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**A MEANS-END APPROACH TO UNDERSTANDING ADVENTURE RACE  
PARTICIPATION**

By

Brandii Brinkley

B.A. May 2008, East Carolina University, Greenville, North Carolina

A Thesis Submitted to the Faculty of Old Dominion University in Partial Fulfillment of  
the Requirement for the Degree of

MASTER OF SCIENCE IN EDUCATION

RECREATION AND TOURISM STUDIES

OLD DOMINION UNIVERSITY

December 2009

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## ABSTRACT

### A MEANS-END APPROACH TO UNDERSTANDING ADVENTURE RACE PARTICIPATION

Brandii Brinkley  
Old Dominion University, 2009  
Director: Dr. Edwin Gómez

This multiple purpose qualitative research initiative sought to (a) provide research on the relationship between attributes and values associated with adventure race participation, (b) discover motivations for adventure racing, (c) provide support for prior means-end research, and (d) research a new, emerging recreational activity. An adventure race was held on the campus of Old Dominion University in Norfolk, Virginia. After the conclusion of the race, race participants were asked to complete a self-administered survey which offered attributes and values which potentially serve as motivations for adventure race participation. Means-end theory provided the framework for how the data obtained in the study was analyzed with the use of the Grounded Theory Method (GTM). Marketing professionals may use means-end theory to understand the motivations behind racer participation and obtain information on what participants expect based on the attributes and their personal values motivating them to participate.

## ACKNOWLEDGEMENTS

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## CHAPTER I

### INTRODUCTION

#### *Introduction*

Adventure races are becoming increasingly popular in the United States as evidenced by the formation of competition teams (United States Adventure Race Association, n.d.) and broadcast television programs, such as *The Amazing Race*, which currently airs on CBS (CBS, 2009). In 2007, more than 50,000 individuals took part in over 300 races in the United States, and the sport continues to gain momentum (DeJager, 2006; Regenold, 2007). There were between 600 and 800 sanctioned and unsanctioned events held in the United States in 2008, which encompassed a total of 40,000 licensed racers (Farrar, 2009). The United States Adventure Racing Association (USARA) estimates that there are around 70,000 people in the United States currently competing in these types of events (Farrar, 2009). Typical examples of adventure races are defined as a series of tasks completed in the out of doors and are meant to challenge individuals, both mentally and physically. For example, competitive teams may be challenged to kayak in heavy rapids at one location during the race and then orienteer, or navigate, to another location on the race trail (Townes, 2005).

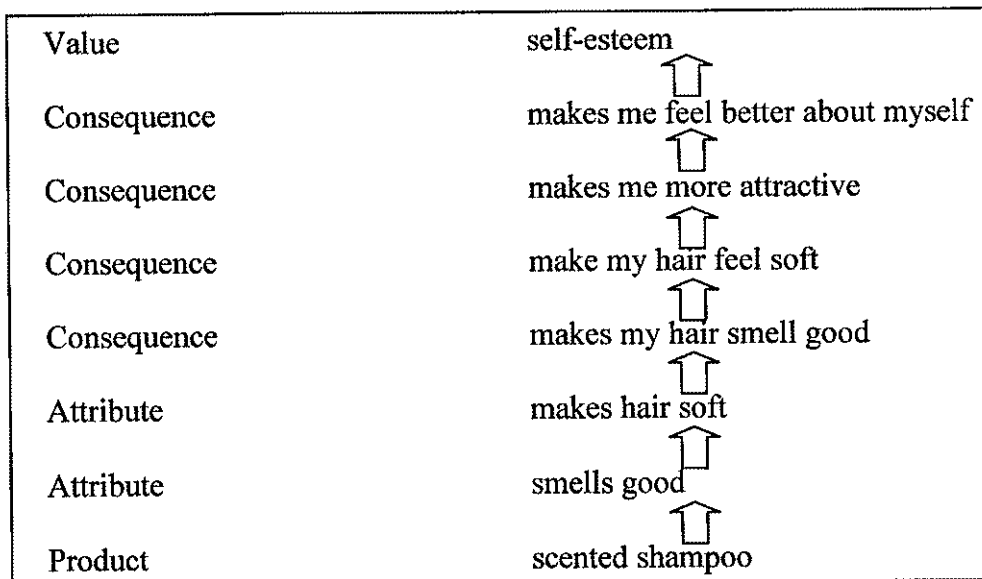
#### *Means-end Theory*

Means-end theory provides a useful tool for understanding consumer behavior and formally defines the phrase “a means to an end.” Means are objects (products) or activities in which people engage (running, reading, etc.) and ends are valued outcomes or states of being, such as happiness, security, accomplishment, etc., which result from obtaining objects (products) (Gutman, 1982). From means to ends, elements that



represent the major consumer processes linking values to behavior are laid out in a model known as the means-end chain model, or laddering, which seeks to explain how a product or service selection facilitates the achievement of desired states. For example, the following means-end chain, starting with product and a product attribute (bottom) and progresses through consequences and reaches a final desired end state (see Figure 1).

Figure 1. Means-end Theoretical Model Example



Gutman (1982) stated that the means-end chain offers marketing managers the ability to position products by associating means (physical aspects of products) with advertising that seeks to tie consumption of products to achievement of desired ends (valued states).

Means-end theory, and its associated methodology, known as laddering, focuses on meanings at three levels of abstraction (Reynolds & Gutman, 1988; Klenosky, Gengler & Mulvey, 1993). These three levels of abstraction are attributes, consequences, and values (ACV). The first level of abstraction has the attributes which are used to

describe a physical or observable property or characteristic of a product or service. The second level of abstraction, being more abstract than the previous level, considers the consequences associated with the product or service that is used or consumed. These consequences could be positive benefits that are maximized or enhanced and the associated costs and perceived risks that are to be minimized or avoided. The third and highest level of abstraction refers to personal values of the consumers, which are their enduring beliefs about desired end states of existence (such as fun, accomplishment, self-awareness, etc.) and are assumed to motivate an individuals' decision-making process (Klenosky, 2002; Rokeach, 1973). This process can provide insight to various agencies and assist them in product positioning and advertising when attempting to reach their desired consumers.

#### *Statement of the Problem*

There are a few problems this research study wishes to address. One problem is that there has been limited research on adventure race participation as a recreational activity, as well as motivations for participation among men and women in adventure races. As previously noted, there have been several studies using the means-end theory across different disciplines; however, because of the relatively recent application of the theory in recreation and tourism, there is a need for more research on motivation or outcomes of commercial recreation participation in general, and adventure race participation in particular.

#### *Statement of the Purpose*

This study is a multiple purpose exploratory research initiative. One purpose of this study is to provide research on the relationship between the attributes and values

associated with adventure racing participation. Another purpose of this study is to provide research on motivations for participation in adventure races. Yet another purpose of this study is to provide support for prior means-end theory research and to provide research for a new, popular, emerging recreation activity.

### *Significance of the Study*

The significance of this study is applied in nature. The intent or outcome of the study is confirmation of previous means-end theory research concepts. Another intended outcome is to provide agencies who conduct adventure race events with insight on consumer motives for consumption (values) so they can better advertise to their target market. As a final intended outcome, the study will provide current research for an emerging popular recreation activity with a theoretical approach for understanding consumption motivations of participants.

