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THE RELATIONSHIP OF MOTIVATION FACTORS TO LEVEL OF DEVELOPMENT IN OUTDOOR ADVENTURE RECREATIONISTS

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INTRODUCTION

A growing body of empirical studies tests theories of developmental level in a recreation activity. Most are based on two prominent leisure theories: specialization (Bryan, 1977, 1979) and amateur/professionalism or "serious leisure" (Stebbins, 1979, 1992). A parallel group of studies has focused on understanding the developmental levels of outdoor adventure (or risk) recreation behavior, primarily using the Adventure Recreation Model (ARM) (Ewert, 1989) as a cornerstone. Both areas of the literature have sought to understand developmental levels in relation to other variables, including motivation. The purpose of this study was to determine the motivation factors that are related to participants' level of development in outdoor adventure recreation pursuits. This study will further test the ARM, add to the empirical body of knowledge in the areas of recreation specialization and "serious leisure," and integrate these two parallel areas of study.

Motivation

Motivation to participate in a recreation activity has been explained by expectancy-value theory (Fishbein & Ajzen, 1975), which states that motivation is a function of the attractiveness of outcomes, and a belief that engaging in an activity will likely produce desired results. This expectation fosters a positive attitude and intention to participate, and behaviors that facilitate goal achievement are evaluated positively.

Expectancy-value theory acknowledges that not only may individuals have a variety of motives for participating in an activity, but also persons within the same activity may seek totally different outcomes. While some recreation research has focused on motives of those partici-

pating in different activities (e.g., the study of cross-country skiers and snowmobilers by Jackson & Wong, 1982), other studies examined the goals of those participating in the same activity (e.g., Ditton, Fedler, & Graefe's 1982 study of types of river floaters).

Recreationists' Growth & Development

Since motives have been shown to be influenced by level of past experience (Schreyer, Lime, & Williams, 1984), it seems likely that they would differ by participants' level of development. As noted above, theories of specialization (Bryan, 1977, 1979) and amateurism (Stebbins, 1979, 1992) often form the basis for characterizing participants' growth and development in leisure activities.

Recreation Specialization

Based primarily on outdoor recreationists, Bryan (1979) described participants on a continuum ranging from novice to specialist, with stages defined as a function of one's time, money, equipment, skill, and psychic commitment to an activity. Moreover, at each level of specialization, distinctly different preferences and behaviors emerge. As specialization increases, attitudes and values about the activity change. Importantly, Bryan notes that what constitutes a reward or success can change over time, helping to explain the progression toward higher degrees of specialization.

Bryan (1979) wrote, "...the specialization dimension likely underlies *any* recreational activity. Yet the length of the continuum will differ for different activities, and the activities themselves can be arranged on a specialization con-

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tinuum" (p. 88). By their nature, certain activities may be more highly or less specialized or have wider or narrower ranges of specialization. Besides creating a typology of fly fishermen, Bryan also hypothesized typologies of specialization for the following outdoor activities: photography, hiking and backpacking, mountain climbing, skiing, canoeing, birdwatching, and hunting. Based on Bryan's work, Berl and Chilman (1981) developed an additional typology of rock climbing in the Midwest.

Research focusing on specialization's relationship to other variables abounds, with many types of leisure activities being examined. For example, some studies have focused on the relationship between specialization and environmental-setting preferences of hikers (Viriden, 1986) or kayakers (Schuett, 1994), as well as the relationship between specialization and behavioral choices (easy vs. challenging hunt) of goose hunters (Kuentzel & Heberlein, 1992). Specialization has also been applied to perceptions of crowding among hikers (Graefe, Donnelly, & Vaske, 1986) and river users (Hammit, McDonald, & Noe, 1984; Tarrant, Cordell, & Kibler, 1997) and to perceptions of conflict (Todd, 1987; Watson, Niccolucci, & Williams, 1994).

While most studies of specialization are based on Bryan's (1979) assumption that people progress and develop from novice to expert in a linear fashion, Kuentzel and Heberlein (1997) tested a social status framework of specialization, implying that participants enter an activity in different ways (in this case, 354 sailors at the Apostle Islands National Lakeshore in Wisconsin) based on status. Their results, however, did not support this approach, but did endorse Bryan's linear concept of a developmental continuum.

When Scott and Godbey (1994) applied the theory of specialization to contract bridge players, however, they did not find evidence of a linear continuum. The authors proposed that four types of players could be arranged on a specialization continuum ranging from occasional players to regular social players, regular duplicate players, and tournament players. As one moved

from occasional to tournament play, specialization was predicted to increase based on intensity of identification, meaning of participation, frequency of play, game and setting preferences, and orientation to competition and skill development. Results of the study, however, indicated that the four types of play did not represent a developmental sequence and should not be arranged on a continuum; many social players, in fact, resisted specialization and had no desire to become serious bridge players. Scott and Godbey concluded that the four types of play represent unique styles of involvement played out in different social worlds.

Likewise, Kuentzel and McDonald (1992) discovered that distributions of commitment and lifestyle do not necessarily increase in a linear fashion but may scatter widely with increased experience. For river users, commitment was found to increase with experience level in the early years but diverged later at the highest levels of experience. The authors wondered if a ceiling effect on commitment occurs.

Amateur/Professional Growth

Perhaps best known for applying the commitment component most thoroughly is Stebbins' (1979, 1992) study of "serious leisure" and amateurism in art, entertainment, science, and sport. According to this theory, as an activity becomes more important to the participant, he or she may progress from *dabbler* to *novice*, *amateur participant*, or *amateur devotee*, or may even become a paid *professional*.

