

AN EXPLORATION OF MOTIVATIONS AMONG SCUBA DIVERS IN NORTH CENTRAL FLORIDA

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Introduction

There has been a boom in the adventure travel market as 98 million adults had taken an adventure vacation between 1992 and 1997, which includes soft adventure vacations (e.g., camping, hiking, biking, bird-or-animal-watching, horseback riding, sailing, skiing), and hard adventure vacations (e.g., mountain biking, whitewater rafting/kayaking, scuba diving, rock climbing, snowboarding, skydiving) (Travel Industry Association, 1998). Approximately 46% of the population took soft adventures, 16% took hard adventures and 13% took both (Research Alert, 1998). Hard adventure activities have been referred to as "risk recreation activities" which differs from traditional soft adventure activities because of the presence of significant components of risk (may be life-threatening), danger and uncertainty, which could be either perceived or real (Ewert, 1994). Additionally, risk recreation activities includes the following characteristics: 1) involvement with a natural environment, 2) elements of risk and danger, 3) uncertain outcome, and 4) influenced by the participant or circumstance (Ewert, 2001).

However, given the nature of the risks involved, the obvious question is what motivates people to engage in risk recreation activities? Participation in risk recreation is a goal-driven behavior in which stimulation is sought for increasing arousal and/or to satisfy various other goals (Ewert, 1994). Participants usually have multiple motives that differ in importance and are dependent upon their individual goals (Ewert, 1994; Mannell & Kleiber, 1997). For example, rock climbers indicated their motives for participation was to seek general sensation; thrill and adventure and experience (Levenson, 1990), while McIntyre (1992) identified six factors: Recognition, Creativity, Physical Setting, Challenge, Escape, and Control. Similarly, climbers at Mt. Rainer (Washington) were motivated to climb due to challenge, catharsis, recognition, creative opportunities, locus of control, and the physical setting (Ewert, 1985); while climbers at Mt. McKinley (Alaska) noted five factors: Exhilaration/Excitement, Social Aspects, Image, Aspects of Climbing, and Catharsis/Escape (Ewert, 1994).

While motivational factors have predominantly been used to predict the reason people participate in risk recreation (Mannell & Kleiber, 1997), non-motivational factors that include past experience & skill level (Ewert, 1985; 1993; 1994; Schuett, 1993; Todd, Graefe & Mann, 2002), group type (Ewert, 1993) and enduring involvement (Ewert & Hollenhorst, 1989; Mannell & Kleiber, 1997; McIntyre, 1992; Robinson, 1992; Schuett, 1993) have also been examined as these variables are associated with influencing motivations to participate. For example, among mountaineers, those who had high skills were more likely to seek intrinsic motivation (challenge, personal testing, or decision making), while those with low skills sought extrinsic rewards (recognition or to show others), which implies that as participants develop their skill level, their motivations change simultaneously (Ewert, 1985; 1994). Recently, Todd et al. (2002) examined SCUBA divers' (State of New York residents) level of development (i.e., beginners through experts) in relationship to their motivations to dive, whereby, six motivational factors were identified: adventure, learning, escape, social interaction, stature & personal challenge. Although divers with higher levels of development were highly motivated by adventure, learning, stature, and escape, not all motivations differed by level of skill development. In fact, irrespective of level of development, all divers rated many individual motives similarly in importance.

Based on a brief review of the literature, it is evident that motivations vary among participants involved in the same activity as well as different risk recreation activities. Also, non-motivational factors are associated to influence motivations among participants. However, empirical research has only focused on certain risk recreation activities, namely rock climbing and mountaineering, hence there is a paucity of research in further understanding motivations among other activities that have demonstrated growth, such as SCUBA diving. Although a recent study has been conducted with respect to lake divers (see Todd et al., 2002), there is a need to further examine divers largely due to the varying types of divers (based on the settings: lake diving, open water diving, cave diving, etc.).

SCUBA diving (open water) is one of the fastest growing activities in participation, and has experienced an increase of 10% in 2001 with 2.1 million participants (National Sporting Goods Association, 2002). Based on annual survey of participation in 65 sports, fitness and recreation activities, overall, SCUBA diving (open water) showed the fourth largest increase in participation in 2001 with a 10% change (National Sporting Goods Association, 2002). The sport still consists of more male participation, in which 31% were representative of females in 2001; however, female participation has steadily increased over the years (National Sporting Goods Association, 2002).

