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Constraints to Rafting at an Artificial Whitewater Park

by

Erik Rabinowitz, Ph.D., Eric Frauman, Ph.D. and Wayne Williams, Ph.D.

Abstract

As recreational activities in natural settings such as rafting are replicated artificially, professionals' understanding of participant behaviors, motivations and constraints may need to be updated. Constraints for recreation activities in artificial environments might differ significantly from those in natural environments. As such, the primary purpose of this study was to examine constraints to participating in rafting at an artificial whitewater park. An onsite survey of visitors at an artificial whitewater facility was conducted in the southeastern United States in early fall 2007. Based on the results of this study it appears the primary constraints to participation are similar to traditional river rafting in that lack of time and companionship are major constraints. On the other hand, artificial facilities differ in that they present new constraints such as lack of preparedness. The creation of artificial whitewater facilities near populated areas could reduce the constraint of "no areas near me for this activity" found in the studies of constraints to river rafting. The number of artificial whitewater parks and facilities will require significant funding therefore constraints research in this area will be critical and more research is definitely needed on these artificial facilities.

Introduction and Literature Review

Artificial facilities that mimic natural outdoor recreation settings are a growing trend. Simulated golf courses, indoor ski facilities, wave parks for surfing, indoor skydiving and climbing gyms have grown over the past 20 years (Coy, 2008). The first artificial whitewater river stadia were created for the Summer Olympics in Sydney 2002, Athens 2004 and Beijing 2008. These natural river enhancements and constructed whitewater river stadia paved the way for the opening of the United States National Whitewater Center (USNWC) in 2006. A second artificial whitewater river park opened at WISP Ski Resort in 2007 and there are plans for a third in Mesa, AZ. Most open river whitewater settings are located remote rural areas. However, artificial whitewater parks can be placed in suburban and urban settings, providing easier access and increased exposure to a larger user base (Coy, 2008). Since they are designed to eliminate natural hazards (e.g., submerged rocks, strainers) participants might perceive them as safer and less risky in comparison to traditional open river whitewater areas. As such, the primary purpose of this study was to examine constraints to participation in rafting at an artificial whitewater park. A secondary purpose was to enable the park where data was collected to better understand their customer base in an effort to improve service provision.

In its simplest form, "leisure constraints" refers to things that make participation in recreation activities problematic (Jackson, Crawford, & Godbey, 1993).

According to Lee and Scott (2009), over the last two decades, leisure constraints has become one of the most researched topics in recreation and leisure studies (Jackson & Scott, 1999). The research on leisure constraints has made a significant contribution to understanding various recreation and leisure behaviors including: user characteristics, understanding why people do not participate in leisure activities or use leisure services, and grouping non-participants and participants (Crawford & Godbey, 1987; Jackson & Searle, 1985; Lee & Scott, 2009).

Hierarchical models of leisure constraints have been developed by several researchers, and three major categories of constraints (i.e., intrapersonal, interpersonal, and structural) have been initially identified and introduced by Crawford and Godbey (1987). These categories have become largely adopted by leisure researchers (Jackson & Scott 1999; Lee & Scott, 2009). At the base of the hierarchy, intrapersonal constraints are concerned with individual psychological conditions (e.g., personality traits, attitudes, and emotions) that preclude participation. Beyond individual psychological conditions, interpersonal constraints arise from social interactions with family and friends. The notion being that despite one's ability to negotiate individual psychological conditions a person often encounters constraints arising from other people (e.g., no one interested in participating with) that may influence participation. Lastly, structural barriers "represent constraints as they are commonly conceptualized" (Crawford & Godbey, 1987, p. 123) and

include factors such as lack of money and time. This study utilizes the typology classification proposed by Crawford and Godbey (1987).

Numerous studies have focused on the constraints that preclude people from engaging in various leisure activities (Bialeschki, & Henderson, 1988; Crawford, & Godbey, 1987; Gilbert & Hudson, 2000; Jackson, 2005, Lee & Scott, 2009). Studies examining constraints to whitewater boating on rivers have been conducted (Nyaupane, Morais, Graefe, 2003, 2004), however the examination of constraints to rafting at artificial whitewater facilities is a new field of study. While there are obvious differences between rafting on a river and an artificial run, there might also be many similar constraints (e.g., risk, cost, time investment, lack of skill, etc.). Earlier studies conducted on whitewater rivers served as a starting point for this research project.