### *Research Questions*

1. What are the attributes of adventure racing influencing participation among men and women?
2. What are the outcomes perceived to be associated with participating with adventure races?
3. What are frequently occurring motivations for participation among men and women who participate in an adventure race?
4. How can we apply means-end theory to better inform practitioners about adventure race participants?

## *Scope, Delimitations, and Limitations*

### Delimitations

1. This study is delimited to only the Monarch Adventure Race participants held in Norfolk, Virginia.
2. This study is also delimited to a cross-sectional research study.
3. This study is delimited to a self-administered survey which does not include a supplemental interview for response clarification.

### Limitations

1. The results of this study cannot be generalized to all adventure race participants because it is only conducted with participants at one adventure race.
2. The results of this study cannot be generalized to all adventure races because the scale of the Monarch Adventure Race is relatively small in comparison to sanctioned adventure races.

### *Definitions*

*Means-end theory* is defined as a connection between three levels of abstraction (Table 1; Reynolds & Gutman, 1988); product attributes, consumer consequences, and personal values (ACV), (Gutman, 1982). *Attributes* are features or aspects of products or services that are either abstract or concrete (Gutman, 1982). *Consequences* occur when people consume products or services and can be either positive or negative (Reynolds & Gutman, 1984). *Values*, also known as “end states,” are personal values of the consumer which are their enduring beliefs about desired end states of existence and are assumed to motivate an individuals’ decision-making process (Klenosky, 2002; Rokeach, 1973).

Means-end chain – also known as “laddering”, embodies the concept of the levels of abstraction (Reynolds & Gutman, 1984), and is defined as a process used to identify elements that make up consumers’ means-end chains by first eliciting attributes of alternatives considered when making a decision, then asking “why is that important to you,” followed by a response and re-asking the “why is that important to you” question until a value is reached and the question can no longer be answered (Gutman, 1982; Klenosky, 2002). *Hierarchical Value Map* (HVM), as illustrated in 2, is a summary chart that graphically depicts the key links among the ACV concepts contained in an implication matrix (Klenosky, 2002). The HVM depicted in Figure 2 was the outcome produced by a means-end study conducted on hikers who used the Appalachian Trail (Hill, Goldenberg & Freidt, 2009).

Table 1. Levels of Abstraction (Reynolds & Gutman, 1988)

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Abstract	Values
	Terminal – Internal
	Instrumental – External
	Consequences
	Psychosocial
	Functional
	Attributes
	Abstract Characteristics
Concrete	Physical Characteristics

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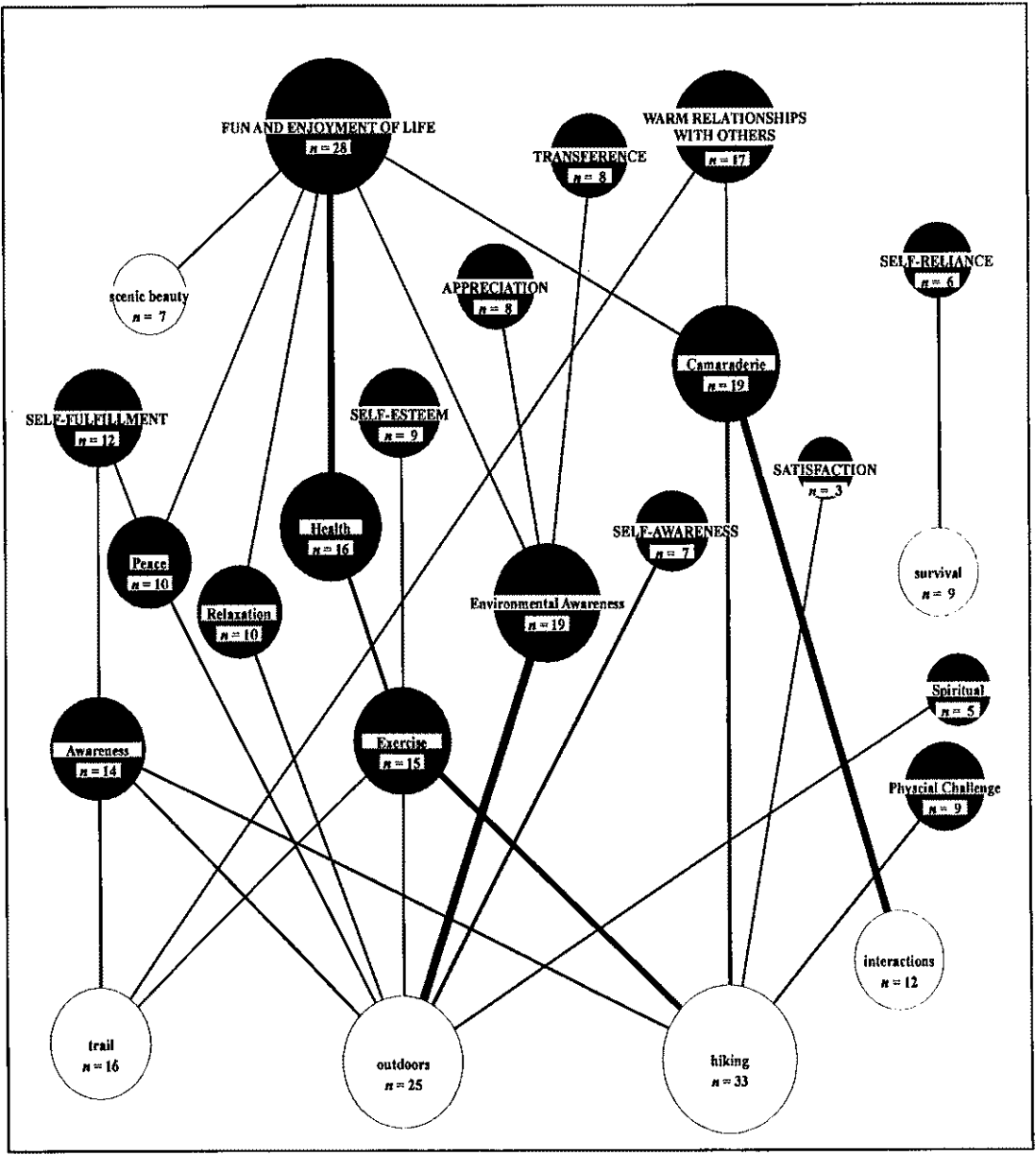
*Adventure Programming* can be described as a sequence of activities or experiences that provide a group or an individual with compelling tasks to accomplish (Priest & Gass, 1997). Adventure programming includes high-risk activities such as rock climbing, high ropes courses, and white water rafting; however, this type of programming may also include goal-setting, awareness activities, trust activities, problem-solving activities and processing (Hough & Paisley, 2008). Adventure races stem from adventure programming whether it is intended or unintended.