Stebbins (1992) also describes the amateur's development in terms of a career history. He proposed the following five stages of progression/retrogression: beginning, development, establishment, maintenance, and decline. Stages are characterized by changes in variables such as knowledge, skill/ability, participation, experience, and dedication. Movement through the stages is affected by changes or encounters beyond the person's control, termed *career contingencies*. Participants also recognize, interpret, and control past, present, and future events associated with the work or leisure role; these significant decisions and critical points are called

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turning points in a career. Scanlan, Ravizza, and Stein (1989) documented evidence of these concepts in a study of elite figure skaters.

Level of Development

Combining aspects of the above theories, several studies have operationalized "level of development" as a single measure. Data from quiltmakers (Todd, 1997; 1999a; 1999b; Todd & Graefe, 2001) and SCUBA divers (Todd, 2000) verified that having respondents choose a category of beginner, intermediate, advanced, expert, or "post-expert – not the expert I once was" adequately reflected development-related factors. In all but one case, mean scores for indices measuring equipment owned, knowledge, experience; perceived skill, participation, commitment, and amateur/professional growth increased from beginner to expert and then decreased for post-experts. (Due to its cumulative nature, diving experience was the exception to this pattern; this variable continued to increase for post-experts.)

Adventure/Risk Recreation Behavior

A parallel, but similar, group of studies has focused on understanding the developmental levels of outdoor adventure (or risk) recreation behavior in relation to other variables (Anderson, Anderson, & Young, 2000; Ewert, 1985; Ewert & Hollenhorst, 1989; Robinson, 1992). The Adventure Recreation Model (ARM), first proposed by Ewert (1989) and tested by Ewert and Hollenhorst (1989), differentiates adventure recreation pursuits from other outdoor recreation activities based on the notion of "seeking risk and uncertainty of outcome" (p. 8). The ARM is based on the personal attributes of the participant, including variables noted previously as being related to level of development: level of engagement or experience, frequency of participation, and skill level. These personal attributes are related in predictable ways to variables such as decision-making locus of control, social orientation, preferred level of risk, and environmental orientation (see Figure 1). A second model of participation in risk recreation was generated by Robinson (1992), who presented

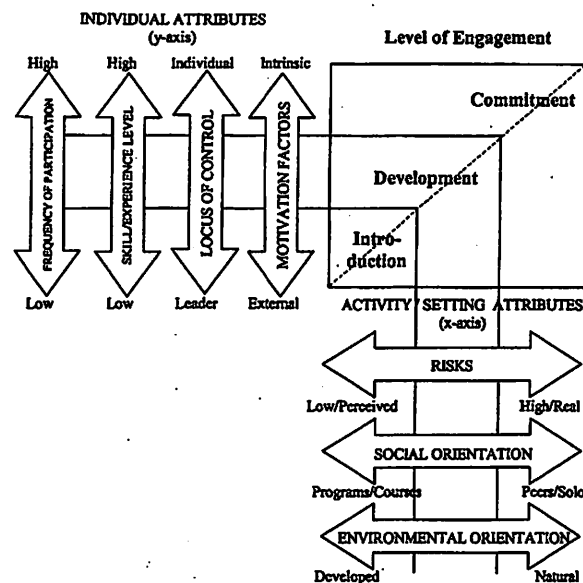


Figure 1. The Adventure Recreation Model by Ewert and Hollenhorst (1989).

phases and transitions of long-term (enduring) involvement in adventure activities.

Motivation & Level of Development

In each of the above theories, individuals at different stages tend to place importance on, focus on, or strive for different outcomes. Studies suggest that the more specialized and serious participants are about their leisure pursuits, the more important intrinsic rewards of involvement and competence become. Notably, Schreyer, Lime, and Williams (1984) found that veteran river recreationists ranked motives such as "to develop my skills" and "to test my abilities" much higher than novices. Furthermore, with higher levels of experience, the structure of the motive factors became increasingly complex (Williams, Schreyer, & Knopf, 1990).

Going beyond experience use history, Kauffman (1984) tested Bryan's conceptual framework of recreation specialization (1979) by focusing on the changing rewards, expectations or benefits canoeists received from canoeing. He discovered that as 491 participants became more specialized, their motives for canoeing changed.

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At least two levels of specialization emerged based on differences between scores for nature, exploration, affiliation, and temporary escape, while even larger differences were found for three other expected rewards. Highly specialized canoeists were found to canoe for exercise, recognized the importance of their equipment to their experience, and received a sense of achievement from their experience.

Studies of specialized anglers have also examined motivation. Dawson, Brown, and Connelly (1992) discovered that, instead of being influenced by specialization factors alone, anglers' behavior was affected by expectations of various outcome probabilities. Dawson (1997) then used a clustering technique to detect differences in motivational profiles of distinct angler sub-populations within one level of specialization. Designation of specialization level in these studies, however, was based on anglers' technique and setting preferences. Examining these clusters based on other development-related factors, such as experience level, skill, knowledge, frequency of participation, commitment, and amateur/professional growth, would be interesting.

