



The effects of age, gender and level of experience on motivation to sea kayak

Timothy S. O'Connell

To cite this article: Timothy S. O'Connell (2010) The effects of age, gender and level of experience on motivation to sea kayak, Journal of Adventure Education and Outdoor Learning, 10:1, 51-66, DOI: [10.1080/14729671003669289](https://doi.org/10.1080/14729671003669289)

To link to this article: <http://dx.doi.org/10.1080/14729671003669289>



Published online: 22 Jun 2010.



Submit your article to this journal [↗](#)



Article views: 534



View related articles [↗](#)



Citing articles: 3 View citing articles [↗](#)

The effects of age, gender and level of experience on motivation to sea kayak

Timothy S. O'Connell*

Brock University, Ontario, Canada

Although motivation to participate in outdoor leisure activities has been the frequent focus of research, there are no studies that examine motivation to sea kayak. The purposes of this study were two-fold: (1) to examine the differences in motivation to sea kayak based on the interaction of age and gender, and (2) to examine differences between paddlers of different levels of experience. Participants included 176 paddlers recruited from four sea kayak symposia. Participants were asked to complete an 84-item version of the Recreation Experience Preference (REP) scales as well as to provide demographic information. Data were analysed using a series of analysis of variance tests. Results indicated that men of various age groups were motivated differently by temperature. Additionally, men were more motivated than women to sea kayak by using equipment, taking risks and teaching/leading others, while women were more motivated than men by creativity and enjoying nature. In terms of age differences, younger sea kayakers were more motivated by achievement/stimulation and escaping personal/social pressures than their counterparts in older age groups. More experienced sea kayakers were significantly more motivated by nostalgia and escaping family than were less experienced paddlers. These results may be of interest to outdoor recreation organizations providing sea kayak experiences as they shed initial light on why different groups of people are motivated to sea kayak. Programme delivery, marketing, and instructional techniques may be modified based on these findings.

Introduction

Participation in several distinct outdoor recreation activities has grown dramatically in the last decade. Paddlesports (i.e. canoeing, rafting, and kayaking—including whitewater, recreational, and sea kayaking) have accounted for the majority of growth being outpaced only by cross-country skiing. Of the paddlesport activities, sea kayaking has shown the most growth (Jaeger, 2006; Prather, 2003; Settina & Kauffman, 2001). Sea kayak purchases in North America eclipsed canoe sales for the 2007 season, and were up 144% from the previous year (Morphet, 2008). National Parks in both Canada and the USA have reported that sea kayaking is one

*Department of Recreation and Leisure Studies, Brock University, 500 Glenridge Avenue, St. Catharines, ON L2S 3A1, Canada. Email: tim.oconnell@brocku.ca

of their fastest growing water-based activities (Foster, Harris, & Ratcliff, 1999), and the popularity of sea kayak symposia is evident as numbers of participants in these events has increased. However, little is known about who sea kayaks and why these people choose sea kayaking as an outdoor recreation activity, particularly in light of the burgeoning popularity of eco- and nature-based tourism (Esch, 2005; Fennell, 1999; Holden & Sparrowhawk, 2002).

There are several reasons why it is important to understand motivations to participate in outdoor recreation activities such as sea kayaking, including: visitor and resource management (Holden & Sparrowhawk, 2002; Hollenhorst, Schuett, Olson, & Chavez, 1995; Weber, 2001); destination marketing (Bailey, 2006; Uysal, Chen, & Williams, 1999; Weber, 2001); constraints to participation (Alexandris, Tsorbatzoudis, & Grouios, 2002; Carroll & Alexandris, 1997); and enhancement of participant outcomes (Ewert, 1993; Holden & Sparrowhawk, 2002; Hollenhorst et al., 1995; Weber, 2001). Although motivations to participate in outdoor recreation activities have been studied extensively in the past, it has been noted that there is the continued need to examine the traits and motivations of outdoor recreationists, particularly in terms of eco- and nature-based tourism applications such as sea kayaking (Holden & Sparrowhawk, 2002). Thus, this paper examines who is sea kayaking, as well as what motivates these people to paddle.

Review of the literature

Sea kayaking

Engagement in several distinct outdoor recreation activities among first-time participants has grown dramatically in the last decade. There has been particular growth in activities such as cross-country skiing, cycling, rock climbing, and hiking. Paddlesports have shown the most growth being outpaced only by cross-country skiing, which showed a 66% increase in participation (Prather, 2003). Of the paddlesport activities, sea kayaking has shown the most growth (37%), followed closely by canoeing (26%), and rafting (26%) (Jaeger, 2006; Prather, 2003). In one of the few published studies directly related to sea kayakers, researchers examining paddlers on Prince William Sound found that sea kayaking in that location grew during the time frame of the study. The authors noted that they expected sea kayaking to continue to grow, barring any unforeseen disasters such as oil spills (Twardock & Monz, 2000). In a study of sea kayaking in British Columbia, Canada, 39.9% of outfitters reported their volume stayed constant, while 44.7% reported an overall increase in volume from 2004 to 2005 (Research Services, 2007) indicating a modest growth in sea kayaking during this period.

Trends in participation by various age groups suggest there will be sustainable levels of engagement in outdoor activities such as sea kayaking. In 2003, people aged 45 years and older comprised 31% of participants in outdoor recreation activities followed closely by the 16 to 24 year-old group (27%), indicating future demand for outdoor recreation activities (Prather, 2003). Additionally, there was a 60% increase

in participation in kayaking of all types by youth between 2000 and 2001, and a 220% increase since 1998 (Prather, 2003). People who participate in specific recreation activities are inclined to continue participating in these activities as adults (Freysinger, 1999). Thus, it is plausible that there will be continued interest in sea kayaking in future years.