*Benefits Bases Programming* (BBP) is a component of the Benefits Movement. BBP refers to the variety of ways in which a park and recreation agency can incorporate Benefits concept, language, and themes to enhance public awareness and motivate action (Rudick, 1999). BBP ideas simply can be incorporated into any agency's existing marketing plan and, more importantly, BBP ensures greater success of future public relations, advertising, promotion and even customer service strategies (Rudick, 1999). BBP, along with the application of the means-end theory, can improve promotion and advertising to a target audience (Reynolds & Gutman, 1988).

### *Thesis Outline*

In the following sections of this thesis, the literature review examines previous studies related to adventure races and means-end theory. Each of the reviewed previous studies will be assessed to establish support for the need for this study, explain the theoretical framework utilized in this study. Following the literature review, the methodology, instrumentation, and statistical analysis will be presented. Chapter 4 will then give a description of the results found through this study followed by a discussion of how the findings can be applied in other studies and further research.

Figure 2. Hierarchical Value Map for Appalachian Trail Hikers, (Hill, Goldenberg & Freidt, 2009)



## CHAPTER II

### LITERATURE REVIEW

#### *Introduction*

Previous researchers have examined different aspects of adventure races, such as emergency medical attention (Townes, 2005), adventure programming for individuals with disabilities (McAvoy, Smith & Rynders, 2006), and the role of corporate culture in adventure racing (Kay & Laberge, 2002). Goldenberg, et al. (2005) conducted a study that measured outcomes from experiences individuals had while participating in the Outward Bound program.

Though the Outward Bound program is not an adventure race, the adventure programming involved in the program relates to the adventure programming associated with adventure races. Instead, the Outward Bound program which offers women, youth, co-ed groups, and a variety of specialized groups to focus on physical fitness, craftsmanship, self-reliance, and compassion. Though it was not an adventure race per se, Goldenberg et al.'s findings are transferable to adventure races because of the nature of adventure programming used in the setting that was tested in the study, the methodology used is much like what is to be used in this study, and findings yielded from the study is much like what we are looking to find in this study.

Currently, researchers have not yet explored why adventure racers have chosen to participate in such events in the first place, nor how Benefits-Based Programming can assist an adventure racing agency in programming an event (Rudick, 1999). Finding reasons why racers have chosen to participate in adventure races would help race providers better promote and advertise to their target audience. The means-end theory, it



would be possible to have a deeper understanding of the links between attributes, consequences, and values associated with adventure racing. The purpose of this research is to apply the basic concepts of means-end theory in the context of adventure races in order to provide marketers, and organizers of the race, with substantive information for future promotion and advertising efforts.

Means-end theory has been used in several disciplines in order to attempt an understanding of consumer behavior. It is mostly used in marketing and psychology, where it was first applied, in settings such as consumer recycling (Bagazzi & Dabholkar, 1994), food product design (Costa, Dekker & Jongen 2004), consumer expectations on service employees (Pieters, Botschen & Thelen, 1998), and automobile purchases (Walker & Olson, 1991).

Since the 1990s, the means-end theory has been applied to the tourism and recreation industries in order to achieve greater knowledge of consumer motivation in choosing a product or service, such as attendance at WNBA games (Gaines, 2001), use of interpretative services (Klenosky, Frauman, Norman & Gengler, 1998), choosing a skiing destination (Klenosky, Gengler & Mulvey, 1993), student athletes' decision on which school to attend (Klenosky, Templin & Troutman, 2001), and spring break destination (Klenosky, 2002); or to understand consumer experiences with certain products or services, such as ropes course experience (Goldenberg, Klenosky, O'Leary & Templin, 2000), Outward Bound experience (Goldenberg, et al., 2005), and the tourism product experience (McIntosh & Thyne, 2005).

The purpose of this chapter is to review previous studies in relation to adventure race and means-end theory. The following sections will review (a) the literature on

adventure races, and consequently followed by (b) a review of literature on means-end theory.

### *Adventure Programming and Adventure Races*

Because there is relatively little Adventure Race (AR) research, the research on Adventure Programming (AP) is used here to provide the reader with insight on how adventure races are structured. Adventure races are subsumed under the general umbrella of adventure programming. Adventure Races borrow much from adventure programming, such as activities and individual benefit outcomes. AP can be described as a sequence of activities or experiences that provide a group or an individual with compelling tasks to accomplish during a designated time period (Priest & Gass, 1997). Adventure programming includes high-risk activities such as rock climbing, high ropes courses, and white water rafting; however, AP may also include goal-setting, awareness activities, trust activities, problem-solving activities, and processing (Hough & Paisley, 2008).

Adventure races are described as athletes performing multiple physically and mentally challenging tasks over a course in rugged, often remote, wilderness terrain (Townes, 2005). These disciplines may include, but are not limited to, hiking, trail running, mountain biking, caving, technical climbing, fixed-line mountaineering, flat- and white-water rafting, and orienteering. These races may either be a sprint race (as brief as six hours), or may be expedition length (lasting anywhere between 36 hours to 10 days and could cover hundreds of kilometers) (Townes, 2005).

Hough and Paisley (2008) used empowerment theory as an approach in an adventure programming setting designed for adults with disabilities. Hough and Paisley

stated that adventure education programs, or adventure programming, can serve as an optimal environment to provide opportunities for involvement in the decision-making process and active participation with individuals with disabilities.

Goldenberg, et al. (2005) conducted a study with the Outward Bound Program (a program focusing on physical fitness, craftsmanship, self-reliance, and compassion) at the North Carolina Outward Bound School. Their study examined program participants' outcomes, by using the means-end theory approach and means-end chain or laddering procedure to collect their data. A total of 216 participants completed a combined 711 ladders. Goldenberg et al. received a total of 2,645 concepts that were linkable through means-end chains in their analysis.

Adventure races have had few studies conducted on them, and even fewer have been conducted for the same purposes set forth in this study. Studies that have been conducted on adventure races include a study by Townes (2005) on need for on-site medical care during adventure races and Kay and Laberge (2002) who studied transfer of characteristics derived from adventure races into leadership roles in corporate culture. Townes (2005) conducted research in an adventure race setting, and the study expressed the need for on-site medical care during the events because of the necessity of providing risk assessment for the health and safety of athletes and overall success of the sport, making the purpose of the study to provide an introduction to the provision of medical support and medical planning at such events. Kay and Laberge (2002) examined the role of corporate culture in adventure racing, and unlike previous studies, they used a qualitative analysis on participant observation and on 37 semi-structured interviews with participants. The results from the study conveyed a majority of participants seeing AR as

a self-actualization and management exercise. However, the study did not explore how a person's position in the corporate field was linked to benefits expected from an AR race. As such, this study failed to identify or address how benefits derived from an adventure race could be applied or transferred to a corporate business setting. For example, if a person's outcome from an adventure race activity, such as *Toxic Waste Removal* (an activity focusing on teamwork and group communication), is improved communication with peers, communication skills learned from a race could transfer to the corporate setting.