In the original conceptualization of the ARM, Ewert (1989) included motivation as a principal variable related to level of development. In this case, however, level of development was based solely on one variable: level of engagement or experience. Participants were labeled "introductory" if they marked responses of 1 to 3 on the 9-point Likert scale, "development" for scores of 4 to 6, and "committed," 7 to 9. Subsequent testing (Ewert & Hollenhorst, 1989) led to the elimination of motivation from the model, since only two motives, skill development and competition, were significantly (but weakly, $r = .19$ for both) related to level of engagement or experience. However, further testing by Anderson, et al. (2000) did find support for motivation as a key variable related to level of engagement. These authors not only found stronger relationships for skill development ($r = .45$) and competition ($r = .25$) with level of engagement, but also uncovered moderately strong relationships for risk taking ($r = .50$), experiencing nature ($r = .42$), excitement ($r = .39$), ex-

pressing creativity ($r = .39$), fun and enjoyment ($r = .38$), and challenge ($r = .31$).

Purpose of the Study

The purpose of this study was to determine the motivation factors that are related to participants' development in outdoor adventure recreation pursuits. Based on the above review of literature, it was expected that adventure recreationists' motives would differ by level of development. Specifically, it was hypothesized that motivation would become more intrinsic as level of development increased from beginner to expert. Unlike previous adventure recreation research based on the ARM, this study also attempted to portray more broadly level of development, as well as isolate major motivational themes of participants.

METHODS

Participants & Setting

Subjects for this study were 164 undergraduate recreation majors from separate, but similar, sections of a required summer session Outdoor Education Practicum course. Regardless of section, the course enrolled eligible recreation majors of all concentrations (outdoor recreation and education management, therapeutic recreation, recreation and leisure program delivery, management of leisure services, or no concentration declared), was staffed at a 1:7 ratio from a pool of similarly trained and seasoned leaders, and shared a common syllabus, schedule and format. (The 13-day course included 7 days in a camp-like resident outdoor education setting, with amenities, dining facilities, and a structured program followed by a 6-day wilderness canoe trip in New York State's Adirondack Park.) Sections differed primarily in terms of when they were offered (i.e., late May to late June of 1999, 2000, or 2001). Participants ranged in age from 18 to 50 with an average age of 22.9. 56 percent were females, 44 percent were males.

Instrumentation

Subjects completed the Adventure Recreation Model Instrument (Ewert & Hollenhorst, 1989) on the last full day of the course (100% response rate). The instrument included items to measure variables related to level of development (experience, perceived skill, and frequency of participation), 19 motivations for participation, plus other user (locus of decision-making) and setting (type of environment, preferred level of risk, social orientation) attributes. Only the sections pertaining to level of development and motivations were pertinent to this study.

Experience and perceived skill were measured by separate 9-point Likert scales, where 1 represented "little or no experience" or "beginner with little or no skills" and 9 was "a great deal of experience" or "expert, highly skilled," respectively. Frequency of participation was measured with 5 categories: none, 1-2, 3-6, 7-10, or more than 10 adventure experiences within the last two years. The questionnaire also used a 9-point Likert scale ranging from "not at all important" (1) to "very important" (9) to which subjects responded for each motive on the questionnaire.

Data Reduction

The three items pertaining to level of development were significantly correlated ($p < .01$) with each other: Pearson's correlation coefficient between experience and perceived skill was .90; frequency of participation was also positively correlated to perceived skill ($r = .48$) and experience ($r = .45$). Since two different scales of measurement were used among the three variables, the items were converted to z-scores before being combined into a "level of development" scale. Reliability analysis yielded a Cronbach's alpha of .82; with the alpha increasing to .95 if frequency of participation were deleted from the scale. However, because retaining all three items would give a more "rounded" portrayal of factors related to level of development found in similar studies (Todd, 1999b, 2000) and .82 was at an acceptable alpha level, all items were kept in the scale. The average of the three z-scores was then computed for each

respondent, with final index scores ranging from -2.30 to 1.66 ($n = 164$). Because the authors wanted to compare the results of this investigation to those of motivational studies that used a categorical measure of level of development (Todd & Graefe, 2001; Todd, Graefe, & Mann, in press), each respondent was assigned to one of four categories, with z-score cutoffs approximating the percentage breakdown of developmental levels established in a previous adventure recreation study involving SCUBA divers (Todd, 2000): beginner (24.4%, $n = 40$), intermediate (36.0%, $n = 59$), advanced (30.5%, $n = 50$), and expert (9.1%, $n = 15$).

Factor analysis (principal components method of extraction, varimax rotation) was used to reduce the 19 motives into factors representing primary themes or reasons for participation. Cronbach's alpha was then utilized to test inter-item reliability among the items in each factor having an Eigenvalue of at least 1.00. One-way analysis of variance was used to determine if a difference existed among mean scores for each factor by level of development. To compare the differences between mean scores for each pair of developmental levels, Tukey's Honestly Significant Differences (HSD) was applied as a post hoc test if the F-value was significant ($p < .05$). To ensure that the scaled factors were not masking the effects of any component statement, each motive was also individually tested using the same procedures.

RESULTS

Motivations

Overall, respondents rated "for fun and enjoyment" as their most important motive for participating in adventure experiences (mean = 8.18), followed by "for the personal challenge" (7.74), "for feelings of achievement" (7.50), and "to do something new/different" (7.48) (see Table 1). At the other extreme, respondents rated the following four motives as being least important: "for status among my peers" (3.25), "for my image in society" (3.26), "because of requests by others" (3.77), and "for the competition (with others or environment)" (4.91).