In Canada, the recent creation of the Lake Superior National Marine Conservation Area (LSNMCA) has raised public awareness of Lake Superior as a place to sea kayak. It was estimated that there will be a 5% increase in day visitors each year from 2007 to 2010. Overnight visits in each year were expected to increase by 4% for 2007 and 2008, and 5% for 2009 and 2010 (The Outspan Group, 1999). Additionally, the perennial popularity of sea kayak symposia on Lake Superior such as the Inland Sea Society's Symposium (18 years), Rosspoint, Ontario's Symposium (10 years), the Great Lakes Sea Kayak Symposium in Grand Marais, Michigan (23 years), the Paddlefest in Wawa, Ontario (11 years), and the Two Harbors, Minnesota Kayak Festival (10 years) is a testament to the enduring interest in sea kayaking. Although the popularity of sea kayaking is evident through several data sources, there are relatively few studies examining sea kayakers.

Motivation

The importance of studying motivations has been recognized by several researchers (Ewert, 1993; Ryan & Deci, 2000; Walker, Deng, & Diesler, 2001; Weissinger & Bandalos, 1995). As Manfredi, Driver and Tarrant (1996) note:

This [motivation] is a key area because it helps determine why people engage in leisure behavior in the manner they do, and it assists in understanding the consequences of leisure engagements. Of more immediate importance, information about motivations for leisure can help practitioners develop programs that have the greatest likelihood of minimizing conflicts between users and of yielding human benefits (pp. 188–189).

Motivation has been characterized as the 'why of behaviour' and provides evidence as to what drives people to participate in an activity (Vallerand & Losier, 1999). Early research on motivation suggested that psychological needs and expected outcomes caused people to engage in activities such as recreational pursuits, and led to the development of self-determination theory (Deci & Ryan, 1991). Self-determination theory suggests that people are pushed to achieve goals through intrinsic or extrinsic pressure, and that self-determined (i.e. intrinsically motivated) behaviours will generally lead to more positive experiences (Vallerand & Losier, 1999).

Four primary reasons why people choose to participate in leisure activities such as sea kayaking have been identified by researchers, including: (1) social needs such as friendship; (2) competence needs such as a challenge; (3) intellectual needs such as learning; and (4) stimulus-avoidance such as resting (Beard & Ragheb, 1983; Iso-Ahola, Jackson, & Dunn, 1994). Researchers have identified factors that potentially temper motivations to participate in leisure activities. These include: specific psychological needs such as autonomy, competence and relatedness (Deci & Ryan, 1991);

situational and personality influences (Iwasaki & Mannell, 1999); age (Sugerman, 2002, 2003); experience, skill level and/or level of engagement (Anderson, Anderson, & Young, 2000; Ewert, 1985; Ewert & Hollenhorst, 1989; Lee, Graefe, & Li, 2007; Todd, Anderson, Young, & Anderson, 2002; Williams, Schreyer, & Knopf, 1990); and gender (Fortier, Vallerand, Briere, & Provencher, 1995).

Researchers have suggested that there are four 'levels of demand' (i.e. motivations) for outdoor recreation, including the setting, activity, outcomes, and benefits (Manfredo et al., 1996). These 'levels of demand' are reflected in the motivational sequence proposed by Vallerand and Losier (1999), who postulated that social factors influence psychological mediators (i.e. competence, autonomy, and relatedness), that affect motivations, which in turn determine the consequences of participation in an activity. This process may be helpful in examining the intricacies of why people go sea kayaking, which in turn may be used to optimize paddlers' experiences, minimize conflict among user groups, benefit local communities, and minimize environmental impacts.

In terms of motivations to participate in various types of outdoor recreation activities, groups such as SCUBA divers (Meyer, Thapa, & Pennington-Gray, 2003; Todd, Graefe, & Mann, 2001), rock climbers (Iso-Ahola, LaVerde, & Graefe, 1988; McIntyre, 1992), mountaineers (Ewert, 1985, 1993, 1994), and wilderness users (Graefe, Thapa, Confer, & Absher, 2000) have been previously studied. These researchers reported a wide range of motivations to participate in these activities, including serenity, challenge, control, escape, being in/with nature, adventure and socialization. Researchers have also examined other factors influencing participation such as enduring involvement (Ewert & Hollenhorst, 1989; McIntyre, 1992); level of experience (Schreyer, Lime, & Williams, 1984; Todd et al., 2002), and group composition (Ewert, 1993; Schuett, 1994). These studies pointed to differences in motivation based on variations in centrality of the activity to the participants' lives and skill level, among others.

Using the non-motivational variables of age (Freysinger, 1999; McPherson, 1991) and gender (Fortier et al., 1995; Lee et al., 2007), it was hypothesized that motivations to sea kayak would differ between men and women in different age groups (i.e. there would be an interaction effect for age and gender when examining differences in motivation to sea kayak). Additionally, it was hypothesized that there would be differences in motivation to sea kayak based on level of skill development or level of engagement (Ewert, 1985; Todd et al., 2001, 2002) as measured by number of years of sea kayaking.