### *Means-end Theory*

Gutman (1982) provided the primary framework for the concepts that are found within the means-end theory specifically for marketing purposes so that advertising companies can better promote their product to their target consumers. Means-end theory, put into laymen's terms, is what one needs in order to achieve an ultimate goal. Gutman (1982) described means as objects (products) or activities (running, reading, etc.) in which people engage in, and ends as valued states of being (happiness, security, accomplishment, etc). Also explained in the article was the means-end chain model, which seeks to explain how a product or service selection facilitates the achievement of a desired end states. Each of these models consisted of elements that represented major consumer processes that linked values to behavior, known as levels of abstraction (Gutman, 1982; Reynolds & Gutman, 1988).

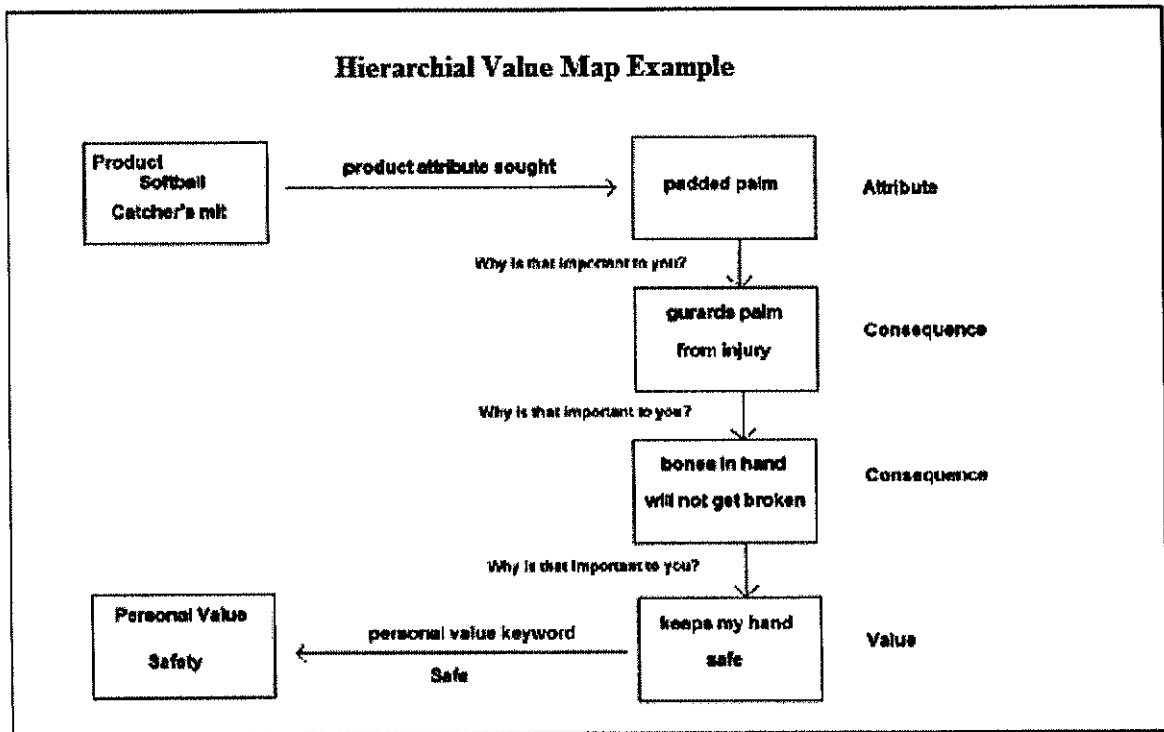
These three levels of abstraction were labeled attributes, consequences and values (Reynolds & Gutman, 1988). Attributes are features or aspects of products or services that are either abstract or physical. Consequences are accrued to people from consuming

products or services and can be either psychosocial or functional. Values, also known as “end states,” are personal values of the consumer which are their enduring beliefs about desired end states of existence and are assumed to motivate an individuals’ decision-making process and are either terminal or instrumental (Gutman, 1982; Klenosky, 2002; Rokeach, 1973).

The purpose of Gutman’s 1982 article was to present the means-end chain model which was based on two assumptions about consumer behavior: (a) that values, defined as desirable end-states of coexistence, play a dominant role in consumer choice patterns, and (b) that people cope with the tremendous diversity of products that are potential satisfiers of their values by grouping them into sets of classes so as to reduce the complexity of choice (Gutman, 1982). Gutman described how the means-end chain model can be evaluated. The technique introduced in his article is known as “laddering” (Gutman, 1982). This means-end chain model has offered researchers a guide to procedures that specifically address the linkages connecting important values of the consumer to attributes of the products they consume. This model was conceptualized with the intent that it to be used in assisting in market analysis, market segmentation, product planning, and promotional strategies for marketing agencies or marketing departments within corporations (Gutman, 1982). In 1984 and 1988, Gutman and Reynolds added to the development of the means-end theory. In 1984, they introduced a study that discussed the contributions the means-end chain research model could make to creating images for products/services. In this article, hierarchical-value structure maps (HVM) were initiated. HVMs are constructed via the series of linkages in ladders from responses given by consumers (Reynolds & Gutman, 1984).

Figure 3 provides an example of how a HVM is performed with attributes related to softball. If a catcher were to buy a glove (product), one thing he or she may be looking for is proper padding in the palm (attribute). In the laddering procedure provided by Gutman (1982) and Reynolds and Gutman (1984), a respondent would then be asked, “Why is that (attribute) important to you?” This questioning would continue until someone could not answer the question any further or a reply would be, “It just is.” Figure 3 illustrates this process.

Figure 3. Hierarchical Value Map Example



Reynolds and Gutman (1988) expanded their explanations of the laddering procedure for evaluating the means-end chain model. In this article, “laddering” was described as an in-depth, one-on-one interviewing technique that is used to develop an

understanding of how customers translate the attributes of products into meaningful associations. The authors gave specific details of the interviewing and analysis methodology. According to Figure 3, laddering involves a tailored interviewing format using the “Why is that important to you?” question, with the goal of determining links between products and consumer values. Reynolds & Gutman’s primary form of eliciting information was through one-on-one interviews with their subjects. Data received through the interviews were entered into the HVM process, which expressed linkages between attributes, consequences, and values (ACV). This conceptual model allowed both researchers and colleagues the ability to visually see the links between the ACVs. Since their publication, these articles served as the seminal framework for several studies across various disciplines.

Gutman (1997) examined how a means-end chain can be viewed as a hierarchy of goals that represent potential identities of actions necessary for a person to reach their desired goals. Thinking of a means-end chain as a hierarchy of goals (Bagazzi & Dabholkar, 1994), with each successive goal being a sub-goal of the final goal, helped researchers establish links between goals and products (Gutman, 1997). Gutman’s (1997) study was conducted to determine the extent to which the hierarchy of goals elicited through laddering proceeds beyond the ability of the initial act of consumption to contribute to goal achievement. Borrowing from Walker and Olson (1991), Gutman used a self-administered questionnaire on students in a first year marketing class which contained a series of questions that would require them to link a beverage and a final goal. A total of 84 questionnaires were returned that were usable in the study, and from those questionnaires results found that coffee and soft drinks were the most frequently

mentioned drinks (Gutman, 1997). To express the major findings of the breakdown of the linkages between beverages and final goals, Gutman (1997) presented a frequency of responses table, a HVM, and an average instrumentality and description ratings table. However, it was recognized that different products would yield different links and a separate set of goals.

