PA: USDA Forest Service, Northeastern Research Station.

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