Method

Participants

Participants in this study ($N = 176$) were recruited during the summer of 2004 at four sea kayak symposia held around Lake Superior. Two of these symposia were in Canada; the other two were held in the USA. Sea kayaking symposia are 'on-the-water

conferences' at which participants learn sea kayaking skills, take paddling excursions to natural, historical, and cultural sites, network with other sea kayakers, and view slide shows of the travels of elite sea kayakers from around the world. Letters of invitation and the survey instrument (described below) were placed in the registration packets of conference attendees. Additionally, the researcher actively solicited participation in the study by recruiting subjects during slideshows, at community meals, and at other large gatherings during the symposia. Prizes for participation were offered at each of the four locations. The subject pool for this study represents a convenience sample of sea kayakers on Lake Superior. Owing to the transient nature of sea kayakers and the relative lack of organized paddling groups in Canada, these sea kayak symposia presented the easiest manner of reaching this population.

Instrumentation

The research instrument consisted of the Recreation Experience Preference (REP) Scales (Driver, 1983) which included 328 items grouped into 21 domains of motivation. Most researchers do not utilize the full battery of items in a single survey, but include only specific items related to the subject in which they are interested. Only 84 items were retained in this survey, which is consistent with the practice of other researchers utilizing the REP Scales (Manfredo et al., 1996). These items allow the researcher to examine 21 domains, 42 scales within the domains, as well as two core statements related to each scale.

As there have been no published studies examining what motivates people to sea kayak, all 21 domains of the REP Scales were examined. These included: Achievement/Stimulation (10 items); Autonomy/Leadership (6 items); Risk taking (2 items); Equipment (2 items); Family togetherness (2 items); Similar people (4 items); New people (4 items); Learning (8 items); Enjoy nature (4 items); Introspection (4 items); Creativity (2 items); Nostalgia (2 items); Physical fitness (4 items); Physical rest (2 items); Escape personal-social pressure (8 items); Escape physical pressure (8 items); Social security (2 items); Escape family (2 items); Teaching/Leading others (4 items); Risk reduction (4 items); and Temperature (2 items). The structure of the REP Scales has been confirmed with a factor analysis, and has been shown to be both valid and reliable (Manfredo et al., 1996), with Cronbach's α levels exceeding 0.75 (Driver, Tinsley, & Manfredo, 1991). Participants replied to each of the 84 items using a 6-point Likert scale with 1 being 'Not important,' and 6 being 'Extremely important'. The REP Scales were developed to be used in an outdoor recreation context and have thus been deemed appropriate for this study.

Additionally, participants were asked to report demographic information. They indicated their age in number of years, and selected from either male or female to report gender. In terms of residence, they were asked to supply information regarding the city, country, state/province in which they lived as well as their postal code. Participants were provided with the following categories with which to indicate their race or ethnic group: Asian or Pacific Islander; African Descent; Native American/Canadian/First Nation; Hispanic/Latino/a; Caucasian/White; Multiracial; and Other.

In terms of reporting their level of education, participants selected from seven categories ranging from 'Less than high school' to 'Post university/graduate degree'. Finally, participants could indicate their level of experience measured by number of years of sea kayaking using the following categories: Less than one year; one to three years; four to five years; six to 10 years; and More than 10 years. The author's experience at over six sea kayak symposia indicated that most participants attending these events are generally 'beginners' with one to five years of experience. These categories were designed with this in mind.

Data analyses

Data were examined for outliers and descriptive statistics were calculated for variables of interest. Cronbach's α s were calculated to examine the reliability of each of the domains of the REP Scales. With the exception of the New People domain ($\alpha = 0.50$) and Equipment domain ($\alpha = 0.63$), Cronbach's α s were acceptable for the remaining 19 domains, ranging from 0.71 to 0.92. Results pertaining to the New People and Equipment domains are reported, but must be interpreted with caution as their α levels are below commonly accepted thresholds (Nunnally, 1978).

For the purposes of examining differences in each of the 21 domains of motivation to sea kayak as measured by the REP Scales between men and women of different ages, data were analysed using 2 x 4 analyses of variance (ANOVAs). *Post-hoc* analyses for main effects were conducted using Bonferroni adjustments and interaction effects were examined using one-way ANOVAs. A one-way ANOVA with Bonferroni *post-hoc* analyses were conducted to examine variations among groups of paddlers of different experience levels for the 21 domains of motivation to sea kayak. It was deemed appropriate to use two different types of ANOVA as there was an unequal distribution of men and women in each of the experience groups. As such, a clearer understanding of the motivations to sea kayak was gained by using multiple ANOVA tests.

Results

Demographics

Some 176 people participated in this study. Most of the respondents lived in the USA ($n = 130$) or Canada ($n = 34$). One person indicated that they lived in England and 11 people did not specify where they lived. Participants came from 12 different states, two provinces, and one county in England, representing a local, regional, and international participant pool. In terms of gender, 42.0% were women ($n = 74$), 57.4% were men ($n = 101$), and one person (0.6%) did not indicate his or her gender. A majority of the participants indicated that they were Caucasian ($n = 162$). Other participants categorized themselves as Multiracial or 'Other' ($n = 7$), Native Canadian/First Nation ($n = 2$), Hispanic/Latina/Latino ($n = 2$), or of African descent ($n = 1$). Two people did not report on their background. Of those participants who

reported their education ($n = 174$), 73% had a university or graduate degree, 13.2% had a college degree, 9.8% had some college or university training, 2.3% were high school graduates, 1.1% had a tradesperson certificate, and 0.6% had not completed high school.