Based on Todd et al.'s (2002) research, the purpose of this study was to replicate and further explore the dimensionality, stability, and importance of motives among SCUBA divers at a different location, North Central Florida. Furthermore, gender was chosen as an exploratory independent variable as there has been a recent divergence in the rate participation between males and females.

For the purpose of this study, four research questions were formulated.

- 1) Are there differences in the frequencies and distributions of individual motivation items between Todd et al.'s (2001) study and the present study?
- 2) Are there distinct motivational domains held by scuba divers?
- 3) Are the differences between Todd et al.'s (2001) motivational domains and the domains found in this study?
- 4) Is there a difference in motivational statements for one distinct demographic characteristic: gender?

Methods

Data were collected at a major university located in north central Florida between summer 2001 and spring of 2002. Respondents were students and instructors from 4 scuba classes, three introductory open water classes and one advanced class. All those in attendance on the days the data were collected agreed to participate, and the time required to complete the survey was approximately 5-10 minutes. Based on Todd et al. (2002), motivation was operationalized employing 24 items juxtaposed on a five-point Likert type scale ranging from 1 (not important) to 5 (extremely important). Besides demographic information, related variables such as involvement with diving, level of experience, skill level, and number of completed dives were also collected.

For the first research question, descriptive analysis using frequencies and distributions to illustrate any differences among the individual motivation items were conducted. For the second and third research question, the items were subjected to a principal component analysis using varimax rotation to determine the presence of distinct motivational domains. Finally, for the fourth research questions, an independent sample t-test was used to investigate any differences in motivation between males and females.

Results

From the four classes, a sample of 243 subjects was obtained in which, 64% of were representative of males and 36% females, which is comparable to the current male to female ratio of scuba divers. Since the data were collected at a university setting, the average age was 22 years, with 11% noted to have a postgraduate degree. About 86% were Caucasian, 8% Asian American, and 4% were Hispanic. Majority of the respondents (81%) had been involved with diving for less than one year and were still in the process of becoming certified, while almost 12% had been involved for 4 years or more. Therefore, it was not surprising to find that 50% had completed less than 3 dives, 28% had completed between 4-5 dives while 22% reported more than 6 dives.

Based on frequency analysis of the individual items, the first four important motivations to dive were identified as: 1) to look at underwater animal and plant life; 2) because it is stimulating and exciting; 3) to explore things, and 4) for the adventure of it (see Table 1). However, upon comparison

Table 1 Differences in the Frequencies and Distributions of Individual Motivation Items

Motives	Current Study (2002)		Todd et. al (2002)		Sig
	Mean	Sd	Mean	Sd	
To look at underwater animal and plant life	4.3	0.80	4.2	0.90	n.s.
Because it is stimulating and exciting	4.1	0.91	3.8	1.04	0.05
To explore things	4.0	0.85	4.1	0.80	0.05
For the adventure of it	4.0	0.91	3.9	0.96	0.05
To develop my diving skills and abilities	3.7	0.97	3.6	1.02	0.05
To learn more about the underwater environment	3.6	1.01	3.7	1.07	n.s.
To gain an experience I can look back on	3.6	1.01	3.3	1.21	n.s.
For a change from every day life	3.6	1.11	3.4	1.16	0.01
For relaxation	3.5	1.06	3.6	1.17	n.s.
To experience peace and tranquility	3.4	1.19	3.4	1.24	n.s.
So I could do things with my friends and/or family	3.4	1.10	3.0	1.29	0.05
To do something creative, such as take pictures or videos	2.9	1.32	2.7	1.33	0.01
Because I thought it would be a challenge	2.9	1.24	3.0	1.14	n.s.
To see historically significant shipwrecks	2.9	1.08	3.2	1.35	n.s.
To give me a feeling of confidence in myself	2.8	1.29	2.8	1.25	n.s.
To prove to myself that I could do it	2.8	1.27	2.7	1.33	n.s.
To help keep me physically fit	2.8	1.20	2.8	1.21	n.s.
To meet new people	2.8	1.19	2.8	1.20	n.s.
It's sort of an impressive thing to do	2.7	1.18	2.1	1.12	0.01
To share my skill and knowledge with others	2.7	1.20	2.7	1.25	n.s.
To study underwater geological formations	2.5	1.25	2.6	1.26	0.01
To use my equipment	2.2	1.25	2.6	1.25	n.s.
Because of the risk	2.1	1.21	1.7	1.03	0.05
To collect interesting artifacts	1.9	1.12	2.4	1.28	0.01