Klenosky, a disciple of Gutman, conducted several studies using the application of the means-end theory. His studies included pull factors influencing the choice of a spring break destination (Klenosky, 2002), use of interpretive services at national parks (Klenosky, Frauman, Norman & Gengler, 1998), choice of ski resort to go to (Klenosky, Gengler & Mulvey, 1993), and why student athletes choose which school to attend (Klenosky, Templin & Troutman, 2001).

One particularly notable study was Klenosky's 2002 study on the pull factors that influenced choice of a spring break destination. He explained how means-end theory can be applied parallel the push/pull motivation framework. Because the central idea behind means-end theory is that products have meanings to consumers and consumers assert those meanings into their decision making process when purchasing products, then the attributes of the products can be considered pull factors.

Klenosky (2002) tested a total of 53 randomly selected students to complete a one-on-one questionnaire on their choice of spring break destination choice. Klenosky (2002) used the interview and means-end chain, or laddering, technique to collect his data for the study as outlined by Gutman in 1982. Participants were interviewed and asked to identify their spring break destination of choice and give distinguishing attributes of the destination, which would serve as both attributes of the means-end theory and as pull



factors of a the push/pull motivation factors (Klenosky, 2002). Klenosky (2002), then used the laddering technique, expressed in an HVM, to show links between attributes of the spring break destinations of choice and personal values of the participants. The study results revealed that beaches were the biggest attribute, or pull motivation, for a majority of the chosen spring break destinations. Although the means-end theory was held in the study in a parallel evaluation with pull factors of a destination, pull factors were not examined and thus left room for a new study to be conducted; still using the means-end theory.

Klenosky and Goldenberg studied experiences of a ropes course (Goldenberg, Klenosky, O'Leary & Templin, 2000), outcomes from experiences accrued from the Outward Bound program (Goldenberg, McAvoy & Klenosky, 2005), and understanding experiences of other outdoor adventure programs (Goldenberg, Klenosky, McAvoy & Holman, 2002). Each of the studies used a self-administered questionnaire to obtain the data needed for the study.

In a related study by Case and Branch (2001), they did not use the application of the means-end theory, but instead used the Commitment to Physical Activity Scale or C-scale to analyze their data. In relation to means-end theory, the C-scale was used to examine sport and physical activity attitudes, and motivation of individuals who chose to participate in physical activities. Case and Branch adapted Kahle's 1983 List of Values (LOV) Scale, which was derived from Rokeach in 1973, and had participants rank order their values from a list that included self-respect, security, warm relationships with others, sense of accomplishment, self-fulfillment, sense of belonging, being well respected, and fun/enjoyment and excitement (Case & Branch, 2001). Case and Branch

reported the ending value that one would usually find as an end to a means-end chain served as motivations of participation in the off-road triathlon event examined in their study.

## CHAPTER III

### METHODOLOGY

#### *Introduction*

The purpose of this chapter is to provide a description of procedures for the investigation of the study which will be searching for answers to the research questions found in the first chapter of this proposal. This chapter will discuss research design, sample, instrumentation, data collection procedures, and data analysis. This will lay the foundation for the data collection process.

#### *The Monarch Adventure Race*

In 2006, the organizers of the Old Dominion University (ODU) Monarch 5k, in its fourth year of operation, added the Monarch Adventure Race (MAR) in partnership with the Recreation and Tourism Studies Program on the main campus of ODU in Norfolk, Virginia. The MAR is a relatively small adventure race lasting two hours, and made up of teams of four, where at least one member needs to be of the opposite sex. It is made up of a “trail” that meanders throughout the campus and consists of eight stations with activities for teams to complete. Along the trail, teams may be required to complete several other tasks as well. Past activities have included kayaking, rock wall climbing, bicycling, and a Humvee pull to name a few. Annually, a total of 25 teams or 100 spots have been open to participants, half of whom were from the university, and the other half from the general public from Hampton Roads. This study will conduct cross-sectional research by distributing a questionnaire to participants of the Monarch Adventure Race after they have completed the entire race.

### *Population and Sample*

The sample of the study will target participants that participate in the Spring 2009 Monarch Adventure Race in Norfolk, Virginia. All participants will be registered before or at the location of the start line of the race prior to 10:00 a.m. on the day of the race. A total of 25 teams of four team members, or 100 people, are the maximum number of participants allotted to participate in the race.

### *Instrumentation*

Prior to the event, a letter was sent out to participants to inform them of the possibility of being approached to participate in a study being conducted and to encourage them to participate in this study (Appendix A). This study used a self-administered survey as a means for data collection (Appendix C). The survey was adopted from several studies (Botschen & Hemetsberger, 1998; Goldenberg, Klenosky, O'leary & Templin, 2000; Goldenberger, McAvoy & Klenosky, 2005; Pieters Botschen & Thelen, 1998; Walker & Olson, 1991). The survey has a total of three sections: Section 1 asked demographic information from each participant, such as sex, state of residency, education, etc.; Section 2 collected data on identified attributes from the participants, much like the information collected in Klenosky's (2002) spring break destination study; and Section 3 will engage the participants in a series of questioning linking the attributes from the Monarch Adventure Race to their personal values (laddering) by repetitively answering the question "why is [this] important to you." This survey was designed in such a way that participant anonymity was addressed by not asking for any information revealing racer identity or sensitive information. Coding was also used to refer to

interview surveys. Confidentiality of participants was also addressed by use of general descriptors instead of specific words.

#### *Data Collection Procedures*

Moments after participants cross the finish line and complete the Monarch Adventure Race, they were approached and asked to be part of a study by filling out a survey. This period in which participants were approached will be a period of “down time” between the completion of the adventure race and the awards ceremony. The survey took no longer than 10 minutes to complete and fit comfortably in the elapsed time between the adventure race and the ceremony where winners were announced. However, to yield a higher return rate of the surveys, a letter (Appendix B), return envelope, and a survey was placed inside each of the racer’s complimentary race bag. Also, the study remained completely anonymous. Subjects were not asked to submit their name or sensitive information about themselves, such as social security numbers. Instead, surveys collected were given a number for point of reference.

#### *Data Analysis Procedures*

This study used the Grounded Theory Method (GTM) to begin to provide basis for the formation of a theory to explore why adventure race participants choose to participate in such events assuming that information obtained from the returned surveys conveys applicable information to make relative claims to a theory. The GTM was introduced by Glaser and Strauss in 1967 as a way to analyze qualitative data in the field of sociology. It was further expanded into a volume or collection of articles combined by Glaser in 1993 to provide sever examples of how GTM has been utilized by various studies to serve as models of how the concept has been used to formulate theories for

various forms of the social psyche of humans. The GTM serves as a tool to generate a theory by analysis of the patterns, themes, common categories, and observational data (Glaser & Strauss, 1967, Babbie, 2004). GTM is described as an approach that attempts to combine a naturalist approach with positivist concern for a “systematic set of procedures” in doing qualitative research (Babbie, 2004). The GTM employs the constant comparative method where observations are compared with one another thus evolving into an inductive theory (Babbie, 2004).