Of the 173 participants who reported their age, the average was 46.6 years and ages ranged from 16 to 70 years. Four age groups of approximately even numbers of participants were created for the purpose of conducting the ANOVAs. Table 1 displays descriptive statistics for each age group. Although each age group contains roughly the same number of participants, it is important to note that the range of ages in the youngest and oldest age groups are greater (15 years, respectively) than the other age groups. Accordingly, the standard deviation for each of these age groups is larger than the other groups as well. As such, results should be interpreted with caution. Participants were also asked to report the length of time they had been sea kayaking in years by selecting from a category. Table 2 indicates these results as well as how many people owned or rented their sea kayak.

Descriptive statistics were also calculated for each of the 21 variables representing the domains of motivation as measured by the REP Scales. Tables 3 and 4 indicate the mean and standard deviation for these variables for gender and age group, respectively.

Table 1. Descriptive statistics for age groups

Age group	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>
1	46	16	41	29.93	6.961
2	39	42	48	44.69	2.028
3	43	49	54	51.58	1.721
4	45	55	70	60.67	4.513

Table 2. Length of time sea kayaking (in years) and kayak ownership

	Frequency	Percentage
Time sea kayaking		
Less than one year	19	11.2
One to three years	52	30.6
Three to five years	38	22.4
Five to 10 years	40	23.5
More than 10 years	21	12.4
Kayak ownership		
Own	140	82.4
Rent or borrow	30	17.6

Note. $n = 170$.

Table 3. Means and standard deviation for motivational domains for gender

Domain of motivation	Gender			
	Female		Male	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Achievement/stimulation	37.00	7.04	37.39	7.84
Autonomy/leadership	18.53	6.48	18.93	6.94
Risk taking	4.40	2.02	5.37	2.10
Equipment	5.37	2.14	6.25	2.08
Family togetherness	6.78	3.74	6.19	3.12
Similar people	16.25	4.35	15.30	3.82
New people	12.31	4.54	12.42	4.08
Learning	35.90	6.48	34.35	7.02
Enjoy nature	20.88	3.25	19.54	3.42
Introspection	12.92	5.39	11.80	5.26
Creativity	6.09	2.59	5.06	2.39
Nostalgia	6.53	2.72	6.43	2.74
Physical fitness	10.00	1.84	9.85	1.63
Physical rest	7.65	2.57	7.27	2.49
Escape personal—social pressures	29.49	8.32	29.04	8.28
Escape physical pressures	26.20	8.73	26.69	8.69
Social security	7.51	2.79	7.14	2.36
Escape family	3.53	2.34	3.61	2.01
Teaching/leading others	9.07	3.89	10.13	4.48
Risk reduction	9.23	3.72	8.88	3.75
Temperature	3.82	1.98	4.52	2.36

Motivation

Participants in this study indicated that they were most motivated to sea kayak by Enjoying nature, Learning, Being with similar people, and Achievement/Stimulation. They were least motivated by the need to Escape family, to escape hot Temperatures, for Risk reduction, and to Teach/Lead others (Table 3).

Differences in motivation by age and gender. Although respondents indicated that temperature was not a primary motivation to sea kayak, it was the only significant interaction effect between age and gender among the 21 domains of the REP Scales ($F_{3, 4.19}$, $p < .01$). There were significant differences among men in different age groups ($F_{3, 5.97}$, $p = .001$). *Post-hoc* analyses indicated that men in the youngest age group were significantly more motivated by temperature than men in each of the three older age groups ($p = .001$, $p < .05$, $p < .05$, respectively). Additionally, there were significant differences between men and women in Age Group 1 ($F_{1, 11.58}$, $p = .001$) and Age Group 3 ($F_{1, 6.81}$, $p < .05$). In both cases, men were more motivated to sea kayak as a means of escaping from warm temperatures than were women.

Table 4. Means and standard deviation for motivational domains for age group

Domain of motivation	Age group							
	1		2		3		4	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Achievement/stimulation	39.85	6.71	34.83	8.28	36.82	6.13	37.45	7.75
Autonomy/leadership	19.39	6.36	17.73	6.30	17.83	7.30	20.11	6.66
Risk taking	5.26	1.97	4.24	1.84	5.15	2.29	5.05	2.26
Equipment	5.59	2.42	5.76	1.90	5.98	1.95	6.28	2.18
Family togetherness	7.37	3.11	5.77	3.71	6.28	3.41	6.39	3.27
Similar people	17.09	3.50	16.25	3.90	14.83	4.76	14.84	3.69
New people	13.52	3.93	11.78	4.04	11.68	4.56	12.42	4.43
Learning	36.86	6.16	34.34	7.21	34.28	6.83	34.76	6.63
Enjoy nature	20.18	3.58	20.82	3.32	19.73	3.63	19.98	3.01
Introspection	13.44	5.05	11.76	5.47	12.00	5.54	12.09	5.23
Creativity	5.91	2.39	5.36	2.75	5.40	2.63	5.44	2.37
Nostalgia	6.84	2.65	6.56	3.18	6.31	2.17	6.30	2.84
Physical fitness	9.78	1.69	9.87	1.80	10.12	1.67	9.93	1.75
Physical rest	7.66	2.48	7.69	2.72	7.36	2.51	7.16	2.38
Escape personal—social pressures	31.16	6.69	31.39	9.05	28.72	7.96	26.26	8.48
Escape physical pressures	27.51	8.62	26.70	8.44	26.15	9.21	25.84	8.56
Social security	7.77	1.96	7.15	2.84	6.90	2.70	7.39	2.67
Escape family	4.09	2.61	3.23	1.82	3.73	2.36	3.27	1.61
Teaching/leading others	10.59	4.30	9.82	4.38	9.05	4.26	9.30	4.02
Risk education	10.07	3.78	8.57	3.98	8.33	3.40	9.14	3.61
Temperature	4.93	2.55	3.79	2.13	3.77	1.75	4.32	2.20

Main effects for gender. Women reported that they were significantly more motivated than men by Creativity ($F_{1, 5.07}$, $p < .05$) and Enjoying nature ($F_{1, 4.98}$, $p < .05$). Men reported that they were significantly more motivated than women by Equipment ($F_{1, 5.91}$, $p < .05$), Risk taking ($F_{1, 10.55}$, $p = .001$), and Teaching/Leading others ($F_{1, 5.24}$, $p < .05$).