Table 2 Factor Loadings for Motivations Among SCUBA Divers

	Factor							
Motives	1	2	3	4	6	7	8	
For a change from everyday life	0.754							
To gain an experience I can look back on	0.678							
For the adventure of it	0.655							
Because it is stimulating and exciting	0.651				0.458			
So I could do things with my friends and family								
To see historically significant shipwrecks		0.738						
To collect interesting artifacts		0.717						
To use my equipment		0.617						
Because of the risk		0.540	0.424					
Because I thought it would be a challenge			0.767					
To prove to myself that I could do it			0.759					
It's sort of an impressive thing to do		0.400	0.504					
To study underwater geological formations				0.755				
To give me a feeling of confidence in myself			0.518	0.590				
To learn more about the underwater environment				0.550	0.495			
To do something creative, such as take pictures or videos				0.508				
To meet new people	0.426			0.471		0.428		
To look at underwater animal and plant life					0.787			
To explore things					0.704			
To develop my diving skills and abilities						0.732		
To help keep me physically fit						0.611		
To share my skill and knowledge with others						0.491		
To experience peace and tranquility							0.817	
For relaxation							0.802	

with Todd et al.'s (2002) study, six motivational items were significantly different at the 0.05 level and five items were significant at the .01 level (see Table 1).

Following the factor analysis of the 24 items, 7 factors emerged with 6 items loading on more than one factor (cross-loaded). Removal of the cross-loadings would yield 4 factors comprised of 2 items, 2 factors with 3 items, and 1 factor with 4 items, which would constitute an unstable factor structure. There were differences between Todd et al.'s (2002) motivational domains and those found in this study. Todd et al. (2002) identified 6 factors that explained 60% of the variance and had acceptable reliability analysis. Although the factor structures identified in this study were conceptually close, they were not statistically confirmatory of Todd et al.'s study (2002). (see Table 2)

Independent sample T-tests were used to examine any motivational differences between males and females. Of the 24 motivational items, only nine were statistically different at the established level of significance. The items that were more important for males were: 1) because of the risk; 2) to use my equipment; 3) to see historically significant shipwrecks, and 4) to collect interesting artifacts. Conversely, those items that were more important for females

were: 1) to prove to myself that I could do it; 2) to give me a feeling of confidence in myself; 3) to do something creative, such as take pictures or videos; 4) to learn more about the underwater environment, and 5) because I thought it would be a challenge (see Table 3).

Conclusions

There were differences in the frequencies and distributions of individual motivation items between Todd et al.'s (2002) study and this study. Furthermore, there were significant differences between males and females. Females were more intrinsically motivated, while males were more extrinsically motivated. Females may have been trying to prove to themselves and to their male counterparts that they can participate in a male dominated sport. The examination of exploratory factors found similar conceptual domains but a weak factor structure implied that there are no distinct motivational domains for this specific sample. Both of these findings can partially be explained by the nature of the sample; a student population is at a very distinct stage in the lifespan and not very generalizable. Moreover, as the majority of the students were still in the process of becoming certified, differences in importance placed on motivational statements could be due to their level of specialization within

the sport. There has been a paucity of research with respect to SCUBA divers' motivations and current research is still in the exploratory stages based on quantitative empirical research, some qualitative work may be warranted in order to

tap into more underlying motivations. Future research on more generalizable populations is essential, and it may be recommendable to cluster the cases in order to look for similarities within the sample.

Table 3 Comparison of Motivations between Males and Females

	Mean (Females)	Mean (Males)	f
Because of the risk	1.76	2.29	9.22***
To prove to myself that I could do it	3.15	2.59	0.02***
To give me a feeling of confidence in myself	3.11	2.61	1.18***
To do something creative, such as take pictures or videos	3.27	2.78	1.29**
To use my equipment	1.19	2.28	0.48*
To see historically significant shipwrecks	2.70	3.03	0.17*
To collect interesting artifacts	1.67	2.03	0.6*
To learn more about the underwater environment	3.80	3.46	0.01*
Because I thought it would be a challenge	3.08	2.78	0.6*

* significant at .05 level

** significant at .01 level

*** significant at .001 level

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