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TABLE 1
Motives for Participation in Adventure Experiences

Motive	Mean	SD
For fun and enjoyment	8.18	1.08
For the personal challenge	7.74	1.31
For feelings of achievement	7.50	1.38
To do something new/different	7.48	1.38
For excitement and stimulation	7.35	1.40
To experience nature	7.33	1.55
To develop skills	7.09	1.60
For physical fitness	7.00	1.55
To make friends	6.76	1.85
To enhance feelings of myself	6.69	1.96
To take risks	6.37	1.76
For my career/job	6.18	2.16
To express my creativity	6.16	2.00
To socialize	5.90	1.95
To experience a sense of control	5.76	1.96
For the competition (with others or environment)	4.91	2.47
Because of requests by others	3.77	1.99
For my image in society	3.26	2.05
For status among my peers	3.25	1.95

Note. Values are mean scores on a 9-point scale anchored as follows: 1=not at all important and 9=very important.

When these data were reduced using factor analysis, six factors (explaining 68.2% of the variance and having acceptably high scale reliabilities – see Table 2) emerged: *challenge* (mean scale score of 7.17, Cronbach's alpha of .85), *image* (mean of 3.80, alpha of .73), *self-efficacy* (6.53, alpha of .71), *learning* (6.87, alpha of .63), *social interaction* (6.33, alpha of .78), and a single item *fun* (8.18). *Challenge* was the strongest factor, explaining nearly 30% of the variance. This factor contained six items related to personal challenge, novelty, fitness, excitement, risks, and skill development. The *image* factor added 12.5% of explained variance. The four items in this factor were related to extrinsic pressures or stature among others. *Self-efficacy* (7.5% of explained variance) contained four items measuring feelings of control, achievement, creativity, and self-esteem. The

three items in the *learning* factor (6.9% of explained variance) reflected career-related motives, including developing skills and experiencing the field-related natural environment. *Social interaction* (6.4% of explained variance) was composed of two items: to make friends and to socialize. The final one-item factor *fun* added 5.3% of explained variance.

Hypothesis Testing

When mean motive scores were compared among levels of development, four of the six factors produced significant F-values ($p < .05$) (Table 3). These four (*challenge*, $F(3,160) = 5.47$, $p < .01$; *self-efficacy*, $F(3,160) = 4.26$, $p < .01$; *learning*, $F(3,160) = 6.96$, $p < .01$; and *fun*, $F(3,160) = 3.11$, $p < .05$) reflected intrinsic motivations of participation, while the two that did not differ by level of development (*image*, $F(3,160) = 2.07$, $p = .11$; and *social interaction*, $F(3,160) = 0.58$, $p = .63$) were more extrinsic in nature.

While the *fun* factor was only able to reveal one significant difference among levels of development using Tukey's HSD post hoc test, *self-efficacy* uncovered two differences, and both *challenge* and *learning* detected three. Specifically, beginners had lower *fun* scores than advanced participants (mean of 7.75 vs. 8.40). For *self-efficacy*, beginners (mean = 6.02) differed significantly from both advanced (6.75) and experts (7.28). In the cases of *challenge* and *learning*, beginners had significantly lower scores (6.63 and 6.10, respectively) than all other intermediate, advanced, and expert respondents (7.23, 7.34, and 7.80 for *challenge* and 6.98, 7.71, and 7.44 for *learning*, respectively).

When each individual motive was tested using the same procedures, 13 of the 19 motives produced significant F-values (see Table 3). The most discriminating single item was "to take risks," $F(3, 159)$, $p < .01$, which uncovered four significant differences among levels of development. Beginners (5.33) had lower scores than intermediates (6.34), advanced (6.82), and experts (7.67), plus intermediates also differed significantly from experts. In some cases, the pat-

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TABLE 2
Results of Factor Analysis of Motive Items (Principal Components Extraction, Varimax Rotation)

Factor Name and Item Content/Loading	Factor 1: Challenge	Factor 2: Image	Factor 3: Self- efficacy	Factor 4: Learning	Factor 5: Social In- teraction	Factor 6: Fun
For the personal challenge	.80					
To do something new/different	.75					
For physical fitness	.74					
For excitement and stimulation	.62					
To take risks	.57					
To develop skills	.52			.63		
For status among my peers		.85				
For my image in society		.80				
Because of requests by others		.66				
For the competition (with others or environment)		.60				
To experience a sense of control			.77			
For feelings of achievement			.63			
To express my creativity			.60			
To enhance feelings of myself			.57			
For my career/job				.73		
To experience nature				.62		
To make friends					.86	
To socialize					.71	
For fun and enjoyment						.82
Eigenvalue	5.61	2.38	1.43	1.32	1.22	1.00
Proportion of variance explained	29.6%	12.5%	7.5%	6.9%	6.4%	5.3%
Cumulative variance explained	29.6%	42.1%	49.6%	56.5%	62.9%	68.2%
Mean scale importance score	7.17	3.80	6.53	6.87	6.33	8.18
Cronbach's alpha	.85	.73	.71	.63	.78	--

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TABLE 3

Motivation Factors and Individual Motives: One-way Analysis of Variance Using Mean Scores of Respondents with Different Levels of Development