Main effects for age. In terms of main effects for age, there was a significant difference ($F_{3, 3.60}$, $p < .05$) among age groups for motivation to sea kayak by Achievement/Stimulation. *Post-hoc* tests revealed that the youngest age group ($M = 39.90$) reported that they were significantly more ($p < .05$) motivated by Achievement/Stimulation than the second youngest age group ($M = 34.63$). There was also a significant difference ($F_{3, 3.13}$, $p < .05$) among age groups in Escaping personal-Social pressures as a motivation to sea kayak. The youngest age group ($M = 31.16$, $p < .05$) and second youngest age group ($M = 31.39$, $p < .05$) were each significantly more motivated to sea kayak as a means of getting away from social pressure than the oldest age group ($M = 26.26$).

There were no significant interactions or main effects for age or gender for Escaping family, Autonomy/Leadership, Escaping physical pressure, Family togetherness, Introspection, Learning, New people, Nostalgia, Physical fitness, Physical rest, Risk reduction, Similar people, or Social security.

Differences in motivation by level of experience. In terms of differentiation by level of experience, differences were found in only two domains of the REP Scales: Nostalgia ($F_{4, 5.80}, p < .001$) and Escaping family ($F_{4, 2.53}, p < .05$). *Post-hoc* analyses revealed differences among three experience groups for Nostalgia. Sea kayakers with less than one year of experience ($M = 5.33$) were significantly less ($p < .05$) motivated by Nostalgia than those with three to five years of experience ($M = 7.47$). Paddlers with one to three years of experience ($M = 5.36$) differed significantly ($p < .01$, respectively) from both the three to five years ($M = 7.47$) and five to 10 years ($M = 7.25$) of experience groups of paddlers.

Although respondents indicated that Escaping family was not that important as a motivation to sea kayak, a significant difference ($p < .05$) did exist between those people who reported that they had five to 10 years of experience ($M = 3.85$) and those with greater than 10 years of experience ($M = 2.56$).

Discussion

Various types of paddlers have been included in activity-specific studies as well as those examining larger groups of water-based recreationists (Graefe, Ditton, Roggenbuck, & Schreyer, 1981; Heywood, 1987; Knopf & Lime, 1984; Schuett, 1994; Thapa, Confer, & Mendelsohn, 2004). Additionally, empirical research has consistently shown that participants engaged in different activities have varying motivations. However, studies examining sea kayakers, by and large, are under-represented or absent from the literature. Results from this study present an initial understanding of what motivates people to sea kayak, as well as indicates some of the effects of non-motivational variables on motivation to paddle.

In terms of the proposed hypotheses for this study, both proved to be partially true. There were differences in motivation based on the interaction of age and gender as well as differences in motivation based on level of experience in select domains of motivation. It is not surprising that respondents in this study reported their primary motivations as the enjoyment of nature and learning. The format of all four of the sea kayak symposia from which participants were recruited featured paddling skill instruction as well as guided excursions to natural features such as sea caves, sand dunes, and local wildlife habitats. A possible explanation for sea kayakers reporting being motivated by achievement and stimulation to paddle is that the instructional sessions offered at these events afford the opportunity to receive feedback and improve on paddling skills. Respondents also indicated that they were motivated by the chance to be with similar people. These symposia are one of the few occasions where large numbers of people can interact with others who are interested in the same thing. These findings support the contention of self-determination

theorists that intrinsic motivations are often the primary reason for engagement in activities such as recreation and leisure pursuits (Deci & Ryan, 1991; Vallerand & Losier, 1999).

Interestingly, the only significant interaction effect for age and gender was for temperature. It appears as if young men are motivated to sea kayak as a means to escape hot weather conditions more so than older men and women. However, this result must be interpreted with caution due to the large range of ages in the youngest category. A possible explanation for this difference is that younger sea kayakers have not fully developed a range of intrinsic reasons for sea kayaking, and can more readily identify with and react to the extrinsic reality of escaping hot temperatures. Other studies have supported the idea that extrinsic motivation can lead to participation in recreation activities such as sea kayaking (Tsorbatzoudis, Alexandris, Zahariadis, & Grouios, 2006).

As suggested by Freysinger (1999), age (or stage of life-span) influenced motivations to sea kayak. Younger paddlers saw sea kayaking as a means for achievement and stimulation more so than older paddlers, as well as a means of escaping personal and social pressures. Consistent with stereotypical realities of young adult versus older adult life stages, younger paddlers are most likely engaged in raising a family, work obligations, and building social relationships with friends and colleagues. Older paddlers are more likely to be retired, not directly responsible for raising children, and to have an established circle of friends, and are thus less motivated by the need for achievement/stimulation or to get away from social pressures (Sugerman, 2002).