There are four stages that are involved in the GTM: (1) comparison of incidents applicable to each category, (2) integrating categories and their properties, (3) delimiting the theory, and (4) writing theory (Babbie, 2004). From the data collected, the current researcher used this process to begin formulating a theory to provide theoretical answers to the research questions at hand. The current researcher then determined key attributes and outcomes that men and women derive from participation in adventure races and determine how means-end chain results can be used to inform practitioners about adventure race participants.

## CHAPTER IV

### RESULTS

#### *Introduction*

In spring of 2009, the Monarch Adventure Race was held on the campus of Old Dominion University in Norfolk, VA, where roughly 64 participants among 16 teams competed. At the conclusion of the race, a total of 60 surveys were distributed to participants, with 52 returned. Of these 52, 40 were usable for the purpose of data collection (67% response rate). The survey asked 12 racer demographic questions and proceeded to list up to four attributes for participating in the race, followed by ranking responses by order of importance (see Appendix C). After ranking their responses, respondents were then asked to fill out up to four means-end chains in hopes of recording an attribute, consequence, and value for which the researchers would derive qualitative data from. This self-administered survey provided researchers with demographic data on race participants as well 78 usable means-end chains that were used to make general assumptions in the formulation of minor theories addressing why individuals choose to participate in adventure races.

#### *Demographics*

The survey respondents' demographic data provided a wide range of information. The average age of survey respondents who participated in the Monarch Adventure Race was 26.48, with 37.5% being male responders, and 62.5% being female responders. Of the 40 respondents, 75% were white, 10% were Asian/Pacific Islander, 2.5% were African American and 12.5% were listed as "other" or chose not to answer. Nearly 68% (67.5%) of responders claimed to be residents of the state of Virginia with a majority

living within 30 miles of the race's location. Of the 40 participants responding to the question about their current marital status, 77.5% of race participants were single, 15% were married, and 5% were divorced. A full 80% of respondents had never participated in an adventure race before, while the other 20% had either (a) been at a previous year's race, or (b) participated in a similar event. Since this event was held on a college campus, the largest occupational group was students at 40%, while the other 60% held various other occupational positions or chose not to answer. In terms of education, 45% had "some college" (13-15 years completed education) and 47.5% had obtained their Bachelor's degree (16 years completed education). For those earning income, 17.5% earned between \$0.01 and \$30,000, 15% earned between \$30,001 and \$60,000, and 17.5% earned between \$60,001 and \$100,000 (20% of participants chose not to answer). Previously stated percentages were yielded from the demographics section on the survey.

#### *Attributes Influencing Participation*

The first research question proposed was about finding the attributes of adventure races that influence participation among men and women. Analysis of the data provided by respondents was based on linked means-end chain responses that were given by participants. An example of a means-end chain was previously illustrated in Figure 1. After reviewing the responses, five attributes were identified for each gender, and these five attributes also encapsulated the characteristics of the overall sample. The top five attributes were a result of the most frequent responses given by individuals who chose to take the survey. Table 2 shows the overall number of responses for the top five attributes accumulated from both genders, and then Table 3 illustrates how attribute responses are further broken down into specific gender. The most common response of an attribute



influencing adventure race participation was exercise, fitness, working out, physical activity, or physical education which drew 20 responses from females and 14 responses from males. The emerging theme here was based around fitness, thus the attribute category was entitled “fitness.” Phrases that were encompassed within this category included physical fitness, exercise, work out, physical activity, etc. The second most common response was fun, with 13 responses from males and 15 responses from females. Unlike those responses that were placed in the “fitness” category, “fun” was actually written as a response, thus making its own category. Ranking third was “bonding,” which included responses such as teamwork, team bonding, and team unity. “Bonding” received 18 responses as an attribute influencing adventure race participation. “Competition”, ranked fourth with only two less responses than “bonding.” The “competition” attribute included responses such as competition and winning. The fifth ranked attribute “friendships” included responses such as friendship, fellowship, or camaraderie with 14 total responses from both males and females.

Table 2. Attributes Influencing Participation among Men and Women

<u>Attribute</u>	<u># of Responses</u>
Fitness	34
Fun	28
Bonding	18
Competition	16
Friendships	14

Table 3. Attributes Influencing Participation between Men and Women

Sex	Attributes				
	Fitness	Fun	Bonding	Competition	Friendships
Males	14	13	5	8	5
Females	20	15	13	8	9

Following the traditional means-end chain model, there are three aspects that are included: attributes, consequences, and values (ACV). In this study, however, consequences were not used as part of the traditional means-end chain formulation, and were only utilized in the survey to link attributes and values associated with adventure racing. Though the links were analyzed and consequences were provided in the survey, the responses given by participants were inconsistent and provided a variety of answers – none of which were parsimonious enough to form a theme or pattern among a large number of participants. Also, responses were frequently nonsensical, thus they did not provide any essential qualitative data for use in this study.

#### *Values Associated with Adventure Racing*

The second research question that was presented involved finding the values perceived to be associated with participating in adventure races. To find the values associated with adventure racing, the means-end chain responses were examined by the current researcher. The values associated with adventure races were found at the end of the means-end chain, which were linked to the attributes by consequences. The ending

values that are mentioned in context at the conclusion of the ladders are derived from Rokeach's (1973) Terminal Values List.

Of the 160 chains analyzed, 40 were useful, meaning they were initiated by an attribute of participating in an adventure race and ended in a value of the individual that serves as an inner motivation for participation. Many of the individuals who took the survey began with "fun" as an attribute of participating in an adventure race. Fun, being a value itself, was not included in the number of ladders analyzed for this study unless it linked to another terminal value. 22 means-end chains were excluded as a result based on irrelevant responses since, as previously stated, fun is a terminal value (Rokeach, 1973). Table 4 shows results from the analyzed means-end chains received from surveys. Of the usable chains, 30 were received from female survey-takers.

From both males and females, fun was the most important terminal value overall for participation in adventure races. Aside from "fun," race participants saw adventure races as a means to become healthy or to focus on their health, which was the second most significant underlying value in association with adventure races. The means-end chains produced other values associated with adventure race participation such as self-esteem, social acceptance, happiness, sense of accomplishment, self-fulfillment, family, pleasure, and self-respect, however they did not receive as many frequent responses as "fun" or "health."

#### *Frequently Occurring Motivations*

After presenting data in relation to the second research question, we can drive an answer for the third question where the researcher identifies the most frequently occurring underlying motivation(s) for participation among men and women. Evidence

has been provided on the top two motivators that occur between both genders, being fun and healthy respectively. However, since this study did not yield any even number of results from both genders separate of one another, it is difficult to have conclusive claims as to what exactly motivates females versus males to participate in adventure races. All that can be claimed will be general assumptions based on what the results did yield. Table 5 shows the top four most frequently occurring motivators for adventure race participation between males and females based on the amount of chains ending in particular terminal values per gender.