Statement	Total (n=164)	Level of Development				F	p	# of Differences Detected
		Beginner (n=40)	Intermediate (n=59)	Advanced (n=50)	Expert (n=15)			
FACTOR 1: CHALLENGE	7.17	6.63 ^a	7.23 ^b	7.34 ^b	7.80 ^b	5.47	.001	3
For the personal challenge	7.74	7.23 ^a	7.73 ^{ab}	7.98 ^b	8.33 ^b	3.84	.011	2
To do something new/different	7.48	7.15	7.71	7.38	7.73	1.59	.194	n.s.
For physical fitness	7.00	6.85	6.95	7.00	7.60	0.85	.469	n.s.
For excitement and stimulation	7.35	6.73 ^a	7.41 ^{ab}	7.50 ^b	8.27 ^b	5.40	.001	2
To take risks	6.37	5.33 ^a	6.34 ^b	6.82 ^{bc}	7.67 ^c	9.61	.000	4
To develop skills	7.09	6.45 ^a	7.25 ^{ab}	7.38 ^b	7.20 ^{ab}	3.00	.032	1
FACTOR 2: IMAGE	3.80	3.33	4.10	3.88	3.60	2.07	.106	n.s.
For status among my peers	3.25	2.78 ^a	3.69 ^b	3.34 ^c	2.47 ^c	2.73	.046	0
For my image in society	3.26	2.68	3.49	3.64	2.67	2.39	.071	n.s.
Because of requests by others	3.77	3.73 ^{ab}	4.24 ^a	3.56 ^{ab}	2.73 ^b	2.71	.047	1
For the competition (with others or environment)	4.91	4.15 ^a	4.98 ^{ab}	4.96 ^{ab}	6.53 ^b	3.63	.014	1
FACTOR 3: SELF-EFFICACY	6.53	6.02 ^a	6.50 ^{ab}	6.75 ^b	7.28 ^b	4.26	.006	2
To experience a sense of control	5.76	5.33 ^a	5.49 ^{ab}	6.10 ^{ab}	6.87 ^b	3.25	.023	1
For feelings of achievement	7.50	7.25 ^a	7.37 ^a	7.58 ^{ab}	8.40 ^b	2.90	.037	2
To express my creativity	6.16	5.33 ^a	6.17 ^{ab}	6.72 ^b	6.47 ^{ab}	3.94	.010	1
To enhance feelings of myself	6.69	6.18	6.95	6.58	7.40	2.00	.116	n.s.
FACTOR 4: LEARNING	6.87	6.10 ^a	6.98 ^b	7.17 ^b	7.44 ^b	6.96	.000	3
For my career/job	6.18	5.08 ^a	6.27 ^b	6.76 ^b	6.80 ^b	5.59	.001	3
To develop skills	7.09	6.45 ^a	7.25 ^{ab}	7.38 ^b	7.20 ^{ab}	3.00	.032	1
To experience nature	7.33	6.78 ^a	7.41 ^{ab}	7.38 ^{ab}	8.33 ^b	4.11	.008	1
FACTOR 5: SOCIAL INTERACTION	6.33	6.36	6.53	6.14	6.07	0.58	.630	n.s.
To make friends	6.76	6.83	6.81	6.80	6.20	0.50	.686	n.s.
To socialize	5.90	5.90	6.24	5.48	5.93	1.38	.251	n.s.
FACTOR 6: FUN (For fun and enjoyment)	8.18	7.75 ^a	8.25 ^{ab}	8.40 ^b	8.33 ^{ab}	3.11	.028	1

Note. Means with different superscripts are significantly different ($p < .05$). Values are mean scores on a 9-point scale ranging from not at all important (1) to very important (9).

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tern of results for individual items reflected that of its respective factor; for example, neither of the *social interaction* items detected significant differences, and all of the *learning* items did. However, within the *challenge* factor, novelty and physical fitness did not differ by level of development; neither did "for my image in society" within the *image* factor nor "to enhance feelings of myself" from the *self-efficacy* factor.

Generally, beginners were prominent from the rest, scoring lower than other respondents on 15 of 19 individual items (11 of them significantly so) and 5 of the 6 factors (4 of them significantly so). Although significant differences were not detected between each and every category of participants, patterns did emerge. As hypothesized, means tended to increase linearly from beginners to experts for items related to the intrinsic motives of *challenge*, *self-efficacy*, *learning*, and *fun*; those related to extrinsic *image* and *social interaction* tended to peak in the beginner or intermediate stages and decline through the advanced and expert stages (See Figures 2 through 7). Competition from the *image* factor was the lone exception; scores tended to increase linearly from beginner to expert for this item. This exception may be explained by the wording of the item, which specified competition not only with others, but also with the environment. While the former focuses on external comparisons with others, competition with the environment connotes a personal challenge to conquer whatever the setting "throws at them" as the opponent.

DISCUSSION & IMPLICATIONS

The results of this study provide further support for the Adventure Recreation Model (ARM) (Ewert, 1989). The ranking of individual motives confirms the definition of adventure recreation pursuits. While all recreation activities theoretically include goals of "fun" or personal satisfaction, it is essentially the "seeking of risk and uncertainty of outcome" (Ewert & Hollenhorst, 1989, p. 8) that differentiates adventure pursuits from other outdoor recreation activities. The factors that were identified in the factor analysis also aligned well with the variables identified in the ARM, including chal-

lenge, image, learning, and social interaction. Significantly, challenge was the strongest factor and contained six items related to personal challenge, novelty, fitness, excitement, risks, and skill development. Finally, as typically found in other recreation motive studies, adventure recreationists rate image-related motives lowest in importance. Societal pressures and norms often discourage individuals from openly admitting that seeking social recognition is a notable motive.