Previous studies have indicated that there are motivational differences between men and women (Bernstein, 1999). In terms of these gender differences, men appear to be more motivated by the active, challenge-oriented aspects of recreation activities than women (Jackson & Henderson, 1995). The findings from this study support this notion as men were more motivated than women by the opportunity to use their own equipment, as well as to try out equipment they didn't own. Sea kayak symposia offer the chance for paddlers to 'demo' equipment (slang for demonstrate), which refers to the common practice in the outdoor recreation equipment industry whereby participants are given the option of trying out various equipment such as boats and paddles without a commitment to purchase those items. Men were also more motivated than women by the chance to teach or lead others and risk-taking, which is contrary to the findings of Lee et al. (2007) who found no differences between men and women in motivations related to challenge and competition.

The findings from this study support those of others (Jackson & Henderson, 1995) that noted that women were motivated by the chance to enjoy or experience nature more than men. As mentioned earlier, sea kayaking (and sea kayak symposia) provides an excellent opportunity for paddlers to enjoy their surroundings and the natural environment. Women in this study were also significantly more motivated by creativity than men. As noted by Lee et al. (2007), women may be oppressed in sea kayaking because of the stereotypical masculine nature of paddling. Most of these sea kayak symposia feature women's only clinics and excursions. The inclusion of women's only events may influence women's motivations to paddling by removing

these feelings of oppression and allowing for free, creative expression. In pilot projects for this study, the author found that sea kayaking is particularly attractive to women aged 49 to 55 years, as sea kayaks are generally easy boats to handle, provide a more 'intimate' experience with the water, and provide the opportunity to meet new people. The author hypothesized that women in this age group interpret sea kayaking as a means to be creative and freely express themselves away from the obligations of normal life. As Sugerman (2002) suggested, women in this life stage may be motivated to participate in outdoor recreation activities such as sea kayaking as a means of experiencing different gender roles. Additionally, the results of this study confirm those of Meyer et al. (2003) who found in their study of scuba divers, that women were more motivated by intrinsic reasons than were men. These are consistent with the theoretical suppositions of Freysinger (1999) who suggested that women of this age begin to develop a sense of agency while maintaining affiliation, while men are becoming less autonomous and more motivated by the need for association with others.

In terms of differences in motivations to sea kayak by level of experience, paddlers with more years of experience were significantly more motivated by nostalgia than were less experienced paddlers. Sea kayakers with a higher level of experience were more likely to have attended previous sea kayak symposia, and thus had a greater opportunity to be motivated to paddle based on memories of past experiences. This confirms the findings of others, who suggested that as experience levels increase, motivations become more intrinsic (Ewert, 1994).

Findings from this study may be particularly useful to symposia planners and sea kayaking outfitters, particularly those who wish to enhance participant outcomes. Sea kayakers in general appear to be most motivated by the opportunity to enjoy nature and general learning, which is consistent with the primary motivations of canoeists (Lee et al., 2007). Although sea kayak symposia meet these needs by design, outfitters and land managers may provide experiences for paddlers to fulfill these goals by suggesting routes that contain interesting or unique natural features and providing informational material or signage about cultural and natural history. Information pertinent to sea kayakers and their interests can also be included in interpretive and information centres. As Stein, Denny and Pennisi (2003) advise, a holistic approach to providing learning experiences should be followed. Learning opportunities should be developed by considering both commonalities and diversity of sea kayaker interests. Further research into the specifics of what sea kayakers would like to learn is warranted. Outfitters should also consider expanding introductory paddling skill lessons to include the opportunity to enjoy the natural surroundings.

As suggested by several researchers (Bailey, 2006; Uysal et al., 1999; Weber, 2001), understanding motivations may be used in marketing recreation destinations. Many prime sea kayaking locations are located in remote areas, or aren't successfully marketed by local outfitters or tourism agencies. Findings from this study may be used in the creation of marketing materials to encourage sea kayakers to paddle in a particular location by stressing the opportunities to experience unique natural features.

Limitations and future research

There are some limitations to this study. First, the data were collected using a convenience sampling framework from sea kayak symposia. Although survey instructions directed respondents to consider their motivations to sea kayak in general, they may have framed their choices in terms of the symposia, which would limit the generalizability of these findings. It is recommended that future researchers explore recruiting participants from other sources. Additionally, all of the locations from which participants were recruited were on Lake Superior. Therefore, it is recommended that future studies sample from marine environments on the coasts of North America or in other locations around the world.

Second, as previously noted, the distribution of ages across groups used in the analyses requires that the results be interpreted with caution. Future researchers may wish to seek out younger sea kayakers to gain their perspectives. This may prove difficult however, as sea kayaking is a relatively expensive sport in which to participate, which favours older paddlers who generally have more disposable income to devote to equipment purchases.

Finally, level of experience in this study was operationalized as number of years of sea kayaking. While this provides a simplistic, easy-to-understand measure of experience, it only addresses one facet of specialization as suggested by Bryan (1977). Future research could expand on how level of experience is measured. This may provide a clearer distinction of motivations between and among sea kayakers with differing levels of experience.

Author biography

Tim O'Connell, PhD, is an Associate Professor of Recreation and Leisure Studies at Brock University. His current research examines the development of sense of community and sense of place in groups of people engaged in outdoor recreation activities. Tim's other research interests include motivation to participate in outdoor recreation and group dynamics.