Methodology

An onsite survey of visitors was chosen as the most efficient means of collecting data on the question of why some visitors choose to raft or not to raft at the facility. After reviewing the constraints literature in the field of outdoor recreation, a pen and pencil questionnaire was created and piloted. It will be referred to here as the “constraints questionnaire” which was designed to study constraints to artificial whitewater rafting, while also gathering information on visitation, previous experience with rafting, and demographics. By categorizing respondents based on their answers to the visitation, experience, and demographics, a number of independent variables were examined. For example, younger visitors, those who live closer to the artificial whitewater facility, might be more prone to raft while older visitors, those who live farther away, might be less likely to raft.

Based on earlier constraints studies (Nyaupane, Morais, & Graefe, 2003) 23 reasons for choosing not to raft were listed on the constraints questionnaire with space for adding other reasons voiced by respondents. The constraints included intrapersonal (e.g., I lack necessary skills), interpersonal (e.g., My companions weren’t interested), and structural (e.g., I didn’t have enough time) barriers. Respondents were asked to indicate whether each constraint was “not a reason”, “a minor reason”, or “a major reason” for their decision not to raft. Additionally participants were asked their primary reason for visiting the artificial whitewater facility, the number of times they had visited the center in the last 12 months, and their previous experience with whitewater river rafting. Age

and gender questions followed. Zip code information was collected in order to categorize respondents as “locals” who lived in surrounding zip codes, or “tourists” who lived outside the surrounding area.

Data was collected on site at the southeastern United States facility in early fall 2007. Members of the research team were trained to approach visitors as they left the facility, and to ask them if they would be willing to participate in the study. Respondents were then asked whether they had rafted that day. If they had not rafted, they were asked to complete the questionnaire. Respondents were then provided with a clipboard securing the questionnaire and a pen for recording their answers, while the research team member stood nearby to answer any questions about the process.

Results

Demographics

Participants in the study who had never rafted ever (non rafters) equaled 111 usable responses. Respondents were purposely selected by the field data collectors to provide a gender mixed sample with the result that 51% (n=56) were female and 49% (n=53) male. This is similar to U. S. Census Bureau (2007) gender data for the nation for generalizability purposes. Persons 16 and older were included in the study. Respondents’ ages ranged from 16 to 84, with a mean (average) age of 41, and a median (midpoint) of 40. The largest age group for non-rafters (26% of the total) was between the ages of 30 and 39 with 20% between the ages of 40 and 49, and 30% either in the range 50-59 or 60 and older. On the other hand, over 60% of rafters were 29 or under. The majority (84%) of the respondents lived within two hours driving distance of the facility, with the remainder located in the southeastern United States, and a few scattered across the country, with one international visitor.

Prior artificial whitewater facility experience

Over forty percent of the non-rafters (42%) had previous rafting experience elsewhere, and 58% had never rafted. For those who did not raft on the day they were surveyed, the number of prior visits to the artificial whitewater facility was 2.6. Visitors who rafted at other locations had visited the artificial whitewater facility an average of 2.3 times, and those who had never rafted before averaged 2.8 prior visits to the artificial whitewater facility. One quarter (24%) of the sample was first time visitors, while 28% had visited the artificial whitewater facility once previously. An additional 31% were visiting for the 3rd or 4th time. When number of visits was

compared with the major reasons for not rafting, there were no statistically significant correlations ($p < .05$). In other words, previous visitation did not correlate with constraints to rafting. It should be noted that the range of visits included some who had been to the artificial whitewater facility 31 times without choosing to raft. This could constitute a significant untapped market if constraints were identified.

Primary reason for visit for non-rafters

Non-rafters (n=111) were asked, *What was your primary reason for visiting the artificial whitewater facility today?* Half of the respondents replied that they were just looking. Hiking/walking was the second most often stated reason for a visit at 18%. Biking and dining accounted for 11% and 10% respectively, with climbing and other recreation accounting for the remainder (11%). The only other recreation activity stated by more than two individuals was walking their dog.