Consequently, if practitioners claim to be offering adventure recreation activities, it is imperative for them to understand what draws participants to these programs. First, *fun* is the number one motive and needs to be heavily emphasized when planning and implementing programs. Second, these results reveal that there are more ingredients to *challenge* than simply risk-taking. Feelings of achievement, novelty, fitness, excitement and stimulation, and skill development are also highly related to the theme of personal challenge. Structuring and facilitating adventure activities that produce *all* of these outcomes would tend to satisfy participants to the greatest degree. Third, comparisons with others should be avoided when conducting such programs, but emphasis on *personal* growth and development would be appropriate based on this ranking of motives.

Further investigation of the relationships between all six motive factors and respondents' level of development likewise support the ARM. Adventure, or "risk," recreationists do follow a similar pattern of development as other participants investigated in recreation specialization studies, but *challenge* is the factor that explains the most variance, with "to take risks" as the most discriminating single item. In general, motivations move from extrinsic at the beginner level, to intrinsic at the expert level. While means tend to increase linearly from beginners to experts for items related to the intrinsic motives, those related to extrinsic motives tend to peak in the beginner or intermediate stages and decline through the advanced and expert stages.

These results, which focused on general "adventure experiences," differed from the mo-

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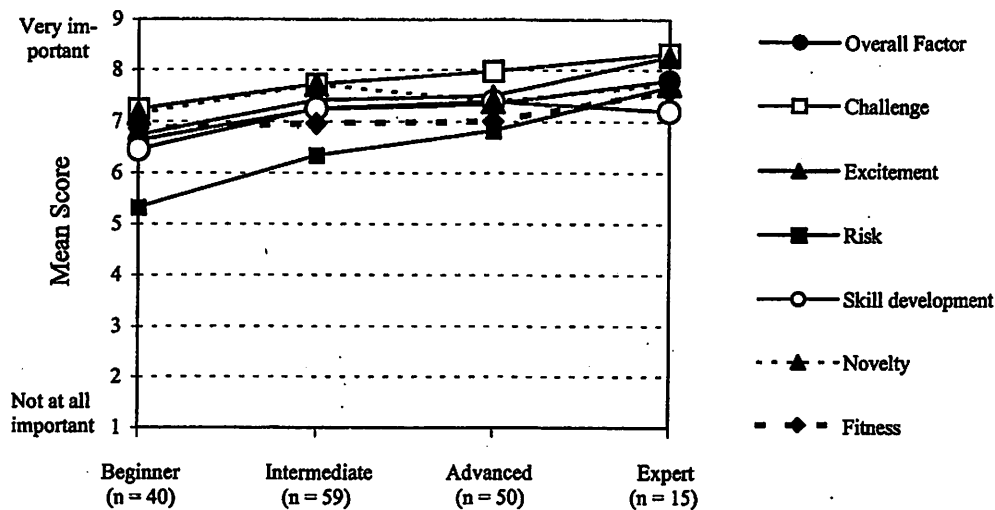


Figure 2. Challenge factor by level of development.

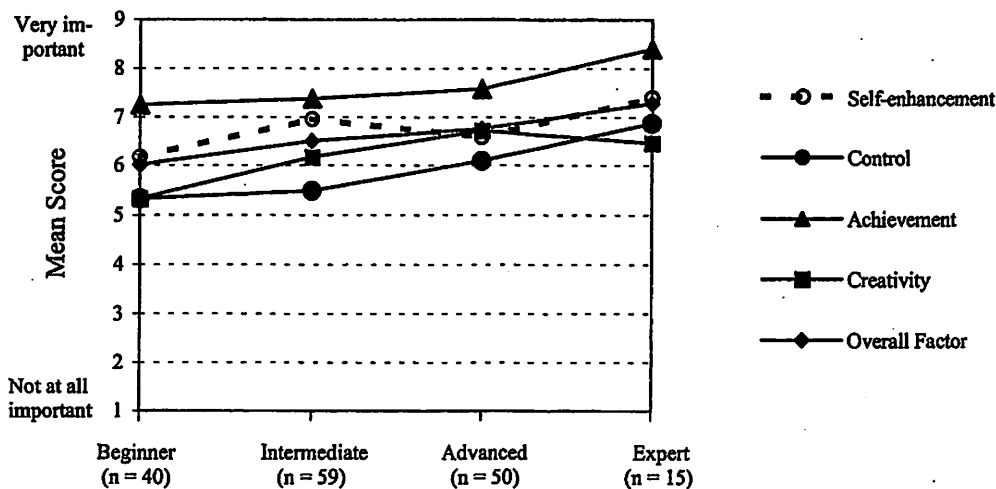


Figure 3. Self-efficacy factor by level of development.

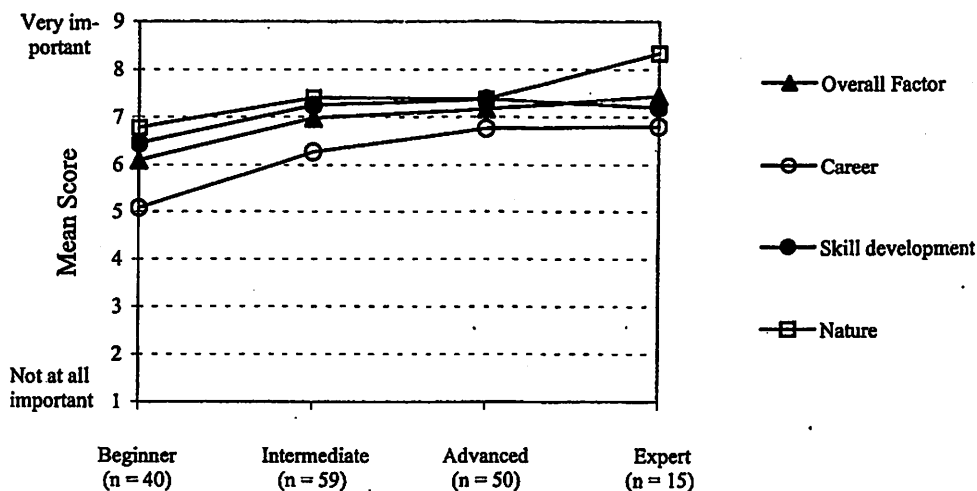


Figure 4. Learning factor by level of development.