Table 4. Values Associated with Adventure Race Participation

---

<u>Value</u>	<u># of Chain Endings</u>
Fun	29
Health	15
Self-Esteem	7
Happiness	6
Sense of Accomplishment	6
Social Acceptance	6
Self-fulfillment	3
Family	3
Pleasure	2
Self-respect	1

---

Table 5. Frequently Occurring Motivators between Men and Women

Sex	Values					
	Fun	Health	Self-Esteem	Happiness	Sense of Accomplishment	Social Acceptance
Males	14	4	5	3	0	2
Females	15	11	2	3	6	4

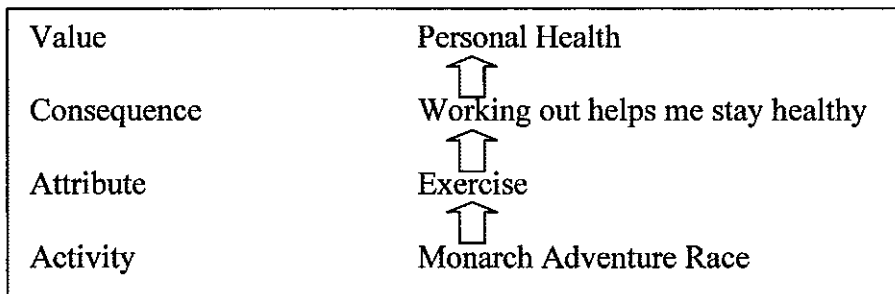
### *Application of Means-end Theory*

Based on evidence that has been provided through means-end chains, through the laddering method used on the surveys, we can begin to formulate a theory for adventure race participation. By using the means-end theory we were able to categorize responses into attributes and values from the individuals who elected to complete the survey that were distributed. Table 2 and 3 illustrates the data as showing clear patterns between race attributes and individual terminal values that influence or motivate adventure race participation.

Figure 4 illustrates an example of a means-end chain that links an attribute and value associated with the Monarch Adventure Race. The activity, or the product consumed, in this case is the Monarch Adventure Race. One attribute that was popular among participants was fitness or exercise. Several responses had a consequences from responders of exercise was making them stay healthy. The value associated with exercise and staying healthy is maintaining one's personal health. The most evident concept from both tables is that both males and females are motivated to participate in adventure races because they perceive the event to be fun and that they are going to become healthier by

participation due to the exercise that these races involve. Men, being attracted to the possibility of winning and the competitive nature of the race, they will be able to boost their self-esteem and women, being attracted to the team work or team bonding and unity, they will be more apt to be socially accepted or feel a sense of accomplishment upon completion of an adventure race.

Figure 4. Monarch Adventure Race Means-end Chain.



### *Conclusion*

As shown through this research, the means-end theory can be applied to adventure races to inform practitioners about individuals who participate in these events. The evidence can show what about participating in these races attracts individuals to initially want to participate and then what the underlying motivations were based on their individual values. This particularly is a beneficial marketing tool to be used to grasp a target market to pull in new markets and decrease distance decay for a particular event. The means-end theory is meticulous in picking out what exactly can be used to grasp an audience to increase participation or do a market analysis for reasons and attitudes toward consumption of a particular event.

By reviewing the qualitative data accumulated, results can be used in the process of the GMT to provide foundation for a possible theory as to why men and women choose to participate in adventure races. When comparing responses given by males and females, both sexes appear to be in agreement; the top two attributes of adventure races influencing their participation are fitness and fun. However, there is a shift in attributes causing them to race. Males are attracted to competition, bonding and friendships consecutively, while females are attracted to bonding, friendships, and competition consecutively.

The most predominant values associated with adventure race participation were fun and health; however, other values included self-esteem, social acceptance, and happiness. Glaser and Strauss noted that the researcher must compare incidents in Stage 1. In this case, this refers to responses which show similarities. For this study, the responses with similar phrases were assessed. Stage 2, characterized by placing such incidences in categories based on those similarities, is where the researcher is able to integrate categories and their properties to form themes, patterns, or relationships. Stage 2 is where the most frequent responses for both attributes and values formed categories or themes of their own. Stage 3 begins the process of delimiting the theory. A theory can emerge from the relationships between themes and the theory may become clearer as delimitations to a theory emerge.

In the case of this study, data can provide a foundation for the beginning of a theory as to why men and women are motivated to participate in adventure races. One can conclude that men may feel motivated to participate by their self-esteem due to an emphasis on winning and the aspect of the competitive nature of the race, while women

may feel motivated by social acceptance or a sense of accomplishment in completing a race based on the bonding aspect of the race. Because this is an exploratory study, and the first of its kind concerning this subject matter, Stage 4 cannot be completed by this study alone. Stage 4 is the act of actually writing the theory. Documentation of several observations and replication of the study would be a necessity in the writing and development of a theory.



## CHAPTER V

### DISCUSSION

Based on the purpose and the objectives of this study, I sought to name attributes of adventure races which initiate interest in participation and sought the underlying values of individuals that would motivate them into participation. It was also sought to compare the differences between males and females as it relates to their participation in adventure races. This exploratory study provided findings on motivations for participation in adventure races, and it provided support for previously conducted means-end theory research as well as provide research for a new, popular, and emerging recreation activity.

This study was able to form the beginning foundations of an infinitesimal theory as to what exactly initiates adventure race participation and the values associated with motivation of adventure race participation. The basic theory that was derived from the evidence provided by survey responses was that both males and females are motivated to participate in adventure races because they perceive the race will end up being “fun” and that they will become healthier individuals due to their participation because of the elements of physical activity and fitness that is called for to enable them to participate. Also, when separating the sexes, based on their shift in attributes influencing participation, men may feel motivated to participate by their self-esteem due to their emphasis on winning and competition in the race, while women felt more motivated by social acceptance or a sense of accomplishment in completing a race based on their focus on bonding in the race.

This study could be used a number of ways, both by professionals and by researchers. The findings of this study can serve as an aid to professionals who provide both sanctioned and unsanctioned adventure races. Professionals who are program planners can use the information to provide programs based on the attributes of the race that influence and initiate interest in adventure race participation. Also, professionals may use this study as a marketing tool to understand the motivations behind racer participation and obtain information on what participants expect based on the attributes and their personal values motivating them to participate. Researchers may also use this study as for the basis for a future study that warrants further replication.

Even though this research provided some insight, there are more ways that this research can be replicated to provide more information for other aspects of an adventure race. Since this is an exploratory study, there are a number of directions that research could go in regards to finding attributes, values, and motivations of adventure race participation. For example, other variables besides gender can be explored when assessing motivations for participation in adventure races. Further study is suggested with differences in age groups and benefits derived from adventure races. Also, an interesting study in the differences in race scale and what motivations cause race participation among them since this study was only conducted on a relatively small and unsanctioned race. Differences between motivations of individuals participating in national sanctioned races versus unsanctioned races could also yield differences which would assist in marketing aspects. This same study could be replicated on the campus of Old Dominion University to test whether the study would yield the same results or to test differences in motivations between student and non-student occupational groups.