References

- Alexandris, K., Tsorbatzoudis, C., & Grouios, G. (2002). Perceived constraints on recreational sport participation: Investigating their relationship with intrinsic motivation, extrinsic motivation, and amotivation. *Journal of Leisure Research*, 34(3), 233–252.
- Anderson, L., Anderson, D., & Young, A. B. (2000). Testing the adventure recreation model: A replication with subjects involved in a required outdoor experience. In L. A. Stringer, L. H. McAvoy, & A. B. Young (Eds.), *Coalition for education in the outdoors fifth biennial research symposium proceedings* (pp. 24–30). Cortland, NY: Coalition for Education in the Outdoors, SUNY Cortland.
- Bailey, S. (2006). The eco-tourist trap. *Parks and Recreation*, July, 48–51.
- Beard, J. G., & Ragheb, M. G. (1983). Measuring leisure motivation. *Journal of Leisure Research*, 15, 219–228.
- Bernstein, D. (1999). *Gender and motivation*. London: University of Nebraska Press.

- Bryan, H. (1977). Leisure value systems and recreational specialization: The case of trout fisherman. *Journal of Leisure Research*, 9, 174–187.
- Carroll, B., & Alexandris, K. (1997). Perceptions of constraints and strength of motivation: Their relationship to recreational sport participation in Greece. *Journal of Leisure Research*, 29(3), 279–299.
- Deci, E., & Ryan, R. (1991). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska symposium on motivation 1991: Vol. 38. Perspectives on motivation—Current theory and research in motivation* (pp. 237–288). Lincoln, NE: University of Nebraska Press.
- Driver, B. L. (1983). *Master list of items for Recreation Experience Preference scales and domains*. Unpublished document. USDA Forest Service, Fort Collins, CO, Rocky Mountain Research Station.
- Driver, B. L., Tinsley, H. E., & Manfredi, M. J. (1991). The paragraphs about leisure and recreation preference scales: Results from two inventories designed to assess the breadth of the perceived psychological benefits of leisure. In B. L. Driver, P. J. Brown, & G. L. Peterson (Eds.), *Benefits of leisure*. State College, PA: Venture.
- Esch, M. (2005, April 2). Hudson River kayaking grows in popularity. *Chronicle Journal*, p. E1.
- Ewert, A. (1985). Why people climb: The relationship of participant motives and experience level to mountaineering. *Journal of Leisure Research*, 17(3), 241–250.
- Ewert, A. (1993). Differences in the level of motive importance based on trip outcome, experience level and group type. *Journal of Leisure Research*, 25(4), 335–349.
- Ewert, A. (1994). Playing the edge: Motivation and risk taking in a high-altitude wilderness environment. *Environment & Behavior*, 26(1), 3–24.
- Ewert, A., & Hollenhorst, S. (1989). Testing the adventure model: Empirical support for a model of risk recreation. *Journal of Leisure Research*, 21, 124–139.
- Fennell, D. A. (1999). *Ecotourism: An introduction*. London: Routledge.
- Fortier, M., Vallerand, R., Briere, N., & Provencher, P. (1995). Competitive and recreational sport structures and gender: A test of their relationship with sport motivation. *International Journal of Sport Psychology*, 26, 24–39.
- Foster, R. F., Harris, A. G., & Ratcliff, B. (1999). Lake Superior National Marine Conservation Area: Current trends and future impacts on the Lake Superior ecosystem. Unpublished report prepared for Parks Canada, Department of Canadian Heritage by Northern Bio-science.
- Freysinger, V. J. (1999). Life span and life course perspectives on leisure. In E. Jackson, & T. L. Burton (Eds.), *Leisure studies: Prospects for the twenty-first century* (pp. 253–270). State College, PA: Venture.
- Graefe, A., Ditton, R., Roggenbuck, J., & Schreyer, R. (1981). Notes on the stability of the factor structure of leisure meanings. *Leisure Sciences*, 6, 51–65.
- Graefe, A., Thapa, B., Confer, J., & Absher, J. (2000). Relationships between trip motivations and selected variables among Allegheny National Forest visitors. In S. McCool, D. Cole, W. Borrie, & J. O'Loughlin (Eds.), *Proceedings of the 1999 Wilderness Science in a Time of Change Conference. RMRS-P-15, Vol. 4* (pp. 107–112). Ogden, UT: USDA, Forest Service, Rocky Mountain Research Station.
- Heywood, J. (1987). Experience preferences of participants in different types of river recreation groups. *Journal of Leisure Research*, 19(1), 1–12.
- Holden, A., & Sparrowhawk, J. (2002). Understanding the motivations of ecotourists: The case of trekkers in Annapurna, Nepal. *International Journal of Tourism Research*, 4(6), 435–446.
- Hollenhorst, S., Schuett, M., Olson, D., & Chavez, D. (1995). An examination of the characteristics, preferences, and attitudes of mountain bike users of the national forests. *Journal of Park and Recreation Administration*, 13(3), 41–51.
- Iso-Ahola, S. E., Jackson, E., & Dunn, E. (1994). Starting, ceasing, and replacing leisure activities over the life span. *Journal of Leisure Research*, 26, 227–249.