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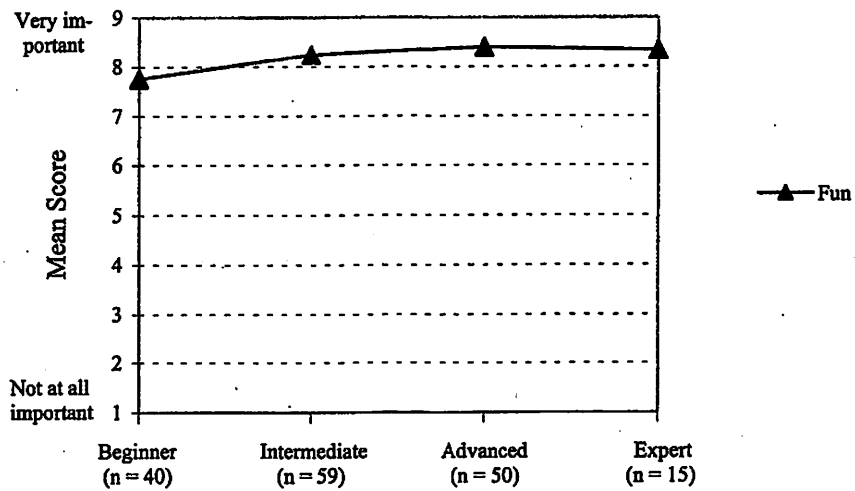


Figure 5. Fun factor by level of development.

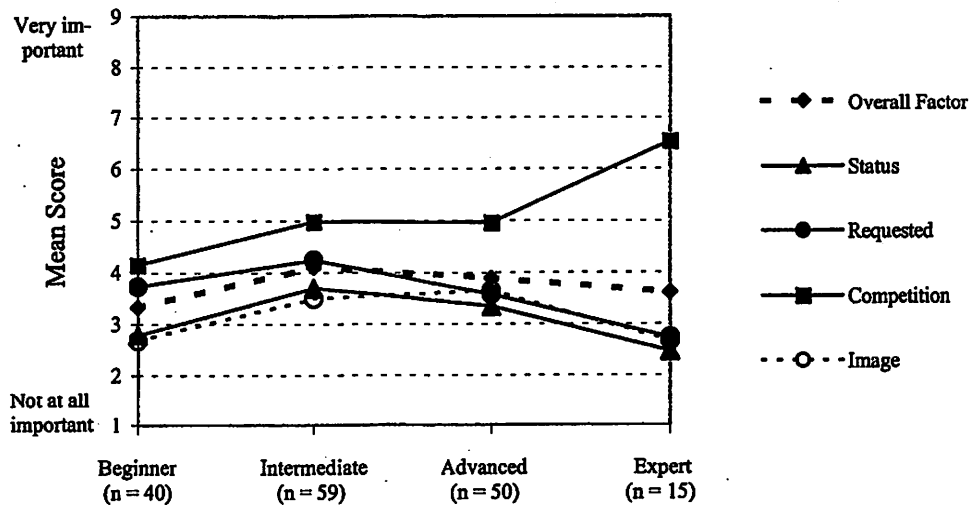


Figure 6. Image factor by level of development.

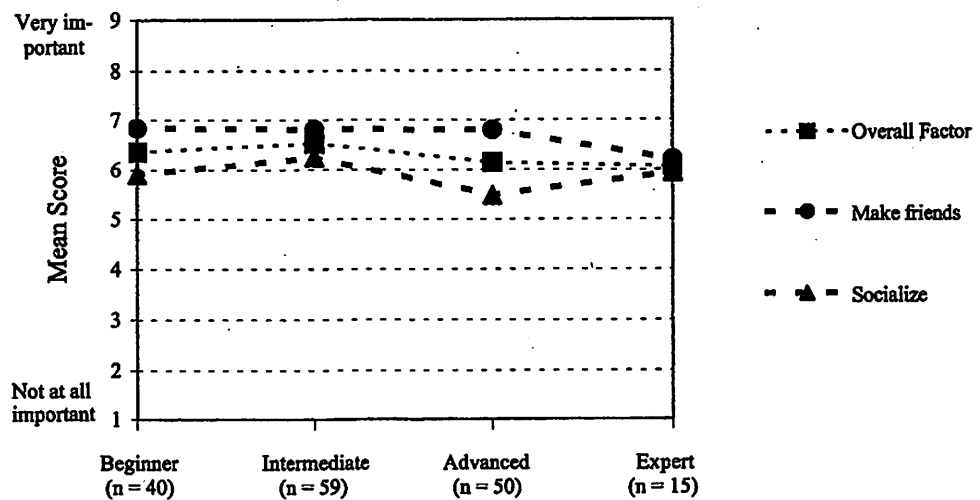


Figure 7. Social interaction factor by level of development.