Since this study did not utilize consequences as an intermediary step in the means-end chain model, another study on the same subject could possibly show stronger linkages between attributes and values. The use of a web-based survey could increase response rate and narrow the range of responses given by individuals participating in the survey and could strengthen the responses that form the ACV linkages in the means-end chain model. It would also be interesting to see a study done on a more diverse racial population to find common and uncommon motivations for adventure racing. As a final study of interest, I believe that this study would yield very different outcomes if the survey were taken by the contestants who are selected to participate on the television reality show *The Amazing Race*, since they are racing for a completely different set of personal values.

In conclusion, this study was able to open research to a new recreation activity and provide insight to those who participate in those events. By conducting this qualitative, exploratory study it provided a basis for underlying values that motivate individuals to participate in adventure races. It also provided a minimal theory that can be a foundation to further research on motivations of adventure race participants. Also, it seeks to imply that there is a need for a better understanding of participants for this activity since it is a new and emerging activity, made popular by the CBS version of the *Amazing Race*.

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## Appendices

### *Appendix A – Letter to Monarch Adventure Race Participants*

Brandii Brinkley  
Graduate Student  
Old Dominion University  
Darden College of Education  
Department of Exercise Science, Sport, Physical Education and Recreation  
Recreation and Tourism Studies  
[Date]

**[Recipient Name]**  
**[Street Address]**  
**[City, ST ZIP Code]**

Dear **[Recipient Name]**:

I would like to thank you for your registration in Old Dominion's Monarch Adventure Race (MAR). We hope we are able to provide the best experience possible for you.

My name is Brandii Brinkley and I am a graduate student at Old Dominion University. I am currently conducting a study on motivations for adventure racing.

I am writing this letter to inform you that after the race you may be approached and asked to complete a quick survey on your race experience. This survey is to accumulate data on the study which I am conducting and will help improve the MAR for future racers. The survey will not be time consuming and your responses would be most appreciated.

Thank you for your time and thank you, in advance, for your cooperation.

Sincerely,

Brandii Brinkley



*Appendix B – Letter Placed in Complimentary Racer Bags*



Dear Monarch Adventure Race Participant,

Thank you for attending and participating in the 4<sup>th</sup> annual Monarch Adventure Race on the campus of Old Dominion University. We hope that we were able to meet your race expectations.

Enclosed in this letter are a survey and a self-addressed envelope for your convenience. We are looking to get feedback on your adventure race experience. The study being conducted is an anonymous and confidential study to investigate motivations for adventure race participation. However, if you already submitted a survey on site at the conclusion of the race, you do not need to re-take the survey.

It would be much appreciated if you would please take the survey and mail it back to the Old Dominion University campus no later than Friday, May 15, 2009.

If you have any questions while taking the survey please feel free to contact me.

Thank you again, and we hope you enjoyed your experience.

Brandii Brinkley  
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[bbrin003@odu.edu](mailto:bbrin003@odu.edu)  
757-403-9245

Appendix C – Self-Administered Survey

How did you hear about this race?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Suggestions/Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Thank you for making the Monarch Adventure Race stronger and helping us reach out to future race participants. Thank you for your time.



Old Dominion University  
 Darden College of Education  
 Department of Exercise, Sport, Physical Education and Recreation  
 Recreation and Tourism Studies

Monarch Adventure Race



Survey

All questions contained in this survey are subject to analysis in a Graduate Student's study, and will be kept both anonymous and confidential; therefore, your name will not be asked.

Please open and continue.

Age: \_\_\_\_\_ Gender:  Male  Female

State of Residency: \_\_\_\_\_

Distance you traveled to this event:  
 \_\_\_\_\_ Miles  
 \_\_\_\_\_ Hours

Marital Status:  Single  Married  Separated  Divorced  Widowed

Occupation: \_\_\_\_\_

Ethnicity:  White (Non-Hispanic)  African American  Hispanic (Latino/Latina)  Asian-Pacific Islander  Native American  Other

Household Income: \$ \_\_\_\_\_

\_\_\_\_\_ Number of prior adventure races completed

\_\_\_\_\_ Number of different teams (i.e. with different teammates) have you raced with

Education Level Completed:  
 Less than High School (<12 yrs)  
 High school d/GED (12 yrs)  
 Some college (13-15 yrs)  
 Bachelors (16 yrs)  
 Masters (17-18 yrs)  
 Doctoral/Terminal (>18)

In the space provided below, list the top four attributes (or motivations) for participating in this event

1. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Below, please rank the responses you gave above by order of importance to you (1 being the most important, 2, the second most important, and so on).

Response 1 \_\_\_\_\_  
 Response 2 \_\_\_\_\_  
 Response 3 \_\_\_\_\_  
 Response 4 \_\_\_\_\_

Please turn over and continue.

In this section, we are interested in learning more about how you feel about the attributes (or motivations) causing you to participate in the Monarch Adventure Race. FIRST write your most important attribute (from the previous page) below in the box labeled Response Ranked #1. Then write your second most important attribute in box #2, your third most important in #3, and your fourth most important in #4. Then, for each attribute you list, fill the boxes down each column to explain why each attribute is important to you. Please continue to fill out the boxes until you can no longer answer the question of why your response is important to you.

Response Ranked # 1	Response Ranked #2	Response Ranked # 3	Response Ranked # 4
_____	_____	_____	_____
... this attribute is important to me because... ↓	... this attribute is important to me because... ↓	... this attribute is important to me because... ↓	... this attribute is important to me because... ↓
_____	_____	_____	_____
... this is important to me because... ↓	... this is important to me because... ↓	... this is important to me because... ↓	... this is important to me because... ↓
_____	_____	_____	_____

Please turn over and continue.

## VITA

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 Old Dominion University, Department of ESPER  
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### EDUCATION

MS in Education, Recreation and Tourism Studies emphasis 08/2008 – 12/2009  
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*East Carolina University, Greenville, NC*

### PROFESSIONAL EXPERIENCE

PROGRAM ATTENDANT 09/2009 – 12/2009  
*Isle of Wight County, Parks and Recreation Department, Smithfield, VA*

- Manage inventory and facility
- Track used equipment
- Provide patrons with equipment
- Assist in county events

DAY CAMP SITE SUPERVISOR 06/2009 – 08/2009  
*Isle of Wight County, Parks and Recreation Department, Smithfield, VA*

- Plan, schedule, and coordinate daily activities for camp
- Supervise five staff members
- Provided major disciplinary actions for campers

GRADUATE ASSISTANT 08/2008 – 05/2009  
*Old Dominion University, Norfolk, VA*

- Assisted with office tasks and preparation of course materials
- Assisted with course grading
- Assisted with counseling and research
- Participated with department projects and programs

RESERVATION ASSOCIATE 02/2008 – 06/2008  
*Kitty Hawk Kites, Inc., Nags Head, NC*

- Provided consumers with information on recreational offerings
- Took reservations for recreational activities
- Assisted with retail purchases
- Assisted in planning and implementation of events

CAMP COUNSELOR 06/2007 – 08/2007  
*Camp Golden Treasures, Greenville, NC*

- Planned and coordinated daily camp schedule
- Worked with 10 other counselors to manage campers
- Designed programs to support a healthy lifestyle for campers