Table 1: *Constraints to Rafting*

	Not a reason	Minor reason	Major reason
I didn't come prepared	49 (44%)	20 (18%)	42 (38%)
I didn't have enough time	69 (62%)	19 (17%)	23 (21%)
I didn't bring a bathing suit	75 (68%)	14 (13%)	22 (20%)
I lack necessary skills	79 (71%)	16 (14%)	16 (14%)
I didn't have a reservation	84 (76%)	13 (12%)	14 (13%)
My companions weren't interested	86 (77%)	11 (10%)	13 (12%)
I didn't want to raft	88 (79%)	10 (9%)	13 (12%)
Costs too much money	84 (76%)	20 (18%)	7 (6%)
I am not a thrill seeker	97 (87%)	8 (7%)	6 (5%)
Personal safety concerns	100 (90%)	5 (5%)	5 (5%)
No companion	99 (89%)	8 (7%)	4 (4%)
Inadequate information on how to sign up to raft	98 (88%)	10 (9%)	3 (3%)
The water is too cold	99 (89%)	9 (8%)	3 (3%)
I would rather raft in other settings	96 (86%)	13 (12%)	2 (2%)
Confused on how to sign up	103 (93%)	6 (5%)	2 (2%)
I don't swim	103 (93%)	6 (5%)	2 (2%)
I think it is too risky	103 (93%)	5 (5%)	2 (2%)
I didn't feel like I will benefit by participating	105 (95%)	4 (4%)	2 (2%)
The wait to raft was too long	103 (93%)	6 (5%)	1 (1%)
Looks boring	105 (95%)	5 (5%)	1 (1%)
I am too embarrassed to try it	103 (93%)	5 (5%)	1 (1%)
Too crowded	104 (94%)	7 (6%)	0 (0%)
Poorly maintained areas	109 (98%)	2 (2%)	0 (0%)

Constraints to Rafting

Table 1 below reports the reasons why respondents chose not to raft in frequency and percentage. *I didn't come prepared* (38%), *I didn't have enough time* (21%), and *I didn't bring a bathing suit* (20%) were the most often given major reasons for not rafting, and all reflected a lack of preparedness on the part of visitors. *I lack necessary skills* (14%), *I didn't have a reservation* (13%), *I didn't want to raft* (12%), and *My companions weren't interested* (12%) were also major reasons given for not rafting. Only 6% of the sample gave *Costs too much money* as a major reason for not rafting, however, 18% listed this as a minor constraint.

Constraints: Gender

Males and females generally agreed on the following constraints: *Did not come prepared*, *Lack the necessary time*, *Did not bring a bathing suit*, and *Companions were not interested*. However, about twice as many women were constrained by the *Lack of necessary skills* (20% F, 9% M), *Lacking a reservation* (16% F, 9% M), *Did not want to raft* (16% F, 8% M), and *Not a thrill seeker* (9% F, 2% M). Males found *Cost* to be a greater constraint than females (4% F, 9% M).

Constraints: Age

Table 2 below describes the correlation between age and the eight most often given constraints to rafting. Correlations are statistically significant if the Sig. (p-value) is less than or equal to .05. The lower the Sig. (p-

value) the higher the correlation. Therefore, the greatest correlation was found between age and *Lack of perceived skills* ($p < .001$). Additionally, a correlation was found between age and *Lack of preparedness* ($p < .05$), and *Not wanting to raft* ($p < .03$).

Constraints: Locals versus Tourists

In examining the top eight constraints with respect to place of residence, there were no statistically significant differences between tourists and locals with the exception of *Didn't come prepared* ($p = .022$). Tourists had a mean value on this item equal to 1.62 while locals had a mean value of 2.04.

Constraints: Prior Rafting Experience

Table 3 shows how the constraints of respondents with rafting experience compared to constraints of non-rafters. While both groups stated *Unprepared* as the most reported constraint, respondents without rafting experience were significantly more likely to feel constrained by *Lack of perceived skills* ($p < .001$) than those who had rafted before.

Discussion

The primary purpose of the study was to examine constraints to participation in rafting at an artificial whitewater park. Scott (1991) proposed that three strategies should be used to overcome constraints: acquisition of information, alteration of timing, and acquisition of skill. In this study *lacking necessary skills*,

Table 2: Correlation between Age and Primary Reasons for Not Rafting

Constraints	Correlation with Age	Sig. (p-value)
Not enough time	-.020	.820
Cost too much	-.009	.930
Not prepared	.188	.050*
Lack of perceived skills	.329	.000**
No swimsuit	.065	.501
Didn't want to raft	.207	.030*
No companion interest	-.038	.693
No reservation	.064	.507

* $p \leq .05$, ** $p \leq .001$.