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tive patterns uncovered for the specific adventure recreation activity of SCUBA divers (Todd et al., in press). Unexpectedly, divers' extrinsic motives of stature and escape tended to increase, not decrease, with development, and the intrinsic motive of challenge actually decreased with development. The authors of that study suggest that diving is a unique type of leisure activity in terms of motivation. Beginners may initially be drawn to the activity to challenge themselves; however, once the skills and abilities are developed, divers seem to be motivated by the visible outcomes associated with (and stature of) the activity itself. One explanation may be that many divers in that study were members of the generation inspired by the television show *Sea Hunt*; when they started diving, there was a heavy emphasis on "trophy hunting" (i.e., collecting and displaying artifacts from their adventures) to lay a strong foundation for the importance of the stature factor.

If it is known how motives differ by level of development, facilitators of adventure recreation experiences (resource managers, tourism planners, adventure camp directors, programmers, instructors, club organizers, etc.) could use this information to assist planning for and promotion of various sites and activities. Outcomes that would most likely be satisfied could be highlighted, and participants' needs and experiences could be better facilitated.

Understanding what motivates beginners vs. experts (e.g., new campers vs. returning campers) would be critical to a program's success. This study supports the notion that certain extrinsic motivation strategies could be successfully implemented to initially encourage beginners' involvement. Such techniques could include setting the atmosphere by using appropriate environmental stimuli (artificial vs. natural); providing a planned progression or hierarchy of ranks or titles, each a little harder to achieve, presented in a way to mark involvement or progress so step-by-step growth is visible; initially offering prizes, rewards or status objects; finding extroverts to exert positive peer pressure; creating exciting challenges that build interest, add zest, and make participation unpredictable. If used sparingly and appropriately, these tech-

niques could encourage initial participation and slowly be withdrawn as involvement became more intrinsically motivated with participant growth and development. Separation of developmental levels may therefore be beneficial.

Additionally, since trip leaders and instructors tend to fall toward the expert end of the developmental continuum while participants lean more toward the beginner end, it is crucial for staff to remind themselves (and each other) exactly whose trip it is they are leading. If inappropriate motives (i.e., the leaders' personal motives) are emphasized, not only will satisfaction be lower for beginner participants, making them more vulnerable to discontinuing or dropping out of the activity, but also the safety of all participants could be jeopardized. Participants need to be matched by motive, ability, and experience to the most appropriate level of challenge and right balance of fun; effective staff would constantly evaluate and re-evaluate all of these.

In the present study, the participants were required to participate in the adventure experience. Thus, it was assumed that the sample included a wide range of motivations and developmental levels. This may have helped to uncover more clearly the role of motivation in the ARM. Based on this, and other studies (e.g., Anderson et al., 2000), it is recommended that motivation remain in the ARM as a variable that can help explain development in the adventure recreation experience.

These results suggest that the ARM and its corresponding instrument be revisited. Instead of focusing on "level of engagement" as the central variable in the model, perhaps "risk" should take that role, especially since it seems to be the defining (and most discriminating) motive in adventure recreation pursuits. Since the challenge factor contained the risk item in the current study, further evidence was sought to confirm the link between this motivation and adventure recreation. The challenge factor was positively correlated to preferred level of risk (those with higher challenge scores were more likely to prefer higher levels of risk, $r = .38, p < .01$) as well as to the type of environment or setting used (those with higher challenge scores were more

likely to recreate in natural, primitive, wilderness, "adventure-related" environments, $r = .21$, $p < .01$). Interestingly, the challenge motive factor was not related to the type of risk sought (social, such as fear of failing, vs. physical, such as fear or injury or death, $r = .09$, $p = .23$), even when level of development was taken into consideration. However, beginners preferred significantly lower levels of risk compared to the other three developmental levels, $F(3,160) = 6.36$, $p < .01$, and beginners tended to engage in adventure recreation in significantly less natural types of environments than experts, $F(3,160) = 3.24$, $p < .05$. Thus, certain risk-related conditions are not only correlated to the challenge motive, but they are also related to participants' level of development.

On a related note, instead of using "level of engagement" in the ARM, a more comprehensive "level of development" should be considered as a primary personal attribute, composed of items such as the currently used experience level, perceived skill, and frequency of participation, plus new related items (e.g., knowledge, commitment, equipment owned, and/or amateur/professionalism). This change would necessitate corresponding modifications to the ARM Instrument, including a categorical item for classification of respondents into one of five categories: beginner, intermediate, advanced, expert, and post-expert. The latter category points to a shortcoming of the current instrument: a post-expert cannot be identified, a stage that is commonly overlooked in terms of progression and retrogression in the development continuum. As shown by Todd and Graefe (2000, 2002), identifying beginners and post-experts can be critical; they are most vulnerable to experiencing perceived constraints and subsequently dropping out of an activity.

Thus, additional contributions to the literature could be made by linking level of development, perceived constraints, and discontinuance behavior to changes in motives. For instance, Ewert (1993) discovered that novice climbers who failed to reach the summit consistently reported lower importance scores for all motives. Longitudinal studies would also strengthen the claim that leisure motives change over time as

individual development occurs. As an example, Todd and Graefe (2001) found that, after four years, quiltmakers who had progressed to a higher level of development were able to keep their motives at a consistent level, relying significantly less on the activity to help them work through grief or problems. However, quiltmakers who remained at the same level of development, or even retrogressed, seemed to have significantly less drive and control in their lives. Studies such as this one could contribute to a richer understanding of how motives and leisure behavior are related and change over time.

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