- Iso-Ahola, S. E., LaVerde, D., & Graefe, A. (1988). Perceived competence as a mediator of the relationship between high risk sports participation and self-esteem. *Journal of Leisure Research*, 21, 32–39.
- Iwasaki, Y., & Mannell, R. (1999). Situational and personality influences on intrinsically motivated leisure behavior: Interaction effects and cognitive processes. *Leisure Sciences*, 21, 287–306.
- Jackson, E., & Henderson, K. A. (1995). Gender-based analysis of leisure constraints. *Leisure Sciences*, 17, 31–51.
- Jaeger, S. (2006). Recreational kayaks dominating sales. *Paddlesports Business*, Summer, 20–21.
- Knopf, R., & Lime, D. (1984). *A recreation manager's guide to understanding river use and users*. USDA Forest Service, General Technical Report WO-38.
- Lee, S., Graefe, A., & Li, C. (2007). The effects of specialization and gender on motivations and preferences for site attributes in paddling. *Leisure Sciences*, 29, 355–373.
- Manfredo, M., Driver, B., & Tarrant, M. (1996). Measuring leisure motivation: A meta-analysis of the recreation experience preference scales. *Journal of Leisure Research*, 28(3), 188–213.
- McIntyre, N. (1992). Involvement in risk recreation: A comparison of objective and subjective measures of engagement. *Journal of Leisure Research*, 24, 64–71.
- McPherson, B. D. (1991). Aging and leisure benefits: A life cycle perspective. In B. L. Driver, P. J. Brown, & G. L. Peterson (Eds.), *Benefits of leisure* (pp. 423–430). State College, PA: Venture.
- Meyer, L. Thapa, B., & Pennington-Gray, L. (2003). An exploration of motivations among scuba divers in North Central Florida. In R. Schuster (Ed.), *Proceedings of the 14th Northeastern Recreation Research Symposium* (pp. 292–295). General Technical Report NE-302. Newton Square, PA: USDA Forest Service, Northeastern Forest Experiment Station.
- Morphet, S. (2008, August 23). Where to paddle like the pros. *The Globe and Mail*, p. T2.
- Nunnally, J. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.
- Outspan Group (1999). *Lake Superior National Marine Conservation Area: Tourism potential assessment study*. Unpublished report prepared for Parks Canada.
- Prather, R. (2003, March/April). Paddlesports still growing, oia [outdoor industry association] reports. *Paddlesports Business*, 1, 6.
- Research Services (2007). *British Columbia's sea kayaking sector (2005)*. Victoria, BC: Tourism British Columbia.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78.
- Schreyer, R., Lime, D., & Williams, D. (1984). Characterizing the influence of past experience on recreation behavior. *Journal of Leisure Research*, 16, 34–50.
- Schuett, M. (1994). Environmental preferences and risk recreation: The case of white water kayakers. *Journal of Environmental Education*, 25, 9–14.
- Settina, N., & Kauffman, R. (2001). Water trails. *Parks & Recreation*, 36, 94–102.
- Stein, T. V., Denny, C. B., & Pennisi, L. A. (2003). Using visitors' motivations to provide learning opportunities at water-based recreation areas. *Journal of Sustainable Tourism*, 11(5), 404–425.
- Sugerman, D. (2002). The relationship of age to motivation and skill development in outdoor adventure programs for older adults. *Society and Leisure*, 25(2), 351–376.
- Sugerman, D. (2003). Motivations of older adults to participate in outdoor adventure programs. *Journal of Experiential Education*, 25(3), 346.
- Thapa, B., Confer, J. J., & Mendelsohn, J. (2004). *Trip motivations among water-based recreationists*. Retrieved October 10, 2008 from <http://www.metla.fi/julkaisut/workingpapers/2004/mwp002.htm>
- Todd, S., Anderson, L., Young, A., & Anderson, D. (2002, April). *Differences in motivations over time by level of development: An examination of pre/post adventure recreation experiences*. Paper presented at the Northeastern Recreation Research Symposium, Bolton Landing, NY.
- Todd, S., Graefe, A., & Mann, W. (2001, April). *Differences in scuba diver motivations based on level of development*. Paper presented at the Northeastern Recreation Research Symposium, Bolton Landing, NY.

- Tsorbatzoudis, H., Alexandris, K., Zahariadis, P., & Grouios, G. (2006). Examining the relationship between recreational sport participation and intrinsic and extrinsic motivation and amotivation. *Perceptual and Motor Skills*, 103, 363–374.
- Twardock, P., & Monz, C. (2000). Recreational kayak visitor use, distribution, and financial value of beaches in western Prince William Sound, Alaska between 1987 and 1998. In D. Cole, S. McCool, W. Borrie, & J. O'Loughlin (Eds.), *Wilderness science in a time of change conference—Volume 4: Wilderness visitors, experiences, and visitor management* (pp. 175–180). Missoula, MT: Department of Agriculture, US Forest Service, Rocky Mountain Research Station.
- Uysal, M., Chen, J., & Williams, D. (1999). Increasing state market share through a regional positioning. *Tourism Management*, 21, 89–96.
- Vallerand, R., & Losier, G. (1999). An integrative analysis of intrinsic and extrinsic motivation in sport. *Journal of Applied Sport Psychology*, 11, 142–169.
- Walker, G., Deng, J., & Dieser, R. B. (2001). Ethnicity, acculturation, self-construal, and motivations for outdoor recreation. *Leisure Sciences*, 23, 263–283.
- Weber, K. (2001). Outdoor adventure tourism—A review of research approaches. *Annals of Tourism Research*, 28(2), 360–377.
- Weissinger, E., & Bandalos, D. (1995). Development, reliability and validity of a scale to measure intrinsic motivation in leisure. *Journal of Leisure Research*, 27(4), 379–400.
- Williams, D., Schreyer, R., & Knopf, R. (1990). The effect of the experience use history on the multidimensional structure of motivations to participate in leisure activities. *Journal of Leisure Research*, 22(1), 36–54.