Table 3: *Comparison of Constraints between Those with Rafting Experience and Those with No Rafting Experience*

Constraint	Rafting experience	Mean	Sig. (p-value)
Didn't have enough time	Yes	1.66	.41
	No	1.53	
It costs too much money	Yes	1.21	.15
	No	1.37	
Didn't come prepared	Yes	1.89	.99
	No	1.89	
I lack necessary skills	Yes	1.13	.001*
	No	1.53	
Didn't bring bathing suit	Yes	1.49	.71
	No	1.55	
I didn't want to raft	Yes	1.19	.08
	No	1.42	
My companions weren't interested	Yes	1.43	.24
	No	1.27	
I didn't have a reservation	Yes	1.34	.71
	No	1.39	

Note: Yes ($n = 47$); No ($n = 64$). Mean scores based on a 3-point Likert scale where 1 = "not a reason", 2 = "minor reason", and 3 = "major reason."* $p \leq .05$.

failure to have a reservation, no desire to raft, and companion's desires to raft were reported by more than 20% as a major or minor reason for not rafting. As such, the bathing suit constraint could also be potentially addressed by more effectively marketing the rental of a "farmer john" (i.e., neoprene paddling suit) as a viable option for rafting wear. Data on the number of individuals willing to use this option should be collected in future studies. The *not having a companion to raft with* constraint could be offset by the addition of a "fill the open seat" board, similar to a ride share board where individuals who do not have companions would be able to fill an open seat in a raft. A singles day once a month might also be explored. Those who rafted at other locations listed *time* as a major constraint. This is important since prior rafting experience could instill misconceptions about rafting at an artificial whitewater facility. For example, most rafting experiences take all day, with travel to the put-in spot, lunch stops, wait time on other rafts and return travel; however, at an artificial whitewater location this could take just hours.

An examination of place of residence and major constraints showed locals less prepared than tourists. This implied that tourists with rafting in mind. Marketing the ease of bringing a bathing in local media outlets might increase the number of rafters among area residents. For example, the time necessary to raft should be highlighted in advertising (It only takes ___ minutes to go rafting without a reservation).

The age range of non-rafters and rafters differed with a much greater percentage of non-rafters older than rafters. While this is probably the expected outcome, marketing to seniors and baby boomers might produce positive results. It is apparent from the findings that older individuals have concerns regarding their perception of their preparedness and rafting skills (Table 2). They might not identify themselves as thrill seekers. Participation by this group might be increased through: holding Senior Olympic competitions, including senior age categories for races, offering beginner days targeted at seniors, conducting guided tours to familiarize seniors with the facilities and increase their comfort level, and displaying pictures of and articles about seniors.

Female respondents stated they *lacked the necessary skills, lacked a desire to raft, were not thrill seekers, and had no reservations* more often as constraints than males. Artificial whitewater facilities might consider how they can reassure female participants that the activity requires no prior skills to participate. Further, “women only” times might be considered and if instituted their success or failure studied. The inclusion of a webpage specifically with women participants in mind should be created. This page might include significant reassurances: no skills necessary to participate, preparedness, and bathing suit recommendations (i.e., the right type of top for this type of activity).

A significant finding of this study is that respondents did not feel prepared or have the necessary skills to raft. While little to no skill is necessary for this kind of rafting, this concern should be considered by researchers and managers of artificial whitewater facilities. An explanation of the skills necessary to participate could be made available through a brochure that guests receive upon entering the facility. Further suggestions might include promoting the professionalism (certification and experience) of the rafting staff.

In closing, the constraints typology employed in this study revealed that structural constraints were the primary impediment to participation with lack of time, inadequate preparation, and not having a bathing suit, standing out from the remaining 20 constraints. Nyaupane, Morais, and Graefe (2003) found in their study of traditional river rafters that the primary constraints were time, outfitters offering this activity, no areas near me for this activity, friends and family not interested and expense of traveling. Based on the results of this study it appears the primary constraints to participation at artificial whitewater facilities are similar to those on rivers. Lacking companionship was a constraint in both environments. However, artificial facilities introduced the new constraint of lack of preparedness. The creation of artificial whitewater facilities near populated areas could reduce the constraint of “no areas near me for this activity” found in the studies of constraints to river rafting. Increasing the number of artificial whitewater parks and facilities will require significant funding therefore constraints research in this area will be critical to their financial success and the satisfaction of participants.

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